HOME AND WORK STRESS SPILLOVER: THE ROLES OF SOCIAL SUPPORT AND
POSITIVE REAPPRAISALS

A dissertation submitted to
Kent State University in partial fulfillment
for the requirements for the
degree of the Doctor of Philosophy

by

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August 2016
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ACKNOWLEDGEMENTS

The success and development of this dissertation would not have been possible without the support of several individuals. I would like to thank my co-advisor, Judith Gere for her savvy research methodological skills, reassurance, and ability to reduce my stress. A special thank you to my co-advisor, Kristin Mickelson – her research advising and mentorship were instrumental to my development as a scientist and scholar.

I would especially also like to thank my family – my parents, Sunja and Tae Chong, my sister, Crystal Chong, and my in-laws, Maria and Bill Kiskowski. Thank you for teaching me to be independent, to achieve all of my goals, to always be thankful and happy, and for consistently expressing your pride in me.

Thank you to Scout McCully, Krysten Fulcher, Jennifer Coleman, Rachel Hemphill, Alynn Gordon, and Brian Don. I am eternally grateful for your friendship, and your understanding and support in both the achievements and setbacks we have encountered together in graduate school. I would also like to thank my lifelong best friend, Kelsey Tokar. Your countless emails, texts, vlogs, and visits have made me laugh when I have needed it the most.

My final acknowledgement is dedicated to my husband, my life partner, and my best friend, Louie Kiskowski. Without you, none of this would have been possible. I cannot express in mere words how your belief and admiration for me has been the backbone of my success. When we met over a decade ago, I shared with you my goal to be a scholar in psychology. I did not know then that you would be my biggest supporter in helping me achieve this goal. I know now that we were meant to achieve all of our life goals together. I am so lucky to have you by my side.
CHAPTER 1
INTRODUCTION

“The challenge of work-life balance is without question one of the most significant struggles faced by modern man.”

Stephen Covey (Author of “The Seven Habits of Highly Effective People”)

In today’s fast-paced society, people often need to simultaneously manage multiple responsibilities and roles across several domains of their lives. Two of the most common life domains that require a substantial amount of resources are work and home. Given the demands of these important life domains, achieving work-home balance is a challenging feat for many individuals. Although work and home domains are an integral part of everyday life, each domain can also be a source of stress as a result of limited time and incongruent behaviors and roles (Greenhaus & Beutell, 1985). When stress from one domain transmits or leads to stress in a different domain of life, a concept known as stress spillover occurs (Bolger, DeLongis, Kessler, & Worthington, 1989). For instance, having a stressful day at work because of tight deadlines could lead to feeling irritable or overwhelmed when returning home, and as a result, experiencing stress at home, perhaps in the form of an argument with one’s spouse.

Spillover between work and home domains can be harmful to well-being. Work and home spillover has been associated with a number of psychological and physical outcomes (e.g., Allen, Herst, Bruck, & Sutton, 2000), such as increased depression and anxiety (Byron, 2005; Frone, Russell, & Cooper, 1992) and worse perceived overall physical health (Grzywacz,
Despite evidence that stress spillover is detrimental to well-being, little attention has focused on the process of how and when stress from one domain spills over to another domain. Therefore, one major goal of the dissertation was to examine the same day and next day effects of spillover between independent measures of home and work stress. Prior research has typically focused on perceived stress spillover (e.g., Grzywacz & Marks, 2000), as opposed to empirically examining the influential association between independent measures of stress exposure in different domains.

Furthermore, although spillover is a unique form of stress, research has yet to apply coping theory to spillover. Specifically, intra- and interpersonal differences in coping resources may provide additional information on how some individuals may experience spillover more than others. In this dissertation, I examined social support as an interpersonal resource and positive cognitive reappraisal as an intrapersonal resource. Social support (e.g., Cohen & Wills, 1985) and positive cognitive reappraisals (e.g., Farmer & Kashdan, 2012; Gross, 1998) can help to reduce the deleterious impact of overall stress on well-being. Moreover, there is evidence that social support (e.g., Adams, Adams, & King, 1996; van Daalen, Willemsen, & Sanders, 2006) and positive cognitive reappraisal (Rotondo & Kincaid, 1998) are both specifically beneficial for lower perceived home-work spillover. However, whether these coping resources can buffer the influences of stress in one specific domain from spilling over onto another domain is unknown. Thus, for the current dissertation, social support and positive cognitive reappraisal were examined as potential moderators in the association between home and work stress spillover.

### Overall Stress and Health Association

Given that social support and positive cognitive reappraisals are drawn from the general stress and well-being literature, a brief examination of this more general association will help
establish the theoretical framework for the dissertation. Whether major life events versus daily hassles have a more detrimental effect on well-being have been widely debated. However, despite evidence that life event stress can certainly have maladaptive outcomes (see Tennant, 2002 for a review), daily hassles are a better predictor of physical and psychological distress than major life events (Chamberlain & Zika, 1990; DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982; Jandorf, Deblinger, Neale, & Stone, 1986; Kanner et al., 1980; Monroe, 1982). As a result, more recent stress research has focused on the daily hassles and chronic strains of life.

Two areas of hassles and chronic strains receiving an abundance of attention are work and home-related stressors (Greenhaus, Parasuraman, Granrose, Rabinowitz, & Beutell, 1989; Kanner et al., 1980); and, more importantly, how work and home-related stressors are related to one another (e.g., Bolger et al., 1989; Eckenrode & Gore, 1990; Edwards & Rothbard, 2000).

**Stress Spillover**

The focus on home and work-related stressors has resulted from the growing trend of dual-earner families (e.g., Bianchi, Sayer, Milkie, & Robinson, 2012; del mar Alonso-Almeida, 2014); as more individuals are engaging in multiple roles, meeting the demands required in both home and work domains can be difficult. Work and home are two of the most frequently cited sources of daily stress (e.g., Bolger, DeLongis, Kessler, & Schilling, 1989). Both domains require emotional, physical, and psychological resources to manage and cope with their required demands. Attempting to meet the demands of multiple domains with limited resources can result in stress from one domain transmitting over into the other domain. This idea that stress from one domain can impact stress in a different domain is known as *stress spillover* (e.g., Bolger et al., 1989, Crouter, Perry-Jenkins, Huston, & Crawford, 1989). The spillover relationship is often bi-directional, such that work stress can affect home stress (*work-to-home* spillover) as much as
home stress can affect work stress (home-to-work spillover) (Bolger et al., 1989; Boyar, 2005; Klitzman et al., 1989; Lious, Sylvia, & Brunk, 1990; Staines, 1980).

These spillover effects often occur because of work-home role conflict, which occurs when the ability to meet demands in one domain interferes with the other domain as a result of overlapping time, behavior, and role-based strains. When these conflicts between domains are experienced, stress can arise and transfer, thus resulting in spillover (Greenhaus & Beutell, 1985; Staines, 1980). It is evident that time-based strains can cross domains, as Gutek and colleagues (1991) found that more time spent on family or home-related tasks was associated with more home-to-work conflict, and more time spent in paid work was related to more work-to-home conflict. As a result, a greater proportion of resources used to cope with the demands in one domain allows for fewer resources to cope with the demands in other domains. Additionally, spillover can arise because engaging in multiple roles may require incongruent behaviors, such as a mother who needs to be authoritative and objective at work, but warm and empathetic at home (Dierdorff & Ellington, 2008; Greenhaus & Beutell, 1985).

Finally, aside from time and behavior, another important aspect of spillover is role strain. Role strain refers to the notion that involvement in multiple roles leaves individuals depleted of resources and, as a consequence, conflict is experienced between the domains because of the inability to meet multiple demands (e.g., Grzywacz & Marks, 2000). This role strain perspective has often been viewed through a gender role framework as more women are balancing their home and work roles today than in past decades (Duxbury & Higgins, 1991; Kirchmeyer, 1992; Voydanoff, 1988). Because of traditional gender role expectations in society, researchers have hypothesized that women would experience more perceived spillover than men. However, contrary to this idea, some studies have found that gender is not a significant factor in spillover
(Frone et al., 1992; Byron, 2005), suggesting both men and women equally experience spillover between home and work. Still, other studies have found men experience more spillover between work and home than women (Bolger et al., 1989; Cinamon & Rich, 2002). One potential reason for this finding is that men are beginning to place heavier importance on their family roles; but, because they are unaccustomed to these stressors, they are more likely to experience spillover between home and work (Bolger et al., 1989; Kirchmeyer, 1992). Although not a primary focus of the current dissertation, gender differences in work and home stress spillover were explored due to the inconsistent findings of past research and the dynamic nature of gender roles in modern American society.

Positive Spillover

Home and work domains can be linked with one another – yet, engaging in these domains does not always lead to stress spillover. Rather, the literature has suggested spillover can also be positive and beneficial under certain circumstances. For instance, positive affect experienced at work can lead to positive mood and interactions at home with family members (Greenhaus & Powell, 2006; Grzywacz & Marks, 2000; Kirchmeyer, 1993; Lourel, Ford, Gammasou, Gueguen, & Hartman, 2008). According to Edwards and Rothbard (2000), positive spillover occurs because work and family domains are linked through shared affect (e.g., mood or satisfaction), values, and skills. Thus, contrary to role strain theory, positive spillover supports the theory of role enhancement: engaging in multiple roles is not always conflicting or demanding, but can also provide a greater number of resources and skills to promote growth and better manage life domains (Gryzwacz & Marks, 2000). For example, a mother may be able to utilize aspects of her parenting role to delegate tasks to employees in her supervisor role. Or, feeling happy at work due to successfully accomplishing a task may lead to positive emotions at home when
spending time with family. Positive spillover has been related to several beneficial outcomes including, higher self-esteem, relationship satisfaction, and feelings of sufficient work-home balance (Clark, 2000; Grzywacz & Marks, 2000; Kirchmeyer, 1993; Lourel et al., 2008).

Although testing for positive spillover effects was not a primary interest in the current dissertation, I argue that thinking of ways in which home and work domains can be integrative (rather than conflicting) may be helpful in reducing the effects of stress in one domain from spilling over onto the other domain.

**Limitations of Current Spillover Research**

According to Edwards and Rothbard (2000), work-home (i.e., inter-role) conflict refers to difficulty meeting obligations in multiple roles, whereas spillover refers to the notion that stressful experiences transmit across domains, such that a stressor in one domain directly carries over to a stressor in another domain. Inter-role conflict does not always indicate that stress spillover has occurred. Take the example of being unable to make dinner for your family because you need to stay at work late to finish a project before a deadline. This is an example of work-to-home (or inter-role) conflict, but this conflict does not necessarily mean the experience of stress at work results in stress at home – rather simply that the obligations of two or more roles conflict with each other. In this case, you may choose to go out to eat or your spouse/partner makes dinner that night instead of you. On the other hand, stress spillover could occur if the individual reports that because of work obligations, stress is experienced at home because your inability to meet make dinner leads to a fight with your spouse/partner. Even though they are different, work-home conflict and spillover are often used interchangeably (e.g., Buck & Neff, 2012; Kirchmeyer, 1993; Lourel et al., 2007). For instance, in a study conducted by Grzywacz and Marks (2000), their aim was to examine factors that influence work-home
spillover, but the measures they used better describes inter-role conflict (e.g., “Your job reduces the efforts you can give to activities at home”). With respect to the current dissertation, I focused on the conceptual definition of work-home stress spillover and its distinction from inter-role conflict by testing if domain specific stress transmits over to the experience of stress in another domain.

Aside from the conceptual differences between inter-role conflict and stress spillover, the methodological practices of measuring and examining stress spillover differ from work-home conflict. In work-home conflict, individuals’ perceptions of the degree to which they believe aspects of their home and work domains interfere with one another are measured (e.g., Byron, 2005; Gryzwacz, 2000; Lourel et al., 2007; Stephens, Franks, & Atienza, 1997). These measures tap into work-home conflict and have often been described as perceived spillover. For example, a scale of perceived spillover constructed for the Midlife in Development in the United States dataset (MIDUS I; Gryzwacz, 2000) includes items such as, “Personal or family worries distract you when you’re at work.” or “How often does your job reduce the efforts you can give at home?” Measures of perceived spillover such as this one tap more into inter-role conflict, rather than stress spillover. Consequently, measures of inter-role conflict (i.e., perceived spillover) do not provide the means to test the conditions under which stress accrued in a specific domain affects stress in a different domain.

Theoretical sources conceive of spillover as an influential link between the same aspect (i.e., stress) in home and work domains (Edwards & Rothbard, 2000), meaning tests of spillover should utilize a longitudinal or temporal framework between independent measures of home and work-related stressors. As Edwards and Rothbard (2000), along with others (e.g., Bolger et al., 1989; Lambert, 1990; Thoits, 1995), have argued, a mere bivariate association does not indicate
that stress spillover has occurred. A correlation between two home and work-related stressors does not confirm spillover effects because it is possible that this association was a spurious finding through a third confounding factor, such as a physical illness, that is contributing to the correlation between home and work stress. Recognizing the importance of testing for spillover relationships between home and work-related stressors, some researchers have utilized independent and longitudinal measures of home and work-related stress to examine the effects of one stress on another (Bolger et al., 1989; Leiter & Durup, 1996). In their pioneering work on stress spillover, Bolger and colleagues (1989) tested for home-to-work and work-to-home spillover by measuring home and work-related stressors and strains individuals experienced on a daily basis. Results from their study indicated that prior day home stress was related to next day work stress (while controlling for prior day work stress), confirming home-to-work stress spillover. Work-to-home stress spillover effects were also detected, with work stress on a given day being significantly related to same day home stress, controlling for prior day home stress.

Bolger and colleagues’ (1989) study on stress spillover provides a sound conceptual and methodological framework for the current dissertation. Specifically, using a daily diary method to independently assess home and work-related stressors to examine their linkage to one another allows researchers to robustly test for spillover effects that are more in line with the conceptual definition of stress spillover (Edwards & Rothman, 2000), as opposed to measures of perceived spillover. In addition, daily diary methods have ecological validity, reduce participant memory distortion, and provide the ability to measure within-individual variations and fluctuations in stress (Almeida, 2005). Also relevant to the current dissertation, daily diaries allow researchers to directly test the influential association between home and work-related stressors, while
controlling for the autoregressive effects of the prior day’s stress. In other words, with daily diaries it is possible to establish temporal precedence of the spillover relationship.

As Thoits (1995) emphasized, research on spillover offers a unique perspective on stress because the sequencing of stressors can reveal their episodic nature (i.e., how long each stressor lasts). Measuring home and work-related stressors on a daily basis allows researchers to examine if spillover occurs within the same day (concurrent stress spillover), or the next day (lagged stress spillover), or both. Although prior work has examined spillover using daily diary methods (Grzywacz, Almeida, & McDonald, 2002), this approach has consisted primarily of measuring the proportion of days when home and work stress co-occurred within the same day and from the prior day. This is limited in that the influential relation between independent measures of home and work stress was not specifically tested to examine possible spillover effects, as they did not control for prior day’s domain stress.

Given that daily diary methods provide a sophisticated manner to detect stress spillover effects, more work should build on the findings of Bolger and colleagues’ (1989) study. Despite its many benefits, to my knowledge, Bolger et al. (1989) are the only researchers who have tested how the effects of daily stress in a specific domain could predict stress in another domain as an indication of spillover. Thus, a replication of the findings of Bolger et al. (1989) is warranted given that the study was conducted over 25 years ago, and balancing home and work lives is increasingly difficult (Bianchi & Milkie, 2010). Thus, the first aim of the current dissertation was to replicate the stress spillover findings from Bolger and colleagues’ study (1989) (Aim 1).

Testing for spillover effects with independent measures of home and work stress using a daily diary design is also beneficial in that potential moderators can be examined to assess under
what conditions the spillover relationship occurs. Eckenrode and Gore (1990) argued that stress moderating processes can help us to understand and examine conditions or factors that may prevent stress in one domain from spilling over onto another domain. Although the importance of these stress moderating processes is recognized, little empirical research has actually tested potential stress moderators in the context of the spillover between home and work domains using a rigorous daily diary method. Eckenrode and Gore (1990) also note that potential stress moderators include coping resources, which is in line with the theoretical foundations of spillover (Edwards & Rothbard, 2000; Greenhaus & Beutell, 1985). In other words, demands in one domain result in a depletion of resources to adequately cope with the demands in another domain. Taken together, sufficient resources to help meet the demands of multiple domains may help to reduce stress spillover. Thus, the potential moderating roles of interpersonal and intrapersonal coping resources in the stress spillover relationship need to be explored.

**Social Support and Stress Spillover**

One resource to help meet these competing demands is social support. Social support refers to interpersonal or social resources in which other individuals provide aid or assistance to help cope with the stressor at hand (e.g., Thoits, 1995). Although daily interactions within work and family domains can be sources of stress, relationships with individuals in these domains can also be sources of support, which may help people manage stress in different domains (Argyle & Furnham, 1983; Beehr, Farmer, Glazer, Gudanowski, & Nair, 2003). Research has consistently shown the benefits of social support – namely, increased support is often related to lower stress (see Thoits, 2011 for a review).

The potential benefit of social support in the context of spillover can be best demonstrated through Cohen and Wills’ (1985) stress buffering model. According to the stress
buffering model, an individual’s support network can buffer or attenuate the maladaptive effects of stress. Typically, the stress buffering model has been supported within the context of both psychological and physical health outcomes, such that social support moderates the relationship between stress and health. Individuals with higher support tend to have a reduced or attenuated relationship between stress and health, compared to individuals with low amounts of social support (e.g., Cohen & Wills, 1985). With respect to spillover, social support may serve a protective role, such that higher accounts of support could potentially buffer the effects of stress in one domain from causing or exacerbating stress in another domain. Social support could function as a resource for coping with a stressor and provide the additional time and resources needed to manage the responsibilities and roles in multiple domains.

Congruent with the buffering effects of social support on the stress – health relationship, I am interested in whether this buffering model applies to the home – work spillover relationship. For instance, after a stressful day at work, does having good family support at home help the individual cope with work stress, thereby preventing work stress from spilling over onto family stress? Research has provided some insight into the beneficial role of social support in relation to perceived stress spillover (or work-home conflict) with respect to certain outcomes, such as life and relationship satisfaction (e.g., Adams, King, & King, 1998; Brock & Lawrence, 2008; Repetti, 1989; Ray & Miller, 1994). In a dyadic examination of role strains and stressors across several domains, spousal support moderated the link between stress and marital satisfaction, such that, for women, support from their husbands buffered the relationship between perceived role strain and marital decline (Brock & Lawrence, 2008). However, the buffering role of social support was tested in the context of perceived spillover (i.e., role strain) and marital satisfaction, rather than home and work-related stress spillover. In another study, instrumental and emotional
support was related to less family-to-work interference (Adams et al., 1996). However, the study also used a measure of *perceived* spillover and only examined its relationship to social support; a buffering model was not tested.

To my knowledge, no studies have tested the buffering effects of social support in stress spillover. The most relevant study to date examined the buffering effects of perceived organizational support in the relationship between intimate partner violence and work performance (Tolentino, Restubog, Scott, Raymund, Garcia, & Tang, 2011). In their study, Tolentino and colleagues (2011) found that perceived organizational support did indeed buffer the effects of intimate partner violence on work performance, such that for individuals with low perceived work support, intimate partner violence had a strong, negative association with work performance. While the results of this study offer insight into the buffering role of social support in conflict between home related stressors and work outcomes, it is not without limitations. First, the data used in this study was cross-sectional and second, intimate partner violence is an extreme home-related stressor that may be confounded with additional psychological symptoms experienced by a high-risk sample. It is unknown whether the results from the Tolentino et al. (2011) study are applicable to a general population who experience relatively minor, daily home and work-related stressors. In the current dissertation, I addressed these limitations and the gaps in the existing literature by testing the stress buffering model of support in both concurrent and longitudinal home and work stress spillover among a representative low-risk sample.

**Perceived Versus Received Support**

When examining the role of social support, the complexity of this construct must be considered. One major controversy within the support literature is whether received support or perceived availability of support has the most salient buffering effects on distress. *Received*
social support refers to the naturally occurring supportive behaviors from network members, whereas perceived support availability is the belief or perception that support is available if needed (Norris & Kaniasty, 1996; Wethington & Kessler, 1986). Evidence has suggested that perceived availability of support has the most salient buffering effects of general stress on overall well-being (Cohen & Wills, 1985; Wethington & Kessler, 1986). However, in studies conducted by Cohen and Wills (1985) and Wethington and Kessler (1986), the buffering effects of perceived availability of support were tested in the context of major life events, rather than in the context of chronic, daily home and work stressors. When Cummins (1988) tested the buffering role of received and perceived social support on the effects of daily stressors on well-being, results suggested received support (as opposed to perceived availability of support) had beneficial buffering effects on well-being. Moreover, there are distinct differences in received versus perceived social support; while received support may fluctuate and vary because of its state-like characteristics, perceived support availability may be more stable and consistent (Wethington & Kessler, 1986). However, less is known about how perceived and received social support may interact with the day-to-day stressors that influence one another. Because the stress buffering model has yet to be applied to stress spillover effects, the second aim of the current dissertation was to test the moderating effects of 1) daily accounts of received support within individuals and 2) overall perceptions of support availability between individuals (Aim 2).

Positive Cognitive Reappraisals in Stress Spillover

Aside from interpersonal social coping resources, such as social support, individuals also utilize intrapersonal resources to cope with stressors. I propose that one potentially important intrapersonal coping resource for stress spillover is positive cognitive reappraisals. According to
Lazarus and Folkman’s (1984) transactional model of stress and coping, positive cognitive reappraisals occur during the second stage of appraising a potential stressor. As individuals are exposed to a stressor, they initially evaluate the level of threat, which is their primary appraisal. Following this primary appraisal, individuals will then engage in a secondary appraisal to assess their ability to cope with the stressor. It is during this secondary appraisal process of stress exposure that individuals may engage in cognitive reappraisal as a coping strategy.

Positive cognitive reappraisal refers to reinterpreting or reframing contextual cues (i.e., stressors) as potentially beneficial or non-threatening to change the emotional response and level of arousal (Gross, 1998; Troy, Willhem, Shallcross, & Mauss, 2010). For example, if a supervisor gives an employee an excessive amount of work to be completed in a short timeframe, this situation could be perceived as negative and stressful; but, it could also be reinterpreted as beneficial in that it may provide the opportunity to learn a specific task and develop a skill on the job, as well as impress the supervisor. Research has indicated when individuals reappraise contextual cues as non-threatening or positive, they experience less distress (e.g., Gross, 1998; Troy et al., 2010; Jamieson, Berry Mendes & Nock, 2013; Sears, Stanton, & Danoff-Burg, 2003).

Studies examining the effectiveness of cognitive reappraisals in response to stressors have utilized experimental practices, as it offers practical implications for real-world settings. Clinical practices have drawn from cognitive reappraisal strategies to implement cognitive behavioral therapy as a way to reduce distress for patients (Gross & Munoz, 1995; Samoilov & Goldfried, 2000). Likewise, manipulating cognitive reappraisals in relation to home and work-related stress and stress spillover can offer valuable information on whether cognitive
reappraisals are an effective coping strategy for daily stress and work-family balance, as well as a potential way to prevent stress spillover.

Some research has found support for the idea that manipulating stress reappraisals can help to reduce the harmful effects of stress. In an experimental study, Jamieson and colleagues (2013) manipulated cognitive reappraisals and assessed the effect of reappraisal type on stress reactivity. Individuals were instructed to evaluate the physiological arousal they felt during a stress-inducing task. Next, participants in the experimental condition were instructed to reappraise their feelings of arousal from the stressful task in a positive framework, specifically that stress arousal can help to maximize performance. Results indicated that participants in the positive reappraisal condition had lower physiological stress reactivity than those who believed the stress arousal was potentially harmful.

Although it is evident that cognitive reappraisals may be beneficial when coping with general stress, little is known about positive cognitive reappraisals as a coping strategy in the context of work-home stress spillover. The most relevant study to date is one conducted by Rotondo and Kincaid (2008), who examined cognitive reappraisals in perceived work-home conflict. Results from their study suggested that cognitive reappraisals were not an effective coping strategy, as this strategy was related to more work-home conflict. However, the findings of the study have been overshadowed by a major limitation in Rotondo and Kincaid’s (2008) study. In their measure of cognitive reappraisals, items included: “lowering expectations”, “avoiding disappointment by setting low achieving goals”, “reminding one’s self that not all demands can be met”, and “recognizing unrealistic goals”. These items do not reflect reinterpreting stressors from a positive or beneficial but rather their measure of cognitive reappraisal may be tapping into a form of avoidance coping (Rotondo & Kincaid, 2008). Given
that cognitive reappraisals refer to ways in which contextual cues are reframed or reinterpreted, a key component of their potential effectiveness may be reframing them in a positive manner. Indeed, empirical evidence suggests that cognitive reappraisal strategies have been found to be most effective in reducing distress when they are reframed in a positive or beneficial manner (Jamieson et al., 2013; Troy et al., 2010).

However, Rotondo and Kincaid’s (2008) study did find that positive thinking was beneficial. Positive thinking was found to be related to work-family facilitation, which can be conceived as translating to positive spillover, such that positive experiences, moods, or skills in one domain can spill over onto another domain (e.g., Grzywacz & Marks, 2000; Greenhaus & Powell, 2006). To conclude, Rotondo and Kincaid (2008) recognize that cognitive reappraisals, particularly in a positive context, may be an important intrapersonal resource used to attain work-family balance; but, due to several limitations, the findings of their study are incongruent with other results that demonstrate the beneficial role of positive reappraisal as a coping strategy (e.g., Gross, 1999; Jamieson et al., 2013; Troy et al., 2010). Taking into consideration that positive reappraisal strategies have been shown to reduce the harmful effects of general stress on well-being, the third aim of the current dissertation was to manipulate individuals’ reappraisal strategies and test if positive reappraisals are beneficial in reducing stress spillover (Aim 3).

The Current Dissertation

Work and home domains are inevitably linked for many individuals, and one way they are related is through stress spillover, such that stress in one domain leads to or exacerbates stress in another domain (Bolger et al., 1989). However, little is known about whether stress in one domain spilling over onto another domain may be conditional on specific coping resources and strategies (i.e., social support and cognitive reappraisals). In my dissertation, I aimed to test
for stress spillover effects between home and work domains and the factors that may moderate these spillover relationships across two separate studies.

To my knowledge, no other studies have replicated Bolger and colleagues’ (1989) seminal study on daily stress spillover. However, I argue that a more recent examination of daily stress spillover effects is warranted, given that work-home balance has become increasingly challenging (e.g., Bianchi & Milkie, 2010). Thus, in both Study 1 and 2, I tested for the daily spillover effects using a longitudinal, temporal design (Aim 1). Although Bolger and colleagues (1989) indicated that stress spillover between work and home domains occurs, the potential buffering role of social support has yet to be examined. The stress buffering model of social support suggests that high amounts of support can buffer or attenuate the influence of general stress on overall well-being (Cohen & Wills, 1985). However, the stress buffering model of social support has typically been examined with respect to measures of perceived support and major life events. In contrast, few studies (aside from Cummins, 1988) have tested the buffering model of support in relation to daily received support and daily hassles. Study 1 explored the buffering effects of daily received support (Aim 2a) and overall perceived support availability (Aim 2b) in home-work stress spillover.

In addition to social support, another strategy for coping with general stress is cognitive reappraisals (e.g., Lazarus & Folkman, 1984). Prior work provides evidence that manipulating cognitive reappraisals can reduce the harmful effects of stress on well-being (e.g., Troy et al., 2010). Reframing and reinterpreting home and work experiences and their relation to one another to be integrative, positive, and beneficial may help prevent stress spillover. Study 2 tested the role of positive cognitive reappraisals in home-work stress spillover. In Study 2, cognitive reappraisals about home and work domains were manipulated such that participants
received information about home and work demands/responsibilities as positive or negative (in addition to a control condition). Based on prior literature indicating the benefits of positive cognitive reappraisals in managing general stress (e.g., Gross, 1998; Jamieson et al., 2013), the primary goal of Study 2 was to evaluate if reappraisals about work-home balance and conflict affect daily home-work stress spillover (Aim 3). Based on theory and prior literature, the following hypotheses were tested for Study 1 and Study 2:

**Hypothesis 1:** For Studies 1 and 2, I predicted that *prior day’s* home stress would be positively related to next day’s work stress (while controlling for prior day’s work stress), indicating *home-to-work* stress spillover has occurred. Likewise, I predicted that *current day’s* work stress would be positively related to *same day’s* home stress (while controlling for prior day’s home stress), suggesting evidence for *work-to-home* stress spillover.

**Hypothesis 2:** Study 1 tested the stress buffering model of social support in home-work spillover. Based on the framework of the buffering model (Cohen & Wills, 1985), I hypothesized that high perceived social support and receiving daily social support would attenuate or weaken the relationship between work and home stress spillover, whereas low perceived social support and not receiving daily social support may exacerbate the stress spillover relationship. Because both perceived and received social support has yet to be tested in the context of stress spillover, hypotheses about whether *perceived availability versus received* support are a stronger buffer against stress spillover were exploratory.

**Hypothesis 3:** In Study 2, I predicted that compared to a control condition in which participants were not instructed to reappraise their home and work linkages, those who
received information that home and work lives can be integrative and beneficial (positive condition) would have a weaker or attenuated stress spillover relationship.

Comparatively, participants who received information that the demands and responsibilities in their home and work lives interfere, conflict, and are maladaptive would have a stronger stress spillover relationship.
CHAPTER 2
STUDY 1
Method

Participants

The sample was derived from the National Study of Daily Experiences dataset (NSDE II; Ryff & Almeida, 2004), the daily diary subset of Midlife Development the United States (MIDUS II; Ryff & Almeida, 2004). The MIDUS II (2004–2006) is a longitudinal follow-up of the original MIDUS I (1995–1996), a nationally representative sample of adults (aged 25–74 years old). The main purpose of the MIDUS was to examine the role of behavioral, psychological, and social factors in age-related fluctuations in health and well-being. The MIDUS II sample was recruited from the original MIDUS I study participants, who were randomly selected from working telephone banks. Older adults and men were oversampled by varying the probability of the joint function of the age and sex of randomly selected participant. The main Random Digit Dialed subsample (RDD; \( N = 1141 \)) was utilized for the NSDE, as the primary purpose of this subsample was to examine how multiple aspects of daily stressors, emotional and physical well-being change. For purposes of Study 1, a subsample of the RDD was used, such that only those who were employed and married or cohabiting with a romantic partner were included in analyses (\( n = 330 \)).

Procedure

Data collection for the NSDE II study was comprised of two parts. In Part I (i.e., baseline), starting in 2004, participants from the 1995–1996 MIDUS I study were contacted
again for participation in MIDUS II. Participants were compensated a total of $60 for completing all phases of the MIDUS II. Part I consisted of follow-up questionnaires and updates about their demographics, physical and psychological health since their participation in MIDUS I through telephone interviews (about 30 minutes in length) and self-reported questionnaires that were mailed and returned. In Part II (i.e., the NSDE II), participants completed short telephone interviews across 8 consecutive days. Participants answered a series of questions at the end of each day about their social support, stress, and well-being. Participants of the NSDE II were compensated $25 a week prior to data collection. With a total of $n = 330$ participants for Study 1 analyses, the final potential number of observations for the current study was $n = 2640$ (i.e., 330 participants x 8 daily diaries). The retention rate for the study sample was approximately 92% ($n = 2432$ completed diaries out of the possible 2640). 87.1% completed at least 7 out of the 8 daily diaries. The mean number of daily dairies completed across participants was $M = 7.36$ ($SD = 1.26$).

Measures

Several sociodemographic variables were examined as potential covariates (see Table 1 for full descriptives on participant demographics). Age, number of children, and hours of work in a typical week were continuous variables. Gender was dichotomized as 0 = male and 1 = female. Race consisted of 1 = white, 0 = non-white (Black/Native-American/Asian/Hispanic). Marital status was also dichotomized as 0 = cohabiting and 1 = married. Education was categorized as 1 = less than high school, 2 = high school degree/some college, 3 = college degree, and 4 = graduate/professional degree. Total household income\(^2\) (i.e., wages, pensions, pensions, income, social security, investments).

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\(^1\) For a complete copy of all study measures for Study 1, please refer to Appendix A.

\(^2\) 9 individuals were missing values for their reports of their total household income. A mean value of 3.9 was imputed. Subsequent analyses indicated no significant differences when the missing values were imputed versus not imputed, thus they were retained for the main study analyses.
Social Security, government assistance, etc.) was coded as $0-$10,000, 1 = $10,001-$20,000, 2 = $20,001-$35,000, 3 = $35,001-$50,000, 4 = $50,001-$75,000, 5 = $75,001-$100,000, 6 = $100,001-$150,000, and 6 = more than $150,000. Number of household family members (including spouses) ranged from 1 to 11 people.

Table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>(SD)</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
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<td>(8.87)</td>
<td>33 - 72</td>
</tr>
<tr>
<td># of Hours of Work per Week</td>
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<td>(12.80)</td>
<td>2 - 80</td>
</tr>
<tr>
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<td>1 - 8</td>
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<tr>
<td>Yes</td>
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<tr>
<td># of children (M, SD)</td>
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<td>(1.55)</td>
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<tr>
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<td>Gender</td>
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</tr>
<tr>
<td>Male</td>
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</tr>
<tr>
<td>Female</td>
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<td>51.5</td>
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<tr>
<td>Non-White (Black, Asian, Hispanic)</td>
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<td>Graduate/professional degree</td>
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<td>Total Household Income</td>
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<td>10.0</td>
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<td>75,001 - 100,000</td>
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<td>19.4</td>
<td></td>
</tr>
<tr>
<td>100,001 - 150,000</td>
<td>63</td>
<td>19.1</td>
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</tr>
<tr>
<td>150,000+</td>
<td>37</td>
<td>11.2</td>
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</tr>
</tbody>
</table>
Social Support

**Perceived emotional support** was measured at baseline (prior to inclusion in the daily diary) to assess individuals’ overall perceptions of support availability from three separate sources: family, spouses and co-workers.

**Perceived emotional family support** included emotional support items from social support scales used by Schuster, Kessler, and Aseltine (1990) and Whalen and Lachman (2000). The following four items were included: (1) “How much do members of your family really care about you?” (2) “How much do they understand about the way you feel about things?” (3) “How much can you rely on them for help if you have a serious problem” and (4) “How much can you open up to them if you need to talk about your worries?” Item responses were coded as 1 = *not at all*, 2 = *a little*, 3 = *some*, 4 = *a lot*. A mean score was calculated, with higher values indicating greater emotional support from family members. The scale for perceived family support availability indicated good reliability ($\alpha = .90$).

**Perceived emotional spousal support.** The same support scale from Schuster et al. (1990) and Whalen and Lachman (2002) were used to assess perceived spousal support. The same four items were included in the scale, but were revised to reflect perceived support from spouse or partner (ex: “How much does your spouse/partner really care about you?”). Item responses were coded as 1 = *not at all*, 2 = *a little*, 3 = *some*, 4 = *a lot*. A mean score was calculated, with higher values indicating greater emotional support availability from spouse/partner. The scale demonstrated good internal consistency ($\alpha = .84$).

With respect to **perceived emotional work support**, two separate scales assessed perceptions of support from coworkers and supervisors. Work support scales were adapted from
Bosma and Marmot (1997), Karasek and Theorell (1990), Karasek, Baker, Marxer, Ahlbom, and Theorell (1981), and Schwartz, Pieper, and Karasek (1988). Co-worker emotional support was assessed using two items, (1) “How often do you get help and support from your coworkers?” and (2) “How often are your coworkers willing to listen to your work-related problems?” Supervisor support was assessed using the following three items: (1) “How often do you get information you need from your supervisors or superiors?”, (2) “How often do you get help and support from your immediate supervisor?”, and (3) “How often is your immediate supervisor willing to listen to your work-related problems?”. Responses were coded as 1 = never, 2 = rarely, 3 = sometimes, 4 = most of the time, 5 = all of the time. A mean score was calculated for each scale (i.e., coworker and supervisor), with higher values indicating greater perceived support availability (α = .83). The two separate scales assessing co-worker and supervisor support were then mean aggregated to measure overall perceived work support availability.

Received emotional support was measured at the daily level. Participants answered the following item every day, “Did you receive any emotional support from anyone?” and then indicated the source of support receipt. Three sources of received emotional support were examined: (1) spouse/partner, (2) general family (e.g., parent, child, grandparent, sibling, etc.), and (3) work support (supervisor and co-workers). Responses were coded as either a 0 = did not receive emotional support that day or 1 = did receive emotional support that day for each of the three sources examined.

**Stress Spillover**

In order to assess home-work stress spillover, two independent measures of home-related and work-related stressors were administered at the daily level using the Daily Inventory of Stressful Events (DISE; Almeida, Wethington, & Kessler, 2002). Further information on the
statistical procedure to test for spillover effects are described in the analytical strategy section below.

**Daily home stress** was measured using three items relevant to home life from the DISE (Almeida et al., 2002). Items included: (1) “Did you have an argument or disagreement with anyone since this time yesterday?” (2) “Since this time yesterday did anything happen that you could have argued about but you decided to let pass in order to avoid a disagreement?” and (3) “Since yesterday, did anything happen at home that most people would consider stressful?” Participants who responded to not having experienced any home stress were re-coded as a 0. If participants indicated they had an argument or potential argument with a *spouse/romantic partner, parent, child, sibling, or any other relatives*, or they had any stressful experience at home, they were then prompted to indicate the severity of each of the three home-related stressors by answering the item, “How stressful was this for you?” Item responses were coded as 0 = *not at all*, 1 = *a little*, 2 = *somewhat*, 3 = *very*. An overall measure of home stress was calculated using the maximum stress appraisal score from the three home-related items; thus, scores ranged from 0 = *no stress reported or stress was not at all stressful* to 3 = *very stressful*. The maximum stress appraisal measure was used (as opposed to the questions of whether the event occurred) as prior research suggests that appraisals, rather than whether or not a stressor occurred is a better indicator of the potentially harmful outcomes of stress (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982).

**Daily work stress** was similarly measured using three items assessing daily arguments, potential arguments, and stressful events at work or school (e.g., “Since yesterday, did anything happen at work/school that most people would consider stressful?”). Participants who responded to not having experienced any work-related arguments, potential arguments, or stressors at work
or school that day were re-coded as a 0. If participants indicated having an argument or potential argument with a *co-worker, supervisor/employer, or subordinate at work*, or experiencing a stressful event at work or school, they were then prompted to indicate the severity of the work-related stressor by answering the item, “How stressful was this for you?” Item responses were coded as $0 = \text{not at all}$, $1 = \text{a little}$, $2 = \text{somewhat}$, $3 = \text{very}$. An overall measure of work stress was calculated using the maximum stress appraisal score from the three work-related stress items.

**Analytic Strategy**

In order to examine stress spillover effects and the buffering role of social support, I utilized lagged effects, multilevel models with HLM 6.06 (Raudenbush & Bryk, 2002). Multilevel models included a within-individual model at Level 1 to measure daily stress and social support receipt and a between-individual model at Level 2 to test if spillover effects are due to individual differences in perceived social support availability. Daily stress and social support receipt were left un-centered as both measures provided a meaningful zero point: I was interested in examining spillover effects relative to days when individuals experienced no stress at all ($\text{no stress} = 0$) and what spillover effects looked like on days when support was received ($\text{yes, received support} = 1$) compared to days when support was not received ($\text{no, did not receive support} = 0$). Individuals’ reports of perceived availability of social support were centered around the sample mean (i.e., grand mean centering) at Level 2, to examine if variance in Level 1 slopes (i.e., stress spillover effects) were due to differences between individuals’ overall perceptions of support availability, relative to the average level of support availability reported by the sample. Please refer to Table 2 for means, standard deviations, and frequencies of all major study variables.
Table 2.

<table>
<thead>
<tr>
<th>Means, Standard Deviations, and Frequencies (%) for Major Study Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Daily Stress Appraisal¹</td>
</tr>
<tr>
<td>Home</td>
</tr>
<tr>
<td>Work</td>
</tr>
<tr>
<td>Perceived Support</td>
</tr>
<tr>
<td>Spouse</td>
</tr>
<tr>
<td>Family</td>
</tr>
<tr>
<td>Work</td>
</tr>
<tr>
<td>Daily Received Support²</td>
</tr>
<tr>
<td>Spouse</td>
</tr>
<tr>
<td>Family</td>
</tr>
<tr>
<td>Work</td>
</tr>
</tbody>
</table>

Note. ¹ The percentage reflects the proportion of days participants indicated a stressor that was appraised 1.0 or above. ² The mean reflects the average number of days participants indicated they received support. The percentage of days reflects the proportion of days participants reported receiving support when either work or home stress was experienced.

Covariates

Prior to conducting the main analyses, sociodemographic variables were examined as potential covariates of daily home and work stress. Age, race, gender, total household income, marital status, number of children, education, total number of family members living in household, and number of hours of work per week were entered as Level 2 predictors to examine whether variance in daily home and work stress were related to individual differences in any of the sociodemographic variables. Results revealed gender, education, and the total number of cohabiting family members were all significantly related to home stress. Specifically, women (b
= .13, se = .05, p < .05), those who were highly educated (b = .04, se = .01, p < .01), and those who had a larger number of family members living in the same household (b = .10, se = .03, p < .01) reported higher levels of daily home stress. Additionally, those who worked more hours in the week (b = .01, se = .01, p < .01) reported higher levels of daily work stress. These covariates were maintained in all subsequent models.

With respect to Study 1 aims, stress spillover relationships were examined at Level 1 using the following equations:

**Equation 1 - Level 1:**

\[ \text{HomeStress}_{ij} = \beta_{0j} + \beta_{1j} (\text{WorkStress})_{ij} + \beta_{2j} (\text{HomeStress}_{t-1})_{ij} + e_{ij} \]

**Equation 1 - Level 2:**

\[ \beta_{0j} = \gamma_{00} + \gamma_{01} (\text{Gender})_j + \gamma_{02} (\text{TotalHHF})_j + \gamma_{03} (\text{Educ})_j + u_{0j} \]

Equation 1 models the influence of current day work stress with same day home stress (work-to-home spillover), while controlling for prior day home stress at the daily level. Gender, total number of household family members, and education were included as covariates in Level 2.

**Equation 2 - Level 1:**

\[ \text{WorkStress}_{ij} = \beta_{0j} + \beta_{1j} (\text{WorkStress}_{t-1})_{ij} + \beta_{2j} (\text{HomeStress}_{t-1})_{ij} + e_{ij} \]

**Equation 2 - Level 2:**

\[ \beta_{0j} = \gamma_{00} + \gamma_{01} (\text{HrsWork})_j + u_{0j} \]

Equation 2 models the influence of prior day home stress on next day work stress (home-to-work spillover), while controlling for prior day work stress at the daily level. Number of hours of work per week was included as a covariate in Level 2.

To test the buffering role of received social support, an interaction term between daily support receipt and subsequent daily domain stress (i.e., today’s family support x today’s work
stress) was calculated prior to including it in the models. \(SSReceipt_{ij}\) is the reported social support receipt for the current day. \(SSReceipt_{t-1}\) is the prior day social support receipt. Each proposed model was tested separately for the three sources of support receipt: spouse/partner, family, and work.

**Equation 3 - Level 1:**

\[
HomeStress_{ij} = \beta_0 + \beta_{1j} (HomeStress_{t-1})_{ij} + \beta_{2j} (WorkStress)_{ij} + \beta_{3j} (SSReceipt)_{ij} + \\
\beta_{4j} (SSReceipt \times WorkStress)_{ij} + e_{ij}
\]

**Equation 3 - Level 2:**

\[
\beta_{0j} = \gamma_{00} + \gamma_{01} (Gender)_j + \gamma_{02} (TotalHHF)_j + \gamma_{03} (Educ)_j + u_{0j}
\]

Equation 3 models whether current day support receipt from a given source (e.g., spouse, family, or work) predicted same day home stress. \(SSReceipt \times WorkStress\) is the within-level interaction between same day support receipt and work stress on same day home stress to assess if concurrent work-to-home stress spillover was moderated by daily support receipt.

**Equation 4 - Level 1:**

\[
WorkStress_{ij} = \beta_0 + \beta_{1j} (WorkStress_{t-1})_{ij} + \beta_{2j} (HomeStress_{t-1})_{ij} + \beta_{3j} (SSReceipt_{t-1})_{ij} + \\
\beta_{4j} (SSReceipt_{t-1} \times HomeStress_{t-1})_{ij} + e_{ij}
\]

**Equation 4 - Level 2:**

\[
\beta_{0j} = \gamma_{00} + \gamma_{01} (HrsWork)_j + u_{0j}
\]

Equation 4 models whether prior day support receipt from general family or spouse/partner predicted next day work stress. For work support, an interaction term was created between next day’s work support receipt and prior day’s home stress – given that, with a standard work schedule (e.g., 9:00am – 5:00pm), prior day’s work support was likely received before the onset of the home stressor \((WorkSupport \times HomeStress_{t-1})\).
To test the buffering role of perceived availability of social support, cross-level moderation analyses were conducted. I tested if any variations in *home-to-work* stress spillover were due to differences between individuals’ levels of perceived support availability. Each cross-level interaction model was conducted separately for the three sources of support: spouse/partner, general family, and work support. *PcvdSupp* is the individual’s overall perceptions of support availability. The cross-level interaction models were modeled as

**Equation 5 - Level 1:**

$$HomeStress_{ij} = \beta_{0j} + \beta_{1j}(WorkStress)_{ij} + \beta_{2j}(HomeStress_{t-1})_{ij} + e_{ij}$$

**Equation 5 - Level 2:**

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(Gender)_{j} + \gamma_{02}(TotalHFF)_{j} + \gamma_{03}(Educ)_{j} + \gamma_{04}(PcvdSupp)_{j}u_{0j}$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}(PcvdSupp)_{j}u_{1j}$$

Equation 5 models the average level of overall home stress ($\beta_{0j}$) and whether the effect or slope of current day work stress on the same day home stress (*concurrent work-to-home spillover*; $\beta_{1j}$) varied as a function of individuals’ perceived availability of social support.

**Equation 6 - Level 1:**

$$WorkStress_{ij} = \beta_{0j} + \beta_{1j}(WorkStress_{t-1})_{ij} + \beta_{2j}(HomeStress_{t-1})_{ij} + e_{ij}$$

**Equation 6 - Level 2:**

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(HrsWork)_{j} + \gamma_{02}(PcvdSupp)_{j}u_{0j}$$
$$\beta_{2j} = \gamma_{20} + \gamma_{11}(PcvdSupp)_{j} + u_{2j}$$

Equation 6 models the average level of overall work stress ($\beta_{0j}$) and whether the effect or slope of prior day home stress onto the next day work (*home-to-work stress spillover*; $\beta_{2j}$) varied as a function of individuals’ perceived availability of social support.

Prior to conducting the main analyses, the unconditional models were assessed to assess the variability in daily home and work stress. The variance components test from the unconditional model for daily home stress revealed a significant amount of variability between
individuals for home stress ($p < .01$). An intra-class correlation was computed to assess the proportion of variance between ($\tau_{00} = .20$) and within individuals ($\sigma^2 = .61$); $\rho = \frac{\tau_{00}}{\tau_{00} + \sigma^2} = \left(\frac{.20}{.20 + .61}\right) = .25$. The intra-class correlation was .25, indicating that 25% of the variance in home stress was due to variance between individuals and 75% was due to variance within individuals. Likewise, the variance components test for the unconditional model for daily work stress indicated a significant amount of variability between individuals for daily work stress was significant ($p < .01$). The intra-class correlation computed using the amount of within individual variance ($\sigma^2 = .54$) and between individual variance ($\tau_{00} = .08$); $\rho = \frac{\tau_{00}}{\tau_{00} + \sigma^2} = \left(\frac{.08}{.08 + .54}\right) = .19$. 19% of the variance in daily work stress was due to variance between individuals and 81% due to within individuals.
STUDY 1

Results

Descriptive Statistics

Descriptive results indicated that participants experienced slightly more daily home stress than work stress: the percentage of days participants reported experiencing a home stressor with an appraisal of at least $1 = a \ little \ stressful$ was 21%, whereas the percentage of days participants reported experiencing a work stressor with an appraisal of at least $1 = a \ little \ stressful$ was 15.2%. On the days participants reported either work or home stress that was appraised as being at least $a \ little \ stressful$ (a scoring greater than 1), 6.7% received family support, 9.1% received spousal/partner support, and 4.9% received work support. Bivariate correlations of the major study variables can be found in Table 3.
### Table 3.

**Bivariate Correlations between Individual and Aggregated Daily Variables of Interest**

<table>
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<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>Daily Work Stress</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-</td>
<td>Daily Home Stress</td>
<td>0.26 **</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-</td>
<td>Daily Received Spousal Support</td>
<td>0.13 *</td>
<td>0.18 **</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-</td>
<td>Daily Received Family Support</td>
<td>0.10</td>
<td>0.35 **</td>
<td>0.25 **</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-</td>
<td>Daily Received Work Support</td>
<td>0.35 **</td>
<td>0.16 **</td>
<td>0.13 *</td>
<td>0.20 **</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-</td>
<td>Perceived Spousal Support</td>
<td>-0.13 *</td>
<td>-0.18 **</td>
<td>0.16 **</td>
<td>0.01</td>
<td>-0.02</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>7-</td>
<td>Perceived Family Support</td>
<td>-0.18 **</td>
<td>-0.13 *</td>
<td>-0.02</td>
<td>0.09</td>
<td>-0.03</td>
<td>0.29 **</td>
<td>--</td>
</tr>
<tr>
<td>8-</td>
<td>Perceived Work Support</td>
<td>-0.08</td>
<td>-0.14 *</td>
<td>0.13 *</td>
<td>0.04</td>
<td>-0.05</td>
<td>0.10 †</td>
<td>0.22 **</td>
</tr>
</tbody>
</table>

*Note.* †*p* < .10, *p* < .05, **p** < .01, ***p*** < .001.
Because perceived work support availability was assessed on a 5-point scale and perceived family and spousal support availability was assessed on a 4-point scale, the means were re-scaled to a 100-point scale for comparison purposes. With respect to overall perceived support availability, participants reported significantly higher levels of support availability from general family \((t (292) = 13.79, p < .001; M = 87.20, SD = 14.72)\) and spouse/partner \((t (289) = 13.64, p < .001; M = 88.45, SD = 14.82)\) than from work \((M = 73.20, SD = 13.66)\).

Gender differences between daily home and work stress, daily support receipt, and overall perceived support availability were also examined as descriptive analyses. Results from a MANOVA suggested that the overall model of gender on the mean levels of the major study variables was significant \((\Lambda = .91, F (8, 321) = 3.91, p < .001)\). Specifically, the test of between-subjects effects revealed that women \((M = 3.48, SD = .62)\) had lower perceived spousal support than men \((M = 3.63, SD = .51; F (1, 328) = 5.64, p < .05)\). However, women \((M = .28, SD = .65)\) reported greater instances of receiving work support than men \((M = .10, SD = .39; F (1, 128) = 8.73, p < .01)\). Finally, women reported greater home stress \((M = 3.63, SD = 3.98)\) than men \((M = 2.51, SD = 3.01; F (1, 328) = 8.20, p < .01)\). No gender differences in perceived family or work support, received spouse or family support, or work stress were found.

**Daily Stress Spillover**

The first aim of Study 1 was to test whether (1) current day work stress spilled over onto same day home stress (work-to-home spillover) and (2) if prior day home stress spilled over onto next day work stress (home-to-work spillover). Results from the multilevel models did not reveal evidence for work-to-home stress spillover: work stress did not significantly predict home stress. However, there was evidence for home-to-work spillover: the more home stress experienced in the given prior day, the more work stress was reported the following day \((b = .06,\)
\( se = .02, p < .01 \). In general, there was no evidence for \textit{work-to-home} stress spillover, but there was evidence for \textit{home-to-work} stress spillover. The upper halves of Tables 4 and 5 present the details of the Level 1 results of daily \textit{work-to-home} and \textit{home-to-work} stress spillover.
Table 4.

**Results of Multilevel Models Examining the Roles of Social Support in Work-to-Home Spillover**

<table>
<thead>
<tr>
<th>Daily Stress Spillover</th>
<th>$b$</th>
<th>$SE$</th>
<th>$t$</th>
<th>$df$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Stress</td>
<td>-0.01</td>
<td>0.03</td>
<td>-0.37</td>
<td>1992</td>
<td>0.71</td>
</tr>
<tr>
<td>Prior Day Home Stress (control)</td>
<td>0.06</td>
<td>0.02</td>
<td>2.83</td>
<td>1992</td>
<td>0.005</td>
</tr>
<tr>
<td><strong>Level 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Household Family Members</td>
<td>0.08</td>
<td>0.02</td>
<td>3.71</td>
<td>319</td>
<td>&lt; .0001</td>
</tr>
<tr>
<td>Gender</td>
<td>0.15</td>
<td>0.05</td>
<td>3.07</td>
<td>319</td>
<td>0.003</td>
</tr>
<tr>
<td>Education</td>
<td>0.10</td>
<td>0.03</td>
<td>3.44</td>
<td>319</td>
<td>0.001</td>
</tr>
</tbody>
</table>

**Effects of Social Support on Spillover**

<table>
<thead>
<tr>
<th>Daily Received Support</th>
<th>$b$</th>
<th>$SE$</th>
<th>$t$</th>
<th>$df$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouse</td>
<td>0.37</td>
<td>0.09</td>
<td>3.93</td>
<td>1990</td>
<td>&lt; .0001</td>
</tr>
<tr>
<td>Family</td>
<td>0.73</td>
<td>0.13</td>
<td>5.67</td>
<td>1990</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Work</td>
<td>0.13</td>
<td>0.17</td>
<td>0.76</td>
<td>1990</td>
<td>0.46</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interactions</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Work x Received Spouse Support</td>
<td>-0.13</td>
<td>0.10</td>
<td>-1.32</td>
<td>1990</td>
<td>0.19</td>
</tr>
<tr>
<td>Work x Received Family Support</td>
<td>-0.27</td>
<td>0.12</td>
<td>-2.35</td>
<td>1990</td>
<td>0.02</td>
</tr>
<tr>
<td>Work x Received Work Support</td>
<td>0.06</td>
<td>0.10</td>
<td>0.56</td>
<td>1990</td>
<td>0.58</td>
</tr>
<tr>
<td><strong>Level 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Availability of Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spouse</td>
<td>-0.11</td>
<td>0.05</td>
<td>-2.33</td>
<td>318</td>
<td>0.02</td>
</tr>
<tr>
<td>Family</td>
<td>-0.14</td>
<td>0.04</td>
<td>-3.22</td>
<td>318</td>
<td>0.002</td>
</tr>
<tr>
<td>Work</td>
<td>-0.13</td>
<td>0.04</td>
<td>-3.33</td>
<td>318</td>
<td>0.001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interactions</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Work x Perceived Spouse Support</td>
<td>0.01</td>
<td>0.04</td>
<td>0.30</td>
<td>321</td>
<td>0.76</td>
</tr>
<tr>
<td>Work x Perceived Family Support</td>
<td>0.07</td>
<td>0.04</td>
<td>1.82</td>
<td>321</td>
<td>0.07</td>
</tr>
<tr>
<td>Work x Perceived Work Support</td>
<td>0.06</td>
<td>0.04</td>
<td>1.39</td>
<td>321</td>
<td>0.16</td>
</tr>
</tbody>
</table>

*Note.* The outcome variable is daily home stress.
Table 5.

Results of Multilevel Models Examining the Roles of Social Support in Home-to-Work Spillover

<table>
<thead>
<tr>
<th>Daily Stress Spillover</th>
<th>( b )</th>
<th>SE</th>
<th>( t )</th>
<th>df</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior Day Home Stress</td>
<td>0.06</td>
<td>0.02</td>
<td>3.23</td>
<td>1994</td>
<td>0.002</td>
</tr>
<tr>
<td>Prior Day Work Stress (control)</td>
<td>0.15</td>
<td>0.02</td>
<td>7.45</td>
<td>1994</td>
<td>&lt; .0001</td>
</tr>
<tr>
<td><strong>Level 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Hours of Work Per Week</td>
<td>0.00</td>
<td>0.001</td>
<td>1.85</td>
<td>321</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Effects of Social Support on Spillover

<table>
<thead>
<tr>
<th>Daily Received Support (Prior Day)</th>
<th>( b )</th>
<th>SE</th>
<th>( t )</th>
<th>df</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouse</td>
<td>0.13</td>
<td>0.08</td>
<td>1.61</td>
<td>1992</td>
<td>0.11</td>
</tr>
<tr>
<td>Family</td>
<td>-0.04</td>
<td>0.12</td>
<td>-0.35</td>
<td>1992</td>
<td>0.72</td>
</tr>
<tr>
<td>Work*</td>
<td>0.62</td>
<td>0.13</td>
<td>4.71</td>
<td>1992</td>
<td>&lt; .0001</td>
</tr>
</tbody>
</table>

Interactions

| Prior Day Home Stress x Received Spouse Support | -0.10 | 0.06| -1.49 | 1992 | 0.14 |
| Prior Day Home Stress x Received Family Support | -0.002 | 0.08| -0.02 | 1992 | 0.98 |
| Prior Day Home Stress x Received Work* Support | 0.19 | 0.09| 2.08  | 1992 | 0.04 |

<table>
<thead>
<tr>
<th>Perceived Availability of Support</th>
<th>( b )</th>
<th>SE</th>
<th>( t )</th>
<th>df</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouse</td>
<td>-0.06</td>
<td>0.03</td>
<td>-1.81</td>
<td>321</td>
<td>0.07</td>
</tr>
<tr>
<td>Family</td>
<td>-0.13</td>
<td>0.03</td>
<td>-4.21</td>
<td>320</td>
<td>&lt; .0001</td>
</tr>
<tr>
<td>Work</td>
<td>-0.05</td>
<td>0.03</td>
<td>-1.67</td>
<td>320</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Interactions

| Prior Day Home Stress x Perceived Spouse Support | -0.02 | 0.04| -0.45 | 321| 0.65 |
| Prior Day Home Stress x Perceived Family Support | 0.09 | 0.04| 2.53  | 321| 0.01 |
| Prior Day Home Stress x Perceived Work Support | 0.01 | 0.03| 0.38  | 321| 0.71 |

Note. The outcome variable is daily work stress. *The same day work support received was examine given that any home related stressor was likely to have occurred after any potential instances of work support received from the prior day.
**Daily Received Support as a Potential Buffer**

The second aim of Study 1 was to assess if support buffers or moderates the stress spillover relationship. To test for the buffering role of daily received social support, an interaction term of daily received general family, spouse, and work support were separately assessed at Level 1. The lower halves of Tables 4 and 5 provide additional details of the coefficients of daily support receipt and the interaction terms with the stress variable of interest.

With respect to daily work-to-home stress spillover, a significant interaction emerged between daily work stress x family support receipt ($b = -.27, se = .12, p < .05$). To decompose the interaction, a separate multilevel model was conducted in which the zero point reflected the days when family support was received (yes, did receive family support = 0, no did not receive family support = 1). Results indicated that on days when family support was received, greater work stress predicted less home stress ($b = -.27, se = .11, p < .05$). But, on days when family support was not received, work stress was not related to home stress. Figure 1 displays the simple slopes for the daily work stress x family support receipt interaction effect.
Figure 1. Moderating Effect of Daily Family Support Receipt in the Work-to-Home Stress Spillover

* $p < .05$, $ns$ = non-significant
An interaction was also found for *home-to-work* stress spillover (see Figure 2). Specifically, current day’s work support receipt significantly interacted with prior day’s home stress ($b = .19, \text{se} = .09, p < .05$) to predict the current day’s work stress. Again, a separate multilevel model was conducted to decompose the simple slopes (*yes, did receive work support* = 0, *no did not receive work support* = 1). Results revealed that, contrary to predictions, on days when work support was received, prior day’s home stress spilled over onto next day’s work stress ($b = .23, \text{se} = .09, p < .01$). But, compared to days when work support was not received, the spillover effect from *home-to-work* was weaker: $b = .04, \text{se} = 0.02, p < .05$).

*Figure 2.* Moderating Effect of Daily Work Support Receipt in *Home-to-Work* Stress Spillover

\*\* $p < .01$, \* $p < .01$. 
Overall Perceived Support Availability as a Potential Buffer

The second part of Aim 2 was to assess if individuals’ overall reports of perceived emotional support availability buffers the effects of daily stress spillover. Overall perceived support availability from general family, spouse/partner, and work were examined as cross-level moderators of daily stress spillover. With respect to concurrent work-to-home stress spillover, no cross-level moderators were found for general family, spouse/partner, or work support availability. Additionally, neither spousal support nor work support availability were found to be significant cross-level moderators of next day home-to-work stress spillover. However, overall perceived support availability from general family was a significant cross-level moderator of next day home-to-work stress spillover ($b = .09$, $se = .04$, $p < .05$). Full details of the results of the multilevel models examining the cross-level predictors of perceived support in stress spillover can also be viewed on the bottom half of Tables 4 and 5.

To assess the simple slopes of the influences of individual differences across perceived family support availability on home-to-work spillover, the interaction was decomposed. To decompose the interactions, I ran two additional multilevel models with perceived family support at high and low levels based on one standard deviation above and below the mean, respectively, as recommended by Curran, Bauer and Willoughby (2006). Results from the simple slope analyses revealed that, contrary to predictions, for individuals with high levels of perceived family support availability (+1SD above mean), more home stress experienced on the prior day spilled over onto more work stress the following day ($b = .10$, $se = .04$, $p < .01$). For individuals with low levels of perceived family support availability (-1SD below mean), home-to-work stress spillover relationship was non-significant. Figure 3 displays the cross-level moderating effects of perceived family support on home-to-work stress spillover.
Figure 3. Moderating Effect of Perceived Family Support in *Home-to-Work* Stress Spillover

* *p* < .05, *ns* = non-significant

In general, these results provided support for my prediction that home stress would spillover onto work stress (i.e., *home-to-work* spillover). However, the findings for the role of received and perceived social support were somewhat contradictory to my prediction that received and perceived social support would be related to reduced stress spillover effects. On days when family support was received, the effects of work stress appear to be buffered, but not in the expected direction of relationship. Family support receipt was associated with greater work stress being related to less home stress. But, on days when work support was received, *home-to-work* stress was more likely to occur, exacerbating spillover effects. And while daily family support receipt appeared to buffer the effects of work stress, overall perceived family support exacerbated *home-to-work* stress spillover.
STUDY 1

Discussion

Balancing work and home domains is a challenging feat for many people. One reason why work-home balance can be difficult is that stress in one domain can exacerbate or lead to stress in another domain, otherwise known as stress spillover (Bolger et al., 1989). However, no recent studies to my knowledge have tested for stress spillover by examining independent measures of home and work-related stress. Thus, the first aim of Study 1 was to test for effects of daily home and work stress spillover, in order to replicate the findings of Bolger et al. (1989). Results showed some similarities to that of Bolger et al. (1989). No evidence of work-to-home stress spillover was found, but there was support for home-to-work stress spillover.

In addition to stress spillover effects, Study 1 also sought to test whether stress in one domain can be buffered from spilling over onto stress in another domain. Results indicated that received family support marginally buffered work-to-home spillover, although the spillover relationship was in an unexpected direction: On days when family support was received, greater work stress was predictive of lower home stress. However, home-to-work stress spillover effects were stronger on days when work support was received. Moreover, with respect to perceived support availability, perceived support availability from family exacerbated home-to-work stress spillover. Below, I discuss the study results in further detail.

Tests of Stress Spillover

The first aim of the study tested for work-to-home and home-to-work stress spillover. Bolger and colleagues (1989) found evidence for both directions of spillover, such that higher stress in one domain was significantly and positively related to higher stress in another domain. However, my results from Study 1 slightly differed from Bolger et al. (1989). Congruent with
Bolger and colleagues (1989), I found that among a more recent sample of participants, evidence for home-to-work spillover was found – relative to experiencing no home stress, the more home stress experienced in the prior day, the more work stress there was the following day. Moreover, my prediction for work-to-home spillover was partially supported: on days when family support was received, greater stress at work predicted less home stress.

With regards to work-to-home spillover, the differences between the findings of Study 1 and Bolger and colleagues (1989) may be due to age differences. The participant sample in the Bolger et al. (1989) study had mean age around 40 years old, whereas the sample mean age of participants in Study 1 was around 50 years old. These results indicated that the way work stress might impact home stress might differ across the lifespan. Greater work stress may increase home stress for a younger sample because of both roles in the home and work are heightened as careers are being established and home life is more demanding with dependent children. Studies have shown that older adults report experiencing less work-family conflict than younger adults (Erickson, Martinengo, & Hill, 2010) and negative spillover tends to decline later in life (Grzywacz et al., 2002). In later adulthood, late middle-aged adults are more likely to be secure and confident in their careers and jobs compared to young adults (Demerouti, Peeters, & van der Heijden, 2012). Thus, for the late middle aged sample in Study 1, individuals may be less inclined to experience increased home stress as a result of work stress because of reduced pressures later on in life.

Although the sample in Study 1 was slightly older than the sample utilized in the Bolger et al. (1989) study, it was no surprise that evidence for home-to-work spillover was found in both age groups. In early adulthood, the transition to parenthood and caring for young children while establishing careers can bring forth a surge of home-to-work spillover (Erickson et al., 2010).
Yet, it appears that this type of spillover is unlikely to wane in middle to late adulthood. Late middle adults are still likely to experience stress from their children as developing adolescence can elicit additional conflict (Hundley, 2001). Moreover as individuals enter later adulthood, they are faced with the “sandwich generation” issue in which they face demands to care for their own children, as well as aging parents (e.g., Perrig-Chiello & Hopflinger, 2005). The importance of life stage development in the home and work linkage is evident, but most research has typically focused on measures of perceived spillover. Although not a focus of my dissertation, future work should examine the role of age or life stage development in tests of home and work stress spillover.

**Received Social Support as a Moderator**

I was not only interested in stress spillover effects, but also the role of social support in either exacerbating or attenuating the influence of stress in one domain on another. Specifically, I predicted that on days when social support from a given source is received (i.e., family, spouse, or co-worker), *home-to-work* and *work-to-home* stress spillover effects would be attenuated or weakened compared to days when social support was not received. Contrary to my prediction, on days when family support was received, more work stress on a given day was related to less home stress that same day. But, on days when family support was not received, work stress did not influence home stress. Thus, it appears family support is indeed beneficial for *work-to-home* stress spillover, although family support receipt was related to a stronger, negative relationship, as opposed to a weaker positive relationship.

These results confirm the notion of compensation (Edwards & Rothbard, 2000) – on a given day when work stress is experienced, individuals may be seeking reward or satisfaction at home. And one way this may occur is through social support receipt. On days when work stress
occurs, an individual may receive support at home (i.e., family support) and satisfaction with home life may be high in comparison to the dissatisfaction with work life. That is, when family support is received on a given day that stress was experienced at work, there may be a high appreciation for life at home, resulting in less stress in the home domain.

With respect to the role of support in stress spillover, previous findings have suggested social support receipt is best conceptualized through a mobilization model (Barrera, 1988; Kaniasty & Norris, 1996), rather than the buffering model – given that stress and social support receipt are often positively related to one another (e.g., Gleason, Iida, Shrout, & Bolger, 2008). The mobilization model would suggest the reason why greater work stress predicts lower home stress is that family support receipt mediates the link between work and home stress (as opposed to moderating the link). Specifically, the mobilization model would propose that on days when work stress is high, family support is received as a result of this high work stress, and in turn, receiving family support leads to less home stress. Future research should test and compare both a buffering and mobilization model social support receipt in stress spillover for a more comprehensive understanding as to why spillover may occur and under what conditions.

In addition to the moderating role of family support for work-to-home spillover, buffering effects of work support for home-to-work spillover were found, although not in the expected direction. Results revealed that on days when work support was received, home-to-work stress spillover was more likely to occur. In other words, while buffering effects were found, they were in the opposite direction as expected. Although greater home-to-work stress spillover occurred on days when work support was received, this finding is line with previous work that indicates received support is followed by greater stress the following day (Bolger, Zuckerman, & Kessler, 2000; Gleason, Iida, Bolger, & Shrout, 2003). Thus, as the support mobilization model
would suggest (Barrera, 1986), on days when home stress was high, individuals may have received support at work the next day. As a result, receiving support at work may have led to increased preoccupation with home-related stressors and ultimately greater work-related stress.

In examining the role of daily received support in stress spillover, results from Study 1 suggested that while daily work support may exacerbate home-to-work spillover, daily family support resulted in work-to-home compensation. This raises the question as to why received family support, but not received work support, may be helpful when it comes to domain stress spillover? To answer this question, the substitution hypothesis (Hobfoll, Freedy, Lane, & Gellar, 1990) and preferences for the family domain (Cinamon & Rich, 2002b) may provide further insight. First, according to the substitution hypothesis, if needed, one personal resource may take place over another to meet the demands of a stressor (Hobfoll et al., 1990). What may be occurring is that on days when work support is received following home stress, perhaps they are receiving work support to substitute for the lack of support received at home. However, receiving work support may be an indication that family support was either not received or did not assuage the stress experienced at home. Secondly, family support could have a higher value of importance and meaning than work support, thus resulting in its potential beneficial role in stress spillover. Prior research has indicated that different individuals endorse values in specific domains over others, such that they may place higher importance on their home life versus their work life, or equal importance to both (Cinamon & Rich, 2002b). If the family domain is of higher importance than the work domain, then it is possible that support from family has greater implications for reassurance and effective coping. Given that Cinamon and Rich (2002b) suggest distinct profiles of domain endorsement exist and have implications for domain conflict, it is recommended that future research expand on these findings by testing whether domain
salience may moderate the stress spillover association to shed further light on the individualistic differences in work and home stress spillover experiences.

**Perceived Social Support**

While received social support may fluctuate on a daily basis, some researchers have argued that perceived availability of support tends to be stable and less likely to fluctuate (e.g., Sarason, Sarason, & Shearin, 1986). Thus, in addition to received daily social support, Study 1 also examined whether individuals differ in their stress spillover experiences based on their overall perceptions of support availability from spouse/partner, family, and work. Although a significant cross-level interaction between perceived family support and home-to-work stress spillover was found, a decomposition of the slopes revealed that buffering effects were in the opposite direction. For individuals with high perceived family support availability, more home stress experienced in a given day resulted in more work stress the following day. On the other hand, for those with low perceived family support availability, no home-to-work stress spillover was found.

This type of reverse buffering effect has been noted in other studies. In an examination of married couples, Westman and Etzion (2005) found that for husbands with high support from wives, greater job stress was related to higher levels of perceived work-family conflict. Westman and Etzion (2005) attributed their reverse buffering effect of spousal support to potential feelings of inadequacy in coping. In other words, support from wives could emphasize to husbands that they are not capable of coping with their job stress effectively on their own, resulting in increased feelings of work-family conflict. Indeed, a downside of social support is that feelings of autonomy and independence can be sacrificed (e.g., Fischer, Nadler, & Whitcher-Alagna, 1982), which offers some insight to the reverse buffering effects found in Study 1.
Relatedly, high perceptions of family support might be a sign of family members’ tendencies to overstep their boundaries and intrude in stressful situations, leading to exacerbated spillover effects. This explanation is related to the idea of source congruency. Source congruency refers to the notion that when the source of stress matches the source of support, poor outcomes can result because of cognitive dissonance (Beehr et al., 2003).

According to the social support-stressor congruence hypothesis, when the source of stress and support are from the same domain, the experience may be aversive and reverse buffering can occur (Blau, 1981; Kaufmann & Beehr, 1986). On the one hand, the person is distressing, but on the other hand, they are a confidant and may be a source of comfort. According to dissonance theory (Festinger, 1962), these conflicting thoughts can result in tensions and discomfort. With respect to source congruency, the results from Study 1 indicate that perceived family support did not buffer the effects of home stress; it is possible that the source of stress and available support are the same individual (i.e., perceive high support available from spouse, but also experience high stress from spouse), resulting in stress spillover.

The speculations about source congruency should be considered with caution. One limitation of Study 1 was that specific individuals as sources of stress and support are unknown. That is, even with respect to family support and home stress, it is unclear as to whether the source of stress and support are from the same individual. It is possible that even if the source of stress and support are within the same domain, they could each refer to different individuals. Thus, for a more nuanced understanding of the situational benefits and drawbacks of perceived support availability, future research would benefit from taking on a more micro-level approach to the buffering role of perceived social support in stress spillover (i.e., whether perceived support
availability from a family member buffers or exacerbates the effects of stress experienced by a conflict with the same family member).

One issue raised was whether received versus perceived social support would buffer the effects of daily stress spillover. Prior research has indicated that in general, perceived social support can have buffering effects on major life events (e.g., Cohen & Wills, 1985). But, results have been mixed on whether social support receipt is beneficial in coping with stress – some studies provide evidence that it may exacerbate stress (e.g., Gleason et al., 2003), while others indicate that it can indeed buffer stress (e.g., Cichy, Stawski, & Almeida, 2014). In line with the works of Cichy et al. (2014) and Cummins (1988), the results of Study 1 have provided further evidence that received support, rather than perceived availability of support may be best in buffering the effects of daily stress. For instance, Cichy et al. (2014) found that among a sample utilizing the NSDE II dataset, daily family support receipt helped to buffer the effects of daily tension. And, Cummins (1988) argued and found that received support buffered the effects in the expected direction for daily hassles, but perceived availability of stress produced negative or reverse buffering effects. The results of Cummins et al. (1988) are congruent with Study 1 results, in which I found that while greater perceived availability of support exacerbated home-to-work stress spillover, daily received family support helped to buffer the effects of work stress from spilling over onto home stress. Thus, it appears that daily family support receipt may help to manage the day-to-day stressors experienced in home and work domains.

Limitations and Future Directions

Although Study 1 took a nuanced approach to testing for stress spillover among a representative sample and examined how both received and perceived support may influence spillover effects, the results should be considered in light of the limitations that exist. First,
Despite the daily diary approach used to assess how stress in one domain can affect stress in another domain, Study 1’s measures of home and work stress do not take into account when during the day a stressor occurred. For instance, in the tests of home-to-work stress spillover, it is assumed that home stress is most likely to have occurred the prior evening, given a majority of the current sample (80%) worked a standard day shift (i.e., 9:00am – 5:00pm), leaving little opportunity for home stress to occur before work. However, it is possible that home stress could occur before the work day begins (e.g., having a fight with your children or spouse before going to work), or it could occur during work hours (e.g., receiving a phone call at work that your child is sick).

While daily diary methods and independent measures of domain stress can provide a better depiction of the daily hassles that may spillover onto one another (Almeida, 2005), assessing the timing or specific onset of a home or work-related stressor can offer a much more accurate assessment of spillover effects within the same day. A methodological approach to test for timing of daily stress spillover effects is ecological momentary assessments. Ecological momentary assessments (EMA) allow researchers to collect data in real-time and in natural environments, reducing recall bias (e.g., Schiffman, Stone, & Hufford, 2008). More importantly, EMA studies can distinguish the direction and the source of spillover effects because the exact timing of when the specific stressor occurred, relative to another domain stressor, would be known.

Study 1 was also limited by its measure of social support and the broad measure of home and work-related stressors. In Study 1, only emotional support was examined as a potential buffer to stress spillover. Although research suggests that emotional support tends to have stronger implications for well-being above other forms of support (e.g., Burleson, 2003), it is
possible that other types of support may be a better buffer, based on the type of stressor. As prior work indicates, source-matching the type of support to the type of stressor is the optimal way in which social support can help alleviate stress (Cutrona, 1990). For instance, if an individual is experiencing stress at home because of feeling overwhelmed with home-related tasks such as caring for children or household chores, instrumental support in the form of helping with these tasks may be a better buffer to prevent the stress from spilling over onto work the next day, as opposed to emotional consolation. Future research examining different types of social support in relation to the type of stressor beyond whether it is work or home related may lead to a more nuanced understanding of the buffering role of support.

**Study 1 Conclusions**

Overall, Study 1 indicated that home and work domains are indeed interlinked with one another as there was evidence of *home-to-work* stress spillover. However, rather than stress spillover effects, it appears compensation effects for *work-to-home* spillover are occurring, particularly in light of receiving family support. Study 1 also revealed the importance of daily received family support in the fragile balance between home and work lives. Yet, even though *daily received* family support may be helpful in buffering the effects of work stress, *perceived availability* of family support may have some downsides due to source incongruent thoughts and behaviors. Study 1 contributes to the work-home spillover and social support literature by providing greater insight on the complexity of family support in the daily challenges of achieving a healthy home-work balance.
CHAPTER 3

STUDY 2

The main purpose of Study 2 was to test the role of cognitive reappraisals in the experience of stress spillover. Specifically, I predicted that compared to the control condition, participants who were instructed to reappraise their home and work spillover as positive, integrative, and beneficial would experience less stress spillover. But, for individuals who were led to view spillover as negative and conflicting, I expected that they would experience more spillover compared to the control condition. Cognitive reappraisal conditions were manipulated using a similar paradigm to Jamieson and colleagues (2011), in which participants read excerpts about spillover specific to their condition followed by a manipulation check.

Methods

Participants

To test the aims of Study 2, data from a larger study examining several psychosocial factors related to stress, home-work balance, and well-being was utilized. Data were collected from a community sample recruited through the online marketplace, Amazon’s Mechanical Turk (MTurk: www.mturk.com). Participant eligibility requirements included working full-time (at least 35 hours per week), be married or cohabiting (to assess adequate work and home interference and facilitation), and be at least 18 years of age.

At the initial time of recruitment, 155 participants completed the intake questionnaire and 127 participants completed at least one day of the 10-day daily diary component of the study, leaving the final number of participants to be $N = 127$ for Study 2. Of the total possible 1270
daily diary observations from the 10-day daily diaries of the 127 participants, a total of 886 diaries were completed. 51.1% of the 127 participants completed at least 9 of the 10 daily diaries. On average, participants completed about 6.98 daily diaries ($SD = 3.36$).

The sample for the current study consisted of 53.5% women and 46.5% men. Participants were primarily White/European (80.3%), and were 35.6 years old on average ($SD = 10.59$; Range = 19 – 65). More than half of participants were married (59.1%) and had at least one child (51.2%; $M = 1.08$; $SD = 1.31$; Range = 0 - 5). The majority of participants had a university or college degree (61.4%) and worked an average of 42 hours a week ($M = 42.00$; $SD = 5.07$; Range = 35 - 60).

**Procedures**

Following the intake questionnaire, participants were randomly assigned to one of the three experimental groups: (1) control ($n = 51$), (2) positive spillover ($n = 42$) and (3) negative spillover ($n = 34$). Each condition consisted of a brief article summary that consisted of information about the respective condition. In the control condition, participants read a short excerpt about the benefits of fruit and vegetable consumption. In the positive spillover condition, participants read information about the ways in which home and work domains can facilitate or enhance one another. In the negative spillover condition, participants were informed about how and why work and home domains are conflicting and difficult to simultaneously manage. After reading the assigned excerpt, participants were asked two multiple choice questions related to their condition as a manipulation check. A total of $n = 8$ participants answered one of the manipulation check items incorrectly. A total of $n = 1$ participant answered both manipulation check items incorrectly. Only participants who provided incorrect responses to both multiple choice questions for the manipulation check were no longer eligible for the
study and eliminated from the analyses. The original study sample consisted of n = 128; after manipulation checks were assessed, the total final sample was n = 127. Full details of the reading excerpts for each experimental condition are provided in Appendix B.

After completing the intake questionnaire and reading the randomly assigned condition excerpt, participants completed 10 daily diaries starting the following day. Participants completed diaries for 10 consecutive days in the evenings, in which they answered questions about their current day. Each daily diary began by prompting participants about their assigned condition. Using an open-ended format, participants were required to briefly describe their home and work experiences (or their fruit and vegetable consumption for the control condition), relative to their condition. For instance, in the positive reappraisal condition, each daily diary began by asking participants: “Thinking about your day, please describe in detail ONE way in which your home/personal life and work/professional life helped or enhanced one another today. For example, being productive at work helped motivate you to complete tasks at home, such as caring for your children” (for additional details of the reappraisal task instructions, please refer to Appendix B). Following the reappraisal writing task, participants answered a brief set of questions assessing their daily stress experiences at home and work. Upon completion of the 10 daily diaries, participants completed an exit questionnaire that was identical to the intake questionnaire.

Measures

Baseline Measures

**Sociodemographic variables.** Several sociodemographic variables were examined as potential covariates of daily home and work stress. *Gender* was dichotomized as 0 = male, 1 = female. *Age* and *number of hours of work per week* were measured as continuous variables.
Relationship status consisted of being married = 1 or in a committed relationship = 2 with the cohabiting partner. Race was dichotomized as non-white = 0 or white = 1. Education ranged from 1 = completed high school to 5 = advanced professional or graduate degree. Parental status was also dichotomized as 0 = has no children to 1 = has child(ren). Whether individuals cohabited with their children (yes = 1, no = 0) and the number of children they had were also examined as potential covariates. Finally, whether working with a family member could influence home and work stress was examined as a potential covariate (work with family (yes = 1, no = 0)).

**Daily Measures**

**Stress spillover** was tested using independent measures of daily home and work stress. In each daily diary questionnaire, participants indicated if they experienced any events from a provided checklist of 22 items of common home and work-related stressors *that day*. Participants were instructed “Below is a list of troublesome things that sometimes happen to people. Please check the box for each one that happened to you in the last 24 hours”. This daily stress assessment is similar to previous work conducted on spillover (e.g., Bolger et al., 1989).

**Home stress** comprised of five items from the original checklist. Items for home stress included: “A lot of work at home”; “A lot of demands made by your family”; “Spouse/romantic partner sick or injured”; “Tensions or arguments with partner/spouse”; “Tensions or argument at home with someone other than spouse/partner”. **Work stress** comprised of the following three items: “A lot of work at job or school”; “A lot of demands made by your supervisor at work/or co-workers”; “Tensions or arguments with someone at work”. For each checklist item participants endorsed, they appraised how stressful the experience was, ranging from 1 = *not at all stressful* to 4 = *very stressful*. If participants did not indicate they experienced any of the five
checklist items for home or work stress\textsuperscript{3}, they were provided a score of $0 = \text{no home or work stress at all}$, respectively, for that given day. A mean score using the appraisal scales of each endorsed checklist item for home and work stress was computed for the final measures.

**Analytic Strategy**

To examine daily home and work stress spillover and the potential effect of the reappraisal manipulation, multilevel modeling was implemented using HLM 6.0 (Bryk & Raudenbush, 2002). Multilevel models are necessary to account for nesting of the data: daily home and work stress (Level 1) nested within individuals’ reappraisal conditions (Level 2). Daily stress variables were again left un-centered to examine the effects of stress on a given day relative to when the individual did not experience any home or work stress ($0 = \text{no home or work stress}$) across the 10 days of data collection. To test for home-to-work spillover, the influence of the prior day’s home stress on the next day’s work stress was examined, while controlling for the prior day’s work stress. To test for work-to-home spillover, the influence of the given day’s work stress on the same day’s home stress was examined, while controlling for the prior day’s home stress.

To test for the influence of cognitive reappraisals on daily stress spillover, cross-level interactions were tested. Specifically, reappraisal condition was examined as an individual-variant predictor (Level 2) as reappraisal assignment varied across individuals. Prior to entering individuals’ reappraisal conditions into the models, the condition variables were dummy coded (positive reappraisal = 1, not in positive reappraisal (negative or control) = 0; negative

\textsuperscript{3} A score of zero was imputed for no work stress, only if participants indicated that they went to work that day and did not endorse any of the checklist items related to work stress. On days when participants indicated that they did not go to work and did not endorse any work-related stress items, work stress was retained as missing. In 22 cases participants indicated that they did not go to work, but that they experienced work stress. These cases were recoded as missing to exclude from the analyses because of the interest in spillover from the onset of a stressor (i.e., stressful event in a specific domain that occurred in given day as a cause or result of a stressful event in another domain ), rather than chronic, ongoing stressors. By retaining the appraisals of work stress even when work was not attended is likely to be a result of a chronic, ongoing stressor that exists regardless of stress from another domain.
reappraisal = 1, not in negative reappraisal (positive or control) = 0) given their categorical nature \((k – 1)\). The control condition served as the reference group. A test of a cross-level interaction of spillover reappraisal condition at Level 2 assessed if variances in daily home and work spillover relationships (i.e., slopes) are a result of reappraisal condition assignments. Thus, estimates of the multilevel models were derived by allowing for random slopes and intercepts.

**Covariates**

Prior to conducting the main analyses, sociodemographic variables were examined as potential covariates of daily home and work stress. Age, race, gender, relationship status, parental status, number of children, cohabitation with children, education, number of hours of work per week, and working with a family member were simultaneously entered as Level 2 predictors of the intercept to examine whether variance in daily home and work stress were related to individual differences in any of the sociodemographic variables. Results revealed that gender was significantly related to home stress. Specifically, women \((b = .46, se = .18, p < .05)\) reported higher mean levels of daily home stress. Results also indicated that gender and age were related to work stress, such that men \((b = -.59, se = .22, p < .01)\) and those who were older \((b = -.02, se = .01, p < .05)\) had lower levels of daily work stress. These covariates were maintained in all subsequent models.

Study 2 aims were examined using the following equations:

**Equation 1 - Level 1:**
\[
\text{WorkStress}_{ij} = \beta_{0j} + \beta_{1j} (\text{WorkStress}_{t-1})_{ij} + \beta_{2j} (\text{HomeStress}_{t-1})_{ij} + e_{ij}
\]

**Equation 1 - Level 2:**
\[
\beta_{0j} = \gamma_{00} + \gamma_{01} (\text{gender})_j + \gamma_{02} (\text{age})_j + \gamma_{03} (\text{pos})_j + \gamma_{04} (\text{neg})_j + u_{0j}
\]
\[
\beta_{2j} = \gamma_{20} + \gamma_{21} (\text{pos})_j + \gamma_{22} (\text{neg})_j + u_{2j}
\]

Reappraisal condition was examined as an individual-variant predictor of the average level of work stress across the 10 days \((\beta_{0j})\) and the slope of the influence of prior day’s home stress on
next day work stress (home-to-work stress spillover; \( \beta_{2j} \)). The positive (pos) and negative (neg) conditions were compared to the reference group, the control condition. Specifically, I tested if the influence of the prior day’s home stress on the next day work stress (i.e., home-to-work spillover) in the negative and positive conditions differed from the control condition.

**Equation 2 - Level 1:**

\[
HomeStress_{ij} = \beta_{0j} + \beta_{1j} (WorkStress)_{ij} + \beta_{2j} (HomeStress_{t-1})_{ij} + e_{ij}
\]

**Equation 2 - Level 2:**

\[
\beta_{0j} = \gamma_{00} + \gamma_{01} (gender)_{j} + \gamma_{02} (pos)_{j} + (neg) + u_{0j}
\]

\[
\beta_{1j} = \gamma_{10} + \gamma_{11} (pos)_{j} + \gamma_{12} (neg)_{j} + u_{2j}
\]

Reappraisal condition was examined as an individual-variant predictor of the average level of home stress (\( \beta_{0j} \)) and the slope of the influence of same day work stress on home stress (work-to-home stress spillover; \( \beta_{1j} \)). The positive (pos) and negative (neg) conditions were compared to the reference group, the control condition: I tested if work-to-home stress spillover in the negative and positive reappraisal conditions differed from work-to-home stress spillover in the control condition.

Prior to conducting the main analyses, the unconditional models were conducted to assess the variability in daily home and work stress. The variance components test from the unconditional model for daily home stress revealed a significant amount of variability between individuals for home stress \( (p < .01) \). An intra-class correlation was computed to assess the proportion of variance between \( (\tau_{00} = .74) \) and within individuals \( (\sigma^2 = 1.41) \); \( \rho = \frac{\tau_{00}}{\tau_{00} + \sigma^2} = \frac{.74}{.74 + 1.41} = .34 \), indicating that 34% of the variance in home stress was due to variance between individuals and 66% due to variance within individuals. The variance components test for the unconditional model for daily work stress indicated variability between individuals for daily work stress was significant \( (p < .01) \). The intra-class correlation was computed using the amount
of within individual variance \((\sigma^2 = 1.39)\) and between individual variance \((\tau_{00} = .98)\); \(\rho = \frac{\tau_{00}}{\tau_{00} + \sigma^2} = \frac{.98}{.98 + 1.39} = .41\) indicating that 41% of the variance in daily work stress was due to variance between individuals and 59% due to variance within individuals.

**STUDY 2**

**Results**

Participants reported a greater frequency of work stress than home stress: they experienced some type of home stress (a mean appraisal score greater than 0 = *no home stress*) 43.7% of the time and some type of work stress (a mean appraisal score greater than 0 = *no work stress*) 50.2% of the time. To examine if there were any significant differences in overall means of work and home stressors between the positive, negative, and control conditions, a MANOVA was conducted. Results from the MANOVA indicated that, using Wilk’s lambda, the overall model of reappraisal condition on the mean levels of home and work stress was significant \(\Lambda = .96, F(4, 1220) = 6.87, p < .001\). Wilk’s lambda was chosen as the test statistic to assess for group differences because of the moderate size of the sample and group differences were not concentrated in one specific domain over the other (Fields, 2014). In the test of between-subjects effects, results revealed that reappraisal condition had a significant effect on home stress \(F(2, 611) = 5.03, p < .01\) and on work stress \(F(2, 611) = 7.47, p < .001\). Tukey’s post hoc analysis indicated that the negative reappraisal group \((M = 1.44, SD = 1.53)\) had significantly higher mean levels of home stress compared to the control group \((M = .98, SD = 1.39, p < .01)\) and marginally higher mean levels of home stress than the positive reappraisal group \((M = 1.10, SD = 1.48, p = .06)\). With respect to work stress, the negative reappraisal group \((M = 1.81, SD = 1.54)\) also had significantly higher mean levels compared to the control group \((M = 1.21, SD = 1.49; p < .001)\) and marginally higher means than the positive reappraisal group \((M = 1.48, SD =\)
1.56, \( p = .10 \)). The positive reappraisal group and the control group did not significantly differ from one another in either home or work stress.

Finally, to examine gender differences across the three reappraisal conditions for daily home and work stress, a 2 (male vs female) x 3 (positive vs negative vs control) factorial MANOVA was conducted. Results indicated that the gender x condition interaction term had a significant effect on overall daily work stress \( (F(2, 608) = 6.47, p < .01) \), but not overall daily home stress. Analyses revealed that among men, reappraisal condition had no effect on their daily work stress. However, among women, reappraisal condition did have a significant effect on their work stress \( (F(2, 323) = 15.83, p < .001) \). Tukey’s HSD indicated that compared to the control group \( (M = .77, SD = 1.32) \), women in the negative reappraisal condition had higher levels of work stress \( (M = 1.85, SD = 1.52) \). A simple effects analysis also indicated that there was a significant difference between genders in the control condition \( (F(1, 608) = 23.67, p < .001) \) and the positive condition \( (F(1, 608) = 14.03, p < .001) \), such that men had greater levels of work stress (control condition: \( M = 1.72, SD = 1.52 \); positive condition: \( M = 1.88, SD = 1.65 \)) than women (control condition: \( M = .77, SD = 1.32 \); positive condition: \( M = 1.11, SD = 1.38 \)).

**The Moderating Role of Positive Cognitive Reappraisals**

The main aim of Study 2 was to test whether the reappraisal conditions would affect stress spillover. That is, I was interested in whether the spillover slopes in one condition (i.e., control condition) would significantly differ from the spillover slopes in the other conditions (i.e., negative and positive conditions). Specifically, I predicted that compared to the control condition, stress spillover would be exacerbated for individuals in the negative reappraisal condition but would be attenuated in the positive reappraisal condition. When reappraisal condition was tested as a cross-level moderator, results indicated that for individuals in the
control condition, the slope of work-to-home stress was significant, such that greater work stress was related to less home stress ($b = -.19$, $se = .07$, $p < .05$). For individuals in the negative reappraisal condition, the slope of their work-to-home stress spillover differed from the control condition, although this effect was marginal ($b = .20$, $se = .12$, $p = .09$), partially supporting my prediction (see Table 6 and Figure 4). It appeared that individuals in the negative reappraisal condition did not experience the same degree of greater work stress leading to less home stress as individuals in the control condition.

To further probe strength and significance of the work-to-home stress spillover relationship for the negative reappraisal group, a separate multilevel model was conducted in which the negative condition served as the reference group. Results from this model indicated that for individuals in the negative condition, no evidence for work-to-home spillover was found ($b = .01$, $se = .09$, $p = ns$). Moreover, the work-to-home spillover relationship did not differ between the negative and positive reappraisal conditions. Finally, the slopes of work-to-home stress spillover did not differ between the control condition and the positive reappraisal condition.

Table 6.

<table>
<thead>
<tr>
<th></th>
<th>Level 1</th>
<th>Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>$se$</td>
</tr>
<tr>
<td>Prior Day Home Stress (covariate)</td>
<td>0.20</td>
<td>0.04</td>
</tr>
<tr>
<td>Gender (covariate)</td>
<td>0.30</td>
<td>0.15</td>
</tr>
<tr>
<td>Work Stress Slope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Condition (Intercept)</td>
<td>- 0.19</td>
<td>0.07</td>
</tr>
<tr>
<td>Positive Reappraisal Condition</td>
<td>0.05</td>
<td>0.11</td>
</tr>
<tr>
<td>Negative Reappraisal Condition</td>
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<td>0.12</td>
</tr>
</tbody>
</table>

Note. Coefficients for positive and negative reappraisal conditions are not the work-to-home spillover slopes, but rather the difference in slope compared to the control condition.
Next, the effects of the reappraisal conditions on *home-to-work* spillover were examined. Results from this model indicated that in the control condition, no *home-to-work* stress spillover was found. Moreover, there was no evidence of an effect of reappraisal condition on *the home-to-work stress* spillover. Regardless of the reappraisal condition, individuals did not experience any *home-to-work* stress spillover. For additional details of the tests of reappraisal conditions as a cross-level moderator in *home-to-work* stress spillover, please refer to Table 7.
Table 7.

Results of Multilevel Models Testing for Cross-Level Effects of Reappraisal Conditions for Home-to-Work Stress Spillover

<table>
<thead>
<tr>
<th>Level 1</th>
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<th>se</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
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<td>Prior Day Work Stress (covariate)</td>
<td>0.24</td>
<td>0.05</td>
<td>4.45</td>
<td>353</td>
<td>0.00</td>
</tr>
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</table>

<table>
<thead>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (covariate)</td>
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<td>0.20</td>
<td>-2.95</td>
<td>91</td>
<td>0.01</td>
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<tr>
<td>Age (covariate)</td>
<td>-0.003</td>
<td>0.01</td>
<td>-0.32</td>
<td>91</td>
<td>0.73</td>
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<tr>
<td>Home Stress Slope</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Control Condition (Intercept)</td>
<td>0.01</td>
<td>0.09</td>
<td>0.16</td>
<td>93</td>
<td>0.88</td>
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<td>Positive Reappraisal Condition</td>
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<td>0.14</td>
<td>-1.07</td>
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<tr>
<td>Negative Reappraisal Condition</td>
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<td>0.14</td>
<td>0.78</td>
<td>93</td>
<td>0.44</td>
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</table>

Note. Coefficients for positive and negative reappraisal conditions are not the work-to-home spillover slopes, but rather the difference in slope compared to the control condition.

**STUDY 2**

**Discussion**

Stress spillover between home and work domains can occur frequently for many individuals. As a result, understanding how to cope with stress spillover may help individuals achieve a healthier work-home balance. Prior research has indicated that as an intrapersonal coping resource, reframing stressors in a positive manner (i.e., positive reappraisals) can buffer the detrimental effects of stress (Gross, 1999; Troy, 1998). To extend the research on positive reappraisals and stress, in Study 2, I tested whether reappraisals of home and work linkages may buffer the effects of stress in one domain from spilling over onto another domain.

Study 2 used an experimental paradigm that manipulated reappraisals (positive, negative, and a control condition). I expected that, in comparison to the control condition, individuals in the negative reappraisal condition would experience stronger stress spillover and individuals in the positive reappraisal condition would experience weaker stress spillover. Results from Study
revealed unexpected spillover effects in the control condition, such that greater stress at work was related to lower stress at home. However, for individuals in the negative reappraisal condition, home and work stress were unrelated to one another in comparison to the control and the positive reappraisal conditions. Overall, no evidence of negative stress spillover was found, but there was support for other ways the home and work domains are interlinked and these linkages differed across conditions. Below I discuss the meanings and implications of the study findings.

**Home and Work Compensation**

In Study 2, I expected to find evidence for stress spillover, by way of a positive relationship between home and work related stress. I predicted that greater work stress would be related to greater home stress (work-to-home stress spillover) (and vice versa for home-to-work stress spillover). The control condition allowed for an examination of what spillover effects looked like, irrespective of reappraisal manipulations. Contrary to my prediction, results indicated that for individuals in the control condition, greater work stress was related to lower home stress, which was not indicative of stress spillover. However, this significant, negative relationship indicated that perhaps individuals were experiencing compensation. Compensation refers to the notion that distress in one domain could lead to seeking and experiencing rewards, satisfaction, and appreciation in another domain (Edwards & Rothbard, 2000; Tenbrunsel, Brett, Maoz, Stroh, & Reilly, 1995). Thus, it is possible that for those in the control condition, when individuals experienced stress in their work domain, they had greater appreciation of their home domain, subsequently reducing their stress in this domain.

However, in the test of cognitive reappraisals as a cross-level moderator, results revealed that compared to the control condition, the positive reappraisal condition was not significantly
different for either work-to-home stress spillover or home-to-work stress spillover. The lack of significant differences between the positive reappraisal condition and the control condition in stress spillover relationships questions whether implementing positive reappraisals about stress spillover are indeed effective in reducing stress spillover. That is, it appears that individuals in their natural state, without being instructed to think actively about their home and work domains may experience compensation. These findings suggest that it is possible that individuals already have a natural tendency to engage in positive reappraisals as a coping strategy. Individuals in the control condition who were not instructed to reappraise their home and work spillover showed evidence for domain compensation. Thus, it is possible that for those instructed to think about how their home and work lives facilitate one another are simply reinforcing their typical inclination to seek rewards in another domain.

A distinction between the control condition and the positive reappraisal condition may have emerged if an alternative form of the work-home linkage was tested. That is, in Study 2, I was interested in the role of reappraisals in stress spillover, which is a negative aspect of the ways home and work domains are interlinked. Study results indicated that the effects of stress spillover in the positive reappraisal condition did not significantly differ from the control condition, but they may differ if positive spillover effects were tested. Positive spillover refers to the notion that the mood, skills, and resources that come with a specific domain can help to facilitate or enhance another domain (Greenhaus & Powell, 2006). Indeed, prior work has found that positive reappraisals were related to higher perceived positive spillover (otherwise known as home and work facilitation), rather than negative spillover (Rotondo & Kincaid, 2008). As Rotondo and Kincaid (2008) pointed out, positive reappraisals may not help to reduce conflict, but may increase facilitation. The purpose of the Study 2 was to test the effects of reappraisal as
a potential buffer in stress spillover, thus the effects on positive spillover were not tested. Future research should test the effects of cognitive reappraisals on positive spillover to determine if positive reappraisals could increase positive facilitation between home and work domains.

**Negative Reappraisals and Segmentation**

Although I expected that *home-to-work* and *work-to-home* stress spillover would be the strongest for the negative reappraisal condition, this was not the case. Although for individuals in the control condition, greater work stress was related to less home stress, for individuals in the negative reappraisal condition, results indicated that the home and work domains were not related one another. Edwards and Rothbard (2000) argued that a null relationship between home and work domains could indicate segmentation, which refers to the idea that the two domains do not affect one another. Segmentation between home and work domains can be a way in which people set boundaries. Setting boundaries between home and work domains may be a result of dealing with stress in a particular domain. For instance, if there was stress experienced at work, segmentation would indicate that the individual is suppressing possible negative thoughts, attitudes, and feelings about the work stress while at home.

Finding evidence for segmentation amongst the negative reappraisal group was surprising. I predicted participants in the negative reappraisal condition to have stronger stress spillover, as they were asked to think about the ways in which their home and work lives interfered or conflict with another. However, the negative reappraisal group was also informed about the maladaptive outcomes of stress spillover (i.e., greater depression, lower life satisfaction, relationship satisfaction, etc.). As a result, it is possible that this negative information led participants to try to segment their home and work domains to avoid the potentially harmful effects of spillover. Moreover, individuals may be more likely to segment
their home and work lives, if they endorse a higher role salience in their family life (Sanz-Vergel, Demerouti, Bakker, & Moreno-Jimenez, 2011). Specifically, Sanz-Vergel and colleagues found that for individuals with high family salience, the more they detached from their work, the less work-to-home spillover they experienced. Given that other researchers have found that most individuals place a higher emphasis on their family roles over their work roles (Cinamon & Rich, 2001), it is possible that the exposure to the negative reappraisal condition may have emphasized family role salience and minimized their work role salience. That is, individuals in the negative reappraisal condition, upon learning the potential harmful effects of stress spillover, may have reaffirmed the values they place in their home domain over their work domain (Methot & LePine, 2015). As a result, they may have become more cognizant of spillover effects and proactively detached from the given source of stress. For example, if an individual is instructed to think about how work and home domains could interfere or conflict with one another and result in maladaptive outcomes, he or she may realize how much they value their home or family life and attempt to segment home and work domains to prevent interference.

Moreover, those in the negative reappraisal condition marginally differed from the control condition. Participants in the control condition seemed to experience work-to-home compensation, but participants in the negative reappraisal condition did not experience compensation. Instead, they seemed to experience segmentation, as their work and home domains were not related to one another. However, the finding that negative reappraisals could result in domain segmentation raises the issue of whether negative reappraisals could potentially serve as a protective function in stress spillover. The results for study 2 could suggest that negative reappraisals do indeed have buffering effects of domain stress, given that domain stress was unrelated to one another. It is possible that individuals in the negative reappraisal condition
may have felt the need to protect their desired domain. Research has indicated that the greater the need to protect a specific domain, the less likely another domain will interfere with the domain of preference (Methot & LePine, 2015). For instance, the higher the values and importance are placed in the home and family domain, the less likely it is for the work domain to spill over onto this home domain.

Although negative reappraisals may lead to domain segmentation, there are downsides to segmenting home and work domains. One potential downside to segmentation is that it may not allow for positive spillover between home and work domains. By segmenting or compartmentalizing home and work domains, the positive aspects of each domain may not be able to facilitate one another. For instance, in an attempt to keep a boundary between home and work, if there is a desire to protect the home domain, it is possible that the discussions about work-related concerns or issues may be avoided at home. However, if there is a great deal of stress at work, support from home (i.e., spouse or family member) could help to manage the effects of the stress. Indeed, prior research has suggested that social support can serve as a resource in facilitating the positive integration between home and work domains (Greenhaus & Powell, 2006) and reduce stress spillover (i.e., Adams, Adams, & King, 1996). Further exploring the role of social support as result of cognitive reappraisals about home and work spillover could lead to a more comprehensive understanding of the integration or compartmentalization of both the stressors and resources for coping with these stressors across domains.

Although the findings of Study 2 indicated that individuals in the negative reappraisal condition experienced segmentation based on a null relationship between home and work stress, this finding should be interpreted with caution. A null relationship between home and work domain stress may not necessarily imply evidence for segmentation – spillover and
compensation effects between home and work may simultaneously exist and suppress one another to produce a null relationship (Edwards & Rothbard, 2000; Tenbrunsel et al., 1995). Indeed, research has suggested that the ways in which home and work domains are interlinked by way of spillover and compensation are dynamic and can both facilitate and interfere with one another (Gronlund & Oun, 2010). As a result, it is possible that both positive and negative home and work spillover is occurring within the negative reappraisal condition. Future research should test for the effects of positive spillover between home and work domains by way of uplifts, as opposed to stress, to further investigate the effects of reappraisals on the work-home linkage.

Limitations and Future Directions

Although Study 2 provided some evidence that cognitive reappraisals can affect the ways home and work domains are interlinked or segmented, the study was not without limitations. First, the sample characteristics were relatively homogenous. Participants in Study 2 were mostly White and highly educated. It is unclear whether the study findings would generalize to a more diverse sample. It possible that in a sample of more diverse race and education, the effects of reappraisals on stress spillover may yield different results. Prior research has suggested that individuals with lower levels of education (Montez, Sabbath, Glymour, & Berkman, 2014) and of European-American backgrounds are at a higher risk of experiencing greater stress spillover (e.g., Grzywacz et al., 2002). Moreover, other research findings have noted that individuals of African-American descent are more likely to reappraise family-related stressors in a positive manner compared to their European-American counterparts (Haley et al., 1996). Given the socioeconomic differences that may exist in stress spillover and reappraisals, future research should examine the current research aims among a more diverse sample.
Additionally, the daily reappraisal task was limited by its instruction to reappraise general spillover in a given day. During each daily diary, I instructed participants to think of ways their home and work domains either interfered or conflicted with one another. However, the reappraisal instructions may not have been specific enough to buffer the effects of a specific domain stressor. In order to buffer the effects of a specific domain stressor from spilling over onto another, participants may have needed to reappraise that specific stressor, as opposed to general domain conflict or facilitation. Because of the broad scope of the daily reappraisal task, it is unknown if reappraisal tasks corresponded with a specific stressor that was experienced. As a result, conclusions about the potentially buffering role of reappraisals for the onset of a specific stressor experienced cannot be determined. Moreover, whether the daily reappraisal tasks were effective in preventing a specific stressor from negatively spilling over is unclear because of the timing of the reappraisal tasks. Participants completed the reappraisal task at the beginning of each daily diary survey, prior to endorsing any stressors. Thus, it is unclear if reappraisal tasks are indeed buffering a stressor that has already been experienced or if the tasks are confounding the responses of stressors experienced all together. Previous experiments that have provided evidence for the potentially buffering role of positive reappraisals have instructed participants to complete a reappraisal task after the onset of experimentally induced stressors (Jamieson et al., 2011). Future studies may want to instruct participants to engage in a reappraisal task only after they have indicated experiencing a specific stressor with more detailed instructions about how the given stressor could be reframed in a positive manner. Prompting participants to reappraise a specific stressor immediately after the onset would provide a more accurate understanding of the buffering role of positive reappraisals.
Study 2 Conclusions

Positive reappraisals have been known to help buffer the effects of general stress on overall well-being (e.g., Troy et al., 1998) and Study 2 extended these findings to examine if reappraisals may help to buffer the effects of stress in one domain from spilling over onto another. Results suggested that although positive reappraisals may not significantly reduce stress spillover, different patterns of work-home linkages may emerge as a result of different reappraisals. Specifically, evidence for compensation was found for the control condition, whereas segmentation was found for the negative reappraisal group. However, because the positive reappraisal condition did not significant differ from either the control or the negative reappraisal conditions, whether positive reappraisals could be beneficial in managing stress spillover is still unclear. Overall, results suggest that reappraising the way home and work domains are interlinked can impact the way individuals experience spillover. Continuing to focus on the best strategies in implementing cognitive reappraisals in managing multiple demands and responsibilities across different roles may help to achieve a healthy work-home balance.
CHAPTER 4

OVERALL CONCLUSIONS

The current dissertation tested for home-to-work and work-to-home stress spillover effects and whether social support or cognitive reappraisals may buffer the effects of stress in one domain from spilling over onto another. Both Studies 1 and 2 yielded promising results that indicated social support and cognitive reappraisals influence stress spillover effects in different ways. Specifically, in Study 1, receiving daily family support may help reduce home stress following a stressful day at work. Patterns of higher work stress being related to lower home stress were also found among the control condition in Study 2. However, home and work domains were unrelated to one another in the negative reappraisal condition. Together, the findings of Studies 1 and 2 suggest that utilizing social support from family and appreciating family life may be effective coping strategies in managing home and work related stressors.

In addition to the importance of social support and reappraisals in spillover, Studies 1 and 2 also indicated that it may be common for individuals to experience work-to-home compensation. In Study 1, there was evidence for work-to-home compensation on days when individuals reported receiving family support. In Study 2, there was also support for work-to-home compensation in the control condition. Together, the results from Studies 1 and 2 suggest that people may have a natural tendency to value their home life and most likely turn to their home resources (i.e., family members) in times of distress. Indeed, research suggests most people have higher role salience within the home (Cinamon & Rich, 2001b), and both Studies 1 and 2 provide further evidence for the importance of family and home in managing day-to-day
stressors. The importance of family and home may become more salient on days when work stress is experienced because the home life may be perceived as a source of satisfaction and potentially support. However, the speculation of the importance of family in the results of Study 2 should be interpreted with some caution as the role of family support was not examined in the work-to-home compensation relationship for the control condition.

Although there was a similar pattern of work-to-home compensation found between Studies 1 and 2, results from each study yielded different results for home-to-work spillover. In Study 1, there was evidence for home-to-work stress spillover – greater home stress on a given day was related to greater work stress the following day. However, in Study 2, home stress did not significantly spillover onto work stress across any of the reappraisal conditions. The pattern of home-to-work stress spillover may have differed between Study 1 and Study 2 because of the differences in age between the two samples. In Study 1, sample participants were middle-aged adults ($M=50.11$, $SD=8.87$), while in Study 2, sample participants were younger adults ($M=34.70$, $SD=10.26$). Age and stage of life development can play a critical role in experiences of home and work stress spillover (Demerouti et al., 2012; Erickson et al., 2010). Prior work has shown older adults’ preoccupation with family can be more stressful because of greater worries concerning both their growing children and their aging parents (Erickson et al., 2010). The results from Studies 1 and 2 suggest that differences in stress spillover patterns may exist depending on the life stage of development.

Aside from stress spillover, I was interested in further examining the roles of social support and cognitive reappraisals as inter- and intrapersonal coping strategies. In Study 1, daily received family support was found to help increase work-to-home compensation. Work-to-home compensation was also found in the control condition in Study 2. Given that results from Study
2 suggested that individuals in the control condition experienced work-to-home compensation and that they did not differ from individuals in the positive reappraisal condition, it is possible that the natural inclination in managing demands from home and work domains is to find satisfaction, rewards, and most likely, social support within the family. Although spillover patterns did not significantly differ between the control and positive reappraisal conditions, it is possible that differences in support interactions exist. For instance, compared to the control group, individuals in the positive reappraisal group may be more inclined to receiving social support because they are more cognizant of how family/home domains can offer resources for managing stress. Future research should examine the specific role of family in the context of social support and reappraisals of stress and how these two constructs operate in light of one another to effectively manage stress across multiple domains.

Managing demands across multiple domains can be stressful and the stress experience in one domain can spillover onto another (e.g., Bolger et al., 1989). To further understand the ways in which stress between may be reduced, I found that family and home life can be a source of effective coping. Results from both studies indicated that people can appreciate and value their home and family life in the face of stressors they may experience in their work and subsequently experience less stress at home. Family support and solace in home life when dealing with work stress can be the key to achieving a healthy home-work balance.
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APPENDIX A

STUDY 1 MEASURES
APPENDIX A

STUDY 1 MEASURES

All questionnaires are from the NSDE II and MIDUS II

Sociodemographic Variables

1. Respondent Age:

2. Respondent Gender:
   a. Male
   b. Female

3. How many children do you have? Include biological, adopted, step and foster children living with you or elsewhere. Also included all living children you have (given birth to/fathered). (Please only include living children.)
   a. 0. none
   b. ___ number of children

4. Marital Status:
   Are you married, separated, divorced, widowed, or never married?
   Are you currently living with someone in a steady-marriage like relationship?
   a. Married
   b. Cohabiting with romantic partner

5. How many other people live in your household with you?
   a. ____ number of family members

6. What is the highest grade of school or year of college you completed?
   a. less than high school
   b. high school degree/some college
   c. college degree
   d. graduate/professional degree

7. What are your main racial origins -- that is, what race or races are your parents, grandparents, and other ancestors?
   a. White
   b. Non-White (Black/Native-American/Asian/Hispanic)
8. Respondent’s total household income
   a. $0-$10,000
   b. $10,001-$20,000
   c. $20,001-$35,000
   d. $35,001-$50,000
   e. $50,001-$75,000
   f. $75,001-$100,000
   g. $100,001-$150,000
   h. more than $150,000
Perceived Social Support (Schuster, Kessler, & Aseltine, 1990; Whalen & Lachman, 2000)

Family Support
1. How much do members of your family really care about you?
2. How much do they understand about the way you feel about things?
3. How much can you rely on them for help if you have a serious problem?
4. How much can you open up to them if you need to talk about your worries?
Responses: 1 = not at all, 2 = a little, 3 = some, 4 = a lot.

Spousal Support
1. How much does your spouse/romantic partner really care about you?
2. How much does he/she understand about the way you feel about things?
3. How much can you rely on him/her for help if you have a serious problem?
4. How much can you open up to him/her if you need to talk about your worries?
Responses: 1 = not at all, 2 = a little, 3 = some, 4 = a lot.

Work Support
Co-Workers
1. How often do you get help and support from your coworkers?
2. How often are your coworkers willing to listen to your work-related problems?
Supervisor
1. How often do you get information you need from your supervisors or superiors?
2. How often do you get help and support from your immediate supervisor?
3. How often is your immediate supervisor willing to listen to your work-related problems?
Responses: 1 = never, 2 = rarely, 3 = sometimes, 4 = most of the time, 5 = all of the time

Received Support
1. Did you receive any emotional support today?
   a. Yes
   b. No
2. Who gave you this emotional support?
   a. Spouse/Partner
   b. General family
   c. Supervisor or co-worker

Daily Stress (Daily Inventory of Stressful Events; Almeida et al., 2002)

Daily Home Stress
1. Did you have an argument or disagreement with [spouse or any family member] since yesterday?
   a. Yes
   b. No
2. Since this time yesterday did anything happen that you could have argued [with spouse or any family member] about but you decided to let pass in order to avoid a disagreement?
   a. Yes
   b. No
3. Since yesterday, did anything happen at home that most people would consider stressful
   a. Yes
   b. No

4. [If yes to items 1 - 3] How stressful was this for you?
   a. not at all
   b. a little
   c. somewhat
   d. very

Daily Work Stress
1. Did you have an argument or disagreement with [co-worker or supervisor] since yesterday?
   a. Yes
   b. No

2. Since this time yesterday did anything happen that you could have argued [with co-
   worker or supervisor] about but you decided to let pass in order to avoid a disagreement?
   a. Yes
   b. No

3. Since yesterday, did anything happen at work/school that most people would consider stressful
   a. Yes
   b. No

4. [If yes to items 1 - 3] How stressful was this for you?
   a. not at all
   b. a little
   c. somewhat
   d. very
APPENDIX B

STUDY 2 MEASURES
APPENDIX B

STUDY 2 MEASURES

SOCIODEMOGRAPHICS

Gender:  □ Female  □ Male

Age: ____________

Race:
□ White/Caucasian  □ Asian
□ Black/African-American  □ Hispanic/Latino(a) Descent
□ Native American  □ Other/Multi-Racial

What is your highest degree of education?
□ did not complete high school  □ completed high school
□ some post-secondary education (university/college)  □ completed post-secondary
□ some post-graduate education  □ completed post-graduate degree

Employment Status:
□ Full-Time
□ Part-Time
   How many hours per week do you work? ____________
   What is your occupation? __________________________
   What does your typical work schedule look like?
   □ Day Hours (9am – 5pm)  □ Mid-Day Hours (Shift starts after 12pm)
   □ Evening/Night Hours (After 5pm)
□ Not working at all

Relationship Status:  □ Single  □ In a committed relationship/cohabiting
   □ Married

Do you have any children?  □ Yes  □ No
   If YES, how many children do you have? ____________
   IF YES, do your children live with you?  □ Yes  □ No

Do you live together with your partner (in the same household)?
□ Yes  □ No
REAPPRAISAL READING EXCERPTS

Control Condition
Everyone knows the importance of eating fruits and vegetables. Fruits and vegetables are important for your health and can help lower your risks of cancer and cardiovascular disease. But did you know that only 40% of Americans eat the recommended amount of at least 3.5 cups of fruits and vegetables per day? In a nation with a serious weight problem, we should strive to consume much more fruits and vegetables on a daily basis. Dark leafy greens, like spinach and kale, and orange vegetables, like carrots or bell peppers are the most beneficial, but the least popular. Changes in our nutrition and diet can help us to achieve healthy and long lives.

Please answer the following two questions based on the excerpt you just read.

1. Health benefits of fruits and vegetables include:
   (a) Sleeping better
   (b) Running faster
   (c) Fewer seasonal allergies
   (d) Lower risk of cancer and cardiovascular disease

2. The types of vegetables that are least popular, but most beneficial are:
   (a) Starches, such as potatoes and corn
   (b) Dark leafy greens and orange vegetables
   (c) Onions and shallots
   (d) Tomatoes

Positive Condition
Many people have to juggle multiple responsibilities between their work and home lives. Although both our work and home lives require some effort, having these multiple responsibilities can be quite beneficial. Psychological research has shown that when people have responsibilities from different domains of their lives, they have more resources, opportunities, and skills for better functioning. When one aspect of one part of your life, such as home, enhances or helps you in another part of your life, such as work, this is known as positive spillover. For instance, being in good mood at home because of your spouse may help you to tackle work-related tasks. More importantly, when individuals experience positive spillover, they have better mental health.

Please answer the following two questions based on the excerpt you just read.

1. Having multiple responsibilities in our work and home lives is beneficial because:
   (a) It provides a greater number of opportunities, skills, and resources
   (b) It stresses you out
   (c) It takes up more time, keeping you busy
   (d) It allows you to make more money
2. An example of positive spillover is:
(a) Working two different jobs
(b) Hanging out with co-workers outside of work
(c) Being in a good mood at work helps you to be in a good mood when you are at home spending time with your family
(d) Using the money you made at work to help a personal friend in need

**Negative Condition**
Many people have to manage multiple responsibilities between work and home. Both our work and home lives require a lot of effort and juggling these multiple responsibilities can be quite harmful. Psychological research has shown that when people have responsibilities from different parts of their lives, they are more strained because of limited resources, time, and energy. When one aspect of one part of your life, such as home interferes or conflicts with another part of your life, such as work, as negative spillover occurs. For instance, having a stressful day at work can lead to experiencing stress at home, like arguing with your spouse. Additionally, when individuals experience negative spillover, it can lead to poor mental health.

Please answer the following two questions based on the excerpt you just read.

1. **Managing a lot of responsibilities from home and work is challenging because:**
(a) You make more friends
(b) You have a limited amount of resources, energy, and time
(c) Most people can only work one job at a time
(d) Too many individuals focus on making money

2. **An example of stress spillover is:**
(a) Working full-time and being a student full-time
(b) Stress that lasts more than 7 days
(c) Experiencing stress at work, which leads to stress at home
(d) Experiencing the same stress as a loved one
DAILY QUESTIONNAIRES

I. Negative Spillover Condition
Thinking about your day, please describe in detail the ways you felt your home/personal life and work/school life interfered or conflicted with one another today. (For example, you may have had to spend a lot of time at work, leaving you too tired to spend quality time with your family when you got home.)

Positive Spillover Condition
Thinking about your day, please describe in detail the ways you felt an experience at home/personal life helped or enhanced an experience in your work/school life or vice versa today. (For example, you and your romantic partner may have had a nice date, which left you in a good mood to take on the work tasks you had to do the next day.)

Control Condition
Thinking about your day, please describe in detail the fruits and vegetables you consumed for each meal (breakfast, lunch, and dinner). If you did not consume any fruits or vegetables for a particular meal, indicate none (Example: Breakfast: 1 banana; Lunch: 2 cups of spinach, 1 apple; Dinner: none).

I. Time Spent in Domains

1. Did you go to work today?
   □ Yes    □ No
   (a) If yes, how many hours did you spend working? __________

2. How many hours did you spend with family today? __________
II. Checklist of Daily Stressors (Bolger, DeLongis, Kessler, & Schilling, 1989)

Below is a list of troublesome things that sometimes happen to people. Please check the box for each one that happened to you in the last 24 hours.

1. A lot of work at home
2. A lot of work at job or school
3. A lot of demands made by your family
4. A lot of demands made by supervisor at work or co-workers
5. Spouse/romantic partner sick or injured
6. A lot of demands made by other relatives or friends
7. Problems with transportation
8. A financial problem
9. Tensions or argument with partner/spouse
10. Tension or argument at home with someone other than spouse/partner
11. Tensions or argument with someone at work
12. Other, please specify:___________

For each item that you indicated happened to you in the last 24 hours, please also indicate how stressful it was for you.

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Not very</th>
<th>Some what</th>
<th>Very</th>
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<tr>
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