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Effects of Temporal Perceptions on Employees' Work-Life Conflict

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Effects of Temporal Perceptions on Employees' Work-Life Conflict

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Biography

The author was born in Oneonta, New York on December 11th, 1983. She graduated from Olympic Heights Community High School in Boca Raton, Florida in 2002. She received a Bachelor of Science degree in psychology from Tulane University in 2006 and a Master of Arts degree in industrial/organizational psychology from the University of West Florida in 2009.

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Abstract

Work-life conflict (WLC) occurs when an employee is unable to simultaneously fulfill the responsibilities of their home and work roles. This study attempted to understand the perceptual antecedents of employees' WLC. Specifically, this study investigated how employees and their leaders think about time and perform their work in regard to time. The temporal perceptions of interest include time urgency, pacing, and future time perspective.

Two hundred employees and their supervisors were recruited to participate in this study. Employees completed an online or in-person survey addressing how they structure their time at work, work together with their supervisor, and how their home and work-lives interrelate. Supervisors provided information on their own temporal perceptions and the performance of their employee.

Regression was used to examine all hypotheses. The employees' and leaders' temporal perceptions and the temporal diversity within the dyad were each expected to uniquely contribute to the WLC of the employee. However, only the employees' temporal perceptions significantly predicted WLC. No moderations for the hypothesized relationships were found.

CHAPTER I

Introduction

Work-life conflict (WLC) occurs when individuals are unable to successfully manage the demands of their home and work lives (Koppes & Swanberg, 2008). Employees and organizations alike have begun to understand the importance of work-life issues, with recruiters utilizing organizations' work-life programs to attract employees (Kossek, Baltes & Mathews, 2011), managers offering work-life flexibility to retain top talent (Kossek & Lee, 2008), and job seekers are considering work-life issues when reviewing job postings (Carless & Wintell, 2007). Fortune Magazine (2013) even has a ranking in their annual "100 Best Companies to Work For" for organizations with the best work-life benefits. With the growing interest in work-life issues, predicting and preventing WLC is increasingly necessary.

Time is a finite resource (McGrath & Kelly, 1992), and an employee's multiple roles and responsibilities compete for this resource. Because time is not a renewable resource, some researchers suggest that the old "time is money" adage be adapted – time may be considered even more valuable than money, because money can be renewed (e.g., Ballard & Seibold, 2003). When working with others and trying to coordinate task progress, the sharing of temporal resources (available time) leads to uncertainty about how those resources will be utilized (Herlocker, Allison, Foubert, & Beggan, 1997). Environmental uncertainty and social uncertainty refer to the aspects of the environment and actions of others, respectively, that are unknown or cannot be known. For example, an employee

may be ignorant of the precise amount of time required to complete a task or the amount of interruptions and setbacks he or she will suffer during active task completion. This uncertainty is an aspect of the environment in which the employee completes the task. The employee can also not be sure of how others in their work group will progress towards completion of their portion of the task, indicating social uncertainty. With all the uncertainty surrounding time at work, conflicting temporal demands can result (McGrath & Kelly, 1992), and this may manifest as conflict between one's home and work roles. Using demand control theory (Karasek, 1979), this study investigates how employees' and leaders' temporal perceptions affect employees' work-life conflict and job performance.

Work-Life Conflict

In line with role theory (Katz & Kahn, 1966), which focuses on how individuals act upon expectations in their different roles, WLC is often conceptualized as distress that occurs when an employee attempts to enact multiple roles with conflicting expectations (Kossek, Baltes, & Mathews, 2011). WLC can be considered a type of role conflict. Role conflict occurs when the diverse expectations of different roles encroach on an individual simultaneously, causing distress as the individual attempts to combine roles and satisfy all associated responsibilities at the same time (Lynch, 2007). Role theory describes how individuals negotiate their roles and the roles of others through role episodes (Katz & Kahn, 1966). Katz and Kahn define a *role episode* as the process by which role expectations lead to an individual's role behaviors. The focal individual, or the person who takes the role and performs the role behaviors, has

his or her own perceptions and expectations of how one should behave within the capacity of that role. Other individuals also maintain perceptions and expectations of how the focal individual should behave in that role as well. These other individuals constitute the *role set*, which consists of all individuals who depend upon the focal individual's behavior in some way (Katz & Kahn, 1966). The individuals in the role set attempt to influence the behavior of the focal individual through role sending. *Role sending* simply means communicating one's role expectations to the focal individual. The focal individual then receives these role expectations, but the accuracy with which one receives a sent role is dependent upon their perceptions of what was sent and who sent it (Ashforth, Kriener, & Fugate, 2000). In short, the content of the sent role and received role may differ more or less based on characteristics of the sender, focal individual, and context of the communication. Katz and Kahn (1966) would suggest that the received role influences the focal individual's role behavior, in that the receiver can choose to comply with the sent role or rebel against it. The role set then observes the behavior of the focal individual, and adjusts the sent messages based on their assessment of the behavior. The process of sending and receiving roles constitute the role episode, and the episodes continue in a cyclical manner for as long as the focal individual remains in the role.

All individuals maintain multiple roles in their work and home lives. At work, an individual can at the same time be both a manager and subordinate, while at home he or she may simultaneously maintain the role of parent, spouse or child. At work, the individuals comprising the role set may include one's

supervisor, subordinates, coworkers, or customers. At home, the individuals comprising the role set may include one's parents, children, spouse, siblings, or friends. All these individuals send their role expectations to the focal individual. At times, these expectations may be contradictory or incompatible, and one's ability to fulfill the expectations of the role set is compromised (Katz & Kahn, 1966). When the sent expectations of one role are incompatible with the sent expectations of another role (both roles being performed by the same person), interrole conflict is experienced. For example, in the work-life realm, one's boss may send expectations that the focal individual should work overtime or come into work on the weekend. If one's family sends role expectations that the focal individual should attend family gatherings or join the family for dinner, interrole conflict between the home and work roles can occur.

Individuals who are able to compartmentalize their lives, or maintain boundaries between roles, are less likely to suffer from WLC than those who do not keep strict boundaries (Chen, Powell, & Greenhaus, 2009), and role theory would suggest that these individuals do not allow the expectations of their multiple roles to impede on one another. Practically speaking, the focal individual may avoid checking work email during personal time or refrain from scheduling personal appointments during work hours in order to avoid interrole conflict. Boundaries between roles provide spatial, temporal, or social separation that allows compartmentalization (Olsen-Buchanan & Boswell, 2006). Thinning or blurring these boundaries between work and home roles can result in decreased well-being (Hartig, Kylin, & Johannson, 2007). Telework and communication

technology, for example, are some ways in which these boundaries between home and work are often blurred.

The work-life literature is full of competing concepts to describe how one's home and work lives interrelate and blur boundaries. Other concepts in the literature include work-life balance, work-life interference, work-life facilitation, and work-life enrichment (Greenhaus & Beutell, 1985; Greenhaus & Powell, 2006; Grzywacz, Carlson, Kacmar, & Wayne, 2007; Mesmer-Magnus & Viswesvaran, 2005; Wayne, Grzywacz, Carlson, & Kacmar, 2007). Born from the term "work-family", work-life conceptualizations attempt to address the many life roles employees enact in addition to their family and care giving roles. Work-life issues encompass all of employees' alternative roles and responsibilities, including parent, caregiver, student, pet owner, church member, and the like. WLC assumes that interrole conflict can occur between work and any of these many roles. Therefore, the term "work-life" will be used herein to encompass employees' many roles, and more specifically WLC is of interest.

Dimensions of work-life conflict. According to current definitions, WLC is composed of three dimensions of conflict – behavior-based, strain-based, and time-based conflict (Carlson, Kacmur, & Williams, 2002). Behavior-based conflict occurs when behaviors that make an individual successful in one role are unsuccessful in another role. Strain-based conflict occurs when strain experienced in one role spills over into another role. Lastly, time-based conflict occurs when time spent fulfilling responsibilities in one role prevents one from spending time fulfilling responsibilities in another role. Conflict between work and home roles

can occur bidirectionally – work can interfere with home, or home can interfere with work.

Effects of work-life conflict. WLC has been associated with negative outcomes for both the individual and organization. Amstad, Meier, Fasel, Elfering and Semmer's (2011) recent meta-analysis of the outcomes of work interference with family (WIF) and family interference with work (FIW) revealed that both types of interrole conflict showed small to moderate negative weighted mean correlations with work-related outcomes such as performance (WIF r = -.11; FIW r = -.20) and organizational citizenship behaviors (WIF r = -.63; FIW r = -.54), as well as positive relationships with burnout (WIF d = .38; FIW d = .27) and turnover intentions (WIF d = .21; FIW d = .17). WIF and FIW were both negatively related to non-work outcomes such as family and marital satisfaction. These results indicate that conflict experienced in one domain is related to negative outcomes within the same domain as well as across domains, suggesting that the effects of WLC can be widespread. WLC can also result in ineffectiveness and dissatisfaction with home and work roles (Greenhaus & Allen, 2011), elevated levels of depression (Allen, Herst, Bruck & Sutton, 2000), and health concerns (Grant-Vallone & Ensher, 2001).

Demand Control Theory

Demand control theory (DCT, Karasek, 1979) suggests that psychological strain results from the joint effects of the demands of a work situation and the level of job control. Job demands encompass one's workload, and often demands are operationalized in terms of time pressure or role conflict (Karasek, 1985).

High job demands coupled with low control on the job leads to high strain because the arousal of demands cannot be reconciled by the employee's actions. Autonomy is key to control. Individuals with low control show a stronger relationship between demands and strain than individuals with high control (Van Yperen & Hagedoorn, 2003). High job demands and low control are often linked to negative health outcomes, such as cardiovascular disease (Schnall, Landsbergis, & Baker, 1994).

DCT has been examined with three prevailing hypotheses: the strain hypothesis, the buffer hypothesis, and the iso-strain hypothesis (Van Der Doef & Maes, 1999). The strain hypothesis suggests that employees who work in a high-strain job will experience low levels of well-being. The buffer hypothesis suggests that the negative effects of demanding jobs on well-being can be alleviated by giving employees control over their job. Van Yperen and Hagedoorn (2003) extended DCT to include social support, suggesting that employees with demanding jobs and no control experience even lower levels of well-being when they work in isolation, or when they do not receive social support at work. The addition of support to the DCT model is known as the iso-strain hypothesis.

Van Der Doef and Maes (1999) reviewed twenty years of research on DCT and found that work-domain specific measures of psychological well-being, such as job satisfaction and burnout, are more strongly related to workplace demands and control than are general measures of well-being. Van Der Doef and Maes also found that the strain and iso-strain hypotheses were supported more frequently than the buffer hypothesis, with the buffering effect of control found

more frequently in cross-sectional than longitudinal studies. In studies that support the buffer hypothesis, demands and control were conceptualized with the same level of specificity. The current study will utilize cross-sectional design to investigate the buffer hypothesis with respect to WLC.

DCT can be used to understand the relationship between employee and leader perceptions and WLC by operationalizing these perceptions as workplace demands and constraints that limit control. Specifically, I suggest that one's own perceptions of time and the perceptions of one's leader can result in time pressure demands. Additionally, differences in the perceptions of the leader-employee dyad can constrain how the employee is able to approach his or her work, thus limiting the employee's control. Next, the perceptions of interest to this study will be introduced and discussed.

Temporal Perceptions

Temporal problems frequently arise within organizations, and predominantly manifest as problems with scheduling, allocating, and synchronizing work (McGrath, 1991). Ballard and Seibold (2004) identified eleven temporal structures based on individuals' enactment of time, or how they perform their jobs temporally, and their construal of time, or the way in which individuals orient to time.

Enactments of time. Enactments of time include flexibility, linearity, pace, punctuality, delay, scheduling, and separation (Ballard & Seibold, 2003; Ballard & Seibold, 2004). Flexibility refers to how flexible the work is in terms of time structuring and task completion plans. Work groups that operate in

ambiguous environments and experience frequent change often build in flexibility to rearrange their work plans to deal with the uncertainty (Ballard & Seibold, 2003).

Linearity refers to how task parts and processes are performed, and how likely the employee is to multitask or manage multiple tasks at once. Tesluk, Mathieu, Zaccaro, and Marks (1997) identify four types of workflow patterns characterizing different levels of linearity – pooled/additive, sequential, reciprocal, and intensive patterns. In pooled or additive tasks, work groups' activities are performed independently and then added together to make a final product. Pooled/additive tasks do not require high levels of linearity because each individual member's work is performed separately (Ballard & Seibold, 2004). Sequential and reciprocal tasks, however, require work to flow between members. Sequential tasks are performed in an assembly line fashion, with members being unable to perform their tasks until the members before them completes their own work (Tesluk et al., 1997). In reciprocal tasks, work flows back and forth between members, and the completion of a previous task is necessary for the next member to begin their work. Lastly, intensive tasks require all team members to work together continually, and it is difficult to determine who is making a contribution to task completion at any one time. Intensive tasks require more multitasking than linearity (Ballard & Seibold, 2003).

Pace simply refers to the rate of activity towards task completion. Groups are often referred to as fast or slow paced depending on the rate of new inputs they experience in their work environment (Ballard & Seibold, 2004). Individuals

may vary their pace depending on the speed of inputs or the number of tasks that require completion. Punctuality refers to the likelihood that one will meet deadlines or be on time. Delay, on the other hand, refers to whether projects are typically running behind schedule. Ballard and Seibold (2004) distinguish between punctuality and delay because punctuality describes the actions of a person or work group (being on time to meetings, responding to requests promptly, etc.) whereas delay describes a characteristic of the project progress (ahead of schedule, on schedule, behind schedule, etc.).

Scheduling refers to the duration and timing of activities, and separation refers to whether one separates his or herself from extraneous interruptions. Individuals with an open-door policy may engage in less separation of themselves from interruptions than individuals who close their door in order to perform their work (Ballard & Seibold, 2003; Ballard & Seibold, 2004). Screening behaviors such as avoiding email or not answering the phone when engaged in task work are characteristic of high levels of separation. These seven enactments of time - flexibility, linearity, pace, punctuality, delay, scheduling, and separation - characterize behaviors that describe how individuals perform their tasks with respect to time.

Construals of time. In addition to how individuals perform tasks with respect to time, construals of time characterize how individuals think about time (Ballard & Seibold, 2003; Ballard & Seibold, 2004). The four structures of construal identified by Ballard and Seibold include scarcity, urgency, and present and future time perspectives. Scarcity refers to whether one considers time a

limited resource. Scarcity may vary depending on busy or slow times of the year (Ballard & Seibold, 2004). For example, accountants may find that they are overloaded and there is not enough time to complete their tax preparation assignments during the tax season of January through April. The same accountants may be searching for ways to pass the time in off-months, perceiving that they have more than enough time to complete their tasks. Urgency describes one's preoccupation with deadlines and task completion. Individuals who have high perceptions of time urgency often perceive time as running out. Ballard and Seibold (2003) suggest that scarcity and urgency likely vary together, but urgency focuses on the task itself whereas scarcity focuses on the temporal resources available to complete the task.

Present time perspective is characterized by a need to address current issues, whereas future time perspective is characterized by a need to engage in long-term planning. Ballard and Seibold (2003; 2004) suggest that one can be simultaneously high or low on present and future time perspective, such as in the case of an executive who must both put out the fires of the day and prepare for organizational growth.

Construals of time represent individual differences in underlying temporal values and attitudes towards time (Ballard & Seibold, 2004). Construals of time can be categorized as deep-level composition variables, or individual differences based on underlying psychological characteristics rather than demographics (Bell, 2007). Differences between an employee's and his or her manager's construals of time represent dyadic temporal diversity. Temporal diversity can result in

differences in how members of the dyad allocate temporal resources, pace work towards meeting the deadline, and need to address present or future problems. These differences can create ambiguity about when work will get done and conflict regarding synchronization of progress towards task completion (Mohammed & Nadkarni, 2011). Temporal diversity is associated with role and task ambiguity, along with other negative workplace outcomes (Mohammed & Nadkarni, 2011). For that reason, it is proposed that temporal diversity results in negative work-life outcomes, and therefore investigating WLC is more appropriate than investigating positive work-life concepts such as enrichment, balance, facilitation, or satisfaction.

Temporal perceptions of interest. Mohammed and Nadkarni (2011) identified three dimensions of temporal diversity that span the enactment and construal dimensions of time set forth by Ballard and Seibold (2004) – time urgency, pacing style, and future time perspective. Time urgency combines Ballard and Seibold's construal structures of scarcity and urgency. Time urgency represents a trait where an individual feels chronically hurried and views time as a scarce resource. Pacing style, one of Ballard and Seibold's enactment structures, describes one's distribution of effort towards a goal. Future time perspective in Mohammed and Nadkarni's (2011) model is the same as Ballard and Seibold's (2004) model, except that Mohammed and Nadkarni (2011) consider present time perspective as the opposite end of the spectrum from future time perspective, rather than its own dimension. It is these three dimensions – time urgency, pacing style, and future time perspective – that are investigated in this study.

Time urgency. Time urgency is an indicator of Type A behavior pattern, linked with tension and hyperactivity (Glass, Snyder, & Hollis, 1974). Time urgent individuals experience stress when their progress towards a goal is slowed by external factors, such as a partner's unwillingness to proceed during a joint decision-making task (Glass, Snyder, & Hollis, 1974). In studies of traffic congestion, drivers' time urgency was positively associated with stress in both low and high congestion conditions (Hennessy, Wiesenthal, & Kohn, 2007). Time urgent individuals often impose their own earlier task deadlines regardless of deadlines set by others, increasing time pressure demands. Furthermore, time urgent individuals often schedule more activities than time allows (Friedman & Rosenman, 1974). Because time urgent individuals are more likely to experience stress than individuals who are not time urgent (Hennessey et al., 2007), these individuals may also be prone to spillover of strain from one role domain to another, or strain-based WLC. Because time urgent individuals feel as though they are perpetually pressed for time, they may also feel that they do not have enough time to fulfill the responsibilities of all their roles, resulting in time-based conflict.

Pacing style. Pacing style concerns how individuals pace their work as they approach deadlines. There are three types of pacing styles prevalent in the literature – early action, steady action, and deadline action (Mohammed & Nadkarni, 2011). Early action style refers to starting the task without delay and completing it well before the deadline. Individuals with an early action style of pacing work will engage in a flurry of activity towards task completion early on.

Steady action style refers to maintaining consistent progress towards task completion over the time allotted. Individuals with a steady action pacing style may begin working immediately, but in contrast to early actors, steady actors will engage in consistent activity rather than an initial flurry. Lastly, deadline action style refers to starting the task after a period of inactivity and finishing close to the deadline.

Whereas time urgency describes how individuals approach when work is completed, pacing style describes how one allocates temporal resources towards the completion of work (Mohammed & Nadkarni, 2011). When work groups have a deadline oriented pacing style, on average, they are less likely to meet deadlines than work groups that have an early action average pacing style (Gevers, Rutte, & van Eerde, 2006).

Similarly to time urgency, the manner in which individuals structure their pacing style may affect their levels of WLC. An individual with a deadline action pacing style will likely wait to begin work until the deadline approaches. Under these circumstances, a setback towards task completion can result in a lack of time needed to finish the job effectively. Without enough time to complete tasks, time may need to be "borrowed" from time fulfilling the responsibilities of other roles, resulting in interrole conflict (Barnes, Wagner, & Ghumman, 2012).

Future time perspective. One's time perspective influences how he or she perceives and thinks about the world (Lewin, 1942). Time perspective has been shown to influence goal priority (Lang & Carstensen, 2002) and academic achievement (de Volder & Lens, 1982), in that individuals who have a future time

perspective perform better academically and prioritize goals with long-term pay offs more often than individuals who do not have a future time perspective. Present perspective individuals have been shown to take more risks than their future perspective counterparts in a multitude of contexts, such as driving (Zimbardo, Keough, & Boyd, 1997), sexual behavior (Rothspan & Read, 1996), smoking, drinking, and drug use (Keough et al., 1999). Individuals with a present time perspective prioritize current pleasure over future consequences, resulting in increased risk taking with disregard for the outcome of taking those risks (de Volder & Lens, 1982).

An individual with a present time perspective may fail to anticipate task challenges and take more risks in their progress towards task completion, whereas an individual with a future time perspective will likely spend time planning and anticipating setbacks as well as prioritizing future goals over present pleasure. Therefore, I suggest that individuals with a future time perspective will likely experience lower levels of WLC than their present time perspective counterparts.

Leader-Member Exchange

The way in which leaders' temporal perceptions affect employees' WLC may depend on the quality of the relationships between the leader-employee dyads. Thus, leader-member exchange (LMX) is investigated.

Leadership is a process of mutual and incremental influence between the leader and his or her followers (Avolio, Walumbwa, & Weber, 2009). LMX theory suggests that leaders develop different relationships with their followers, and the quality of these relationships can affect important outcomes for the leader

and the followers. LMX is based on role theory and social exchange theory. Social exchange theory suggests that human beings attempt to maximize pleasure and minimize pain through their own actions and the actions of others (Blau, 1964). In the workplace, "pleasure" that can be exchanged between leaders and employees can include high job performance, organizational citizenship behaviors, enriching tasks, social support, and a positive workplace environment. As part of the LMX exchange relationship, the leader and employee may both seek to maximize their joint pleasure payoff through their interactions with one another.

Many different dimensions of LMX have been proposed throughout the literature. Dienesch and Liden (1986) identify three dimensions of the LMX relationship – contribution, loyalty, and affect. Contribution concerns the amount of effort and activity that the leader and employee engage in as they work toward their goals. Loyalty is characterized by the degree that one offers public support for the other within the dyad. Lastly, affect describes how much the leader and employee like each other. Dienesch and Liden argue that contribution, loyalty, and affect will each influence the behaviors of the dyad members. For example, contribution is likely related to the difficulty of tasks assigned to the employee. An employee who the leader believes puts forth large amounts of effort to reach organizational goals will likely be assigned more difficult and critical tasks than employees who the leader does not believe put in effort. Dienesch and Liden assert that loyalty should predict the likelihood that an employee is assigned stretch assignments, whereas affect is likely to affect the amount of flexibility and

autonomy that the leader affords the employee. Dienesch and Liden stress that the relative weights of the three LMX dimensions, as well as how they interact to predict behavior, are dependent on contextual factors.

According to Dienesch and Liden (1986), followers with a high quality LMX relationship with their leader are considered part of the "in group", whereas followers with a low quality LMX relationship with their leader are considered part of the "out group". Placement in the in-group or out-group is based on negotiated role responsibilities between the leader and the employee. Because leaders have a vested interest in the workplace behaviors of their employees, they attempt to influence employees through sending role expectations (Dienesch & Liden, 1986). The leader can also punish the employee for not meeting role expectations through formal organizational sanctions. Therefore, it is in the best interest of both the leader and the employee for the employee to engage in role behaviors that align with the role expectations of the leader. If the employee performs in a manner that benefits the leader, the leader will likely behave in a manner that benefits the employee. The concepts of reciprocity (Gouldner, 1960) and mutual benefit (Dienesch & Liden, 1986) are central to the LMX social exchange. Over a sufficient number of role episodes, the pattern of an employee's behavior becomes routinized (Graen & Scandura, 1987), and this pattern informs future role episodes.

Individuals in the in-group are often given more freedom to make decisions than those in the out-group (Townsend, Da Silva, Mueller, Curtin, & Tetrick, 2002). In-group members also receive more interesting task assignments

and more leader support than their out-group counterparts (Lagace, 1990). In-group members meet with their leaders more often and receive more performance feedback than out-group members (Hochwarter, 2005). The leader provides enriching experiences to the employees in the in-group as part of the social exchange.

In a meta-analysis examining the effects of LMX, Gerstner and Day (1997) found that LMX correlates with job performance, satisfaction with one's supervisor, turnover intentions, organizational commitment, and role clarity. LMX has recently been linked to WLC and job enrichment. Lapierre, Hackett, and Taggar (2006) found that WLC (specifically family interference with work) is related to LMX quality through job enrichment. Lapierre et al. argue that individuals experiencing WLC are less likely to be exceptional performers, and are therefore less likely to receive in-group benefits, resulting in lower LMX quality. Because the LMX process is dynamic and reciprocal based on feedback loops that cue the leader and employee in to how their roles are negotiated over time, it stands to reason that LMX quality would also affect future WLC experienced by employees.

Leader's Temporal Perceptions and WLC

Just as the employee's own temporal perceptions can increase job demands, so can the temporal perceptions of one's leader. The leader may place time pressures upon the employee if the leader has high perceptions of time urgency. Also, the leader may inhibit the employee from making progress towards task completion if he or she structures his or her own work with a deadline

oriented pacing style. For example, if a leader with a deadline oriented pacing style does not assign tasks to their employees until close to the deadline, then time constraints are imposed upon the employee that increase workload demands.

One of Diesch and Liden's (1986) central tenants of LMX is that in-group membership is characterized by higher trust, interaction, and support than out-group membership. Additionally, social support (like that received from the leader in a high-quality LMX relationship) has been linked to decreased WLC (Lapierre & Allen, 2006). As such, LMX quality may moderate the relationship between the leader's temporal perceptions and the employee's WLC, such that a low-quality LMX relationship will exacerbate the relationship between the leader's temporal perceptions and the employee's WLC.

Temporal Diversity Between Employee and Leader and WLC

Temporal diversity between the leader and employee could reduce the control that the employee has over his or her job. For example, employees may plan ahead and pace work in order to avoid long working hours or overtime. However, these employees would have little control over how they perform their jobs if their leader assigned them a work task at 4:00 P.M. that was due at 8:00 A.M. the following day. Under these circumstances, demand control theory would suggest that the employee would likely experience psychological strain. Psychological strain is often associated with time pressure demands (Karasek, 1979), and these demands could be the result of temporal diversity.

Temporal diversity is associated with differences in how members of the dyad allocate temporal resources (time urgency), pace work towards meeting the

deadline (pacing style), and prefer to address present or future problems (future orientation). These differences can create ambiguity about when work will get done and conflict regarding synchronization of progress towards task completion (Mohammed & Nadkarni, 2011).

Employees are likely to feel frustrated with their manager as the saliency of temporal differences increase. For example, Waller, Conte, Gibson, and Carpenter (2001) found that time urgent individuals self-impose deadlines that differ from external task deadlines. Less time urgent employees may become frustrated and reduce their feelings of attraction towards that individual, the task itself, or group membership. Likewise, employees who pace their work to begin tasks right away and finish before the deadline will likely become frustrated when working on a task for a manager who expects a flurry of work close to the deadline. As mentioned earlier, these differences in the temporal perceptions of the leader-employee dyad can constrain how the employee is able to approach his or her work, thus limiting the employee's control.

Workload

Employees likely differ in the workload they take on or are assigned. The relationship between an employee's temporal perceptions and their experienced WLC may depend on workload differences. For example, individuals who chronically procrastinate using a deadline acting pacing style may not experience WLC if their workload is light. The same individuals may experience high levels of WLC when their workload is large. Therefore, the effect of employees' workload on their WLC will be investigated.

Perceived mental workload is the perceived expenditure of cognitive resources during a task (Rose, Murphy, Byard, & Nikzad, 2002). Unlike actual workload, perceived mental workload is not a function of the task itself, but rather, the individual. The NASA (National Aeronautics and Space Administration) Task Load Index (TLX) is frequently used to measure perceived mental workload. The scale assesses workload in terms of mental, physical, and temporal demand, performance, effort, and frustration level (Hart & Staveland, 1988). In a review of mental workload in en route air traffic controllers, Loft, Sanderson, Neal, and Mooij (2007) found that the abilities to select priorities while managing cognitive resources and one's own performance mediated the relationship between task demands and perceived workload. Shifts in mental workload can also exacerbate temporal issues. Cox-Fuenzalida (2007) investigated the effect of a sudden increase or decrease in workload on performance and determined that both led to a performance decrement.

Individuals may differ in the extent to which they perceive their workloads, and these differences could affect WLC. Individuals who pace work evenly but feel they take on a lot of work may experience the same level of WLC as individuals who procrastinate but feel they take on less work. Therefore, I hypothesize that perceived mental workload will moderate the relationship between temporal perceptions and WLC, such that employees with a high perceived mental workload will have a stronger relationship between temporal perceptions and WLC than employees with a low perceived mental workload.

Communication

Employee and leader pairs should communicate with each other regarding task progress, obstacles to completion, and other temporal issues. Even those dyads with high temporal diversity may be able to coordinate so as to not negatively impact the employee's control over his or her job. As such, communication between the leader and employee is investigated as a moderator of the relationship between temporal diversity and WLC.

Temporal coordination is the process by which different temporal structures are negotiated between employees, and the way in which group members choose to plan, coordinate, and execute their activities temporally can affect the degree of interdependence in the task (Janicik & Bartel, 2009). When the employee and leader communicate with each other and interact, their internal rhythms become synchronized to one another, or entrained (McGrath & Rotchford, 1983). Temporal planning activities facilitate the formation of temporal norms, and making temporal discussion explicit likely facilitates collective entrainment of team members' internal rhythms. Over time, these temporal norms result in shared temporal mental models among the leader-member dyad (Saji, 2004). Therefore, dyads that communicate effectively about temporal planning and task constraints should be able to mitigate the direct relationship between temporal diversity and WLC conflict. Dyads that engage in explicit scheduling, synchronizing, and allocating temporal resources will foster temporal norms, entrainment of internal rhythms, and shared temporal mental models.

Job Performance

WLC is a problem for both employees and the organizations that employ them. There is a growing body of literature detailing the outcomes of WLC for the organization, and one area of interest is employee performance on the job. Job performance is negatively associated with both WIF (r = -.11, p< .05) and FIW (r = -.20, p< .05; Amstad et al., 2011). A meta-analysis performed by Kossek and Ozeki (1999) report the relationship between WIF and job performance to be as strong as ρ= -.45. Gilboa, Shirom, Fried, and Cooper (2008) performed a meta-analysis investigating the relationships between various performance measures and WLC, role conflict, and role ambiguity. Gilboa et al. found that WLC had a negative relationship with self-ratings of performance, but a nonsignificant relationship with supervisory ratings of employee performance. However, Hoobler, Hu, and Wilson (2010) found that, when separating the effects of WIF and FIW on performance, both types of WLC were negatively associated with self and supervisory ratings of job performance. Hoobler et al. found that WIF had a small correlation with self-ratings of performance (ρ= -.03) and a stronger correlation with supervisory ratings (ρ= -.19). FIW showed moderate correlations with both self (ρ= -.22) and supervisory (ρ= -.16) performance ratings.

Abramis (1994) also performed a meta-analysis investigating effects of job stressors on performance. Although he did not investigate WLC specifically, he did investigate the effects of role ambiguity and role conflict on self and other ratings of technical and social job performance. Recall that WLC can be considered a specific type of role conflict (Kossek et al., 2011). Abramis (1994)

found that role ambiguity was negatively related to self (r = -.59) and other (r = -.17) ratings of technical performance, and self-ratings of social performance (r = -.31). Role conflict was negatively related to self-ratings of technical (r = -.13) and social (r = -.20) job performance, but was not significantly associated with others' ratings of performance. Taken together, these meta-analyses suggest that WLC can negatively affect employees' job performance, although there are discrepancies in literature around exactly how WLC affects performance, and what forms of WLC are most impactful on what aspects of performance.

In addition to job performance measuring behaviors necessary based on one's role (in-role behaviors), performance of discretionary behaviors (extra-role behaviors) have also been linked to WLC. Organ (1988) defines organizational citizenship behaviors (OCBs) as discretionary behaviors that support organizational effectiveness but are not part of one's job or formally rewarded. Bragger, Rodriguez-Srednicki, Kutcher, Indovino, and Rosner (2005) found that WLC negatively correlated with OCBs (r = -.15, p< .05). Bragger et al. found that WLC significantly predicted OCB performance above and beyond the effects of organizational commitment and job satisfaction (ΔR^2= .07). Moore and Love (2005) also found evidence that role conflict decreases the likelihood that employees will perform extra-role behaviors. Although they did not test the relationship between OCBs and role conflict directly, in a study of information technology (IT) workers Moore and Love found that IT workers are less likely to perform OCBs than non-IT workers, and they postulated that this was due to the higher levels of role conflict experienced by IT workers than non-IT workers. In

sum, there is evidence that WLC is not just a problem for employees but for organizations as well, in that WLC is associated with decreased in-role and extra-role performance.

Rationale

WLC is an important factor in the recruitment (Kossek et al., 2011), retention (Kossek & Lee, 2008), and performance (Amstad et al., 2011) of employees. The temporal perceptions of an employee and his or her leader can impose workload demands on the employee as he or she progresses towards task completion. Additionally, differences in how the leader and the employee perceive time can constrain the manner in which the employee approaches his or her work, limiting the control the employee has over his or her work. This study utilizes DCT to understand the relationship between employee and leader temporal perceptions and WLC by operationalizing these perceptions as workplace demands and constraints that limit control. Specifically, I suggest that one's own temporal perceptions and the perceptions of one's leader can result in time pressure demands. Additionally, differences in the temporal perceptions of the leader-employee dyad can constrain how the employee is able to approach his or her work. Dyadic temporal diversity would then limit an employee's control. These demand and control issues are likely to result in decreased levels of well-being. WLC, a work-domain specific indicator of well-being, was investigated herein.

A number of variables may affect the relationships between temporal perceptions and WLC (see Figure 1). LMX quality as well as communication

between the leader and employee may weaken the temporal perceptions-WLC relationships in a number of ways. First, employees with a high-quality LMX relationship will enjoy more support and autonomy in their work, lessening the potential negative effects of their leader's temporal perceptions on their WLC. Second, communication between the employee and leader can serve to coordinate the dyad's expectations and result in entrainment, weakening the temporal diversity-WLC relationship. Lastly, the employee's perceived workload will likely interact with their temporal perceptions to affect WLC. For example, even if an employee is highly time urgent, prefers a deadline oriented pacing style, and focuses too much time on planning and not enough time on acting, they are unlikely to experience WLC if there is little work to be done in the first place.

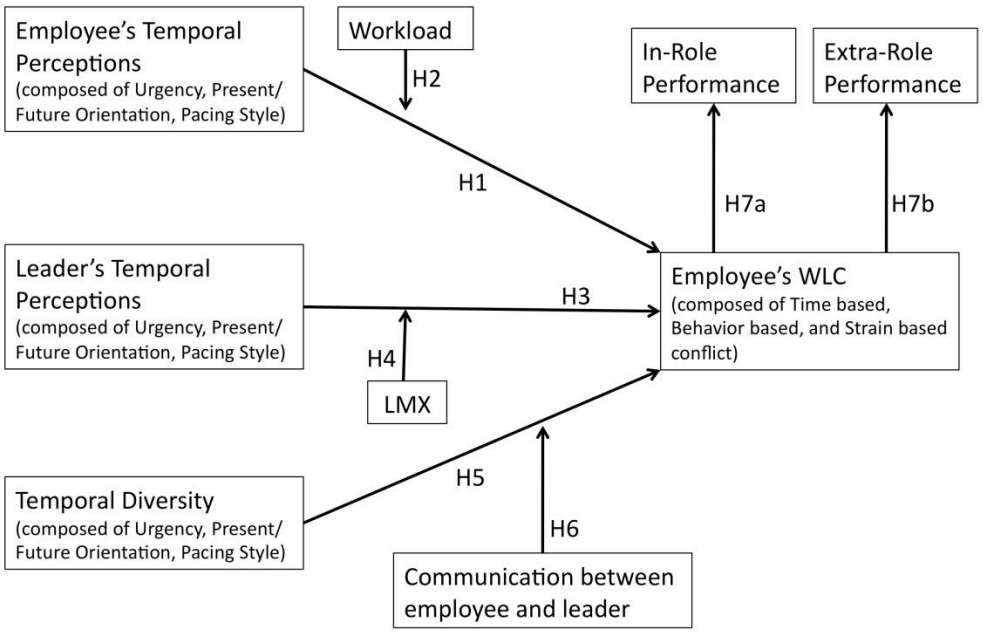


Figure 1. Hypotheses

Statement of Hypotheses

Hypothesis 1: Employee's temporal perceptions (composed of urgency, present vs future orientation, and pacing style) will be associated with increases in the employee's WLC (composed of time-based, behavior-based, and strain-based).

Hypothesis 2: Employee's perceived workload will moderate the relationship between the employee's temporal perceptions and the employee's WLC, such that individuals with a high perceived workload will have a stronger relationship between temporal perceptions and WLC than individuals with a low perceived workload.

Hypothesis 3: Leader's temporal perceptions (composed of urgency, present vs future orientation, and pacing style) will be associated with increases in the employee's WLC (composed of time-based, behavior-based, and strain-based).

Hypothesis 4: The quality of the LMX relationship between the leader and employee will moderate the relationship between the leader's temporal perceptions and the employee's WLC, such that individuals with a low-quality LMX relationship will have a stronger relationship between leader temporal perceptions and employee WLC than individuals with a high-quality LMX relationship.

Hypothesis 5: Temporal diversity between leader and employee perceptions (composed of urgency, present vs. future orientation, and pacing

style) will be associated with increases in the employee's WLC (composed of time-based, behavior-based, and strain-based).

Hypothesis 6: Communication quality between the employee and leader will moderate the relationship between temporal diversity and an employee's WLC, such that dyads that engage in temporal communication will have a weaker relationship between temporal diversity and WLC than those who do not.

Hypothesis 7: Employees' WLC (composed of time-based, behavior-based, and strain-based) will be associated with decreases in (a) in-role and (b) extra-role performance.

CHAPTER II

Method

The current study was conducted both in-person and online via Qualtrics Online Survey Software. Data were gathered from both employees and their immediate supervisors to reduce same source bias, or the inflation of relationships between variables reported by the same person (Avolio, Yammarino, & Bass, 1991). Employees provided ratings of their own demographics, WLC, and temporal perceptions, as well as ratings of their relationship with their supervisor (LMX and communication measures). Supervisors provided ratings of their own demographics and temporal perceptions, and also provided ratings of the employee's job performance (Table 1). By utilizing the supervisor's ratings of employee behaviors, same source bias was reduced.

Table 1. Measures and Respondents

Measure	Source	Referent
WLC	Employee	Self
Time Urgency	Employee and Supervisor	Self
Pacing Style	Employee and Supervisor	Self
Future Perspective	Employee and Supervisor	Self
Workload	Employee	Self
LMX	Employee	Relationship with supervisor
Communication	Employee	Relationship with supervisor
Performance	Supervisor	Employee

Participants

Participants were employed adults in the United States. Participation was limited to individuals over 18 years of age. The survey was completed by 271 employees and 215 supervisors. Of the participants in the employee sample, 59.6% self-identified as female. Employees were on average 30.18 years old (*SD*= 12.46) and they reported spending an average of 30.68 hours a week working (*SD*= 13.54). 59.2% of employees were Caucasian/White, with 12.9% identifying as Black or African American, 12.8% as Hispanic, Latino, or Spanish origin, 5.9% as Asian/Pacific Islander, and 0.3% as American Indian or Alaska native. All participants in the employee sample were employed, with 56.1% of participants employed full time and 43.7% employed part time. In terms of organizational level, 69.0% of participants in the employee sample maintained employment positions at the staff or line level, with 13.2% identifying as first-level management, 3.5% middle management, and 4.2% higher-level management. Participants came from a variety of industries. The employee sample was mainly composed of individuals from the education or library industry (25.4%), followed by the hospitality and food preparation or serving industry (12.5%), sales or marketing industry (11.8%), and healthcare (5.6%). In terms of job function, the majority of participants in the employee sample held jobs in education or library (20.2%), followed by sales or marketing (15.3%), hospitality and food preparation or serving (12.2%), administrative support (7.3%), and human resources (5.9%).

Of participants from the supervisor sample, 40.1% identified as female, 32.8% as male, and 24.7% declined to respond. Supervisors were on average 41.41 years old (*SD*= 12.37). They reported spending an average of 39.86 hours a week working (*SD*= 12.39). The majority of the supervisor sample was White/Caucasian (73.5%), followed by Black or African American (10.8%), Hispanic, Latino, or Spanish origin (9.1%), Asian/Pacific Islander (5.2%), and American Indian or Alaska native (1.0%). All participants in the supervisor sample were currently employed, with 91.3% of participants employed full time and 6.3% employed part time. 42.9% of participants in the supervisor sample maintained employment positions at the first level of management, with 20.7% identifying as higher-level managers, 19.8% middle management, and 14.7% staff or line level. Participants in the supervisor sample also came from a variety of industries. The supervisor sample was mainly composed of individuals from the education or library industry (26.5%), followed by the hospitality and food preparation or serving industry (9.8%), sales or marketing industry (8.7%), and healthcare (5.9%). In terms of job function, the majority of participants in the supervisor sample held jobs in education or library (22.6%), followed by management or consulting (10.5%), sales or marketing (9.4%), hospitality and food preparation or serving (8.4.%), and healthcare (4.2%).

Procedure

Participants were recruited to complete the study using three different avenues – snowball sampling by the research team (online or in person), approaching individuals in their place of work and asking them to complete the

survey, and through DePaul University's undergraduate online research participation system, Sona Systems. The majority of participants were recruited in person (*n*= 125), followed by online snowballing (*n*= 83), and Sona Systems (*n*= 78). Data were not collected in a manner that allows for differentiation between in-person snowballing and approaching individuals in their place of work methods. Regardless of recruitment method, all participation was voluntary and anonymous. Informed consent was obtained from both employees (Appendix A) and supervisors (Appendix B) before participation. All employees who agreed to participate completed scales asking about themselves and their relationship with their supervisor (e.g., their own temporal perceptions, WLC, and workload measures, and communication and LMX detailing their relationship with their supervisor) as well as basic demographic questions (Appendix C). Supervisors who agreed to participate completed measures of their own temporal perceptions and the focal employee's job performance.

Snowball sampling procedure.

The primary researcher and eight undergraduate volunteers recruited individuals in their personal networks to participate in the study. Potential participants were contacted by email or in person and provided information regarding the study and instructions for how to participate.

Individuals who were contacted virtually received a link to complete the survey online via Qualtrics survey software. Individuals without supervisory responsibilities were directed to the employee survey, whereas individuals who held supervisory responsibilities for other employees were directed to the

supervisor survey. At the end of each survey, participants were asked to forward a recruitment email and link to the other member of their dyad, either their immediate supervisor or an employee of their choosing, depending on the survey they just completed.

Individuals who were approached in person received a printed version of the online survey to complete via paper and pencil. Individuals without supervisory responsibilities received the employee survey, and individuals who held supervisory responsibilities over others received the supervisor survey. Once participants completed their survey, they were provided a paper copy of the survey for the other member of their dyad in an envelope. Participants were instructed to invite either their immediate supervisor or an employee of their choosing, depending on the survey they just completed, to participate by providing him or her with the survey and recruitment materials. If they agreed to participate, these individuals were instructed to return their completed survey to their partner in the provided envelope, sealing it and signing over the seal to protect the anonymity of their responses. The original participants then returned the envelopes from their partners to the research team.

Approaching individuals at work procedure

In addition to snowball sampling, undergraduate researchers approached individuals unknown to them at their place of business to recruit participants. Participants were recruited in this way from restaurants, bars, retail stores, and coffee shops in the Chicago area, as well as from DePaul University administrative and academic offices. A researcher entered the place of business

and asked to speak to a supervisor. Researchers provided the supervisors with information regarding the study and asked if they would be willing to participate. Willing supervisors completed the printed version of the survey in person via paper and pencil, and identified an employee that the researcher could invite to participate. While the supervisor completed his or her survey, the researchers approached the employee, providing him or her with the same recruitment materials and inviting him or her to participate. If the employee did not wish to participate, the supervisor was asked to identify an alternative employee whom the researcher could invite. Once both members of the pair completed their respective surveys, supervisors were asked if there were other managers present who might be interested in completing the survey.

Sona systems procedure

Employed students enrolled in DePaul University's undergraduate introductory psychology courses were invited to participate in the online version of the study in exchange for course credit. Based on pre-screening questions, students who were employed at least part-time and had a supervisor at work were eligible to complete the study. Students logged into Sona Systems with their private account information and were directed to a list of active studies for which they were eligible to complete. Those students who elected to complete the current study signed up online via Sona Systems and were directed to the employee survey. At the end of the study, student participants were asked to forward a recruitment email and link to their supervisors. Students were given class credit in exchange for the completion of their portion of the survey but not

for their supervisor's completion. This was done in order to minimize the likelihood that students might fabricate data from their supervisors in order to obtain class credit.

Measures

Temporal perceptions

Three self-report scales (time urgency, pacing style, and future time perspective) were used to measure employees' and supervisors' temporal perceptions.

Time urgency. Landy, Rastegary, Thayer, and Colvin's (1991) scale was used to measure the employee and the supervisor's time urgency (Appendix D). Employees and supervisors were asked to respond to six items measuring time urgency on a scale of 1 (strongly disagree) to 5 (strongly agree). Employee responses were averaged to determine an overall score for employee's time urgency. Likewise, supervisor responses were averaged to determine an overall score for the supervisor's time urgency.

Pacing style. Ballard and Seibold's (2004) measure of pacing style was used (Appendix E). Employees and supervisors were asked to think about how they talk about time at work, and indicate their level of agreement with each statement on a scale of 1 (strongly disagree) to 5 (strongly agree). The employees' and supervisors' item responses were each averaged to serve as a measure of pacing style for employees and supervisors.

Future time perspective. Strathman, Gleicher, Boninger, and Edwards' (1994) Consideration of Future Consequences Scale was used to measure

employees' and supervisors' future time perspective (Appendix F). Employees and supervisors were asked to respond to twelve items on a scale of 1 (strongly disagree) to 5 (strongly agree). Employee responses were averaged to determine an overall score for employee's future time perspective. Likewise, supervisor responses were averaged to determine an overall score for the supervisor's future time perspective.

Work-life conflict

Carlson et al.'s (2006) 18-item measure of WLC was utilized (Appendix G). Carlson et al.'s scale includes 6 subscales – time-based WIF, time-based FIW, strain-based WIF, strain-based FIW, behavior-based WIF, and behavior-based FIW. Carlson et al.'s confirmatory factor analysis demonstrated adequate fit for the 6-factor model. Each subscale is comprised of 3 items. Employees were asked to respond to each item on 5-point scale from 1 (strongly disagree) to 5 (strongly agree). Supervisors did not complete the WLC scale.

Leader-member exchange

Graen and Uhl-Bien's (1992) LMX-7 scale was used to measure the LMX relationship between the employee and his or her supervisor (Appendix H). Gerstner and Day (1997) meta-analytically determined that the LMX-7 showed greater internal consistency (α= .89) than other available measures of LMX (α= .83) and that studies using LMX-7 obtained higher correlations with outcome measures than studies that used other instruments. Gerstner and Day suggest that LMX-7 should be used over other measures. LMX-7 consists of seven items and employees were asked to respond to each statement on a scale of 1-5. The scale

anchors differ for the different items and can be found in Appendix H. Responses were averaged to determine an overall score for LMX. Supervisors were not asked to respond to the LMX scale. Additionally, Gerstner and Day (1997) meta-analytically determined that supervisor and employee ratings of LMX are only moderately related (r = .29), and that employee ratings show higher levels of internal consistency than do supervisor ratings.

Workload

The NASA-TLX (Appendix I) is composed of items measuring six different sources of mental workload: effort, frustration, performance, mental demand, physical demand, and temporal demand (Hart & Staveland, 1988). Employees were asked to rate their current workload on a 10-point scale from low to high. The six sources of mental workload are grouped into three subscales: task-related scales, behavior-related scales, and subject-related scales. Task related scales consist of mental, physical, and temporal demand, which represent the common ways that workload is manipulated across activities. Behavior-related scales, effort and performance, measure the effort put forth to accomplish the task as well as participant effectiveness. Last, the subject related scale measures frustration felt while completing the task. Equal weights were given to each subscale in the calculation of an overall workload score (Byers, Bittner, & Hill, 1989). Items were averaged to indicate an overall workload score.

Communication

A modified version of Farley's (1989) Communication Assessment Questionnaire (CAQ) was used to measure communication quality between the

employee and their supervisor (Appendix J). The four items from the scale that were used reflect the quality of communications one receives from his or her supervisor. Six items measuring communication within the organization in general or with individuals other than the employee's supervisor were removed. In order to assess the quality of communications one provides to their supervisor, three items were added to the scale (items 5-7). Employees rated each item on a scale of 1 (never) to 5 (always). Responses were averaged to determine an overall communication score.

Performance

Eisenberger et al.'s (2001) measure of in-role performance (Appendix K) and Lynch et al.'s (1999) measure of extra-role performance was used (Appendix L). Supervisors were asked to rate the performance of the employee who forwarded the survey in this study. Supervisors were asked to rate the employee on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). Responses were averaged to determine an overall score for employee performance, with higher scores indicating better performance.

Temporal diversity

A dispersion model was used to operationalize dyadic diversity of temporal perceptions (Chan, 1998). Dispersion models use within-group variance to represent a higher-level construct, such as diversity. Following the work on temporal diversity of Mohammed and Nadkarni (2011), the standard deviation of employee and supervisor temporal perceptions were calculated to represent temporal diversity. Standard deviation is an appropriate measure of diversity

because a score of zero indicates complete homogeneity and larger scores indicate more diversity (Harrison & Sin, 2006). Specifically, composite scores of time urgency, pacing style, and future time perspective were calculated for employees and supervisors and the standard deviation of each dyad's composite scores was used to represent temporal diversity. Composite scores were calculated by averaging responses to each scale, standardizing scale scores, and summing the three standardized scores.

CHAPTER III

Results & Analyses

Before hypotheses could be tested, data were screened for violations of the statistical assumptions. The screening and preparation process is detailed below.

Data Preparation, Screening, and Diagnostic Testing

Maximum likelihood (ML) estimation for structural equation modeling has strict data assumptions (Kline, 2011). ML estimation assumes that data are continuous, unstandardized, and free from missing values. It is also assumed that scores are independent, latent variables are independent from error variances, and that endogenous variables are multivariate normal. Violation of these assumptions can result in biased parameter estimates. The investigation of each assumption is detailed below.

Dyads were formed by pairing employees and leaders based on the unique participant numbers forwarded from the first participant to the second participant. Participants who did not have a partner (n= 86) were excluded from the dataset. In addition to missing partners, other missing data was found where participants skipped one or more questions throughout the survey (n= 19). Mean imputation was used to deal with missing data due to skipped scale questions. Mean imputation involves replacing missing data with the sample mean for that item. Missing demographic responses were left blank.

Once missing data were rectified, mean scale and subscale scores were calculated. These scores were not standardized, but they were centered to reduce multicollinearity. Because temporal diversity was operationalized as the standard

deviation of employee and supervisor temporal perceptions, regression analyses were used to ensure the use of the diversity variables along with perception variables did not result in multicollinearity. Temporal diversity was regressed on employee time urgency, supervisor time urgency, employee pacing style, supervisor pacing style, employee consideration of future consequences, supervisor consideration of future consequences, total employee temporal perceptions and total supervisor temporal perceptions. The model was nonsignificant, $F(12, 188)= 1.35$, $p= .19$, $R^2= .08$, providing preliminary evidence that temporal diversity is not the same as employee and supervisor temporal perceptions. Tolerance and variable inflation factors (VIF) for each predictor were within acceptable ranges, indicating no multicollinearity. Tolerance levels ranged from .53-.86, whereas VIF ranged from 1.16-2.05. Tolerance levels less than .10 and VIF levels greater than 10.00 would indicate cause for concern. Regression analyses were repeated, changing the criterion to consideration of future consequences diversity, pacing style diversity, and time urgency diversity. These analyses yielded similar results, indicating that the diversity variables are distinct from perceptual variables.

The independence of error variances was investigated by examining the residual covariance matrix of the SEM measurement model. Correlations between error variances larger than an absolute value of .10 can indicate misspecification of the model and violation of the ML estimation assumption of error variance independence (Kline, 2011). A number of items showed problematic correlations, including WLC items 4, 5, and 6, supervisor pacing style item 5, supervisor

consideration of future consequences items 2, 6, and 8, employee consideration of future consequences item 2, employee pacing style item 5, and employee time urgency items 1-4. The high residual correlations provide preliminary support for removing these items, which were further investigated in scale confirmatory factor analyses (CFAs) discussed later. Lastly, frequency distributions and stem and leaf plots suggested normality of data. Therefore, normality of data was not considered a cause for concern.

Comparing Samples

Participants from the three samples (in-person, online snowball, Sona Systems) were compared using univariate analysis of variance (ANOVA) to support aggregating to a single sample. Samples did not differ significantly on the outcome variables of in-role or extra-role performance, $F(1,199)= 3.87$, $p> .05$, $F(1, 190)= 2.30$, $p> .05$, respectively. Additionally, samples did not differ on the demographic variables of employee age, $F(1, 183)= 1.90$, $p> .05$; supervisor age, $F(1,189)= 2.13$, $p> .05$; supervisor's organizational level, $F(1,198)= 2.33$, $p> .05$; supervisor's number of children, $F(1,193)= 1.33$, $p> .05$; or employees' number of children, $F(1,191)= 1.61$, $p> .05$. For the predictor variables, samples did not vary on employee temporal perceptions, $F(1,194)= 2.48$, $p> .05$, supervisor temporal perceptions, $F(1,191)= 0.93$, $p> .05$, or temporal diversity, $F(1,186)= 3.25$, $p> .05$. Furthermore, they differed on number of hours worked by the employee, $F(1,200)= 6.05$, $p< .01$, whereas employees recruited through Sona Systems worked significantly fewer hours than those recruited in-person ($MD= -9.74$, $SE= 2.84$) and through online snowballing ($MD= -5.48$, $SE= 2.21$). This

difference makes sense in that participants recruited through Sona Systems were also undergraduate students and likely had less time available for work than nonstudents. Additionally, samples differed on WLC, $F(1,192)= 4.62$, $p< .05$, such that participants recruited via online snowballing reported significantly less WLC than those in the in-person ($MD= -0.41$, $SE= 0.14$) or sona systems ($MD= -0.43$, $SE= 0.17$) samples. Despite these differences, samples were aggregated because they did not differ on the majority of study variables.

Aggregating Temporal Perceptions and Work-Life Conflict Dimensions to Common Latent Variables

The factor view of multidimensional constructs treats each dimension as an indicator of the overall construct, whereas the component view suggests that the common factor is an aggregate of all the individual factors, rather than just the common variance of those factors (Law & Wong, 1999). By using the factor view of multidimensional constructs, the error variance is defined as all the variance that is not shared by the factors of the multidimensional construct (Law & Wong, 1999). In other words, the only common variance shared by all factors is treated as true variance, whereas specific variances unique to each factor or shared by only 2 of the 3 factors is treated as error variance. Under such circumstances error variances are overestimated, leading to biased parameter estimates for the structural model. By comparison, the composite view of multidimensional constructs considers common and unique variance as the true variance of the construct, and only random variance is treated as error (Law & Wong, 1999). Hunt and Morgan (1994) provide theoretical evidence and empirical justification

that job perceptions and role conflict can be conceptualized using the composite view. However, utilizing the composite view significantly reduces the degrees of freedom because the factors are typically freely correlated.

In order to ensure that temporal perceptions dimensions and WLC dimensions should each be aggregated to the same latent variable, Zinbarg, Yovel, Revelle, and McDonald (2006) suggest investigating whether the dimensions of the scale measure a common latent variable. The CFA method to estimate the loadings of the indicators on the common latent variable has been shown to be better than simply estimating coefficient alpha and not significantly different than other factor analysis methods (Zinbarg et al., 2006). The first step was to perform a CFA of a hierarchical model relating the indicators to their respective first-order latent variables, and relating the first-order latent variables to a single higher order factor. Then, two comparison models were run. The first comparison model had all indicators loaded on the second order factor without the first order subscale factors. The second comparison model had all indicators loaded on uncorrelated first order factor latent variables and no second order factor was included. The results of the comparisons are found in Table 2. $\Delta\chi^2$ tests for both temporal perceptions and WLC show that the common latent variable models have significantly better fit than the comparison models, indicating that the subscales can be aggregated to a common latent variable for the structural regression.

Table 2. Chi Square Difference Tests of Aggregate Variables

Variable	Model	(df)χ^2	(df)$\Delta\chi^2$ test comparing with hierarchical model
Temporal Perceptions	Hierarchical model	(227) 1231.74**	
	Single factor model	(230) 1785.34**	(3) 553.60**
	Three orthogonal first-order factors model	(230) 1374.34**	(3) 142.60**
Work-Life Conflict	Hierarchical model	(132) 829.16**	
	Single factor model	(135) 1165.28**	(3) 326.12**
	Three orthogonal first-order factors model	(135) 1061.53**	(3) 232.37**

**p<.01; df= degrees of freedom

Investigating the Measurement Properties of the Adapted Communication Scale

Farley's (1989) Communication Assessment Questionnaire was modified for this study, and CFA was used to ensure that the modified scale was sound. In the first CFA, the four items retained from Farley's scale and the three items written for this study were loaded onto a single latent variable. The exact fit hypothesis for the model was rejected because the significant χ^2 indicated that there were discrepancies between the population covariances and those predicted by the model, $\chi^2(14)= 124.89$, p<.001. Approximate fit indices also indicated poor fit (CFI= .82, TLI= .73, RMSEA= .20, RMSEA 90% CI= .17-.23). All item loadings on the common latent variable were significant at the p<.001 level

(Table 3), and therefore modification indices were examined in an attempt to better fit the model.

Table 3. Communication Item Loadings on Common Latent Variable

Item	Estimate	S.E.
C1	1.000***	path to C1 constrained to 1; no S.E.
C2	.895***	.078
C3	.996***	.091
C4	1.056***	.094
C5#	.663***	.077
C6#	.698***	.105
C7#	.593***	.130

C= communication scale item; #= new item written for this study; S.E.= standard error; ***p<.001

Table 4 details the modifications to the communication CFA based on modification indices. Error covariances were added in an iterative fashion, one at a time, examining the change in model fit and modification indices of each new model. Including the new error covariances in the model significantly improved model each time fit over the previous versions of the model as indicated by the change in χ^2 test. The χ^2 of the final model was nonsignificant and thus failed to reject the exact fit hypothesis, indicating that the model was not significantly different than the population model implied by the data, $\chi^2(11)= 17.52$, $p= .09$. This model was therefore retained, and it was concluded that the modified communication scale was psychometrically sound.

Table 4. Communication Confirmatory Factor Analysis Model Comparisons

Model	Modification	χ^2(df)	$\Delta\chi^2$(df) test	CFI	TLI	RMSEA (90%CI)
1	none	124.89(14)***		0.82	0.73	0.20 (.17-.23)
2	E6←→E7	56.26(13)***	68.63(1)**	0.89	0.93	0.13 (.10-.16)
3	E3←→E5	37.64(12)***	29.62(1)**	0.93	0.96	0.10 (.07-.14)
4	E1←→E3	17.52(11)	12.10(1)*	0.98	0.99	0.05 (.00-.10)

←→= covariance path added between errors; ***p<.001; **p<.01; *p<.05; CFI= comparative fit index; TLI= Tucker-Lewis index; RMSEA= Root Mean Square Error of Approximation; 90%CI= 90% confidence interval

Measurement Model

The full measurement model (Figure 2) was run to ensure that there was no measurement misspecification of the model before testing hypotheses with structural regression. All analyses were completed in SPSS Amos. Consistent with recommendations in structural equation modeling, several different fit indices were examined for each model (i.e., χ^2, TLI, CFI, RMSEA, RMSEA 90% confidence interval) to assess the fit of the models.

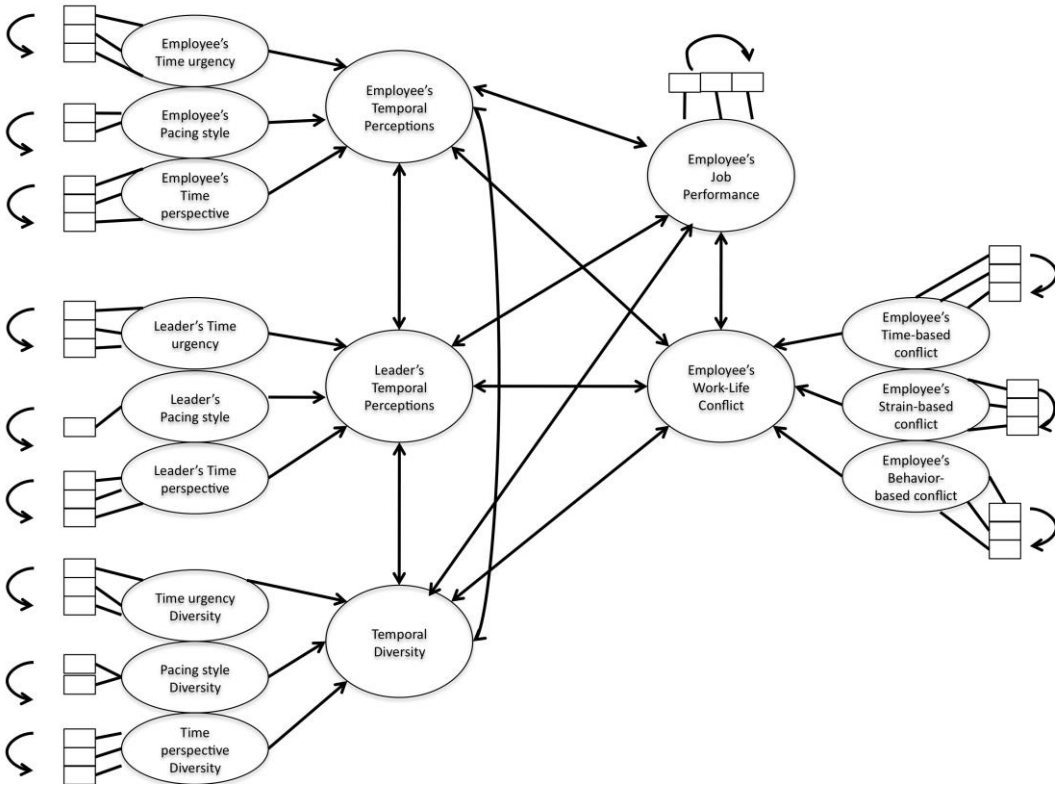


Figure 2. Measurement Model

The hypothesized measurement model showed poor fit, $\chi^2(2901)=$ 6154.48, $p<.001$, TLI= 0.60, CFI= 0.61, RMSEA= 0.08, RMSEA 90%CI= 0.07-0.08. Adequate fit would require TLI and CFI >.90, RMSEA <.08, and RMSEA 90%CI with a lower bound below .05 and an upper bound below .10. Good fit would require TLI and CFI >.95, RMSEA <.05, and RMSEA 90%CI with a lower bound below .05 and an upper bound below .08. The significant χ^2 indicated that the exact fit hypothesis should be rejected, but the RMSEA indicates the poor fit hypothesis should be rejected.

In order to improve model fit, items that did not significantly load onto their hypothesized latent variable were removed from the model. In order to understand what changes significantly improved model fit, one item was trimmed

at a time until all nonsignificant loadings were eliminated. Some of the items removed (supervisor consideration of future consequences items 2, 6, and 8; employee consideration of future consequences item 2) were those identified in the residuals matrix to be problematic based on high residual correlations. Nonsignificant loadings on the hypothesized latent variables provided further support for the deletion of these items from the model. Additionally, eliminating nonsignificant paths increases the parsimony, or simplicity, of the proposed model. Therefore, even if the deletion of nonsignificant item loadings did not significantly decrease χ^2, the simpler model was retained based on the parsimony principle. The parsimony principle suggests that given two models with similar fit to the data, the simpler model is preferred because fewer parameters must be estimated. Table 5 details modifications and model fit of each iterative model when items with nonsignificant loadings were removed.

Table 5. Deleting Nonsignificant Item Loadings from the Measurement Model

Model	Item Removed	Hypothesized Latent Variable	Estimate	χ^2(df)	$\Delta\chi^2$(df) test
1				6154.48 (2901)***	
2	ETU6	Employee Time Urgency	.15, *SE*= .15, *p*= .30	6048.22 (2903)***	106.26(2)**
3	ECFC8	Employee Future Orientation	-.16, *SE*= .11, *p*= .12	6001.31 (2905)***	46.91(2)**
4	ECFC2§	Employee Future Orientation	.02, *SE*= .10, *p*= .81	5989.67 (2907)***	11.64(2)*
5	STU6	Supervisor Time Urgency	.02, *SE*= .14, *p*= .88	5980.53 (2909)***	9.14(2)
6	SCFC8§	Supervisor Future Orientation	-.08, *SE*= .11, *p*= .48	5829.40 (2911)***	151.13(2)***
7	SCFC6§	Supervisor Future Orientation	.11, *SE*= .11, *p*= .32	5833.27 (2913)***	3.87(2)
8	SCFC2§	Supervisor Future Orientation	.01, *SE*= .11, *p*= .90	5797.31 (2915)***	35.96(2)**

§= item identified as problematic based on the residual correlation matrix; df= degrees of freedom; ***p<.001; **p<.01; *p<.05

After the deletion of items with nonsignificant loadings, the model still showed poor fit and had significant χ^2, indicating that the exact fit hypothesis should be rejected, χ^2(2915)= ,5797.27, p<.001, TLI= .72, CFI= .76, RMSEA=

.11, RMSEA 90%CI= .09-.11. Modification indices were then examined. Error covariances are appropriate candidates for respecification of measurement models as long as the items share something in common, such as the same scale or method of measurement (Kline, 2011). Including regression paths is not appropriate for the measurement models and should be reserved for structural regression models. While allowing error terms to correlate would significantly improve fit of the model based on the modification indices, adding even a large number of covariances to the model would not reduce the χ^2 enough to become nonsignificant and fail to reject the exact fit hypothesis. Correlating all possible error variances may have resulted in a nonsignificant χ^2 value, however, the model would be unlikely to replicate due to a greater capitalization on chance than in the hypothesized model. Additionally, increasing the number of paths estimated also decreases the model parsimony and degrees of freedom. Models that are fully estimated and have no available degrees of freedom always have perfect fit, but these models tell us little about the relationships between variables. Increasing the complexity of the model simply to increase model fit without theoretical reasoning for doing so is unlikely to result in the true population model. As a result, the hypothesized measurement model in Figure 2 was rejected, and alternative models were examined to attempt to better fit the data.

Investigating Common Method Variance

The first alternative model investigated modeled the same-source variance from having employees respond to multiple scales and supervisors respond to multiple scales. Same-source variance, or common rater effect, is a type of

artificial covariance that occurs when the respondent of multiple scales is the same. One reason that the original measurement model was a poor fit could be because of artificially inflated correlations between variables with the same respondent that were not accounted for in the model. Harman's single-factor test was used to diagnose the extent to which same-source bias was an issue (Podsakoff, Scott, MacKenzie, Lee, & Podsakoff, 2003). Harman's single-factor test involves loading all common-method items into an exploratory factor analysis (EFA) and examining the unrotated factor solution. If one factor emerges from the factor analysis, common method variance is likely present.

Harman's single-factor test of supervisor data

Table 6 shows the total variance explained of the unrotated solution of the supervisor-rated items utilizing principal components analysis (PCA) extraction. Bartlett's test of sphericity showed that the correlation matrix is not equal to the identity matrix, $\chi^2(561)= 3281.31$, $p< .05$. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy provided further evidence that the data were factorable, surpassing the minimum cutoff score of .60 (KMO= .79). The determinant, although very small, was not equal to zero, which means that an inverse of the matrix exists (Determinant= $2.59x10^{-8}$). Bartlett's test, KMO, and the determinant provide evidence that the data were factorable. However, MSAs from the anti-image correlation matrix did not fall above the .70 cutoff, suggesting that the items are not all correlated with one another.

Table 6. Variance Explained of Supervisor-Rated Items

	Initial Eigenvalues		
Factor	Total	% of Variance	Cumulative %
1	6.13	18.03	18.03
2	5.21	15.33	33.36
3	3.41	10.02	43.38
4	1.88	5.54	48.92
5	1.61	4.74	53.65
6	1.46	4.29	57.94
7	1.25	3.68	61.62
8	1.12	3.28	64.90

To determine the number of factors that should be retained from the supervisor-rated items, a number of different approaches were used. The 5% variance explained rule showed four factors explaining more than 5% of the variance, indicating a 4-factor solution. The cumulative variance explained rule indicated a 5-factor solution, with the first 5 factors explaining a total of 53.65% of the variance. Eigenvalue greater than 1.0 (K1 rule), which can be used with PCA because it refers to total variance rather than common variance (Comrey & Lee, 1992), indicated an 8-factor solution. None of the factor-retention approaches indicated a 1-factor solution. Therefore, Harman's single-factor test was not supported for the supervisor data, providing preliminary evidence that common method variance did not cause all items to load on a single factor.

Harman's single factor test of employee data

Table 7 shows the total variance explained of the unrotated solution of the employee-rated items utilizing principal components analysis (PCA) extraction. Bartlett's test of sphericity showed that the correlation matrix is not equal to the identity matrix, $\chi^2(1830)= 7927.75$, $p< .05$. The KMO surpassed the minimum cutoff score of .60 (KMO= .81). The determinant was greater than zero, suggesting that an inverse of the matrix exists (Determinant= $5.59x10^{-20}$). Bartlett's test, KMO, and the determinant provide evidence that the data were factorable. However, similar to the supervisor-data, the MSAs from the anti-image correlation matrix did not fall above the .70 cutoff, which suggests that the items are not correlated with one another and may not be factorable.

Table 7. Variance Explained of Employee-Rated Items

	Initial Eigenvalues		
Factor	Total	% of Variance	Cumulative %
1	12.18	19.97	19.97
2	6.21	10.18	30.16
3	4.24	6.95	37.10
4	3.88	6.36	43.46
5	2.57	4.21	47.67
6	2.19	3.59	51.26
7	2.04	3.34	54.60
8	1.72	2.82	57.42
9	1.50	2.46	59.87
10	1.45	2.38	62.25
11	1.34	2.19	64.44
12	1.25	2.05	66.49
13	1.10	1.81	68.29
14	1.06	1.74	70.03
15	1.00	1.65	71.68

Again, a number of approaches were used to investigate the number of factors that should be retained. The 5% variance explained rule showed four factors explaining more than 5% of the variance, indicating a 4-factor solution. The cumulative variance explained rule indicated a 6-factor solution, with the first 6 factors explaining a total of 51.26% of the variance. Eigenvalue greater than 1.0

rule indicated a 15-factor solution. None of the factor-retention approaches indicated a 1-factor solution. Therefore, Harman's single-factor test was not supported for the employee data, suggesting that common method variance did not cause all items to load on a single factor.

While neither the single-factor test for the employee nor supervisor data resulted in single-factor solutions, this is not conclusive evidence that the measures are free from common method variance (Podsakoff et al., 2003). Although not detected using Harman's single-factor tests, common method bias may still account for misspecification of the hypothesized measurement model. Further tests of common method variance are described below.

Modeling common method variance

Utilizing Podsakoff, et al.'s (2003) method for modeling common method variance, two unmeasured latent variables were added to the measurement model. These new latent variables represented the supervisor rater effect and employee rater effect, or the artificial inflation of relationships between variables rated by the same source. All indicators continued to load on their hypothesized latent factors, but also loaded on the appropriate rater effect latent variable. As a result of the common method variance (CMV) model, item variance was partitioned into three components: the true variance, rater variance, and random error variance.

The CMV model failed the exact fit test, $\chi^2(2825)= 5057.91$. Fit indices did not indicate that the model was a good fit for the data (TLI= .72, CFI= .73, RMSEA= .06, RMSEA 90%CI= .06-.07). The CMV model was rejected.

Parceling

The next alternative model that was attempted to fit to the data was a parceled model. Parceling involves creating a total score across a set of homogenous items (Kline, 2003). Creating parcels increases the reliability of indicators because parcels tend to be more reliable than individual items. Additionally, parcels are more continuous than individual likert-scale items. In order to determine how to parcel items, one must first confirm that the items are measuring a common latent variable. CFAs were run on each scale in order to ensure they were psychometrically sound before parceling.

The CFAs for the WLC scale detailed in the advocating temporal perceptions and work-life conflict to common latent variables section above were used to create WLC parcels. All 18 of the scale's items significantly loaded onto their hypothesized subscale (time-based, strain-based, or behavior-based conflict), and the hierarchical model was the best fit for the data based on $\Delta\chi^2$ tests (Table 2). Therefore, items in each subscale were averaged to create parcels for time-based, strain-based, and behavior-based conflict.

The CFA for employee pacing style loaded all 5 indicators on a single common latent variable. The CFA failed the exact fit test and showed poor model fit, $\chi^2(5)= 113.57$, $p< .01$, TLI= .43, CFI= .72, RMSEA= .33, RMSEA 90%CI= .28-.38. All indicators showed significant loadings on the latent variable. Modification indices were then examined to attempt to improve model fit. Allowing error terms to correlate significantly improved model fit and resulted in a nonsignificant chi square of the final model, $\chi^2(2)= 4.59$, $p=.10$. Table 8 details

the modifications made to the employee pacing style. All items were retained in the final model. All five items were averaged to create an employee pacing style parcel for use in the parceling model.

Table 8. Employee Pacing Style Confirmatory Factor Analysis Modifications

Model	Modification	χ^2(df)	$\Delta\chi^2$(df) test	CFI	TLI	RMSEA (90%CI)
1	none	113.57(5)***		0.72	0.43	0.33 (.28-.38)
2	E2←→E4	47.86 (4)***	65.71(1)**	0.89	0.71	0.23 (.18-.30)
3	E4←→E5	28.18(3)***	19.68(1)**	0.93	0.78	0.21 (.14-.28)
4	E1←→E2	4.59(2)	23.54(1)**	0.99	0.97	0.08 (.00-.18)

←→= covariance path added between errors; ***p<.001; **p<.01; *p<.05; CFI= comparative fit index; TLI= Tucker-Lewis index; RMSEA= root mean square error of approximation; 90%CI= 90% confidence interval

The next CFA was for supervisor pacing style. Again, the CFA loaded all five indicators on a common latent variable. The initial model failed the exact fit test and showed poor model fit, $\chi^2(5)= 87.12$, $p< .001$, TLI= .59, CFI= .79, RMSEA= .29, RMSEA 90%CI= .23-.34. Again, all indicators had significant paths to the common latent variables and so modification indices were examined. Allowing errors for items 3 and 5 (Model 2) and errors for items 1 and 2 to correlate (Model 3) significantly improved fit and lead to a nonsignificant chi square, $\chi^2(3)= 3.91$, $p= .27$. Table 9 details modifications to the supervisor pacing

style scale. All items were retained in the final model, and as a result the items were averaged to form a parcel for supervisor pacing style.

Table 9. Supervisor Pacing Style Confirmatory Factor Analysis Modifications

Model	Modification	χ^2(df)	$\Delta\chi^2$(df) test	CFI	TLI	RMSEA (90%CI)
1	none	87.12(5)***		0.79	0.59	0.29 (.24-.34)
2	E3←→E5	23.06(4)***	64.06(1)**	0.95	0.88	0.15 (.10-.22)
3	E1←→E2	3.91(3)	19.15(1)*	0.99	0.99	0.04 (.00-.13)

←→= covariance path added between errors; ***p<.001; **p<.01; *p<.05; CFI= comparative fit index; TLI= Tucker-Lewis index; RMSEA= root mean square error of approximation; 90%CI= 90% confidence interval

CFAs on the employee and supervisor versions of the time urgency scale were also separately run where all six indicators were loaded on a common latent variable. The original employee time urgency CFA model showed poor fit and failed the exact fit test, $\chi^2(9)= 71.88$, $p< .001$, TLI= .28, CFI= .57, RMSEA= .19, RMSEA 90%CI= .15-.23. Items 2 (λ= -0.17, *S.E.*= 0.11, p= .12) and 4 (λ= 0.16, *S.E.*= 0.08, p= .06) did not have significant path loadings on the common latent variable. Model 2 removed item 2, which significantly improved model fit, $\chi^2(5)= 21.41$, $p< .001$, $\Delta\chi^2(4)= 50.47$, $p< .001$. Fit indices indicated that the modified model had poor fit (TLI= .66, CFI= .83, RMSEA= .13, RMSEA 90%CI= .08-.19). Next, item 4 was removed. The new model passed the exact fit test, $\chi^2(2)=$

2.55, p= .28, and showed significantly better fit over the previous model, $\Delta\chi^2(3)$= 18.87, p< .01. The model showed good fit based on fit statistics (TLI= .98, CFI= .99, RMSEA= .04, RMSEA 90%CI= .00-.15) and was thus retained. Items 1, 3, 5, and 6 were averaged to create a parcel for employee time urgency.

For supervisor time urgency, the initial CFA failed the exact fit test and showed poor model fit, $\chi^2(9)$= 34.96, p< .001, TLI= .64, CFI= .78. RMSEA= .12, RMSEA 90%CI= .08-.16. Items 2 (λ= -0.09, *S.E.*= 0.09, *p*= .35) and 6 (λ= 0.15, *S.E.*= 0.10, *p*= .14) did not have significant path loadings on the latent variable. First, item 2 was removed from the model. The modified model showed improved fit, $\Delta\chi^2(4)$= 23.70, *p*< .001, but still showed less than adequate fit overall and failed the exact fit test, $\chi^2(5)$= 11.26, p< .05, TLI= .88, CFI= .94, RMSEA= .08, RMSEA 90%CI= .01-.14. Next, item 6 was deleted. The modified model did not show improved fit, $\Delta\chi^2(3)$= 3.662, *p*= .30, but was retained based on the parsimony principle. The model showed adequate fit based on the CFI, but χ^2, TLI and RMSEA still suggested poor fit, $\Delta\chi^2(2)$= 7.59, *p*< .05, TLI= .83, CFI= .94, RMSEA= .118, RMSEA 90%CI= .04-.21. Because the rest of the indicators in the model showed significant loadings on the latent variable, modification indices were examined. Allowing the error variances of items 3 and 4 to correlate significantly improved model fit, $\Delta\chi^2(1)$= 5.57, *p*< .05. The final model was a good fit for the data, $\chi^2(1)$= 2.02, *p*= .16, TLI= .94, CFI= .99, RMSEA= .07, RMSEA 90%CI= .00-.22. Therefore, the model was retained. Items 1, 3, 4, and 5 were averaged to create a parcel for supervisor time urgency.

Next, CFAs were run for the employee and supervisor considerations of future consequences scales. For these CFAs, all twelve original items were loaded onto a common latent variable. The CFAs showed poor model fit for the employee, $\chi^2(54)= 248.95$, p< .001, TLI= .72, CFI= .77, RMSEA= .13, RMSEA 90%CI= .12-.15, and supervisor data, $\chi^2(54)= 244.14$, $p< .001$, TLI= .66, CFI= .73, RMSEA= .13, RMSEA 90%CI= .12-.15, respectively. A number of items for each scale showed nonsignificant path loadings on the latent variable. For the employee scale, items 2 ($\lambda= 0.11$, *S.E.*= 0.26, $p= .68$) and 8 ($\lambda= -0.35$, *S.E.*= 0.29, $p= .24$) were nonsignificant. For the supervisor scale, items 8 ($\lambda= -0.15$, *S.E.*= 0.33, $p= .65$), 2 ($\lambda= 0.16$, *S.E.*= 0.32, $p= .63$), and 6 ($\lambda= 0.41$, *S.E.*= 0.34, $p= .22$) were nonsignificant. Table 10 details the stepwise deletion of these items from their respective scales and the correlation of error variances based on modification indices in order to model improve fit.

Table 10. Supervisor and Employee Considerations of Future Consequences Confirmatory Factor Analysis Modifications

Scale and Model	Mod.	χ^2(df)	$\Delta\chi^2$(df) test	CFI	TLI	RMSEA (90%CI)
EE1	none	248.95(54)***		0.77	0.72	0.13 (.11-15)
EE2	(-) item 2	176.87(44)***	72.08(10)***	0.83	0.79	0.12 (.10-.14)
EE3	(-) item 8	133.76(35)***	43.11(9)***	0.87	0.84	0.12 (.01-.14)
EE4	E3←→E4	69.23(34)***	64.53(1)***	0.95	0.94	0.07 (.05-.10)
S1	none	244.14(54)***		0.73	0.66	0.13 (.12-.15)
S2	(-) item 8	204.24(44)***	39.89(10)***	0.76	0.70	0.14 (.12-.15)
S3	(-) item 2	166.72(35)***	37.53(9)***	0.79	0.73	0.14 (.12-.16)
S4	(-) item 6	151.37(27)***	15.35(8)	0.80	0.74	0.15 (.13-.18)
S5	E1←→E9	114.61(26)***	36.76(1)***	0.86	0.80	0.13 (.11-.16)
S6	E4←→E11	94.28(25)***	20.33(1)***	0.89	0.84	0.12 (.09-.14)
S7	E4←→E5	42.22(24)***	52.06(1)***	0.97	0.95	0.07 (.04-.10)

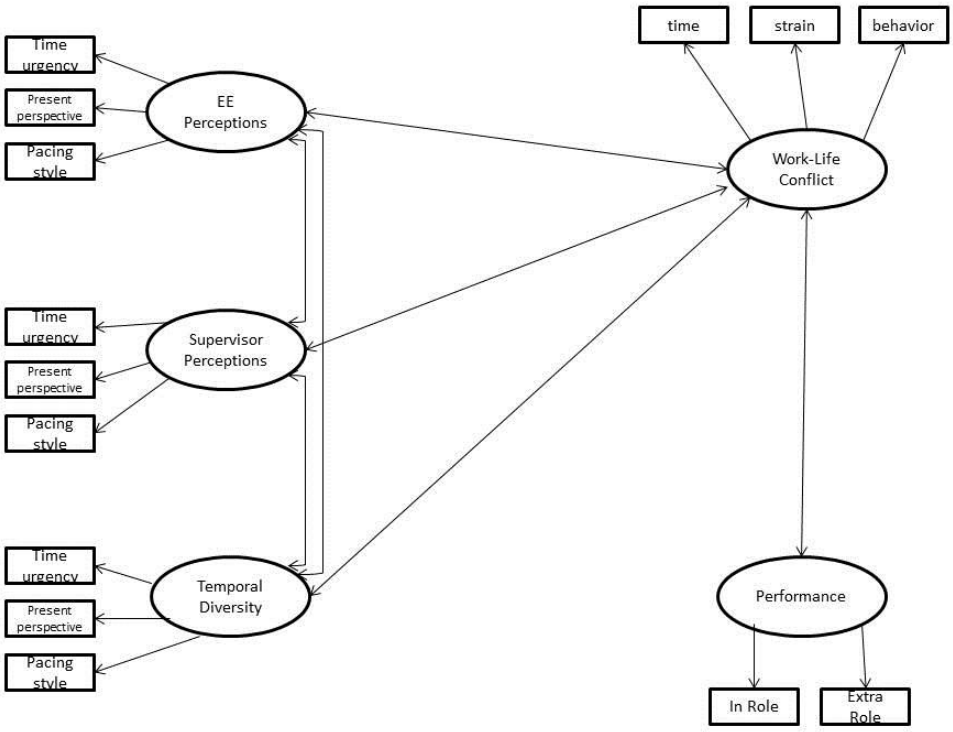
EE= employee scale; S= supervisor scale; Mod= modification; (-)= delete item; ←→= covariance path added between errors; ***p<.001; **p<.01; *p<.05; CFI= comparative fit index; TLI= Tucker-Lewis index; RMSEA= root mean square error of approximation; 90%CI= 90% confidence interval

The final models for the employee, $\chi^2(34)= 69.23$, $p< .001$, and supervisor, $\chi^2(24)= 42.22$, $p< .001$, considerations of future consequences scales both failed the exact fit test, but other fit indices indicated good fit (Table 10). As a result, these models were retained. Items 1, 3-7, and 9-12 of the employee scale were averaged to create a parcel for employee considerations of future consequences. Items 1, 3-5, 7, and 9-12 were averaged to create a parcel for supervisor considerations of future consequences.

Next, CFAs were used to create parcels for employees' in-role and extra-role job performance (as rated by the supervisor). A CFA loading the four items from the in-role performance scale onto a common latent variable showed good fit and passed the exact fit test, $\chi^2(2)= 4.37$, $p= .11$, TLI= .99, CFI= 1.00, RMSEA= .08, RMSEA 90%CI= .00-.18. All items showed significant loadings onto the common latent variable. Therefore, the model was retained and all four items were averaged to create a parcel for in-role performance. The CFA for extra-role performance loaded the seven original items on to a common latent variable. Although all items showed significant loadings on the common factor, the model failed the exact fit test and showed less than adequate fit to the data based on TLI and RMSEA indices, $\chi^2(14)= 40.89$, $p< .001$, TLI= .92, CFI= .98, RMSEA= .10, RMSEA 90%CI= .06-.13. Modification indices were examined to identify options for improving model fit. Allowing error variances of items 3 and 7 to correlate significantly improved model fit, $\Delta\chi^2(1)= 15.99$, $p< .001$. The modified model showed improved fit indices but still failed the exact fit test, $\chi^2(13)= 24.90$, $p< .001$, TLI= .96, CFI= .98, RMSEA= .07, RMSEA 90%CI= .02-.11. The final model also allowed error variances of items 3 and 4 to correlate, resulting in a nonsignificant chi square and good model fit, $\chi^2(12)= 15.79$, $p= .20$, TLI= .99, CFI= .99, RMSEA= .04, RMSEA 90%CI= .00-.09. The final model showed significant fit improvement over the previous model, $\Delta\chi^2(1)= 9.11$, $p< .05$, and was therefore retained. All seven items of the extra-role performance scale were averaged to create a parcel for extra-role performance.

All parcels created from the CFAs were centered by subtracting the scale mean and loaded into a modified measurement model (Figure 3). While the latent variables and the relationships between latent variables remain the same as within the hypothesized measurement model, in the parcel model the number of indicators of each latent factor was reduced to the number of parcels rather than individual items. Employee temporal perceptions was measured by three indicators: employee time urgency, employee consideration of future consequences, and employee pacing style. Likewise, supervisor temporal perceptions was measured by three indicators: supervisor time urgency, supervisor consideration of future consequences, and supervisor pacing style. Temporal diversity was also measured by three indicators: time urgency diversity, consideration of future consequences diversity, and pacing style diversity. WLC was measured by three indicators: time-based conflict, strain-based conflict, and behavior-based conflict. Lastly, performance was measured by two indicators: in-role and extra-role performance.

Figure 3. Parceled Measurement Model



The parceled model returned an inadmissible solution, with multiple negative error variances. This error is known as a Heywood case (Kline, 2003). As variance cannot take on a negative value, the results of this model cannot be interpreted. As a result, the parceled model was rejected.

Hypothesis Testing

Because the measurement model and alternative models were not retained, structural regression could not be used to test hypotheses. Instead, hypotheses were investigated with regression and correlation. The parcels from the scale CFAs were used as scale scores for all study variables. Because the communication CFA (Table 4) showed all items loading on a common factor, the

seven items from the communication scale were averaged to create a communication scale score. CFAs were run for workload and LMX to confirm that all items should be used in the scale scores for these variables. The results of the LMX CFA showed good fit, $\chi^2(12)= 19.64$, $p= .07$, TL= .98, CFI= .99, RMSEA= .06, RMSEA 90%CI= .00-.10. Additionally, all seven items loaded significantly on a common latent variable. Therefore, all items were averaged to create a scale score for LMX. The workload CFA model failed the exact fit test and showed poor fit overall, $\chi^2(9)= 63.95$, $p< .001$, TLI= .57, CFI= .75, RMSEA= .18, RMSEA 90%CI= .14-.22. Item 6 ($\lambda= -0.10$, *S.E.*= 0.14, $p= .48$) did not have a significant path to the latent variable and was deleted. The adjusted model showed significantly better fit than the hypothesized model, $\Delta\chi^2(4)= 12.25$, $p< .05$, but failed the exact fit test and again showed poor fit overall, $\chi^2(5)= 51.70$, $p< .001$, TLI= .55, CFI= .78, RMSEA= .22, RMSEA 90%CI= .12-.24. Allowing the error variances of items 3 and 5 to correlate significantly improved model fit, $\Delta\chi^2(1)= 23.90$, $p< .001$, although overall fit was still poor, $\chi^2(4)= 27.80$, $p< .001$, TLI= .71, CFI= .89, RMSEA= .17, RMSEA 90%CI= .12-.24. Allowing the error variances of items 1 and 2 to also correlate significantly improved model fit, $\Delta\chi^2(1)= 21.83$, p< .001. The final model passed the exact fit test and was a good fit for the data, $\chi^2(3)= 5.96$, $p= .11$, TLI= .95, CFI= .99, RMSEA= .07, RMSEA 90%CI= .00-.15. Therefore, the model was retained and items 1-5 of the workload scale were averaged to create the scale score.

Table 11 details descriptive statistics of all the adjusted scales including response scales, standard deviations, and Cronbach's alpha. Although all scales

were centered to a mean of zero for analyses, raw means are also included. Table 12 provides the correlations between study variables for the adjusted scales.

Table 11. Descriptive Statistics

Variable	Response Scale	*SD*	*M*	α
Employee Pacing Style	1-5	0.71	3.40	0.80
Supervisor Pacing Style	1-5	0.72	3.40	0.82
Workload	1-10	1.51	6.45	0.65
Employee Consideration of Future Consequences	1-5	0.65	2.57	0.85
Supervisor Consideration of Future Consequences	1-5	0.62	2.58	0.84
Employee Time Urgency	1-5	0.67	3.18	0.56
Supervisor Time Urgency	1-5	0.62	3.39	0.60
Work-Life Conflict (Total)	1-5	0.73	2.61	0.93
Leader-Member Exchange	1-5	0.75	3.83	0.88
Communication	1-5	0.61	4.02	0.86
In-Role Performance	1-5	0.62	4.22	0.90
Extra-Role Performance	1-5	0.64	3.82	0.84
Consideration of Future Consequences Diversity	N/A	0.36	0.36	N/A
Pacing Style Diversity	N/A	0.45	0.45	N/A
Time Urgency Diversity	N/A	0.38	0.38	N/A

Note. n=201; *M*= mean; *SD*= standard deviation; α= coefficient alpha; diversity scores are standard deviations and do not have a response scale or alphas.

Table 12. Scale Correlations

	W	ETP	STP	ETU	STU	ECFC	SCFC	CFCD	PSD	TUD	TD	IR	ER	SPS	LMX	Com	TC	SC	BC	WLC	EPS
W	-																				
ETP	-.24**	-																			
STP	-.00	.16*	-																		
ETU	-.20**	.90**	.09	-																	
STU	-.04	.15*	.90**	.12	-																
ECFC	-.15*	.48**	.20**	.06	.11	-															
SCFC	.07	.07	.52**	-.04	.10	.25**	-														
CFCD	-.08	-.04	-.01	-.07	-.04	0.04	.06	-													
PSD	.01	-.12	-.03	-.13	-.04	-0.01	.00	.27**	-												
TUD	-.02	-.17*	.05	-.12	.14	-.15*	-.15*	.13	.32**												
TD	-.04	-.15*	-.00	-.15*	.01	-.04	-.04	.67*	.80**	63**	-										
IR	-.10	-.02	-.08	.07	.08	.19**	-.36	.04	.10	19**	.15*	-									

	W	ETP	STP	ETU	STU	ECFC	SCFC	CFCD	PSD	TUD	TD	IR	ER	SPS	LMX	Com	TC	SC	BC	WLC	EPS
ER	.00	-.01	.07	.06	.05	-.12	.05	.07	.02	06	.07	.56**	-								
SPS	.15*	.05	.59**	-.02	.53**	-.18**	.31**	.02	-.04	01	-.01	-.03	.03	-							
LMX	-.13	-.04	.02	-.02	.08	-.05	-.12	-.03	-.12	.08	-.11	.18**	.15*	-.03	-						
Com	-.01	-.12	.01	-.05	.02	-.18*	-.01	-.05	-.04	.05	-.06	.10	.14	.00	.66**	-					
TC	.02	.36**	.11	.28**	.04	.28**	.17*	-.08	.00	.09	-.07	-.12	.00	.12	-.10	-.22**	-				
SC	.05	.37**	.07	.25**	.02	.36**	.14	.00	.01	.16	-.06	-.16*	-.06	.11	-.15*	-.23**	.74**	-			
BC	-.08	.34**	.07	.19**	.02	.41**	.14*	-.08	-.06	.08	-.10	-.09	-.02	-.01	-.09	-.22**	.61**	.62**	-		
WLC	.00	.41**	.10	.27**	.03	.39**	.17*	-.06	-.02	.12	-.09	-.14*	-.03	.08	-.13	-.25**	.89**	.90**	.85**	-	
EPS	0.13	.44**	.21**	.38**	.16*	.26**	.15*	.03	-.02	.02	-.01	-.06	.06	.29**	-.20**	-.20**	.27**	.21**	.10	.22**	-

n= 201; all scale scores are centered to a mean of 0; ***p<.001; **p<.01; *p<.05. W= workload; ETP= employee temporal perceptions; STP= supervisor temporal perceptions; ETU= employee time urgency; STU= supervisor time urgency; ECFC= employee considerations of future consequences; SCFC= supervisor considerations of future consequences; CFCD= consideration of future consequences diversity; PSD= pacing style diversity; TUD= time urgency diversity; TD= temporal diversity; IR= in-role performance; ER= extra-role performance; SPS= supervisor pacing style; LMX= leader-member exchange; Com= communication; TC= time-based work-life conflict; SC= strain-based work-life conflict; BC= behavior-based work-life conflict; WLC= work-life conflict; EPS= employee pacing style.

Employees' temporal perceptions (H1), leaders' temporal perceptions (H3), and temporal diversity (H5) were expected to predict employees' WLC. Employee workload was hypothesized to moderate the relationship between employees' temporal perceptions and WLC, such that individuals with a high perceived workload will have a stronger relationship between temporal perceptions and WLC than individuals with a low perceived workload (H2). LMX was expected to moderate the relationship between leaders' temporal perceptions and WLC, such that individuals with a low-quality LMX relationship will have a stronger relationship between leader temporal perceptions and employee WLC than individuals with a high-quality LMX relationship (H4). Communication was expected to moderate the relationship between temporal diversity and WLC, such that dyads that engage in temporal communication will have a weaker relationship between temporal diversity and WLC than those who do not (H6). Three linear regressions used to test these six hypotheses.

In the first regression, WLC was regressed on employees' temporal perceptions, workload, and the employee temporal perceptions x workload interaction. The model was significant, explaining 17.5% of the variance in WLC, $F(3, 197)= 13.89$, $p< .001$. There was a significant main effect of employees' temporal perceptions on WLC ($\beta= 0.43$, $t= 6.37$, $p< .001$), providing evidence supporting Hypothesis 1. The employee temporal perceptions x workload interaction term was not significant ($\beta= 0.03$, $t= 0.10$, $p> .05$), refuting Hypothesis 2. Additionally, workload did not predict WLC ($\beta= 0.07$, $t= 0.28$, $p> .05$).

In the second regression, WLC was regressed on supervisors' temporal perceptions, LMX, and the supervisor temporal perceptions x LMX interaction. The model was not significant, explaining only 3.6% of the variance in WLC, $F(3, 197)= 2.43$, $p> .05$. Therefore, hypotheses 3 and 4 did not receive support.

In the third regression, WLC was regressed on temporal diversity, communication, and the temporal diversity x communication interaction. The model was significant, explaining 7.7% of the variance in WLC, $F(3, 197)= 5.446$, $p< .01$. While neither temporal diversity ($\beta= -0.11$, $t= -1.52$, $p> .05$) nor the temporal diversity x communication interaction ($\beta= 0.07$, $t= 0.57$, $p> .05$) significantly predicted WLC, communication was significant ($\beta= -0.32$, $t= -2.50$, $p< .05$). Hypotheses 5 and 6 failed to receive support. Because the moderating variables were non-significant in the original regressions, no further investigation of the simple main effects was necessary, as the hypotheses did not receive support.

Correlations were used to investigate hypotheses 7a and 7b. Hypothesis 7a suggested that employees' WLC would be associated with decreases in in-role performance. Hypothesis 7b suggested that WLC would also be associated with decreases in extra-role performance. The bivariate correlation between WLC and in-role performance was significant and negative ($r = -0.14$, $p< .05$), providing support for hypothesis 7a. The correlation between WLC and extra-role performance was not significant ($r = -0.03$, $p> .05$), and thus hypothesis 7b was refuted.

Exploratory Regressions

In order to further investigate the relationship between employees' temporal perceptions and WLC, seven additional regressions were used. The first three regressions investigated the relationships between employees' temporal perceptions and the three subdimensions of WLC, time-based, strain-based, and behavior-based conflict. Table 13 provides the results of these analyses. Employees' temporal perceptions significantly predicted time-based ($\beta = 0.39$, $t = 5.61$, $p < .05$), strain-based ($\beta = 0.41$, $t = 5.94$, $p < .05$), and behavior-based WLC ($\beta = 0.34$, $t = 4.89$, $p < .05$), suggesting that as temporal perceptions increase, so does WLC. Workload and the perceptions x workload interactions were not significant predictors in any of the regression models, and were dropped from further analyses.

Table 13. Exploratory Regression Results of Work-Life Conflict Dimensions

Criterion	Predictor	R^2	F(df)	β (t)
Time-based Confllict		0.14	11.03(3, 197)***	
	Employee Temporal Perceptions			0.39 (5.61)***
	Workload			0.03 (0.01)
	Perceptions x Workload			0.11 (0.42)
Strain-based Conflict		0.16	12.26(3, 197)***	
	Employee Temporal Perceptions			0.41 (5.94)***
	Workload			0.13 (0.51)
	Perceptions x Workload			0.02 (0.07)
Behavior-based Conflict		0.12	8.51(3, 197)***	
	Employee Temporal Perceptions			0.34 (4.89)***
	Workload			0.06 (0.21)
	Perceptions x Workload			-0.05 (-0.20)

*p< .05; **p< .01; ***p< .001

The last four exploratory regressions investigated the relationships between the dimensions of WLC and the dimensions of employee temporal perceptions (time urgency, pacing style, consideration of future consequences) in order to determine what aspects of temporal perceptions were driving the relationships with WLC. Table 14 provides the results of these analyses.

Employee time urgency and consideration of future consequences significantly predicted WLC overall (β= 0.24, *t*= 3.35, *p*< .05; β= 0.37, *t*= 5.70, *p*< .05) and each of the dimensions. These results suggest that as time urgency increases, so does WLC. Because the consideration of future consequences scale was reverse scored to align with the other temporal perceptions, one can also conclude that as present-perspective increases (or future-perspective decreases), so does WLC. Pacing style was not a significant predictor in any of the regression models.

Table 14. Exploratory Regression Results of Temporal Perception Dimensions

Criterion	Predictor	R^2	F(df)	β (t)
Work-Life Conflict		0.22	18.34(3, 197)***	
	Employee Time Urgency			0.24 (3.35)**
	Employee Consideration of Future Consequences			0.37 (5.70)***
	Employee Pacing Style			0.04 (0.55)
Time-based Conflict		0.16	12.46(3, 197)***	
	Employee Time Urgency			0.22 (3.04)**
	Employee Consideration of Future Consequences			0.23 (3.45)**
	Employee Pacing Style			0.13 (1.78)
Strain-based Conflict		0.18	14.35(3, 197)***	
	Employee Time Urgency			0.21 (3.02)**
	Employee Consideration of Future Consequences			0.33 (4.95)***
	Employee Pacing Style			0.05 (0.67)
Behavior-based Conflict		0.20	16.04(3, 197)***	
	Employee Time Urgency			0.19 (2.80)**
	Employee Consideration of Future Consequences			0.42 (6.27)***
	Employee Pacing Style			-0.08 (-1.08)

*p< .05; **p< .01; ***p< .001

Alternative Explorations of Temporal Diversity

While temporal diversity was originally conceptualized herein as separation diversity (Harrison & Klein, 2007) utilizing a dispersion model (Chan, 1998), this operationalization simply provides the absolute value of the difference between employee and leader temporal perceptions. It stands to reason, however, that employees with low temporal perceptions (characterized by a future-perspective, low time urgency, and early pacing style) working under leaders with high temporal perceptions would lose more control over their work environment than employees with high temporal perceptions working under supervisors with low temporal perceptions. If the supervisor is present-focused, last-minute, and urgent in all regards while the employee prefers to plan ahead, accomplish tasks well before deadline, and doesn't see him or herself as strapped for time, the employee's job control will likely be restricted if the employee assigns work or changes course last minute. Therefore, while employee high/supervisor low and employee low/supervisor high parings both constitute diversity of the dyad, they likely lead to different outcomes in terms of employees' WLC. Three additional exploratory techniques were used to attempt to account for the directionality of the difference – polynomial regression, categorization of diversity types, and adjusted standard deviation.

Edwards' (2007) polynomial regression technique for operationalizing diversity allows the researcher to simultaneously investigate the joint effects of multi-rater responses while circumventing the problems with difference scores.

Namely, difference scores are less reliable than the scores from which they are derived and are inherently unstable (Edwards & Parry, 1993). Born from the person-environment fit literature, this technique is often used in the performance appraisal literature of 360-feedback and over- compared to under-raters of one's own performance compared to others (supervisor, peers, subordinates, or other key stakeholders). Edwards' (2007) polynomial regression technique involves a two-step hierarchical regression in which the first step includes employee and supervisor ratings. The second step includes the squared value of employee ratings, squared value of supervisor ratings, and product of employee and supervisor ratings. If the parameter estimates for the employee and supervisor ratings become nonsignificant when adding the second step of the regression and the coefficients for the three transformed scores in the second step are significant, one can conclude that the relationship between raters and the outcome is nonlinear. Response surface methodology can then be used to investigate the nature of the curvilinear relationships.

Edwards' (2007) two-step polynomial regression technique was used to investigate the effects of employee-supervisor diversity on employees' WLC. WLC was regressed upon employee temporal perceptions and supervisor temporal perceptions in the first step. In the second step, employee temporal perceptions^2, supervisor temporal perceptions^2, and employee x supervisor perceptions were added to the model. The models in step 1, $F(2, 198)= 19.75$, $p< .05$, $R^2= 0.17$, and step 2, $F(5, 195)= 7.98$, $p< .05$, $R^2= 0.17$, were both significant. Table 15 provides the coefficients for the two-step model. Because the model did

not satisfy Edwards' conditions for curvilinear relationships, the model was not investigated any further.

Table 15. Polynomial Regression Coefficients

Model	Coefficient	β	*t*
1	Employee Perceptions	0.40**	6.10
	Supervisor Perceptions	0.03	0.52
2	Employee Perceptions	0.17	0.41
	Supervisor Perceptions	0.07	0.16
	Employee Perceptions^2	0.01	0.04
	Supervisor Perceptions^2	-0.25	-0.67
	Employee x Supervisor Perceptions	0.34	0.70

**p< .01

For the next exploratory analysis, dyads were categorized into four groups based on the level and direction of diversity – no diversity (employees and leaders matched on high temporal perceptions; n= 63); no diversity (employees and leaders matched on low temporal perceptions; n= 53); employees with higher temporal perceptions than their supervisors (faster or more present-focused employees; n= 42); and employees with lower temporal perceptions than their supervisors (slower or more future-focused employees; n= 43). Employees and leaders were categorized as hurried or relaxed on temporal perceptions using median split, with individuals above the median categorized as "hurried" and individuals below the median categorized as "relaxed". The hurried categorization refers to individuals whose temporal perceptions composite score was higher than

the median, whereas relaxed refers to individuals whose temporal perceptions composite score was lower than the median. Conceptually, hurried indicates some combination of deadline pacing style, high time urgency, and present focus. The use of a composite score does not allow for individual investigations of each of the subdimensions of temporal perceptions and as a result, a high score on one or more subscales could drive a high overall score and hurried classification. Alternatively, relaxed conceptually indicates some combination of a early action pacing style, low time urgency, and future focus. ANOVA was used to determine if diversity categorization predicted employee WLC. The model was significant, $F(3, 197)= 21.27$, $p< .05$, and Tukey's honestly significant difference (HSD) post-hoc test was used to determine which of the groups differed on WLC. Table 16 provides the comparisons between groups. Results suggest that employees with more relaxed temporal perceptions than their supervisors have significantly higher WLC than employees in the matched hurried temporal perceptions group and employees who have more hurried temporal perceptions than their supervisors. Employees with more hurried temporal perceptions than their supervisors reported significantly higher WLC than employees matched with their supervisors on relaxed temporal perceptions. Lastly, the two groups that showed no diversity differed significantly in that employees who they themselves and also their supervisors had relaxed temporal perceptions reported significantly less WLC than employees who they themselves and also their supervisors had hurried temporal perceptions.

Table 16. Temporal Diversity ANOVA Tukey's Post-Hoc Comparisons

Temporal Diversity Categorization	Comparison Group	Mean Difference	Standard Error
Employee more relaxed than supervisor	Employee more hurried than supervisor	-0.76*	0.14
	Matched relaxed	-0.30	0.13
	Matched hurried	-0.90*	0.13
Employee more hurried than supervisor	Matched relaxed	0.46*	0.13
	Matched hurried	-0.14	0.13
Matched relaxed	Matched hurried	-0.60*	0.12

*$p < .05$

CHAPTER IV

Discussion

Using a DCT framework, this study investigated how employees' and leaders' temporal perceptions relate to employees' WLC and performance. Regression analyses provided evidence that employees' temporal perceptions do indeed correlate with WLC. In terms of DCT, temporal perceptions are conceptualized as demands and WLC as an indicator of well being. Results suggest that an employee's temporal perceptions can impose workload demands on the employee as he or she progresses towards task completion, increasing the likelihood of experiencing WLC.

Further exploratory analyses indicated that time urgency and present vs. future time perspective are particularly important aspects of temporal perceptions in terms of predicting WLC. As employees' time urgency increases, employees are more likely to experience WLC. This relationship holds true for the three dimensions of WLC: time-based, strain-based, and behavior-based conflict. These results align with previous literature investigating time urgency, as well as link the concept with WLC. Because time urgent individuals are more likely to experience stress than individuals who are not time urgent (Hennessey et al., 2007), these individuals may also be prone to spillover of strain from one role domain to another, increasing their strain-based WLC. Additionally, time urgent individuals feel as though they are perpetually pressed for time (Glass et al., 1974), and as a result they may feel that they do not have enough time to fulfill the responsibilities of all their roles, resulting in time-based conflict. Lastly, time

urgent individuals may find the behavior change associated with transitioning between home and work roles difficult, as they typically experience stress when progress is slowed by external factors such as transitions (Glass et al., 1974). Difficulty transitioning between roles may explain the relationship between behavior-based conflict and time urgency.

Similarly to employee time urgency, as employees' present time perspective increases so does their WLC. Present perspective individuals often engage in more risk-taking behaviors than future perspective individuals (e.g., Keough et al., 1999; Rothspan & Read, 1996; Zimbardo et al., 1997) and are more likely than future perspective individuals to disregard the outcome of taking those risks (de Volder & Lens, 1982). Individuals with a present time perspective may fail to anticipate task challenges and take more risk in their task progress than future focused individuals. These risk behaviors may impede present focused employees' task completion and result in the misallocation of temporal resources, increasing the likelihood of time-based conflict. Although previous research on present time perspective does not provide a clear link from which to interpret the significant relationships with both strain-based and behavior-based conflict, it stands to reason that time-based conflict may lead to strain and behavior-based conflicts. Indeed, Greenhaus and Beutell's (1985) review of the three dimensions of WLC suggests that time-based conflict can lead to strain, in that time-based conflict can manifest as a preoccupation with one role while attempting to meet the responsibilities of the other role. The preoccupation can create stress for the individual, and if that stress inhibits the individual from fulfilling one or more

roles, strain-based conflict can occur. Further research is needed to investigate the mechanism through which present time perspective is related to strain-based and time-based WLC. One potential avenue not included in this study is whether time-based conflict can lead to strain and behavior-based conflict.

Unlike employee time urgency and present perspective, employee pacing style did not vary with WLC or any of its dimensions. One potential explanation of the lack of a relationship could be that individuals self-select into jobs or organizations that match their natural pacing style. As a result, pacing style would not increase employee demands because the pace of the work matches the employee's preferred pace. Alternatively, it may be that the dyads sampled have modified or adjusted their pacing styles as they learn about each other and work together. For example, McGrath's (1991) concept of entrainment may explain the lack of an effect of pacing style on WLC in that the leader and employee make explicit their mutual expectations of work in relation to time. In terms of DCT, entrained dyads would likely not result in increased job demands for the employee because he or she would have an accurate understanding of how his or her leader approaches the work in relation to time and will have formed appropriate expectations for the assignment and execution of work in relation to the leader. Therefore, level of entrainment may serve as an important moderator of the pacing style-WLC relationship and is an area of interest for future research.

Continuing to speculate on the lack of a relationship between pacing style and WLC, previous research would suggest that pacing style affects the likelihood that individuals are able to meet deadlines (Gevers et al., 2006), it may be that

individuals with a deadline oriented pacing style utilize other mechanisms for dealing with setbacks toward task completion and do not need to "borrow" from resources fulfilling the responsibilities of other roles. Barnes et al. (2012) suggest that when employees were unable to meet the demands of their home or work roles, rather than borrowing time and resources from other roles, they spent less time sleeping. Barnes et al. found that the negative effects of work and family on sleep were especially strong when work and family demands were high. Although not studied herein, it may be that pacing style predicts sleep time when the demands of home and work are high, such that individuals with a deadline oriented pacing style who experience setbacks toward task completion will compensate for those setbacks by sleeping less, but not by shirking the responsibilities of their other roles.

Unlike employees' temporal perceptions, leaders' temporal perceptions were not found to predict employees' WLC. In terms of DCT, it could be that while increased demands do reduce well being, leader temporal perceptions do not impose workload demands on employees and thus do not correlate with WLC. Alternatively, it could be that leader perceptions do impose demands on employees, but DCT is restricted to internal demands, and externally imposed demands do not have the same relationship with well being. There is some support in the literature for this explanation. Waldenstrom and Harenstam's (2008) tested DCT relationships using externally identified demands (rated by experts rather than the individuals who felt the demands) compared to internally identified (self-report) demands. They found nonsignificant relationships for

externally rated demands with self-reported health outcomes but significant relationships when both demands and health outcomes were self-rated. Although not tested in their study, it may be that only demands that are perceived to be demanding by the focal individual align with DCT's tenants.

Another possibility is that leader temporal perceptions do impose workload demands on employees, but the employees in the current study's sample did not feel the negative effects of these demands because they developed appropriate coping mechanisms for dealing with the demands. This possibility aligns with Van Yperen and Hagedoorn's (2003) research, which suggest that even under demanding circumstances, employees experience reduced job strain when they receive social support. Alternatively, it may be that leader temporal perceptions do impose workload demands on employees, but so do coworker temporal perceptions, which were not included in the current study. Future research can investigate these competing hypotheses by directly measuring how demanding employees find their leaders' temporal perceptions, rather than assuming that leaders' temporal perceptions impose demands on employees.

Like leader temporal perceptions, temporal diversity did not relate to employee WLC in the regression analyses. However, the results of an exploratory ANOVA showed that employee-leader dyads with different levels of temporal diversity vary on employee WLC. Employees with more relaxed temporal perceptions than their supervisors reported having significantly higher WLC than employees who had more hurried temporal perceptions than their supervisors. Employees with more relaxed temporal perceptions than their supervisors also

reported significantly higher WLC than employees in a dyad with no diversity but both members hold hurried perceptions. This finding aligns with DCT in that conflict would likely arise more when the supervisor is time urgent, deadline pacing, and future-focused but the employee is not time urgent, early pacing, and future focused. This is the situation with the least sense of employee control.

Additionally, the exploratory ANOVA also revealed that employees with more hurried temporal perceptions than their supervisors reported significantly higher WLC than employees matched with their supervisors on relaxed temporal perceptions. Lastly, the two groups characterized as having no diversity differed significantly in that employees who they and also their supervisors had relaxed temporal perceptions reported significantly less WLC than employees with no diversity but both members were matched on hurried temporal perceptions. These results suggest that employees who are matched with their leader on temporal perceptions experience less WLC than employees who maintain temporal diversity with their leaders. Future research should investigate if and when temporal diversity limits the control employees have in performing their work roles.

The last relationships investigated in the current study were between employees' WLC and two aspects of performance, in-role and extra-role performance. WLC related significantly to in-role performance, in that as employees' WLC increases, leaders' ratings of the employees' in-role performance decrease. No relationship was found between employees' WLC and leaders' ratings of employee extra-role performance, however. While previous

research such as that by Bragger et al. (2005) and Moore and Love (2005) suggests that WLC and extra-role performance are inversely linked, these studies relied on self-report measures of performance and conflict whereas the current study utilized self-report ratings of conflict and supervisor ratings of extra-role performance. Allen, Barnard, Rush and Russell's (2000) comparison of self and supervisor ratings of extra-role performance found no significant differences between responses provided by these two rater groups. Nonetheless, there are several possible explanations for why the current results differ from previous research on conflict and extra-role behavior. Firstly, it may be that common method variance is driving the significant relationships in previous research. For example, employees' implicit theories of the covariance between their own WLC and extra-role performance may inflate the relationship.

Alternatively, differences in how employees and leaders define and perceive extra-role behavior may explain why extra-role behavior was not related to WLC in this study. Kamdar, McAllister, and Turban (2006) found that individually held beliefs about the extent to which extra-role behaviors are part of the job impact the likelihood that the employee performs such behaviors. Because supervisors typically engage in some form of performance management of their employees, they may have a different understanding of what it means to go above and beyond the role than do employees who may or may not manage their own performance. Therefore, while supervisors may see certain behaviors as outside of the employee's role the employee may see the same behaviors as part of the role, or vise versa. These perceptual differences may explain why the WLC and extra-

role performance relationship did not hold true when supervisors provided the extra-role performance ratings.

A third possible explanation for the lack of a relationship concerns the difference in the employee's and supervisor's awareness of the employee's behavior, in that employees may be performing extra-role behaviors of which the supervisor is unaware. For example, extra-role behaviors that are targeted at coworkers or other stakeholders may or may not be observed by the supervisor. How and why the relationship between WLC and extra-role behavior changes based on who provides ratings of each construct is another area for future research.

Implications for Theory and Practice

This study tested predictions based on DCT, which suggests that psychological strain results from the joint effects of the demands of a work situation and the level of job control (Karasek, 1979). DCT proposes that job demands (such as workload, role conflict, and time pressure) coupled with low control on the job leads to high strain because the arousal of demands cannot be reconciled by the employee's actions. The present study is the first to conceptualize employee and leader temporal perceptions as job demands under the DCT framework, as well as diversity of those perceptions as a mechanism through which control is limited. As such, both the supported and the unsupported results of the predictions of this study have implications for DCT.

The current study provides preliminary evidence in support of DCT as a useful framework for understanding WLC, suggesting that an employee's

temporal perceptions can impose workload demands on the employee as he or she progresses towards task completion and these demands are associated with WLC. However, this study did not measure demands directly. It is possible that temporal perceptions do not operate as demands within the DCT framework, but as antecedents to demands that remained unmeasured herein. Further investigation is required to understand the mechanisms that connect employee temporal perceptions and WLC.

This study also suggests preliminary boundary conditions to which DCT does not apply. Unlike employees' temporal perceptions, leaders' temporal perceptions were not found to predict employees' WLC. Several explanations for this outcome are suggested by DCT, and as a result future research is needed in this area. Firstly, it may be that leaders' temporal perceptions do not act as demands upon the employee. In which case, DCT would not be an appropriate framework to investigate these relationships. If leader perceptions can be considered demands on the employee, the lack of a relationship between leader perceptions and WLC would still align with DCT if the employees in the current sample effectively utilized coping techniques, social support, or other buffers that attenuated the relationship. Alternatively, it could be that leader perceptions do act as demands on employees, but DCT is restricted to internal demands, and externally imposed demands do not hold the same relationships. This alternative explanation may indicate boundaries outside of which DCT does not apply that should be investigated further.

In terms of control, no relationship was detected between temporal diversity, which was hypothesized to limit control, and WLC. Echoing the potential explanations described above, it could be that temporal diversity does not limit control, or that temporal diversity does limit control but that employees in the current sample are somehow buffered against the negative consequences of limited control. Future research should investigate if and when temporal diversity limits the control employees have in performing their work roles. Once known, more direct tests of DCT can be performed.

In addition to implications for theory, the current study also makes contributions to practice. Firstly, this study identifies two individual difference variables that have implications for experiencing WLC – time urgency and present time perspective. Future research should investigate how employees can use this information to mitigate the experience of WLC. Perhaps training employees on different temporal perception techniques will help reduce WLC, such that individuals struggling to balance the responsibilities of multiple roles may benefit from learning to approach their work from a less time urgent perspective and/or a more future-focused perspective. For example, because future time perspective is inversely related to WLC, learning how to approach tasks more cautiously and with less risk may help employees to remain future focused. However, one cannot conclude from the results of this study that time urgency or present time perspective contribute to WLC. Therefore, further investigation is needed before determining if such training is a valid technique for reducing employee WLC.

Assuming that leader temporal perceptions and temporal diversity do not relate to WLC in the population and that these results are not simply a type II error, there are implications for practice as well. Leaders' temporal perceptions and the diversity between employees' and leaders' perceptions are variables largely outside of the employees' control. If these constructs did vary with employee WLC, there would be little if anything that the employee could do to mitigate their negative effects. Additionally, the lack of these hypothesized relationships implies that matching employees and supervisors on their temporal perceptions will not be a suitable safeguard against WLC. Although not significant in the current study, additional potential moderators of leader temporal perceptions and temporal diversity with WLC should be investigated to determine if there are circumstances in which the hypothesized relationships are supported. For example, it may be that leader temporal perceptions and temporal diversity are only inversely related to employee WLC when the leader engages in a high degree of micromanagement. Such circumstances may exacerbate employee-leader differences in temporal perceptions or force the employee to approach work the leader's way, leading to time-based, strain-based, and behavior-based conflict.

Limitations

A number of methodological and statistical limitations should be considered when interpreting the findings from this study. In terms of methodological limitations, based on the research design this study is susceptible to problems associated with correlational design, cross-sectional data, common-

method bias, and convenience sampling. Firstly, although a number of significant relationships were identified between study variables, no causal inferences can be drawn from these results. Individual difference variables such as temporal perceptions are typically considered to be preexisting and not susceptible to manipulation by the researcher. As a result, research investigating the effects of temporal perceptions on WLC and other outcomes is limited to correlational or quasi-experimental designs. However, while temporal perceptions are trait-like constructs, WLC is a state-dependent construct. Conceptually, it follows that it is more plausible that temporal perceptions affect WLC than that WLC affects temporal perceptions. However, correlational designs fail to eliminate potential third variables that could explain the relationship between the hypothesized constructs. While not enough evidence to make causal inferences, separating the measurement of the independent and dependent variables in time can provide some information on the temporal ordering of phenomena. While the current study did utilize multiple sources, supervisor and employee responses were collected cross-sectionally. Future longitudinal research is needed to further understand the relationships between temporal perceptions and WLC, as well as WLC and performance.

Common method bias is another methodological limitation of the current study. All study variables were collected via survey, and the common method may artificially inflate the relationships among study variables. However, the nonsignificant to modest relationships among many variables suggest that common method bias is not a major concern. Additionally, unrelated variables

measured with responses from the same source were not correlated, such as supervisor temporal perceptions and employee in-role behavior. This suggests that while a common method was used to measure all study variables, the method is not likely to have artificially inflated the relationships. Nonetheless, future research in this area should utilize other methods of collecting data and different sources in order to test the generalizability of these findings.

The last methodological limitation to note concerns convenience sampling of study participants. While collecting data from individuals employed in a number of industries and organizations is a strength, generalizability of results are compromised because the potential participant pool was limited to individuals to whom the research team had access. Additionally, the online snowballing group reported significantly less WLC than either the in-person or Sona Systems samples, suggesting that replication is needed to confirm the relationships found herein between WLC and other study variables. If these samples differ, the results are less likely to generalize to other settings and populations than if the samples were statistically similar. Replication of this study with other samples is needed to understand the external validity of the results. Future research should utilize a more random sampling technique in order to decrease the likelihood that study participants differ systematically from the population of interest.

In terms of statistical analyses, additional limitations include parameter estimates that do not account for other variables, model misspecification, and low coefficient alpha reliabilities of the workload and time urgency scales. Firstly, the hypothesized measurement model and alternative models tested were rejected

based on poor model fit. As a result, the structural model was not able to be tested using structural regression. This is because if the fit of the measurement model with correlational paths between variables is poor, the fit of the structural model including more specific directional paths is likely to be worse. While structural regression takes into account the other variables in the model when determining parameter estimates, correlation and linear regression do not. The consequence is that the parameter estimates of hypothesized relationships detailed in this study may be biased.

Another statistical limitation is that the hypothesized measurement model was misspecified, meaning that it did not contain the true model that generated the data. While all models are wrong to some degree and good fit only implies the plausibility of a model (Kline, 2003), reasonable adjustments did not improve fit enough to retain the model. This indicates serious implausibility of the hypothesized model. The results of hypothesis testing provided further evidence for model misspecification in that a number of hypothesized paths were nonsignificant. The variables associated with the nonsignificant paths are therefore irrelevant to the model. Including irrelevant variables inflates parameter standard errors, which in turn impacts the significance tests of the parameters. Additionally, standard errors may not be accurate when sample size is not large. While an appropriate sample size for SEM, it is possible that the sample may have further contributed to inaccurate standard errors. Although the model was ultimately rejected, rejecting the model is preferred over overparameterization. Overparameterized models obtain good fit at the sacrifice of parsimony, adding

parameters to be estimated until the model itself becomes meaningless. Overparameterizing or altering a hypothesized model to the point that modifications do not make theoretical sense are techniques that may improve model fit but also capitalize on the chance occurrence of type I error. For example, models that allow a substantial portion of the error variances to correlate are unlikely to replicate in cross-validation analyses or future research.

Finally, workload and time urgency showed poor internal consistency. Because a measure's reliability is the upper limit for validity, poor measurement of workload may account for the lack of an interaction with employee temporal perceptions in predicting WLC. Also, reliable measures are an important aspect of interpreting results because results of unreliable measures may vary widely, increasing the likelihood of chance occurrences manifesting as significant relationships. Future research should investigate alternative measurement methods for workload and time urgency and determine if these results replicate.

Conclusion

WLC occurs when employees are unable to meet competing demands of their home and work roles (Kossek & Lee, 2008). Previous research links WLC with important individual and organizational outcomes, such as marital satisfaction (Armstad et al., 2011), retention (Kossek & Lee, 2008), and performance (Armstad et al., 2011). While many situational antecedents of WLC have been identified, investigating the individual difference variables that relate to WLC is paramount to gaining a full understanding of the phenomenon. Results linked WLC to individual difference variables (temporal perceptions), but failed

to find evidence of relationships between WLC and the situational variables of interest (leader perceptions and temporal diversity).

Using DCT, the purpose of this study was to understand the relationship between employee and leader temporal perceptions and WLC by operationalizing these perceptions as workplace demands and constraints that limit control. The current study determined that employees' temporal perceptions significantly predict their WLC. More specifically, the individual difference variables of time urgency and present time perspective were both inversely related to WLC and its three dimensions (time-based, strain-based, and behavior-based conflict).

The situational variables investigated, leader temporal perceptions and temporal diversity, were not associated with employee WLC. Additionally, hypothesized moderations of the relationships, LMX quality, communication between the leader and employee, and workload, were also unsupported.

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Appendix A

Employee Informed Consent Form

INFORMATION SHEET FOR PARTICIPATION IN RESEARCH STUDY

Employee and Supervisor Perceptions of the Workplace

Principal Investigator: Eileen Linnabery, Graduate Student

Institution: DePaul University, USA

Faculty Advisor: Dr. Alice Stuhlmacher, PhD Psychology Department

We are conducting a research study because we are trying to learn more about how employees and their supervisors work together. We are asking you to be in the research because you are employed full-time and are over 18 years of age. If you agree to be in this study, you will be asked to complete a survey regarding your workplace behaviors and attitudes and forward a link to your supervisor to also complete a survey. The survey will include questions about how you structure your time at work, how you work together with your supervisor, and how your work interrelates with your home life. We will also collect some personal information about you such as age, gender, and work tenure. The study will be completed online, and although your data will be linked with that of your supervisor, he or she will not have access to your answers. All data collected will be anonymous.

This study will take about 20 minutes of your time. Your information will be anonymous.

Your participation is voluntary, which means you can choose not to participate. There will be no negative consequences if you decide not to participate or change your mind later after you begin the study. You can withdraw your participation at any time prior to submitting your survey. If you change your mind later while answering the survey, you may simply exit the survey. Once you submit your responses, we will be unable to remove your data later from the study because all data is anonymous and we will not know which data belongs to you. Your decision whether or not to be in the research will not affect your status or employment] at your job.

In exchange for your participation in this study, you will be entered into a drawing to win $100 gift certificate. After you have completed the survey, you will be taken to a separate page where can provide your email address to enter the drawing. Your email address will not be directly linked to your survey responses.

You must be age 18 or older to be in this study. This study is not approved for the enrollment of people under the age of 18.

If you have questions, concerns, or complaints about this study or you want to get additional information or provide input about this research, please contact Eileen Linnabery at elinnabe@depaul.edu or Dr. Alice Stuhlmacher at astuhlma@depaul.edu.

If you have questions about your rights as a research subject you may contact Susan Loess-Perez, DePaul University's Director of Research Compliance, Office of Research Protections in the Office of Research Services at 312-362-7593 or by email at sloesspe@depaul.edu. You may also contact DePaul's Office of Research Protections if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.

You may print this information for your records.

By proceeding with this survey (clicking the "Next" button below), you agree to provide your consent to participate.

Appendix B

Supervisor Informed Consent Form

INFORMATION SHEET FOR PARTICIPATION IN RESEARCH STUDY

Employee and Supervisor Perceptions of the Workplace

Principal Investigator: Eileen Linnabery, Graduate Student

Institution: DePaul University, USA

Faculty Advisor: Dr. Alice Stuhlmacher, PhD Psychology Department

We are conducting a research study because we are trying to learn more about how employees and their supervisors work together. We are asking you to be in the research because your subordinate participated in part 1 of this study. If you agree to be in this study, you will be asked to complete a survey regarding your workplace behaviors and attitudes. The survey will include questions about how you structure your time at work, how you work together with your employee. We will also collect some personal information about you such as age, gender, and work tenure. The study will be completed online, and although your data will be linked with that of your employee, he or she will not have access to your answers. Likewise, you will not have access to the answers provided by your employee. All data collected will be anonymous.

This study will take about 20 minutes of your time. Your information will be anonymous.

Your participation is voluntary, which means you can choose not to participate. There will be no negative consequences if you decide not to participate or change your mind later after you begin the study. You can withdraw your participation at any time prior to submitting your survey. If you change your mind later while answering the survey, you may simply exit the survey. Once you submit your responses, we will be unable to remove your data later from the study because all data is anonymous and we will not know which data belongs to you. Your decision whether or not to be in the research will not affect your status or employment at your job.

In exchange for your participation in this study, you will be entered into a drawing to win $100 gift certificate. After you have completed the survey, you will be taken to a separate page where can provide your email address to enter the drawing. Your email address will not be directly linked to your survey responses.

You must be age 18 or older to be in this study. This study is not approved for the enrollment of people under the age of 18.

If you have questions, concerns, or complaints about this study or you want to get additional information or provide input about this research, please contact Eileen

Linnabery at elinnabe@depaul.edu or Dr. Alice Stuhlmacher at astuhlma@depaul.edu.

If you have questions about your rights as a research subject you may contact Susan Loess-Perez, DePaul University's Director of Research Compliance, Office of Research Protections in the Office of Research Services at 312-362-7593 or by email at sloesspe@depaul.edu. You may also contact DePaul's Office of Research Protections if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.

You may print this information for your records.

By proceeding with this survey (clicking the "Next" button below), you agree to provide your consent to participate.

Appendix C

Demographics

Demographic Questions

1. Gender
__ Male __ Female

2. What is your current relationship status?
__ Not currently in an intimate relationship
__ Married, live with spouse
__ Cohabitation, live with partner
__ In a relationship, separate residences

3. Race/Ethnicity:
__ Caucasian/White __ Black or African American
__ Asian/Pacific Islander __ American Indian or Alaska native
__ Hispanic, Latino, or Spanish origin

4. What year were you born?
YEAR: _____

5. How many children or dependents live with you, at least part time? (Please enter a number) _____

6. What is your current employment status?
__ Full time __ Part time
__ Retired __ Not currently employed

7. If you are married or cohabitating, what is your partner's current employment status?
__ Full time __ Part time
__ Retired __ Not currently employed

8. Current job level:
__ Support staff __ Veterinary technician
__ Veterinarian __ Hospital or clinic manager of veterinary services
__ Not applicable

9. On average, how many hours per week do you work? ___ hours
10. On average, how many hours per week do you spend completing household tasks and chores? ___ hours

10. How often have you seriously considered quitting your job in the past 6 months?
__ Never __ Seldom __ Sometimes
__ Frequently __ Regularly __ Extremely Often

Appendix D

Time Urgency Scale

Indicate your level of agreement with the following statements on a scale from 1 (strongly disagree) to 5 (strongly agree).

1= Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

1. I find myself hurrying to get places even when there is plenty of time.

2. I often work slowly and leisurely. (R)

3. People that know me well agree that I tend to do most things in a hurry.

4. I tend to be quick and energetic at work.

5. I often feel very pressed for time.

6. My spouse or a close friend would definitely rate me as relaxed and easy going. (R)

Appendix E

Pacing Style

Indicate your level of agreement with the following statements on a scale from 1 (strongly disagree) to 5 (strongly agree).

1= Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

At my job, I usually talk about my actions and activities as being…

1. Rapid
2. Hurried
3. Fast-paced
4. Racing
5. Quick

Appendix F

Consideration of Future Consequences Scale

Indicate your level of agreement with the following statements on a scale from 1 (strongly disagree) to 5 (strongly agree).

1= Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

1. I consider how things might be in the future, and try to influence those things with my day to day behavior.

2. Often I engage in a particular behavior in order to achieve outcomes that may not result for many years.

3. I only act to satisfy immediate concerns, figuring the future will take care of itself. (R)

4. My behavior is only influenced by the immediate (i.e., a matter of days or weeks) outcomes of my actions. (R)

5. My convenience is a big factor in the decisions I make or the actions I take. (R)

6. I am willing to sacrifice my immediate happiness or well-being in order to achieve future outcomes.

7. I think it is important to take warnings about negative outcomes seriously even if the negative outcome will not occur for many years.

8. I think it is more important to perform a behavior with important distant consequences than a behavior with less-important immediate consequences.

9. I generally ignore warnings about possible future problems because I think the problems will be resolved before they reach crisis level. (R)

10. I think that sacrificing now is usually unnecessary since future outcomes can be dealt with at a later time. (R)

11. I only act to satisfy immediate concerns, figuring that I will take care of future problems that may occur at a later date. (R)

12. Since my day to day work has specific outcomes, it is more important to me than behavior that has distant outcomes. (R)

Appendix G

Work-Life Conflict

Indicate your level of agreement with the following statements on a scale from 1 (strongly disagree) to 5 (strongly agree).

1= Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

Time-based work interference with family

1. My work keeps me from my family activities more than I would like.

2. The time I must devote to my job keeps me from participating equally in household responsibilities and activities.

3. I have to miss family activities due to the amount of time I must spend on work responsibilities.

Time-based family interference with work

4. The time I spend on family responsibilities often interfere with my work responsibilities.

5. The time I spend with my family often causes me not to spend time in activities at work that could be helpful to my career.

6. I have to miss work activities due to the amount of time I must spend on family responsibilities.

Strain-based work interference with family

7. When I get home from work I am often too frazzled to participate in family activities/responsibilities.

8. I am often so emotionally drained when I get home from work that it prevents me from contributing to my family.

9. Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy.

Strain-based family interference with work

10. Due to stress at home, I am often preoccupied with family matters at work.

11. Because I am often stressed from family responsibilities, I have a hard time concentrating on my work.

12. Tension and anxiety from my family life often weakens my ability to do my job.

Behavior-based work interference with family

13. The problem-solving behaviors I use in my job are not effective in resolving problems at home.

14. Behavior that is effective and necessary for me at work would be counterproductive at home.

15. The behaviors I perform that make me effective at work do not help me to be a better parent and spouse.

Behavior-based family interference with work

16. The behaviors that work for me at home do not seem to be effective at work.

17. Behavior that is effective and necessary for me at home would be counterproductive at work.

18. The problem-solving behavior that work for me at home does not seem to be as useful at work.

Appendix H

LMX-7

Answer the following questions about your direct supervisor using a scale of 1-5.

1. Do you usually know how satisfied your manager is with what you do?

1	2	3	4	5
Rarely	Occasionally	Sometimes	Fairly often	Very often

2. How well does your manager understand your job problems and needs?

1	2	3	4	5
Not a bit	A little	A fair amount	Quite a bit	A great deal

3. How well does your manager recognize your potential?

1	2	3	4	5
Not at all	A little	Moderately	Mostly	Fully

4. Regardless of how much formal authority your manager has built into his or her position, what are the chances that your manager would use his or her power to help you sove problems in your work?

1	2	3	4	5
None	Small	Moderate	High	Very High

5. Again, regardless of the amount of formal authority your manager has, what are the chances that he or she would “bail you out” at his or her expense?

1	2	3	4	5
None	Small	Moderate	High	Very High

6. I have enough confidence in my manager that I would defend and justify his or her decision if he or she were not present to do so.

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

7. How would you characterize your working relationship with your manager?

1	2	3	4	5
Extremely Ineffective	Worse than average	Average	Better than average	Extremely effective

Appendix I

NASA-TLX

Think of your current workload at your job. Rate your current workload on the following scale, by placing an “X” on the appropriate line indicating your response.

Mental Demand I____I____I____I____I____I____I____I____I____I____I____I

LOW HIGH

Physical Demand I____I____I____I____I____I____I____I____I____I____I____I

LOW HIGH

Time Demand I____I____I____I____I____I____I____I____I____I____I____I

LOW HIGH

Performance I____I____I____I____I____I____I____I____I____I____I____I

GOOD POOR

Effort I____I____I____I____I____I____I____I____I____I____I____I

LOW HIGH

Frustration Level I____I____I____I____I____I____I____I____I____I____I____I

LOW HIGH

Appendix J

Communication

Indicate your level of agreement with the following statements on a scale from 1 (strongly disagree) to 5 (strongly agree).

1= Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

1. I receive information about my job from my immediate supervisor.
2. My supervisor provides me information about any changes that might affect my job in a timely manner.
3. I am satisfied with the frequency of communications I have with my immediate supervisor.
4. The communications I receive from my supervisor are clear and understandable.

Additional items:

5. I keep my supervisor informed of changes that may affect my task progress.
6. I work with my supervisor to schedule deadlines for my work.
7. I talk with my supervisor about how much time I should allocate to tasks.

Appendix K

In-Role Performance

Indicate your level of agreement with the following statements on a scale from 1 (strongly disagree) to 5 (strongly agree).

1= Strongly Disagree

2 = Disagree

3 = Somewhat Agree

4 = Agree

5 = Strongly Agree

1. This employee meets formal performance requirements of the job.
2. This employee fulfills responsibilities specified in the job description.
3. This employee performs tasks that are expected of him or her.
4. This employee adequately completes assigned duties.

Appendix L

Extra-Role Performance

Indicate your level of agreement with the following statements on a scale from 1 (strongly disagree) to 5 (strongly agree).

1= Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

1. This employee makes constructive suggestions to improve the overall functioning of his/her work group.
2. This employee encourages others to try new and more effective ways of doing their job.
3. This employee keeps well informed where opinion might benefit the organization.
4. This employee continues to look for new ways to improve the effectiveness of his or her work.
5. This employee takes action to protect the organization from potential problems.
6. This employee goes out of his or her way to help new employees.
7. This employee volunteers for things that are not required.