Measuring the Positive Side of the Work-Life Interface: A Factor Analytic Examination and Scale Refinement of Work-Life Enrichment, Facilitation, and Positive Spillover

by

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Abstract

Since the conception of the positive side of the work-life interface, several researchers have simultaneously developed separate conceptualizations of positive transfers between the work and life domains, including work-life enrichment, facilitation, and positive spillover. Consequently, there are various labels and measurement tools for these potentially overlapping constructs, resulting in a lack of conceptual clarity and inconsistent measurement of positive exchanges between the domains throughout the literature. The widespread interchangeable use of these construct labels hinders both theoretical and practical development of this phenomenon. In order to address these limitations, the present study develops and validates a comprehensive measure representing the positive side of the work-life interface, which is referred to as positive spillover. The measure encompasses previously developed measures of work-life enrichment, facilitation, and positive spillover, along with newly generated items to best capture facets underlying the positive transfers between work and life. Using six samples of data, several analyses were conducted to create a synthesized, holistic representation of the positive side of the work-life interface, including qualitative analyses, exploratory factors analysis, confirmatory factor analysis, and both single and multi-timepoint scale validation.

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Introduction

Recent research and practice have placed considerable focus on the relationships between the work domain and the personal life domain, along with the impact that one domain can have on another (e.g., Heskiau & McCarthy, 2020; Lapierre et al., 2018; Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011; Nohe, Meier, Sonntag, & Michel, 2015). This emphasis on the work-life interface has led to the conceptualization of various interactions between the work and personal domains, such as work-life conflict, work-life balance, and more recently, work-life enrichment, facilitation, and positive spillover (Carlson, Kacmar, Wayne, & Grzywacz, 2006; Frone, 2003; Greenhaus & Powell, 2006; Grzywacz & Marks, 2000). Each of these constructs represents a unique way in which the work and life domains can spill over into each other and impact various areas of an individual's life. Traditionally, there has been a stronger emphasis on work-life conflict, which represents the negative side of the work-life interface (Greenhaus & Beutell, 1985). Work-life conflict, conceptualized as a form of inter-domain conflict in which demands from one role interface with responsibilities in another role, is associated with a host of negative outcomes across domains including burnout, job performance, family satisfaction, physical health problems, and reduced psychological well-being (Amstad, Meier, Fasel, Elfering, & Semmer, 2011). Following years of stringent attention surrounding the negative side of the work-life interface, interest regarding the positive effects work and life roles have on each other began to emerge in the 1970s (e.g., Sieber, 1974) and gained traction in the early 2000s (e.g., Greenhaus & Powell, 2006; Carlson et al., 2006; Frone, 2003). As awareness of the positive side of the work-life interface took hold, several researchers simultaneously developed conceptions of this newly emerging research interest, resulting in several independent conceptualizations and measures of the positive effects work and life roles have on each other, including work-life

enrichment, facilitation, and positive spillover (Carlson et al., 2006; Grzywacz & Marks, 2000; Hanson, Hammer, & Colton. 2006; Wayne, Grzywacz, Carlson, & Kacmar, 2007).

Over the years, empirical findings have consistently demonstrated the enhancing effects work and life roles can have on one another (Lapierre et al., 2018; McNall, Nicklin, & Masuda, 2010). Consequently, research on the positive side of the work-life interface has flourished; however, given the simultaneous blossoming of various conceptions of the positive exchanges between work and life roles, there is high conceptual overlap between each of these depictions of this phenomenon. The terms enrichment, facilitation, and positive spillover are often used interchangeably throughout the literature, resulting in muddled findings and implications regarding the true nature of positive transfer across domains (Wayne, 2009; Williams, Franche, Ibrahim, Mustard, & Layton, 2006). The lack of conceptual unity and consistency between different forms of positive transfer creates theoretical and practical barriers to understanding the nature of beneficial exchanges between the work and life domains. A comprehensive assessment of the facets that underlie the transfer of positive experiences from one domain to another will provide a more holistic picture of the positive side of the work life interface, create synthesis and unification throughout the literature, and further the advancement of theory and application of the nature of inter-role enhancement.

Defining the Positive Side of the Work-Life Interface

While there are various depictions of the positive side of the work-life interface floating around the literature, there are key consistencies emphasized by each conceptualization. For instance, positive spillover is described as the way in which one role supports, facilitates, or improves the other domain (Hanson et al., 2006; Kirchmeyer, 1992). This can occur via the transfer of positively valenced affect, skills, behaviors, and values from the initiating domain to

the receiving domain, resulting in benefits within the receiving domain (Edwards & Rothbard, 2000; Hanson et al., 2006). Meanwhile, work-life enrichment is defined as the degree to which experiences in the initiating role improve quality of life, specifically performance or affect, in the receiving role (Greenhaus & Powell, 2006). In this sense, enrichment and facilitation are theorized to operate through similar mechanisms as there is overlap in the processes underlying the positive transfer between domains. Finally, work-life facilitation is described as the degree to which participation in one role facilitates the fulfillment of demands and requirements in another role (Grzywacz 2002; Van Steenbergen, Ellemers, & Mooijaart, 2007). Facilitation is also theorized to occur through the transfer of affective and performance-related resources from one domain to another. As demonstrated in Table 1, while there are slight variations in terminology between these definitions, the overarching concept the of transfer of experiences from one domain to another, resulting in positive outcomes in the receiving domain, remains consistent.

Each variant of positive transfer between domains is bidirectional in nature, in that family and life resources can spill over and enhance one's work role, while work resources can similarly enhance one's family and life roles, referred to as life-to-work spillover and work-to-life spillover, respectively (Frone, 2003; Greenhaus & Powell, 2006). Thus, resources that transfer from the life domain to the work domain result in life-work spillover and resources that transfer from the work domain to the life domain result in work-life spillover. Each direction of positive transfer operates uniquely from the other, resulting in differential outcomes across domains (e.g., Carlson et al., 2006; McNall, Nicklin, Masuda, 2010). The following sections address the details of each existing conception of positive spillover, their bidirectional relationships with various work and personal domain outcomes, and highlight the distinctions that have been made between these constructs.

Work-Life Enrichment

Introduced by Greenhaus and Powell (2006), the term work-life enrichment refers to the degree to which experiences in the initiating role improve quality of life, particularly performance or affect, in the receiving role. Enrichment is said to occur through the generation of resources within the initiating role, which then facilitates positive outcomes in the receiving role. This can occur both directly, by having an explicit influence on role performance, or indirectly, via affective influence. These enrichment pathways are referred to as the instrumental path and the affective path, respectively, and are transferred via developmental, affective, capital, or efficiency-based resources. As operationalized by Carlson et al. (2006), *development* refers the degree to which involvement in one domain leads to the acquisition or refinement of skills, knowledge, behaviors, or ways of viewing things that help an individual be a better family member or worker. *Affective* enrichment refers to the extent to which involvement in one domain results in a positive emotional state or attitude that helps the individual to be a better family member or worker. *Psychological capital*, which is claimed to only operate in the work-to-family direction, is defined as the degree to which involvement in work promotes levels of psychosocial resources, including a sense of security, confidence, accomplishment, or self-fulfillment, that helps the individual be a better family member. Finally, *efficiency*, said to operate only in the family-to-work direction, represents the extent to which involvement with family provides a sense of focus or urgency that helps individuals be a better worker via the generation of time and efficiency resources. According to the modern work-life enrichment conceptualization, these four facets fuel the positive exchanges between the work and life domains.

Several meta-analytic reviews have been conducted on the predictors and outcomes of work-life enrichment since the conception of the construct (e.g., Lapierre et al., 2018; McNall et al., 2010; Shockley & Singla, 2011; Zhang, Jin, & Ford, 2018). Across these reviews, it has been observed that antecedents and outcomes of enrichment vary depending on the direction of the transfer, specifically in support of the source attribution perspective, which holds that work-family conflict and enrichment are more strongly associated with outcomes in the originating domain compared to the receiving domains (Amstad, Meier, Fasel, Elfering, & Semmer, 2011; Shockley & Singla, 2011). For example, Lapierre and coauthors (2018) observed that contextual and personal characteristics related to the work domain were more strongly predictive of work-to-life enrichment, while contextual and personal characteristics associated with the personal life domain were more strongly related to life-to-work enrichment. In this review, characteristics associated with work-to-life enrichment include social support at work, family-friendly culture and policies, work engagement, and job autonomy. Characteristics associated with life-to-work enrichment include support from family, family involvement, work engagement, job autonomy, spouse working hours, and family centrality. While various antecedents are associated with both life-to-work and work-to-life enrichment, such as work engagement, work related variables tend to exhibit a stronger relationship with work-to-life enrichment and vice versa (McNall et al., 2010; Zhang et al., 2018).

Regarding outcomes of work-to-life and life-to-work enrichment, NcNall and coauthors (2010) observed that work-to-life enrichment is moderately associated with job satisfaction, affective commitment, and life satisfaction, and is weakly associated with family satisfaction and physical and mental health. Additionally, life-to-work enrichment is moderately related to affective commitment and family satisfaction and is weakly related to job satisfaction and

physical and mental health. Both meta-analytic reviews and primary studies have supported the notion of stronger relationships between work-to-life enrichment, facilitation, and positive spillover with work-related outcomes and life-to-work enrichment, facilitation, and positive spillover with personal life-related outcomes, further supporting the source attribution perspective (e.g., Boyar & Mosley, 2007; Carlson, Grzywacz, & Zivnuska, 2009; Chan et al., 2016; Chesley, 2005; McNall et al., 2010; Shockley and Singla, 2011).

This tendency is consistent with the propositions of Affective Events Theory, a cognitive process theory which holds that individuals assess whether an event poses as a threat to their wellbeing, and if it is perceived as threatening, the importance of the event is then evaluated (Weiss & Cropanzano, 1996). In the case of work-life enrichment, AET maintains that work-related events lead to affective reactions and that these reactions influence work-related attitudes and behaviors. Similarly, personal life-related events lead to affective reactions that influence personal life-related attitudes and behaviors. Given this psychological attribution of domain related outcomes (e.g., success or failure) to events within the originating domain, the extant theory and literature support a source attribution perspective in explaining the work-life interface (Shockley and Singla, 2011).

Work-Life Facilitation

While work-life facilitation has been conceptualized in a variety of ways, it is generally defined as the degree to which participation in one role facilitates the fulfillment of demands and requirement in another role (Frone, 2003; Grzywacz, 2002; Grzywacz, Carlson, Kacmar, & Wayne, 2007). As with work-life enrichment, the facets of work-life facilitation include development, affect, capital, and efficiency; however, the conceptual difference lies in the level of these effects. Facilitation is operationalized at the system level (e.g., work, family), while

enrichments is said to operate at the individual level. In this sense, facilitation refers to the positive impact the transfer of gains between domains has on the functioning of the overall system receiving the transfer of resources (Grzywacz et al., 2007; Wayne, 2009). For example, the work system can comprise of various social subsystems that, together, define the functioning of the overall work system. Subsystems within the work system include relationships with teammates, supervisors, subordinates, clients, and so on. Similarly, social subsystems within the family system, such as those with children, spouses, parents, and so on, coalesce to define the overall effectiveness of the family system. Improved functioning manifests in the form of sustained enhancement in either the operation, processes, or quality of life of a particular system (Grzywacz et al., 2007). When involvement in the family or life domain results in enhanced functioning in the work system, the result is life-work facilitation. Likewise, when involvement in the work domain results in enhanced functioning in the family or another personal life system, work-life facilitation occurs.

Similar to findings regarding predictors and outcomes of work-life enrichment, meta-analytic findings support the source attribution perspective when explaining work-life facilitation. McNall and coauthors' (2010) review of the outcomes of work-life enrichment include a subsection of primary studies that measured work-life facilitation. Consistent with findings regarding enrichment, work-to-life facilitation is moderately associated with job satisfaction and is weakly related to family satisfaction and physical and mental health. Additionally, life-to-work facilitation is moderately related to family satisfaction and weakly associated with job satisfaction and physical and mental health. Given the small number of primary studies on work-life facilitation, these were the only outcomes that were explored in this meta-analytic review; however, more additional primary studies have identified additional

correlates of work-life facilitation. Karatepe and Bekteshi (2007) observed that work social support is related to increased facilitation between work and family domains. Specifically, family social support predicted enhanced family-to-work facilitation while work social support more strongly predicted work-to-family facilitation. In addition, work-to-family facilitation was related to life satisfaction while family-to-work facilitation was not. More recent research provides additional insight into the correlates of work-life facilitation, but also several of the concerns surrounding the theorization and measurement of this construct.

As more research on work-life facilitation has accumulated, the interchangeable use of the term with enrichment and positive spillover remains abundant (e.g., Baltes, Clark, & Chakrabarti, 2010; Deng & Gao, 2017; Hill, 2005; Stoiko, Strough, & Turiano, 2017). While relationships with work-life facilitation and various antecedents and outcomes have been established, there is significant overlap regarding the magnitude of these relationships when compared to the associations between these same variables with enrichment and positive spillover. It has been consistently observed that enrichment, facilitation, and positive spillover in the work-to-life direction have a moderate positive relationship with job satisfaction (e.g., Balmforth & Gardner, 2006; Chan et al., 2016; Chong, Gordo, & Gere, 2018; Daniel & Sonnentag, 2016; Lee et al., 2016; Lee-Peng, Kuar, & Cheng, 2016; Michel & Michel, 2015; Zhang et al., 2018), affective organizational commitment (e.g., Balmforth & Gardner, 2006; Carlson et al., 2009; Hecht & McCarthy, 2010; McNall et al., 2010; Wayne, Casper, Matthews, & Allen, 2013; Zhang et al., 2018), and life satisfaction (Deng & Gao 2017; McNall et al., 2010; Zhang et al., 2018) and a weak positive relationship with physical and health (Hanson et al., 2006; NcNall et al., 2010; Van Steenbergen & Ellemers, 2009; Zhang et al., 2018) and turnover intentions (e.g., Aboobaker & Edward, 2020; Boyar & Mosley, 2007; Karatepe & Azar, 2013;

Kopperud, Nerstad & Dysvik, 2020; Russo & Buonocore, 2012). The comparable relationships between enrichment, facilitation, and positive spillover with a host of work and personal outcomes suggests that each of these forms of positive transfer between the work and life domains may be operating via the same mechanisms and represent a single phenomenon.

Literature exploring relationships with the life/family-to-work direction of enrichment, facilitation, and positive spillover has consistently shown moderate relationships with family satisfaction (e.g., Boyar & Mosley, 2007; Carlson et al., 2009; Chan et al., 2016; Chesley, 2005; McNall et al., 2010), family performance (e.g., Carlson et al., 2009; Wayne, Butts, Casper, & Allen, 2017; Zhang et al., 2018) and a weak positive relationship with affective organizational commitment (e.g., McNall et al., 2010; Wayne et al., 2017; Zhang et al., 2018), physical and mental health (Hanson et al., 2006; McNall et al., 2010; Stoddard & Madsen, 2007), and turnover intentions (e.g., Aboobaker & Edward, 2020; Balmforth & Gardner, 2006; Sok, Blomme, De Ruiter, Tromp, & Lub, 2018; Wayne et al., 2017; Wayne, Randel, & Stevens, 2006). As with work-to-life enrichment, facilitation, and positive spillover, the similar relationships between the life-to-work direction of these constructs and various correlates suggests these forms of positive transfer between the work and life domains could be labeled as different constructs that represent the same underlying phenomenon.

While there is a plethora of research demonstrating similar relationships between enrichment, facilitation, and positive spillover with various contextual and personal antecedents and outcomes, there are also findings that observe differing relationships between these forms of positive transfer and associated constructs. For example, in their meta-analytic comparison of different labels for the positive side of the work-life interface, NcNall and coauthors (2010) observed that host of personal and contextual outcomes, including job satisfaction, affective

commitment, turnover intentions, family satisfaction, life satisfaction, and physical and mental health, had different relationships between the enrichment, facilitation, and positive spillover labels. For example, studies using the facilitation label to capture the positive side of the work-life interface had a stronger relationship with family satisfaction that those using positive spillover or enrichment. Additionally, positive spillover was most strongly positively related to physical and mental health than facilitation. While some differential effects were detected, it is important to note that the sample sizes for these meta-analytic analyses were extremely small, with five studies representing facilitation and positive spillover when looking at their relationship with family satisfaction and seven studies capturing positive spillover and five capturing facilitation when comparing their relationship with health-related outcomes. In addition, these analyses resulted in extremely large errors and wide confidence intervals, making it difficult to determine whether there truly are different relationships between enrichment, facilitation, and positive spillover with the chosen outcomes.

Positive Spillover

Positive spillover represents the original construct developed to represent the positive side of the work-life interface and has served as the framework for the evolution of this area of research (Crouter, 1984). While there are various conceptualizations and definitions of positive spillover floating around the literature, positive spillover is broadly described as a process through which resources in the initiating domain enable enhanced functioning in another domain at either the individual or the system level (Hansen et al., 2006; Wayne, 2009). A well-accepted definition comes from Edwards and Rothbard's (2000) review of literature, where positive spillover is defined as the impact that work and personal domains have on one another that make the separate domains similar. Similarity between domains is achieved via the application of

experiences gained from one domain to another, thus, resulting in the application of similar behaviors and processes when dealing with demands within various domain. As with enrichment and facilitation, positive spillover also operates bidirectionally, resulting in both work-life spillover and life-work spillover (Hansen et al., 2006).

While modern conceptions of enrichment and facilitation are based on the transfer of developmental, affective, capital, and efficiency resources, modern views hold that positive spillover occurs through the transfer of mood, values, skills, behaviors, capital, or support across domains (Grzywacz & Marks, 2000; Hansen et al., 2006; Grzywacz & Marks, 2000). Since the development of the positive spillover construct, four measures of positive spillover between the work and family/life domains have been published, each comprising of a variety of both unique and overlapping dimensions, as seen in Table 1. There is significant overlap between the facets identified as forms of enrichment and facilitation with those tied to the positive spillover process, as developmental, affective, capital, and efficiency experiences are encompassed by the facets of positive spillover. As indicated by the colored boxes representing the dimensions included in each scale, measures of enrichment, facilitation, and positive spillover all contain dimensions of developmental transfer under different names, such as skills, behaviors-based transfer, experiences, etc. Similar dimensions using different labels can also be seen between positive spillover and enrichment scales within the capital dimension, where the terms capital, status security, and status enhancements are all sub-scales representing capital spillover, within the efficiency dimension, where the terms efficiency and time-based spillover are used to represent efficiency spillover, and within the values dimensions, where attitudes and values are sub-scales representing the spillover of values. The sizable overlap of dimensions of enrichment, facilitation, and positive spillover both between scales with the same construct name and those

with differing labels highlights the strong conceptual overlap between these forms of positive transfer between domains.

As mentioned in the discussion of correlates of work-life facilitation, positive spillover is similarly related to antecedents and outcomes of enrichment and facilitation. Again, these correlates include job satisfaction, life/family satisfaction, family performance, affective organizational commitment, turnover intentions, and mental and physical health, with variations in magnitude depending on the direction of transfer (e.g., Aboobaker & Edward, 2020; McNall et al., 2010; Zhang et al., 2018). While various authors argue for the distinction between enrichment, facilitation, and positive spillover (e.g., Carlson et al., 2006; Wayner 2009), observations throughout the literature showing that each of these constructs are similarly related to a variety of antecedents and outcomes may suggest otherwise.

Distinguishing Between Enrichment, Facilitation, and Positive Spillover

As demonstrated above, there are various, yet overlapping, ways in which positive transfers between domains are theorized to occur, including through gains in developmental, affective, capital, efficiency, support, and values-based resources. While many researchers use the concepts of enrichment, facilitation, and positive spillover interchangeably (e.g., Hill, 2005; Williams et al., 2006; Witt & Carlson, 2006), others argue for the theoretical and practice distinction between these constructs (e.g., Carlson et al., 2006; Hanson et al., 2006; Wayne, 2009). Currently, there is a lack of consensus in the literature regarding the true distinction or conceptual overlap between the various concepts that make up the positive side of the work-life interface. Before providing justification for the suggested synthesis of the enrichment, facilitation, and positive spillover constructs, the proposed distinctions between each approach are presented.

When the concept of Role Enhancement Theory gained traction in the early 2000s, several researchers simultaneously developed conceptions of how the work and family/life domains can positivly impact each other, resulting in the emergence of a number of conceptually similar approaches to explaining this phenomenon (e.g., Carlson et al., 2006; Frone, 2003; Grzywacz & Marks, 2000; Hanson, Hammer, & Colton. 2006). While there is evident commonality in the mechanisms that drive each of these approaches, developers of these constructs have argued for the conceptual distinction between enrichment, facilitation, and positive spillover; however, these distinctions are poorly understood throughout the research community.

There are a few key definitional differences between enrichment, facilitation, and positive spillover. The first involves the result of the application of the gained resources across domains (Wayne, 2009). More recent conceptions of positive spillover hold that positive spillover occurs when resources or gains acquired in one domain are simply utilized in anther domain, regardless of the outcome (e.g., Cicek, Karaboga, & Sehitoglu, 2016; Liu, Kwan, Wu, & Zheng, 2018; Zhou, Yang, Kwan, & Chiu, 2019). This relationship simply suggests the transfer of gains across domains without the requirement of improved performance in the receiving domain (Wayne, 2009). However, it is important to note that even though positive spillover has been reconceptualized by several authors to be independent of outcomes experienced in the receiving domain, the broader literature has not adopted this conceptual distinction, as conceptions of positive spillover in the current literature still define positive spillover as relating to beneficial outcomes (e.g., Kim, Fouad, & Lee; Lee & Sirgy, 2018; Straub, Beham, & Islam, 2019).

On the other hand, the definition of work-life enrichment specifies that the transferred gains need to result in improved functioning or performance in the receiving domain through the successful application of the transferred resources (Carlson et al., 2006). In this sense, enrichment is said to build upon the more basic notion of positive spillover by requiring the transferred gains and resources to be applied in the receiving domain in a way that results in improved individual performance. These distinctions are based on the notion that, even though gains may be transferring across domains, it is not guaranteed that the individual will utilize them in order to benefit from their transfer (Carlson et al., 2006; Wayne, 2009). The failure of positive spillover to result in improved domain functioning could occur though a lack of opportunity to apply transferred gains in the receiving domain or through a lack of motivation to do so (Wayne, 2009). Both positive spillover and enrichment operate at the individual level, leading into the second key distinction between conceptions of the positive side of the work-life interface: the level of analysis.

While spillover and enrichment operate at the individual level, work-life facilitation has more recently been redefined to operate at the system level, given the previous inability to distinguish between enrichment and facilitation given the large conceptual overlap (Grzywacz, et al., 2007). Going a step further than enrichment, which requires improved individual functioning following the transfer of gains across domains, facilitation requires the transferred gains to improve function of the overall receiving system (e.g., work, family) (Grzywacz, et al., 2007). This occurs through improved performance or functioning within the various subsystems within the larger system (i.e., relationships with coworkers or supervisors on the work domain; relationships between parents and children or partners in the family domain). Similar to the distinction between spillover and enrichment, this focal distinction between enrichment and

facilitation is based on the idea that even though an individual might be able to apply gains transferred across resources and experience personal benefits, it is not guaranteed that these personal benefits will improve functioning of the overall system (Grzywacz et al., 2007). This transfer of increased functioning at the individual or domain level can be stunted from improving system functioning by only resulting in enhancing effects within certain subsystems that, ultimately, do not lead to larger scale improvements in functioning.

These two primary distinctions between enrichment, facilitation, and positive spillover (impact on functioning and level of operation) create a hierarchical system in which enrichment is subsumed within facilitation and positive spillover is subsumed within enrichment (Wayne, 2009). The first level is the transfer of gains and resources from one domain to another (i.e., positive spillover). The second level is the individual application of said gains and resources in a way that results in improved personal functioning in the receiving domain (i.e., work-life enrichment). The third and final level is the improved individual functioning resulting in enhanced functioning in various subsystems of the larger system, ultimately resulting in improved performance of the overall system (i.e., work-life facilitation). While enrichment, facilitation, and spillover emerged as similar constructs without these distinctions, their operationalizations have been adjust over time to create these distinctions (e.g., Grzywacz et al., 2007). As the literature on the positive side of the work-life interface has evolved over the last several decades, modifications have been made to the various conceptions of the phenomenon of positive transfer between domains to create more theoretical distinction between these constructs; however, it is unclear whether these distinctions hold true practical and empirical significance. Given the simultaneous development of multiple theoretically similar constructs that operate through comparable mechanisms, it is entirely plausible that there is no need to

theoretically distinguish between enrichment, facilitation, and positive spillover, as they all represent the same underlying construct.

Building upon the groundwork laid by theories of spillover, the spillover-crossover model (SCM) was developed to further explain the interplay between the work and life domains (Bakker, Demerouti & Burke, 2009). SCM integrates two lines of research, spillover theory and crossover theory. Traditionally researched in the context of negative spillover and crossover, this perspective has been expanded to include positive exchanges between the work and life domains (Bakker & Demerouti, 2013). While spillover is described as the transfer of experiences across domains, crossover is defined as the transfer of such experiences to other individuals within the receiving domain (Westman, 2001). According to SCM, work-related (life-related) experiences first spill over to the personal domain, and then cross over to individuals within the work (personal life) domain via social interaction (Bakker & Demerouti, 2013). When positive transfers occur from one domain to another, such as through positive affect or other resources, the result is work-life enrichment, and the resulting work-life enrichment is theorized to have a positive impact on those interacting with the individual making the transfer, such as though improved well-being (Bakker & Demerouti, 2013). While SCM represents the latest advancements in research on the positive side of the work-life interface, the individual components of this perspective remain spillover and crossover, which must be measured individually. Given that researchers still rely on individual measures of enrichment, facilitation, and positive spillover when testing for positive spillover-crossover effects, constructs representing the positive side of the work-life interface remain an integral tool for developing related theories. This further highlights the necessity of a clear and parsimonious conception of the positive side of the work-life interface, which has not yet been achieved.

Construct and Measurement Development

Building upon the propositions of Sieber (1974) and Crouter (1984), which introduced the concept of individual gains and benefits from holding multiple roles, research exploring the positive side of the work-life interface truly took off in the early 2000s. During this time, there was a large focus on the theoretical development of this phenomenon, resulting in the conception of various depictions of the relationship between the work and life domains (Greenhaus & Powell, 2006; Grzywacz, 2002; Grzywacz & Marks, 2000). The concurrent development and popularization of constructs representing the positive side of the work-life interface subsequently resulted in the parallel development and validation of various scales representing these constructs. As demonstrated by the timeline in Figure 1, research regarding the theoretical development of the enrichment, facilitation, and positive spillover constructs peaked between 2004 and 2012, with the bulk of theory building publications falling between 2005 and 2009. During this time period, six measures that are still used to date were published, including four positive spillover scales (Grzywacz & Marks, 2000; Hanson et al., 2006; Kirchmeyer, 1992; Van Steenbergen et al., 2007), a work-family enrichment scale (Carlson et al., 2006), and a work-family facilitation scale (Holbrook, 2005). Figure 1 highlights the overlapping nature of the dimensions of enrichment, facilitation, and positive spillover. It can be seen that each of the three constructs are represented by scales that capture elements of the same dimensions but with varying sub-scale names. The table organizes the dimensions of positive transfer between domains by the overarching concept they represent. For example, the developmental spillover dimension is captured in seven sub-scales across all included measures of the positive side of the work-life interface. While each of these scales effectively captures components that represent the

positive side of the work-life interface, there are several issues that arise when constructs representing overlapping phenomena develop concurrently.

The 'jingle fallacy' – erroneously believing that two constructs are the same because they are measured with various scales with the same name – and the 'jangle fallacy' – erroneously believing that two or more measures capture unique constructs because the scales have different names – are two misconceptions that, when present in an area of research, can limit the development and understanding of a construct (Kelley, 1927). The presence of such fallacies in a field of research can result in a lack of parsimony and clarity surrounding a phenomenon, an inaccurate understanding of how constructs are related to other variables, and can limit the development of theories describing a phenomenon (Casper, Vaziri, Wayne, DeHauw, & Greenhaus, 2018). There are several ways in which the jingle and jangle fallacies can stealthily manifest within a body of research and have been identified in various large fields, of study including the work-life balance literature, the maximizing literature, and the self-efficacy literature (Casper et al., 2018, Cheek & Goebel, 2020). Specifically, in the work-life balance literature, Casper and coauthors (2018) identified the presence of the jingle fallacy when meta-analytically reviewing definitions and measurements of work-life balance, where balance was often defined in terms of low conflict or high enrichment. However, their results suggest that balance is a unique phenomenon independent of conflict and enrichment and, thus, should be measured and conceptualized separately from these constructs. The muddled and erroneous operationalizations of work-life balance throughout the literature have restricted the field's understanding of the true nature of work-life balance, its relationship with important outcomes and predictors, and subsequently limits the practical and theoretical implications of existing

research. Similar concerns can be expressed within the work-life enrichment, facilitation, and spillover research, but in regard to the jangle fallacy.

While there is empirical support for each of the proposed constructs depicting the positive side of the work-life interface and for the mechanisms through which they operate (Wayne, 2009), the simultaneous evolution of multiple constructs that capture highly overlapping phenomena could result in scales and concepts that operate under different names but represent the same underlying construct – positive spillover. This concern is warranted by the high frequency with which enrichment, facilitation, and spillover are used interchangeably throughout the literature along with the simultaneous development of each of these constructs (Wayne, 2009). There is currently a lack of parsimony within the research and theory surrounding positive transfers between the work and life domains given the existence of three concepts that describe this phenomenon in, arguably, indistinguishable ways. Even following requests by several researchers to start distinguishing between enrichment, facilitation, and spillover based on their minute distinctions (E.g., Carlson et al., 2006; Wayne, 2009), the current literature is muddled with erroneous application of these constructs based on their existing conceptions and confusion regarding the differences between these concepts (Casper, De Hauw, Wayne, 2013). In order to facilitate a parsimonious and consistent approach to developing theories surrounding the work-life interface, it is vital to synthesize the current approaches to studying the positive side of the work-life interface and address the current measurement concerns.

Measurement Concerns

As a result of the poor theoretical clarity surrounding work-life enrichment, facilitation, and positive spillover, there is a lack of conceptual distinction between the measurement tools

created to capture these constructs. As Wayne (2009) notes in their review, enrichment, facilitation, and spillover scales are often erroneously used to capture different hypothesized interactions between the work and life domains. For example, various researchers have observed that within the literature, researchers of often proposed hypotheses regarding positive spillover and use an enrichment or facilitation scale, or vice versa (Frone, 2003; Hammer & Hanson, 2006; Wayne 2009). This fluid use of enrichment, facilitation, and positive spillover scales has resulted in a muddled body of literature that cannot be used to provide support for the distinction between each of these proposed constructs. Conducting evaluative or meta-analytic analysis within the existing literature is futile given the widespread lack of differentiation between constructs representing the positive side of the work-life interface. In their meta-analytic examination of the merits of positive and negative work-life interactions, Shockley and Singla (2011) use the term enrichment as an umbrella term to represent the entirety of the positive side of the work-life interface, throwing facilitation and positive spillover into the same bucket as enrichment as a result of conceptual confusion between the various depictions of this phenomenon. In addition, even meta-analyses focusing on a single construct within the work-life interface are inconclusive given the widespread use of enrichment, facilitation, and spillover interchangeably throughout the literature and the widespread misuse of scales across primary studies included in meta-analytic reviews (Lapierre et al., 2018; NcNall et al., 2010).

In addition to the erroneous use of scales to capture differing aspects of the positive side of work-life interface, there is also conceptual overlap between enrichment, facilitation, and spillover within measurements of these constructs. In addition, Wayne (2009) also observed the presence of popular scales said to measure positive spillover but conceptually capture work-life enrichment or contain a mishmash of enrichment and positive spillover items (e.g., Grzywacz

and Marks, 2000; Summer & Knight, 2001). In this sense, many measures of these constructs are already treating enrichment, facilitation, and positive spillover as a single construct representing positive transfer between the work and life domains. This lack of construct distinction within measurement, along with the lack of differentiation between scales, further facilitates the theoretical and practical confusion surrounding the nature of the positive side of the work-life interface. While Wayne (2009) highlights these measurement errors in an effort to call for better distinction between these three constructs, the present study takes a different approach and supports the development of a synthesized operationalization and measurement tool.

Between the pervasive lack of understanding between the different constructs proposed to operationalize the positive side of the work-life interface, the simultaneous development of several constructs that explain the same phenomenon, and the measurement errors associated with the development and use of scales capturing each of these constructs, there is little evidence to suggest that enrichment, facilitation, and positive spillover are truly distinct phenomena. This concurrent development of multiple constructs describing the same event has hindered the theoretical advancement of the positive side of the work-life interface by creating conceptual and practical confusion surrounding this area of research. Because the notion of positive transfer between the work and life domains branched out in several directions before there was a concrete understanding of the positive side work-life interface, research needs to take a step back and assess whether enrichment, facilitation, and positive spillover represent a single construct. A concise, clear, uniform representation of positive transfer between the work and life domains will better support the theoretical advancement of the work-life interface.

Present Study

In order to address the confusion and concerns surrounding definitions and measurements of the positive side of the work-life interface, the goal of the present research is to develop a comprehensive operationalization and measurement tool based on each of the existing conceptions of positive transfer between the work and life domains, which is referred to as *positive spillover*. We define positive spillover as the degree to which participation in one role is enhanced, enriched, or facilitated from participation the other role. Dimensions of positive spillover have been identified within existing measures of the positive side of the work-life interface and have been redefined to match the present conception of positive spillover.

The present dimensions of positive spillover include developmental, affective, capital, efficiency, values, and support, and have been defined as follows: *developmental spillover* occurs when acquired knowledge or skills (e.g., coping) in one domain benefits performance, affect, and functioning in the other domain; *affective spillover* occurs when affect and mood in one domain benefits performance, affect, and functioning in the other domain; *capital spillover* occurs when acquired self-esteem, security, pride, and accomplishments from one domain benefits performance, affect, and functioning in the other domain; *efficiency spillover* occurs when efficiency and time management behaviors from one domain benefits performance, affect, and functioning in the other domain; *values spillover* occurs when values adopted from one domain benefits performance, affect, and functioning in the other domain; *support spillover* occurs when support and resources from one domain benefits performance, affect, and functioning in the other domain.

The present study uses the above definitions in the testing, development, and validation of a new measure of positive spillover based on the existing branches of enrichment, facilitation, and positive spillover present in the literature. This comprehensive examination identifies the

dimensions of positive spillover by identifying which facets or combinations of facets explain unique variance in our construct of interest.

Research question 1: What are the unique factors of the work-to-life and life-to-work forms of positive spillover across existing measures of enrichment, facilitation, and positive spillover?

Finally, the present study assesses the nomological network and predictive validity of the new measure of positive spillover by assessing its relationship with other scales capturing the positive side of the work-life interface along with common antecedents and outcomes identified in the literature.

Research question 2. How does the refined measure of positive spillover relate to existing scales representing the both the positive and negative side of the work-life interface?

Research question 3. How does the refined measure of positive spillover relate to supported antecedents and outcomes of the positive transfer between work and life domains?

Ultimately, the resulting definitions and measure of positive spillover provides a holistic, synthesized explanation for the process of positive transfer between work and life, facilitating uniform and clear advancement of theory and practice within this area of research.

Method

In order to address the proposed research questions, the development and validation of a comprehensive measure of positive spillover involved the evaluation of seven sets of data collected over three broad phases. Phase 1 involved the selection and generation of items representing the positive side of the work-life interface. First, two independent samples of working adults provided qualitative responses to an item asking about the personal benefits of holding multiple roles. This information was used to assess the prominence of numerous existing

dimensions of positive spillover and to potentially uncover new dimensions. Using another independent samples of data, substantive and content validity of existing positive spillover items was then assessed via subject matter experts (SMEs) who organized all of the enrichment, facilitation, and positive spillover items from existing measures (Carlson et al., 2006; Grzywacz & Marks, 2000; Hanson et al., 2006; Holbrook, 2005; Kirchmeyer, 1992; Van Steenbergen et al., 2007) into categories, providing insight into the interpretation and functionality of each item. The proportion of substantive agreement (PSA), coefficient of substantive validity (CSV), and item means were calculated, and the best six items were retained from each dimension. For dimensions where six items did not meet inclusion criteria for retention, the authors developed items based on the present operational definition of each dimension of spillover, resulting in a total of 72 items in the initial scale (12 items for each dimension with six per direction). Phase 2 comprised of two stages of factor analysis using two independent samples from Amazon's Mechanical Turk (MTurk). First, a sample from MTurk was used to conduct an exploratory factor analysis (EFA) on the retained and developed set of items, which identified the nature of the latent constructs underlying positive spillover. Based on the results of the EFA, three items per dimension and per direction that functioned according to the theorized framework were retained. Subsequently, a confirmatory factor analysis (CFA) using an independent sample from MTurk was conducted on the final measure in order to confirm the factor structure observed in the EFA and to assess the inter-factor correlations of the resulting measure.

Finally, Phase 3 involved the validation of the final measure of positive spillover. First, an independent MTurk sample was collected to explore the nomological network of the new measure. Existing measures of work-life enrichment, facilitation, and positive spillover were included to assess the convergent validity of the scale and existing measures of work-life conflict

and negative spillover were included to assess the discriminant validity of the scale. Additionally, a two-timepoint snowball sample was collected in order to establish the predictive validity of the new measure. The first time point collected data on the new positive spillover measure while the second time point focused on empirically supported outcomes of enrichment, facilitation, and positive spillover.

Phase 1: Item Retention and Generation

Qualitative Investigation

Sample and Procedure. The objectives of the qualitative investigation stage were to assess the existing dimensions of positive spillover and to explore the possibility of additional dimensions of positive spillover that have not yet been identified. In order to do so, two independent samples of qualitative data were collected. Sample 1 was collected through MTurk (N = 306) via a listing for an organizational research study and Sample 2 was collected via snowball sampling through an undergraduate psychology course at a Southern university (N = 254). In both samples, eligible participants, those who were at least 18 years old, living in the US, and were employed at least 35 hours a week, were directed to a Qualtrics survey where they answered the question: "How does having multiple life roles impact you in positive or beneficial ways?". Dimensions of positive spillover were assessed based on the frequency with which they are reported in repose to this item.

Analysis. Responses to the qualitative item were coded by two researchers involved in conducting the present study. Researchers read each response to the item from both the MTurk sample and the snowball sample and categorized them into one of the following seven categories: development, affective, capital, efficiency, support, values, or other. After both coders sorted all the responses, discrepancies were compared and resolved, resulting in a single classification for each response that best represents the fact of positive spillover. Responses from

both samples were compared to assess if both samples reflected each category to a similar degree. Responses in the "other" category were coded as a group to see if they fit into either of the existing categories or if they represent a function of positive spillover not yet conceptualized in the literature. Subsequently, new categories were created for responses that did not fit into any of the existing bins. If several responses fall into a newly developed category, this could be indicative of a facet of positive spillover that has not yet been identified.

Item Retention and Generation

Sample and Procedure. The goal of the item retention and generation stage was to assess the resemblance of existing enrichment, facilitation, and positive spillover items to the dimensions they are assigned. Items were compiled from various spillover, facilitation, and enrichment scales, resulting in a total of 109 items for categorization (Carlson et al., 2006; Hanson et al., 2006; Holbrook, 2005; Kirchmeyer, 1992; van Steenbergen et al., 2007). These five scales were chosen given their comprehensive coverage of existing dimensions of the positive side of the work-life interface throughout the literature. Participants comprised of SMEs, which included 23 graduate students from a large southeastern university who were enrolled in a work-life seminar. SMEs were instructed to assign each of the 109 items to one of the established dimensions of spillover (development, affect, capital, efficiency, values, support, or other) and to one direction they felt best represented the item (work-to-family, family-to-work, nondirectional). SMEs categorized items one at a time into one of the seven category options based on their interpretation of where the item best fits. Additionally, SMEs made subjective judgements about the content validity of each item by answering an item that asked them to evaluate how accurately each item captured the dimension of positive spillover they assigned item to. The results of the sorting task and assessment of content validity were used to establish

the relevance of each positive spillover item to its assigned dimension and, therefore, determined retention if items for the next phase of the study.

Analysis. The sorting data were used to calculate the substantive and content validity for each item through the calculation of several supported indices (Anderson & Gerbing, 1991). The first was the proportion of substantive agreement (PSA), which calculates the proportion of participants who assigned an item to its originally assigned dimension. The PSA is calculated using the following formula: $PSA = n_c / N$, where n_c is number of respondents that assigned an item to its intended category and N is the total number of respondents. PSA values range from 0 to 1, with larger proportions representing greater substantive validity. Following Ferris and coauthors' (Ferris, Brown, Berry, & Lian, 2008) recommendation, only items with a PSA value greater than or equal to 0.95 were considered for the next phase of validation. All other items were removed from the pool of eligible items moving forward. Every item had a separate PSA value for its observed dimension and for its observed direction, both of which must have exceed .95 to be retained.

Next, the coefficient of substantive validity (CSV) was calculated in order to determine which dimensions respondents were assigning items with low PSAs to. The CSV represents the extent to which SMEs assigned an item to a category more than to any other category using the formula: $CSV = (n_c – n_o) / N$, where n_c and N are as defined above and n_o represents the highest number of times an item was assigned to another category. CSV values range from -1 to 1, with larger values indicating greater substantive validity. Conversely, larger negative values suggest that an item is representing a category other than the one it was assigned to. Again, following Ferris and coauthors' (2008) guidelines, items with a CSV at or above 0.90 were considered for

the next phase of validation with items with CSV values less than .90 were removed from the pool of eligible items.

Finally, the content validity of each item was assessed using the mean score of the values SMEs assigned to each item's fit within the dimension they assigned it to. For each item, participants rated how well the item captured the dimension of positive spillover they assigned it to on a scale ranging from one poor fit (1) to perfect fit (5). Higher means indicate stronger content validity, while lower means indicate lower content validity. The grand mean was calculated for each item in order to determine the overall content validity of the item. Content validity served as a secondary index, following substantive validity indicators, to help determine the quality of each item. Ultimately, items that met both PCA and CSV cutoffs were retained. If more than six items per direction of a dimension met the PCA and CSV requirement, the six items with the highest means were chosen. In addition, for dimensions where fewer than six items met the retention criteria, the authors developed new items based on the operational definition the dimension. Ultimately, this process resulted in a total of 72 items in the initial scale (12 items for each dimension with six per direction).

Phase 2: Factor Analysis

Exploratory Factor Analysis

Sample and Procedure. Using the 72 items chosen or developed in Phase 1, the goal of Phase 3 was to observe the patterns and factor structure of the positive spillover items and dimensions. Participants comprised of MTurk (N = 441) workers who responded to a listing for an organization survey. Participation required that respondents be at least 18 years old, living in the United States, and employed at least 35 hours a week. Qualifying participants were directed to a secure Qualtrics link containing the survey and were compensated $1.00. Participants

reported the extent to which they were experiencing work-to-life or life-to-work positive spillover by completing the 72-item measure developed in Phase 1. Items were presented randomly in a work-to-life block (36 items) and again in a life-to-work block (36 items). Responses were recorded on a 5-point Likert scale ranging from **strongly disagree (1) to strongly agree (5)**.

Given that one of the leading sources of systematic error in online survey data is careless responding (Meade & Craig, 2012), two additional items were developed to detect insufficient effort responding. There items were inserted throughout the survey, with one in the work-to-life block and the other in the life-to-work block (e.g., "Please select strongly disagree for this item"). In order to reduce the threat posed by careless responding, only respondents who missed neither of the two insufficient effort items were included in final sample. The final sample was primarily female (56.5%) and white (81.2%), with an average ago of 39.2 and work and average of 40.5 hours a week.

Analysis. Exploratory Factor Analysis (EFA) was used to provide insight into the latent structure of correlations among the positive spillover items and dimensions (Fabrigar, Wegener, MacCallum, & Strahan, 1999). All EFA analyses were run using SPSS version 26. Factor extraction was conducted using principal axis factoring (PAF). PAF was chosen because this form of factor analysis does not assume a normal distribution, unlike the maximum likelihood approach (Kline, 2015). Because work-life interface variables, such as conflict and enrichment, tend to result skewed distributions given the relatively low base rate of these phenomena (e.g., Carlson, Thompson, & Kacmar, 2019; Kinnunen, Feldt, Geurts, & Pulkkinen, 2006), PAF was the most appropriate approach for the present study. Additionally, oblimin rotation, a form of oblique rotation, was applied to the factor loadings. This form of rotation assumes the factors

being explored are correlated with one another and given that it is expected that the dimensions of positive spillover are related to each another, oblique rotation results in the most accurate portrayal of the dimensions of positive spillover (Costello & Osborne, 2005).

The resulting factor structure and loadings were examined. Factor structures were considered viable if items loaded onto factors with eigenvalues of 1 or higher (Costello & Osborne, 2005; Fabrigar et al., 1999). Individual factors were deemed strong if they possessed multiple strong item loadings with cross-loadings below .32 (see Tabachnick & Fidel, 2019). The same items across directions were selected for retention, as each of the proposed dimensions is expected to function similarly regardless of direction. The purpose of this phase was to identify the true number of latent factors that encompass the positive spillover construct as well as to narrow down the number of items per dimension, resulting in a more practical measure. The same items across directions were selected for retention, as each of the proposed dimensions is expected to function similarly regardless of direction. The top three items for each dimension and direct, those with eigenvalues greater than one and the highest loadings without cross-loading, were retained for the final measure. Therefore, the final measure included 36 items, with 18 items in the work-to-life direction and 18 items in the -life-to-work direction.

Confirmatory Factor Analysis

Sample and Procedure. The final phase of the positive spillover over development process was conducting Confirmatory Factor Analysis (CFA) with an independent sample. The goal of Phase 4 was to replicate and confirm the factor structure depicted in the EFA conducted in Phase 3. In order to do so, another independent sample was collected through MTurk (N = 429). Restrictions were set on the listing, making it so individuals who completed the survey in EFA sample were not eligible to participate in the CFA sample. Once again, participation

required that respondents be at least 18 years old, living in the United States, and employed at least 35 hours a week and participants were compensated $1.00. The final survey included the 36 items retained following the item reduction process at the end the EFA stage. In order to address threats to data quality posed by careless responding, only respondents who missed neither of the two insufficient effort items were included in the final sample. The final sample was primarily male (50.6%) and white (77.6%), with had an average age of 40.6 years and worked and average of 37.9 hours a week.

Analysis. Confirmatory Factor Analysis was conducted in order to confirm the factor structure of the positive spillover scale observed in the EFA. CFA analyses were performed using MPlus, version six (Muthén & Muthén, 2007). Factor extraction was conducted using maximum likelihood estimation. Maximum likelihood estimation was used in the present sample in order to assess the fit of the model. Whereas FAC was used in the EFA sample, FAC does not result in fit statistics that can be used to interpret the quality of the fit of the resulting measure to the data, while maximum likelihood estimation does (Kline, 2015). Given the variety of fit indices provided using maximum likelihood, this approach was the most appropriate for assessing the overall viability of the resulting measure of positive spillover. The primary goal of the CFA stage is for the same factors depicted in the EFA to be confirmed by the CFA, providing strong support for the true nature of positive spillover and the identified dimensions. The CFA concludes the development phase of the scale development and validation.

Phase 3. Measurement Validation

Testing the Nomological Network

When developing a new measurement tool, it is crucial to confirm that the resulting scale properly captures the phenomenon it is intended to measure. The goal of testing the nomological

networks was to assess the convergent and discriminant validity of the new measure with other measures of the work-life interface**.**

Sample and Procedure. Convergent and discriminant validity are two forms of construct validity used to ensure that scales are in fact measuring the construct they are intended to measure (Nunnally & Bernstein, 1994). Specifically, convergent validity compares two or more measures that are designed to measure the same construct, showing that they are related to each other. In this case, the newly developed measure was correlated with other measures representing the positive side of the work-life interface. If the correlations between the new measure and exiting measures are high, convergent validity it achieved. Conversely, discriminant validity compares two measures that are expected to be distinct from one another, confirming that the new measure captures phenomena separate from constructs it should be empirically distinct from (Nunnally & Bernstein, 1994). In the case of the present study, the new positive spillover measure was compared with a validated measure of work-life conflict, a construct that is consistently shown to be empirically distinct from positive spillover (e.g., Carlson et al., 2000; Frone, 2003). The empirical distinction of these constructs stems from their underlying mechanisms. While conflict is acts as a psychological stressor, positive spillover is identified as a developmental process, indicating that the processes operate through differing mechanisms (Carlson et al., 2006). In addition, conflict and positive spillover have entirely different predictors. While the strongest predictors of conflict are work and family pressures (Carlson et al,. 2006; Frone, Yardley, & Markel, 1997), the strongest predictors of positive spillover are various environmental resources (Grzywacz, 2002; Wayne et al., 2004), again, suggesting that conflict and enrichment are empirically distinct constructs.

In order assess the construct validity of the new measure, another one-timepoint, independent sample was collected through MTurk (N = 701). Once again, participation restrictions were set on the listing, making it so individuals who completed the survey in Phase or Phase 4 were not eligible to participate in Phase 5. Participation required that respondents be at least 18 years old, living in the United States, and employed at least 35 hours a week and participants were compensated $1.00 for their time. The final survey included the newly developed measure of positive spillover along with several scales that capture positive side of the work-life interface along with several measures that capture the negative side of the work-life interface. As usual, in order to address threats to data quality posed by careless responding, only respondents who missed neither of the two insufficient effort items were included in the final sample. The final sample was primarily female (54.5%) and white (76.2%) with an average age of 39.1 years and work an average of 42.5 hours a week.

Measures. Given the dearth of well-established work-life specific measures of the work-life interface, along with the conceptual similarity between work-life conflict, enrichment, facilitation, and spillover with their work-family counterparts, it is common to use adapted versions of validated work-family measures to capture general work-nonwork domain conflict, enrichment, facilitation, and spillover (e.g., Boswell & Olson-Buchanan, 2007; Hämmig et al., 2009). The present study uses several adapted versions of work-family measures to capture the work-life interface.

***Positive Spillover Measures*.** Three measures of positive spillover were included in the present study. The first was the newly developed measure of positive spillover, which includes a total of 36 items, 18 in the work-to-life direction (e.g., "Using time efficiently at work helps me be more productive in my personal life") and 18 in the life-to-work direction (e.g., "The

knowledge I gain from nonwork experiences helps me to be a better employee/coworker"). Reponses were recorded on a 5-point Liker scale, ranging from 1 = "strongly disagree" to 5 = "strongly agree". Higher scores indicate higher levels of positive spillover.

The second measure of positive spillover was the work-family enrichment scale developed by Carlson and coauthors (2006). This scale was adapted to capture the work-life interface and includes 18 items, with nine items in the work-to-life direction (e.g., "My involvement in my work puts me in a good mood and this helps me be a better family member") and nine items in the life-to-work direction (e.g., "My involvement in my person life helps me acquire skills and this helps me be a better worker"). The scale was adapted to reflect the broader work-life domain rather than the work-family domain, specifically. Reponses were recorded on a 5-point Liker scale, ranging from 1 = "strongly disagree" to 5 = "strongly agree". Higher scores indicate higher levels of positive spillover.

The third measure of positive spillover was the work-family positive spillover scale developed by Hanson and coauthors (2006). This scale was adapted to capture the work-life interface and includes 18 items, with nine items in the work-to-life direction (e.g., "Having a successful day at work puts me in a good mood to better handle my work responsibilities") and nine items in the life-to-work direction (e.g., "Having a good day at home makes me a better employee when I get to work"). Items were modified to reflect the work-life interface rather than just the work-family interface. Reponses were recorded on a 5-point Liker scale, ranging from 1 = "strongly disagree" to 5 = "strongly agree". Higher scores indicate higher levels of positive spillover.

Work-Life Conflict. Both directions of work-life conflict, life-to-work and work-to-life, were captured using an adapted version of the work-family measure developed and validated by

Carlson, Kacmar, and Williams (2000). Nine items measure work-to-life conflict (e.g., "My work keeps me from my nonwork activities more than I would like.") and nine items measure life-to-work conflict (e.g., "Due to stress outside of work, I am often preoccupied with nonwork matters at work."). Responses were collected using a 5-point Likert scale ranging from 1 = "strongly disagree" to 5 = "strongly agree". Higher scores reflect higher levels of conflict.

Analysis. The convergent and discriminant validity of the new measure we assessed by correlating the new measure with existing measures of the work-life interface. Bivariate Pearson correlations were calculated in SPSS version 26.

Predictive Validation

The goal of Phase 6, the final step in the development and validation of the new measure of positive spillover, was to assess the predictive validity of the new measure. Predictive validity is a sub-type of criterion validity, which assesses the relationship between a measure and relevant outcomes. Specifically, predictive validity refers to the predictive accuracy of the measure to important outcomes. In the case of the present study, empirically supported outcomes of positive work-to-life positive spillover include affective organizational commitment (McNall et al., 2010; Zhang et al., 2018), job satisfaction (Michel & Michel, 2015; Zhang et al., 2018), life satisfaction (McNall et al., 2010; Zhang et al., 2018), turnover intentions (Aboobaker & Edward, 2020; Boyar & Mosley, 2007), burnout (Zhang et al., 2018) and physical and psychological health (McNall et al., 2010; Zhang et al., 2018). Empirically supported outcomes of positive life-to-work positive spillover also include affective organizational commitment, physical and mental health, burnout, and turnover intentions, along with family satisfaction (Aboobaker & Edward, 2020; McNall et al., 2010; Zhang et al., 2018). Predictive validity is strong if the new measure

exhibits similar relationships (strength and direction) with relevant outcomes when compared to existing measures of positive spillover.

Sample and Procedure. In order to assess the predictive validity of the new measure, a snowball sample was collected with the assistance of undergraduate students at a large Southeastern university. Undergraduate students enrolled in psychology courses earned extra credit for courses by participating in a short lesson on conducting snowball sampling and posting a Qualtrics link containing the first timepoint of validation survey to one or more of their social media platforms (e.g., Facebook, LinkedIn, Instagram, Twitter). The survey included the new positive spillover scale along with various measures of outcome variables related to positive spillover. Participation required that respondents be at least 18 years old, living in the United States, and employed at least 35 hours a week. Respondents who competed the survey but did not meet these criteria were removed from the final sample (N = 99). Additionally, respondents who missed both of the two insufficient effort items were also removed from the final sample. The final sample was primarily female (56.6%) and white (81.8%) with an average age of 35.8 years and work an average of 42.1 hours a week.

Measures. Once again, adapted versions of validated work-family measures to capture the work-life interface when necessary.

***Positive Spillover*.** The newly developed work-life positive spillover measure was used to capture positive spillover. The scale contains a total of 36 items, 18 in the work-to-life direction (e.g., "Using time efficiently at work helps me be more productive in my personal life") and 18 in the life-to-work direction (e.g., "The knowledge I gain from nonwork experiences helps me to be a better employee/coworker"). Reponses were recorded on a 5-point Liker scale, ranging from

1 = “strongly disagree” to 5 = “strongly agree”. Higher scores indicate higher levels of positive spillover.

Affective Organizational Commitment. Affective Organizational Commitment was measured using a measure developed by Allen and Meyer (1990) (e.g., “I really feel as if this organization’s problems are my own”). Responses are recorded on a 7-point Likert scale, where high scores indicated higher levels of affective organizational commitment.

Job Satisfaction. Job satisfaction was measured using the Work Life Satisfaction measure developed by Grawitch, Maloney, Barber, and Mooshegian (2013) (e.g., “I am satisfied with my work life”). This five item measure is measured on a 7-point Likert scale, where higher scores indicate higher levels of job satisfaction.

Life Satisfaction. Life satisfaction was measured using the Family Life Satisfaction measure developed by Grawitch, Maloney, Barber, and Mooshegian (2013) (e.g., “I am satisfied with my family life”). This five item measure is measured on a 7-point Likert scale, where higher scores indicate higher levels of family satisfaction.

Burnout. Burnout was assessed using the 14-item Shirom-Melamed Burnout Measure (SMBM) (Shirom & Melamed, 2006). The SMBM assess resource-based burnout through physical fatigue, cognitive weariness, and emotional exhaustion (e.g., “I have no energy for going to work in the morning”, “I have difficulty concentrating”, “I feel I am not capable of investing emotionally in coworkers and customers”). Responses were provided using a 7-point Likert scale ranging from 1 = “never or almost never” to 7 = “always or almost always”. Higher scores within each dimension of burnout reflect of higher levels of burnout for the associated resource.

Turnover Intentions. Turnover intentions were measured using a single item developed by Spector, Dwyer, and Jex (1988). The item reads, "How often have your seriously considered quitting your current job?". Responses are recorded on a 7-point Likert scale where high scores indicate high levels of turnover intentions.

***Psychological Health*.** Psychological health was assessed using the abbreviated version of the General Health Questionnaire, the GHQ-12 (Goldberg & Williams, 1991) (e.g., "Have you recently felt constantly under strain"). Responses are collected using a 4-point Likert scale ranging from 0 = "not at all" to 3 = "much more than usual". Total scores range from 0 to 36, where higher values indicate poorer psychological health.

***Physical Health*.** Physical health was measured using a single item developed by DeSalvo, Bloser, Reynolds, He, and Munter (2005). The item reads, "In general, how would you rate your health?" and is measured on a 5-point Likert scale ranging from 1 = "Excellent" to 5 = "poor". High scores are indicative of poorer health.

Analysis. Bivariate Pearson correlations were used to assess the predictive validity of the new measure. The positive spillover measure was first correlated with the chosen outcomes and then compared to existing meta-analytic findings exploring these same relationships to confirm that the present measure is similarly related to outcomes of positive spillover when compared to existing scales. Bivariate Pearson correlations were calculated in SPSS version 26.

Results

Phase 1: Item Retention and Generation

Qualitative Investigation

The qualitative investigation stage involved analysis of the item "How does having multiple life roles impact you in positive or beneficial ways?" collected throguh MTurk as well as an independent snowball sample. Between both samples, 560 individuals answered this item.

Of these responses, 366 responses reflected at least one of the six spillover dimensions, with development being the most prevalent (55.2%), followed by capital (24.9%), support (8.5%), efficiency (7.9%), affect (2.7) and values (1.1%). Table 1 contains example responses that represent each of the six dimensions of positive spillover. These findings provide strong initial support for several of the proposed facets of positive spillover, especially development, capital, support, and efficiency. While less prominent, there is still evidence to suggest that affect and values spill over across the work and life domains.

In addition to providing support for existing facets of positive spillover, the present study aimed to detect potential facets of positive spillover that have not yet been identified. Of the 560 responses, 1.9% of participants stated that a benefit of having multiple roles is that it "keeps them healthy." However, we did not incorporate this dimension into our study, as health and well-being are better conceptualized as outcomes of work-life positive spillover. Health and well-being related responses to this item may have resulted from our open-ended statement regarding the beneficial *impact* of having multiple life roles. Subsequently, no new facets of positive spillover were identified during the qualitative analysis.

Item Retention and Generation

The goal of the item retention and generation stage was to categorize existing enrichment, facilitation, and positive spillover items into the dimensions they best reflect and to generate new items for dimensions with too few items. Items were compiled from various spillover, facilitation, and enrichment scales, resulting in a total of 109 items for categorization, made up of a combination of work-to-life and life-to-work items (Carlson et al., 2006; Hanson et al., 2006; Holbrook, 2005; Kirchmeyer, 1992; van Steenbergen et al., 2007). Based on participants' categorizations of item, six items were selected from the development, capital, and values

categories. All of these items had PSA values greater than or equal to .95 and CSV values greater than or equal to 0.90. If there were more than six items that met these retention criteria, the six items with the highest means were selected for inclusion in the next phase. A few items were slightly modified in order to read more clearly (i.e., addressing double or triples barreled phrases). Only two capital items met the inclusion criteria for the next phase; therefore, four new items were developed by the researchers based on the present definition of capital spillover. Similarly, only one existing support item met the inclusion criteria, thus, five additional support items were developed. Finally, none of the efficiency items met the inclusion criteria. Consequently, six new efficiency items were developed based on the current conception of efficiency spillover. Items developed by researchers in this phase do not have associated PSA, CSV, or mean values; however, because they were developed based on the presented concepts of the dimensions of positive spillover and responses to qualitative data collected, they are expected to accurately reflect their assigned dimensions.

Ultimately, 39 of the 109 existing items met the inclusion criteria based on the PSA at or above .95 and CSV at or above .90 cutoff criteria. Of these 39 items representing five of the six dimensions of positive spillover, 21 were chosen for inclusion in the resent study. In addition to being chosen based on their substantive and face validity scores, items were also chosen in an effort to create a wide range of content coverage for each category; therefore, the authors avoided choosing multiple items from a single category that were extremely similar when possible. The remaining 15 items needed were developed by the researchers, resulting in a total of 36 unidirectional items. After every dimension contained six items, made up of either existing or slightly modified items, items developed by researchers, or a combination of both, each of the

item was duplicated to represent the other direction of positive spillover, resulting in a total of 72 items, with 12 items per dimension.

Phase 2: Factor Analysis

Exploratory Factor Analysis

The goal of EFA stage was to observe the patterns and factor structure of the positive spillover items and dimensions. The EFA resulted in a four-factor structure with strong factors for both the work-to-life and the life-to-work directions of positive spillover. Several criteria were used to determine the number of retained factors, including eigenvalues, scree plots, parallel analysis, and factor loadings and cross loadings. Eigenvalues using the 1.0 or higher Kaiser criterion clearly indicated a four-factor solution and each factor had at least three items that loaded onto it at .60 or higher (Kaiser, 1960). For the work-to-life direction, the Eigenvalue for the four-factor solution was 1.23 and the Eigenvalue for the five-factor solution was 0.87. For the life-to-work direction, the Eigenvalue for the four-factor solution was 1.40 and the Eigenvalue for the five-factor solution was 0.85. In addition to interpretations based on these Eigenvalues, the associated scree plot indicated a slope tapering after the fourth factor, providing additional support for a four-factor model. Similarly, parallel analysis indicated a crossing over of Eigenvalues between the third and fourth factors in the work-to-life direction and between the fourth and fifth factors in the life-to-work direction. Finally, each of the factors in both four-factor solutions had at least the items that loaded onto the facets at .60 of greater and ranged from .60 to .84 for work-to-life positive spillover and from .60 to .81 for life-to-work positive spillover. Factor loadings for both four-factor solutions can be found in Tables 3 and 4.

The resulting four-factor solution was interpreted as support, development/values, efficiency, and affect. Development and values items loaded strongly onto the same factor in

both models, suggesting that they represent a single dimension of positive spillover. Capital items did not load strongly or cleanly onto any single factor, but rather loaded weaky between the development/values factor and the affect factor. These findings suggest that capital spillover is not a distinct facet of positive transfer between the work and life domains. Subsequently, capital items were removed from the data and the EFA was run again, under the same conditions. The results indicated four far cleaner, interpretable factors also supported by the Eigenvalues, the scree plot, and factor loadings.

Using the identified four-factor structure, items were reduced to those that that displayed significant loadings (0.60 or higher). These items also had low cross-loadings (< .32). Dimension items were further reduced to the six items (three per direction) with the highest, cleanest loadings on each factor for both directions. As expected, the items that performed the best were consistent across both the work-to-life and life-to-work directions of positive spillover, resulting in the retention of complementary items across directions. Ultimately, six support items, four development items, two value items, six efficiency items, and six affect items were retained. These items are indicated in bold in Tables 3 and 4.

Confirmatory Factor Analysis

The goal of the CFA stage was to replicate and confirm the factor structure depicted in the EFA. CFA was run with the 36 items retained from the EFA phase. In order to assess the fit of the proposed model, several model fit indices were examined following Kline's (2015) guidelines for interpreting model fit. These fit indices include the Chi-Square Test of Model Fit, Root Mean Square Error of Approximation, (RMSEA) Standardized Root Mean Square Residual (SRMR), Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI). The Chi-Square Test of Model Fit indicates the degree of discrepancy between the population covariance matrix and the

one predicted by the model being tested. If the resulting p-value is greater than .05, this suggests that the model fit is 'perfect' (Kline, 2015). The RMSEA also represents how far the hypothesized model is from a perfect model. Specifically, it reflects the difference between the hypothesized and observed covariance matrix per degree of freedom (Chen, 2007). RMSEA values less than .08 indicate good model fit. The SRMR also represents discrepancies between the hypothesized and observed models through by assessing the average of the standardized residuals between the hypothesized and observed covariance matrices (Chen, 2007). Once again, values less than .08 imply good model fit. The CFI and TLI indices also reflect so closely the observed model fits compared to a perfect model. CFI and TLI values range from 0 to 1, with values equal to or greater than .95 suggesting good model fit.

The results of the CFA indicated good fit overall for the four-factor structure identified by the EFA for both the work-to-life items and the life-to-work items. For the work-to-life items, the Chi-Square Test of Model Fit was significant χ^2 (48, N = 429) = 123.87, p < .001, but it is important to note that this test is very sensitive to sample size and nearly always rejects models when sample sizes are large (as in this case, with N = 429). Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR) values below .08 indicate good model fit. RMSEA was .066 with a 90% CI of .053 to .079, demonstrating good model fit. The SRMR of the model was .041, also indicating good fit. Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values greater than or equal to .95 indicate good model fit. The CFI was .973 and the TLI was .962, both demonstrating good fit. Factor loadings ranged from .713 to .887. For the life-to-work items, the Chi-Square Test of Model Fit was χ^2 (48, N = 429) = 96.75, p < .001, the RMSEA was .049 with a 90% CI of .034 to .063, the SRMR was .034, the CFI was .984, and the TLI was .978. Once again, all fit statistics except for the

Chi-Square suggested good model fit. Factor loadings ranged from .793 to .887. Overall, these results provide support for the four-factor model of positive spillover identified in the EFA. Factor loadings for the CFA can be found in Tables 5-6 and the corresponding items included in the final measure of positive spillover can be found in Table 7.

Internal Consistency and Intercorrelations. When developing a new measurement tool, it is essential to ensure that the ultimate factor structure reflects unique dimensions that comprise the overarching construct. As part of assessing the quality of the resulting model, internal consistencies of the factors along with factor intercorrelations were examined. Factor means, standard deviations, alpha reliabilities, and inter-factor correlations from the eight dimensions of positive spillover can be found in Table 8. Alpha values for the factors ranged from .820 to .905, indicating strong internal consistency of each identified factor. Additionally, while factors are expected to be moderately correlated with each other, inter-factor correlations greater than 0.850 are indicative of poor discriminant validity and suggest that the resulting factors might not be capturing unique information (Kline, 2015). The observed inter-factor correlations range from .332 to .655, demonstrating discriminant validity of the final measure and appropriate distinctiveness of the identified factors.

Phase 3: Measurement Validation

Testing the Nomological Network

Convergent Validity. One of the purposes of Phase 3 was to assess the convergent and discriminant validity of the newly developed measure of positive spillover. Convergent validity was evaluated by correlating the new measure with existing measures of work-life enrichment and positive spillover (Carlson et al., 2006; Hansen et al., 2006). Correlations between the new measure and other work-life scales can be found in Table 9. It was expected that the new

measure would be moderately correlated with the other measures of the positive side of the work-life interface. The eight correlations between the new measure and existing measures range from .442 to .756. There was only one correlation above .700, demonstrating convergent validity while maintaining discriminant validity (Kline, 2015).

Discriminant Validity. Discriminant validity was assessed by correlating the new positive spillover measure with existing measures of the negative side of the work-life interface, including work-life conflict and negative spillover, as these constructs are shown to be empirically distinct from those representing positive side of the work life interface (Carlson et al., 2006). Correlations between the new measure and work-life conflict and negative spillover can be found in Table 9. Given the empirical distinction between the negative and positive side of the work-life interface, it was expected that the new measure would be unrelated to or weakly negatively related to measures of conflict and negative spillover. The eight correlations between the new measure and existing measures range from -0.051 to -0.336, thus, demonstrating discriminant validity.

Predictive Validation. The final stage of validation involved assessing the predictive validity of the new positive spillover measure by comparing the relationship between positive spillover and its empirically supported correlated to those with existing measures of the positive side of the work-life interface. Tables 10 and 11 include the correlations between work-to-life and life-to-work positive spillover with the chosen outcomes along with the meta-analytic correlations observed between these variables across three meta-analyses (McNall et al., 2010; Lapierre et al., 2018; Zhang et al., 2018).

Within the work domain, existing meta-analytic research has shown that work-to-life positive spillover (WLPS) is weakly to moderately associated with job satisfaction, with existing

meta-analysis correlations ranging from .17 to .41. The present WLPS measure was related to job satisfaction at .23, resulting in a weak, approaching moderate relationship with job satisfaction. Regarding affective organizational commitment, existing research suggests a weak relationship between WLPS and affective commitment, ranging from .23 to .28. The present WLPS measure was related to affective organizational commitment at .29, resulting in a comparable relationship compared to existing measures. Turnover intentions have been shown to me weakly negatively related to WLPS, with correlations ranging from -.19 to -.05. The present WLPS measure was related to turnover intentions at -.23, resulting in a weak negative relationship that is analogous with results using existing measures. Finally, existing research suggests that work engagement has a higher weak to moderate relationship with WLPS, with correlations ranging from .32 to .42. The present WLPS measure was related to work engagement at .34, resulting in a moderate correlation that is, again, similar to existing meta-analytic findings. Overall, the relationships between the present WLPS measure and recognized correlates of positive spillover are comparable to the relationships established throughout the literature.

Given the strong support for the source attribution perspective to understanding the work-life interface, it is expected that WLPS will be more weakly related to outcomes in the personal life domain. Existing meta-analytic findings observe a weak, yet significant relationship between WLPS and physical and psychological health, ranging between .14 and .17. The present WLPS measure was related to both physical and psychological health at .20, resulting in a weak yet significant relationship. Additionally, meta-analytic findings suggest that WLPS is weakly negatively related to burnout at -.17. The present WLPS measure was related to burnout at -.09,

also resulting in a weak negative correlation. Once again, the new WLPS measure was comparably related to personal life outcomes in comparison to existing measures of WLPS.

Regarding life-work positive spillover (LWPS), existing research indicates that LWPS is more weakly related to work domain outcomes than personal domain outcomes, with weak relationships between LWPS and work satisfaction, affective organizational commitment, and turnover intentions and slightly higher relationship with work engagement. Specifically, meta-analytic correlations between LWPS and work satisfaction range from .16 to .25. The present LWPS measure was related to work satisfaction at .17, resulting in a comparable association to existing measures. It has also been shown to LWPS is weakly but significantly related to affective organizational commitment, with meta-analytic correlations ranging from .19 to .20. The present LWPS measure was related to affective organizational commitment at 0.25, also demonstrating a weak, yet significant correlation. The meta-analytic relationship between LWPS and turnover intentions ranges from an insignificant association to a weak negative association, ranging from .01 to -.08. The present LWPS measure was related to turnover intentions at -.22, resulting in a weak negative association that is slightly higher than, but still comparable to, existing research. Finally, only one meta-analytic study has assessed the relationship between LWPS and work engagement, suggesting a weak, close to moderate relationship between LWPS and work engagement at .28. The present LWPS measure resulted in a comparable association with work engagement at .33. Ultimately, the associations between the present LWPS measure and work domain outcomes are analogous to those demonstrated in existing research. These findings also upheld support for the source attribution perspective, as associations between WLPS and work domain outcomes were stronger than those between LWPS and work domain outcomes.

Regarding the relationships between LWPS and personal domain outcomes, it has been meta-analytically observed that LWPS is weakly associated with physical and psychological health, with correlating ranging from .12 to .17. The present LEPS measure was weakly related to physical health at .21 and unrelated to psychological health at .11. It has also been demonstrated that LWPS is weakly related to life satisfaction, with a meta-analytic correlation of .29. The present LWPS measure is comparably associated with life satisfaction at .24. Finally, meta-analytic evidence suggests that LWPS is unrelated to very weakly related to burnout. The present LWPS measure was also unrelated to burnout, with an association of -.02. Once again, these findings illustrate that the newly developed LWPS measure is related to correlates of life-to-work positive spillover to a similar degree compared to existing measures of LWPS, demonstrating the predictive validity of the new measure.

In addition to exploring the overall relationships between positive spillover and associated outcomes, the present study also assessed the facet level relationships between the four facets of work-to-life and life-to-work positive spillover and outcomes. Standardized beta coefficients between facets and outcomes can be found in Table 13. Overall, it appears that individual facets do not tend to predict outcomes than other facets. The single exception is that efficiency spillover better predicts physical health outcomes better than the other three facets in both the work-to-life and life-to-work direction.

Discussion

The primary aim of the present research was to present a parsimonious, synthesized view of the positive side of the work-life interface through the development and validation of a positive spillover scale that encompasses the existing constructs of work-life enrichment, facilitation, and positive spillover. The resulting four-factor model of positive spillover is a

comprehensive representation of the mechanisms through which work benefits individuals' personal lives and, likewise, how individuals' personal lives' benefit work experiences. Results based on the six studies presented in the current paper support the proposition that the three constructs explaining the positive transfers between the work and life domains represent a single underlying construct, that we term positive spillover. Initial findings from the qualitative sample demonstrate that each of the six facets identified across different measurement tools are supported dimensions of positive spillover, as all of them were represented in respondents' answers to the question "How does having multiple life roles impact you in positive or beneficial ways?". With this preliminary support for a comprehensive model of work-life positive spillover, the concept was assessed over a series of factor analytic and validation studies.

Results from the item retention and generation phase highlighted the disconnect between several definitions of facets of work-life enrichment, facilitation, and positive spillover and peoples' interpretation and understanding of the concept, as indicated by low substantive and face validity scores. As a result, researchers developed four items to represent capital spillover, five items to represent support spillover, and all six items to represent efficiency spillover, based on the presented definitions of the facets of positive spillover. The following EFA revealed that values and development represent a single underlying dimension, as these items strongly loaded onto a single factor. Additionally, capital items did not load cleanly onto any single factor, but rather loaded weakly across various factors, suggesting that capital is not a supported dimension of positive spillover. After removing capital items and merging development and values into a single dimension, the retained dimensions and included development/values, affect, support, and efficiency, resulting in a four-factor model of positive spillover. Among the top four performing items from each dimension of positive spillover, at least three complementary items operating in

the opposite direction were also among the top four performing items, suggesting that the facets of positive spillover function similarly from work-to-life and from life-to-work. The final model was subsequently supported by factor loadings, inter-factor correlations, and fit statistics resulting from the CFA, providing further support for the observed four-factor model of positive spillover.

Several validation studies also provided support for the final measure. The first, which assessed the convergent and diverged validity of the scale, demonstrated that the positive spillover scale is moderately positively associated with existing scales representing the positive side of the work-life interface, with only two subscales correlated above .700. Additionally, the new scale was unrelated to slightly negatively related to work-family conflict measures, demonstrating divergent validity. Finally, the predictive validation phase indicated that both the work-to-life and life-to-work scales were comparably related to established correlates of positive spillover when compared to existing measures. Collectively, the findings of the validation studies provide additional support for the viability of operationalizing the positive side of the work-life interface as a single construct.

Implications and Future Directions

Theoretical Implications

The proposed synthesis of constructs representing the positive side of the work-life interface yields several theoretical implications for research on the work-life interface. A primary goal of the present studies was to address the influence of the jangle fallacy on constructs comprising the positive side of the work-life interface when research surrounding this phenomenon emerged. Described as mistakenly believing that two or more measures capture unique constructs because the scales have different names, the jangle fallacy often impacts a

body of research when various constructs are simultaneously developed to represent a single, or highly overlapping, phenomenon. Given the almost simultaneous development of these three constructs and the high frequency with which enrichment, facilitation, and spillover are used interchangeably throughout the literature, there is evidence to suggest that work-life enrichment, facilitation, and positive spillover are a product of the jangle fallacy. As a result, these three conceptions can be unified as a single construct that represents the positive side of the work-life interface without losing valuable, unique information from each construct. The results of the present research suggest that the integration of enrichment, facilitation, and positive spillover scales, and therefore constructs, results in an empirically supported and valid representation of the positive side of the work life interface. The resolution of the jangle fallacy holds additional theoretical implications.

The presented conception of positive spillover reflects a unified and far more parsimonious approach to understanding the positive exchanges between the work and personal domains. Given that the positive side of the work life interface is a relatively new area of research, having gained traction in the early 2000's, operating under a more parsimonious conception of this phenomenon will allow for more unified and linear progression of theory, rather than simultaneously evolving three heavily overlapped conceptions. In this sense, a deeper understanding of positive spillover can be achieved, as the widespread issues of the interchangeability of construct labels and measurement tools will no longer muddle the literature. As a result, the currently disjointed body of literature exploring the positive side of the work-life interface will hold stronger, more clear implications about the nature of this phenomenon and follow a more liner progression in developing a greater understanding of positive spillover.

A third valuable theoretical implication of the present conception of the positive side of the work-life interface is that the resulting perspective will facilitate a better understanding of the relationships between positive spillover and its predictors, outcomes, and correlates. As it currently stands, the literature is heavily muddled by findings associated with three divergent branches of research exploring relationships between enrichment, facilitation, and positive spillover and various correlates. Each of these three branches are heavily overlapped, as demonstrated by not only the widespread interchangeability of construct labels and scales but also the high conceptual overlap between the conceptions of positive spillover. Additionally, while some researchers treat work-life enrichment, facilitation, and spillover as separate constructs, many others do not differentiate between these versions of positive interactions between work and life and, therefore, treat the terms as interchangeable. Consequently, when trying to combine the findings of existing research to create a greater understanding of positive spillover, the results are inconsistent and inconclusive. A unified, streamlined approach to defining and measuring the positive side of the work-life interface will facilitate clear and consistent meta-analytic explorations of positive spillover and will result in a deeper understanding of the relationship between positive spillover and its predictors, outcomes, and correlates.

Practical Implications

In addition to the several theoretical implications of the present research, the restructured conception of positive spillover also holds several meaningful practical implications. A significant benefit of operating under a cohesive and parsimonious theoretical framework is the more straightforward application of findings to practical environments. The currently disjointed body of literature that identifies three different ways in which work and life positively impact

each other creates a large gap in the application of empirical findings to practical settings. There is a lack of clarity regarding how existing conceptions of the positive side of the work-life interface and associated findings can be applied within organizations. A single, clear-cut approach to positive spillover with associated findings and implications will prove much more valuable to organizations than the currently muddled literature and findings.

A second practical implication is that the subsequent clearer understanding of relationships between positive spillover and its predictors and outcomes will provide better guidance for interventions designed to improve positive interactions between the work and life domains. Having a strong understanding of which constructs positive spillover is strongly related to versus weakly or unrelated to creates clear areas focus for intervention, which should result in more effective intervention strategies.

Future Directions

The present research initiates the restructuring of the current conceptions of the positive side of the work-life interface; however, additional research is necessary to further establish the validity of this measure. Regarding content validity, future research should further assess the convergent and discriminant validity of the present measure, as the current study only observed the factor structure of the measure and the relationships between the factors. Additionally, future examination of the measure's nomological network ensures that the present scale has comparable relationships with constructs when compared to established work-life enrichment, facilitation, and positive spillover scales. As this is only the first study assessing the validity of the new measure, several future studies are needed to strengthen the support of this measure of positive spillover.

In a similar vein, future research should also further assess the predictive validity of the presented measure longitudinally rather than cross-sectionally. Assessing the relationships between positive spillover and its predictors and outcomes longitudinally creates a more accurate understanding of the relationships between predictors and outcomes of positive spillover over time. Additional research assessing the predictors and outcomes of positive spillover using the present measure not only further validate the measure but also begin building a cohesive body of literature based on the present, restricted conception of the positive side of the work-life interface.

Finally, the authors recommend that researchers exploring the positive side of the work life interface transition to utilizing the proposed streamlined and unified conception of this phenomenon. The purpose of the present research was not to add another new measure of the positive side of the work-life interface in the muddled mix of conceptions and measurement tools but rather was to present an operationalization and associated scale that encompasses existing conceptions to coalesce and replace the current disjointed approach to assessing the positive interactions between work and life. Therefore, in order to see the benefits of the various theoretical and practical implications the proposed conception and scale pose, it is essential for researchers to adopt the new approach and initiate the process of cleaning up the literature surrounding positive spillover.

Limitations

While the present research provides strong evidence in support of the restructured representation of the positive side of the work-life interface, there are a few limitations that warrant consideration. One limitation of the present scale development and validation is that, while the substantive validity of existing positive spillover items was assessed, the substantive

validity of the items researchers developed was not assessed. The substantive validity requirements for items were put in place to ensure that items retained in the final measure accurately reflect the facet of positive spillover that they are intended to capture. As a result, there is a risk that newly developed items might not meet the desired substantive validity criteria for inclusion; however, because the authors developed new items based on the present operationalizations of the facets of positive spillover, the new items were carefully and intentionally developed to clearly reflect the facet they are intended to capture.

A second limitation of the present study is that the predictive validity of the present measure was assessed using cross-sectional data. This introduces the threat of common method bias into the data, which limits the interpretably of the present results. However, because the goal of the present study was not to establish causality between positive spillover and its antecedents and outcomes, but rather to assess the relationships with its correlates, the use of cross-sectional data does not invalidate the findings of the validation study. However, it would be beneficial for future research to employ a longitudinal approach to exploring these relationships in the quest to identify and understand various predictors and outcomes of positive spillover.

Conclusion

The present operationalization and associated measure of positive spillover, which integrates the various conceptions and dimensions of the positive side of the work-life interface that have been identified by various researchers, was supported by the six studies presented in the current paper. Through the identification of four strong facets of positive spillover, the restructured and unified definitions and measurement tool serve as a holistic measure of positive spillover by incorporating the enrichment, facilitation, and positive spillover constructs proposed in previous research. Ultimately, the results of the present research support the reorganization of

the positive spillover phenomenon to reflect each of these three separately developed constructs into a single, parsimonious operationalization. Implementation of this conceptualization of positive spillover will begin to resolve the many definitional and measurement issues associated with the positive side of the work-life interface throughout the literature.

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Table 1

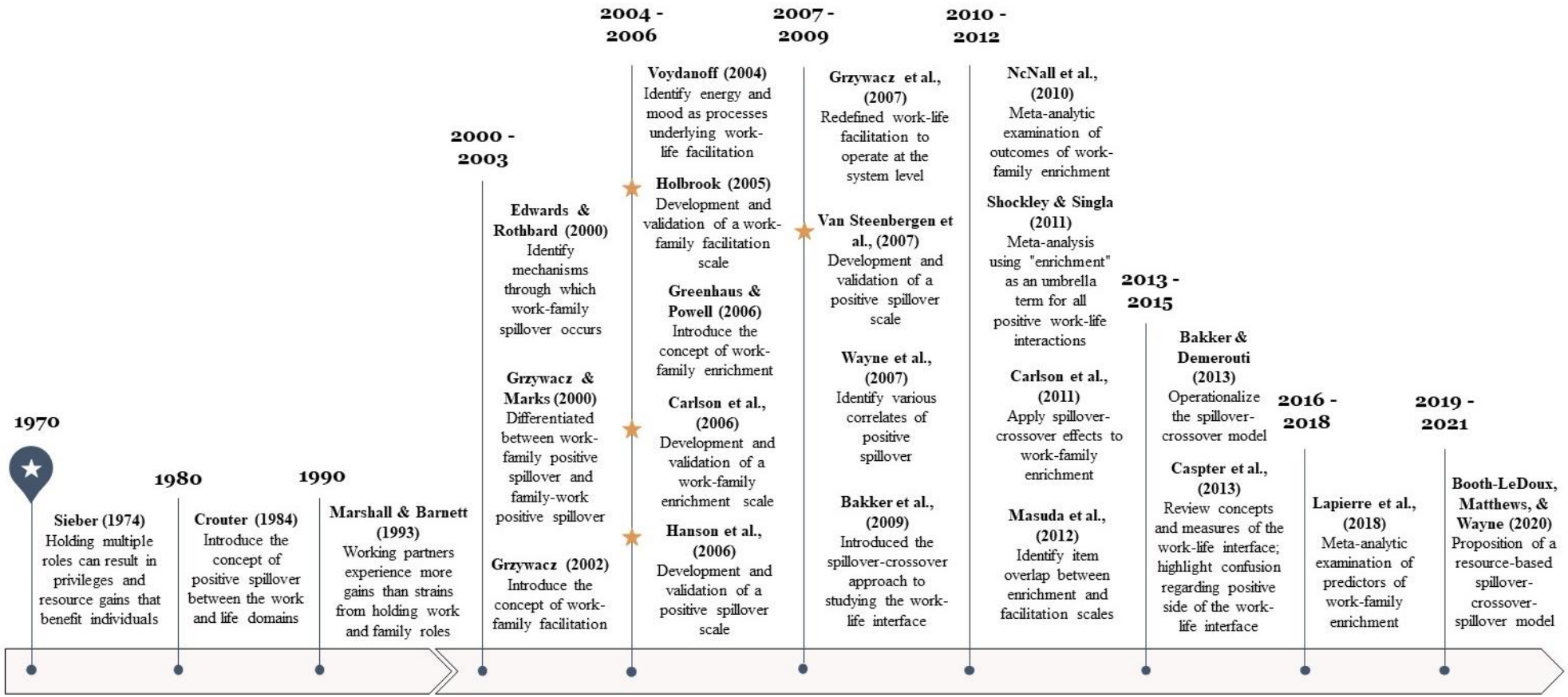
Existing Measures of Positive Spillover and Their Facets.

Authors	Construct	Included Facets																	
		Development							Affect	Capital			Efficiency		Values		Support	Energy	Privileges
		Development	*Experiences*	*Skills*	*Behavior-based*	*Psychological*	*Behavioral-Instrumental*	*Personality Enrichment*	*Affect*	*Capital*	*Status Security*	*Status Enhancement*	*Effeciecy*	*Time-based*	*Attitudes*	*Values*	*Support*	*Energy-based*	*Privileges Gained*
Kirchmeyer (1992)	Positive Spillover																		
Grzywacz & Marks (2000)	Positive Spillover																		
Holbrook (2005)	Work-Family Facilitation																		
Calrson et al., (2006)	Work-Life Enrichment																		
Hanson et al., (2006)	Positive Spillover																		
Van Steenbergen et al., (2007)	Positive Spillover																		

Note. Subscales of existing measures of the postive side of the work-life interface are color coded and organized under broader headers that encompass these facets.

Figure 1

Timeline of Major Developments in The Evolution of the Positive Side of the Work-Life Interface



Note. The gap in the timeline indicates the transition from 10 year increments to three year increments. Stars denote the publication of measures assessing the positive side of the work-life interface.

Table 2

Examples of Responses to Open-Ended Item

Dimension of Positive Spillover	Example Responses
Development	It impacts me in a positive way. It allows me to be a versatile person. It improves my communication skills.
	I feel more well-rounded, and I feel like I can learn more.
	Having multiple life roles creates the opportunity to develop new skills.
Affective	Being in a happy relationship makes me happier overall, thus I'm happy at work on a day to day basis.
	Sometimes life roles benefit positively by a happy environment. For example - a good day at work can mean a good evening at home.
	I am benefited by the joy they bring me.
Capital	I feel it makes me feel like I'm contributing to the family and it gives me a sense of my own independence.
	Being able to responsibly balance the different roles in my life make me proud.
	I am able to accomplish my personal goals and keep my family safe and stable while doing so.
Efficiency	I think that balancing all my roles has honed my time management skills and also helped me zero in on what's most important to accomplish during the week both at work and at home.
	It makes me work more efficiently.
	It helps me with time management and juggling priorities.
Support	Work and family provide different positive benefits. Family provides emotional support and unconditional love. Work provides intellectual challenges, a chance to meet new people and a way to help society in general.
	I am benefited by their support.
	Support from friends and family feel productive.
Values	I feel that I'm showing my kids how to be independent and hard workers.
	As a parent, I got to help instill knowledge and skills into my children as they grew up in our house.
	Raising children helps with supervising co-workers and vice versa. You must be fair with praises as well as scolding/punishments. Having to teach your children the right things in life also means you must lead by example. This is important at home as well as at work.

Table 3

Work-to-Life EFA Loadings

Item	Factor 1	Factor 2	Factor 3	Factor 4
Development 1	.690			
Development 2	**.776**			
Development 3	.698			
Development 4	**.719**			
Development 5	.635			
Development 6	.669			
Values 1	.839			
Values 2	.695			
Values 3	.845			
Values 4	**.728**			
Values 5	.714			
Values 6	.752			
Capital 1	.343	.381		
Capital 2	.339	.507		
Capital 3	.463	.381		
Capital 4	.322			
Capital 5	.323			
Capital 6	.501	.470		
Affect 1		**.616**		
Affect 2		**.604**		
Affect 3	.472			
Affect 4	.347	.401		
Affect 5		.486		
Affect 6		**.659**		
Support 1			**.843**	
Support 2			**.835**	
Support 3			.600	
Support 4			.806	
Support 5			**.741**	
Support 6			.647	
Efficiency 1				**.793**
Efficiency 2				.647
Efficiency 3				**.696**
Efficiency 4				**.666**
Efficiency 5				.436
Efficiency 6				.530

Note. Items in bold were retained for the next phase of validation.

Table 4

Life-to-Work EFA Loadings

Item	Factor 1	Factor 2	Factor 3	Factor 4
Development 1			**-.754**	
Development 2			-.812	
Development 3			**-.703**	
Development 4			-.731	
Development 5			-.520	
Development 6			-.580	
Values 1			-.469	.369
Values 2			-.563	
Values 3			**-.548**	
Values 4			-.768	
Values 5			-.474	
Values 6			-.514	
Capital 1	.353			
Capital 2	.607			
Capital 3	.340			
Capital 4	.320			
Capital 5	-.384			
Capital 6	.416			
Affect 1	**.694**			
Affect 2	.611			
Affect 3	.407			
Affect 4	.417			
Affect 5	**.660**			
Affect 6	**.729**			
Support 1				**.581**
Support 2				.759
Support 3				.603
Support 4				**.674**
Support 5				.692
Support 6				**.700**
Efficiency 1		**.847**		
Efficiency 2		.756		
Efficiency 3		**.803**		
Efficiency 4		**.807**		
Efficiency 5		.415		
Efficiency 6		.530		

Note. Items in bold were retained for the next phase of validation.

Table 5

Work-to-Life CFA Loadings

Item	Factor 1	Factor 2	Factor 3	Factor 4
Development 2	.887			
Development 4	.878			
Values 4	.713			
Affect 1		.803		
Affect 2		.816		
Affect 6		.714		
Support 1			.590	
Support 2			.870	
Support 5			.875	
Efficiency 1				.829
Efficiency 3				.848
Efficiency 4				.806

Table 6

Life-to-Work CFA Loadings

Item	Factor 1	Factor 2	Factor 3	Factor 4
Development 2	.798			
Development 4	.793			
Values 4	.651			
Affect 1		.835		
Affect 2		.803		
Affect 6		.799		
Support 1			.817	
Support 2			.821	
Support 5			.875	
Efficiency 1				.872
Efficiency 3				.887
Efficiency 4				.859

Table 7

Final Items for the Positive Spillover Measure

Dimension	Direction	Item
Development/ Values	W – L	The knowledge I gain from work helps me to be a better family member/friend.
		The values that I learn through my work experiences assist me in fulfilling my nonwork responsibilities.
		The skills I develop at work help me be a better family member/friend.
	L – W	The knowledge I gain from nonwork experiences helps me to be a better employee/coworker.
		The values that I learn through my nonwork experiences assist me in fulfilling my work responsibilities.
		The skills I develop in my nonwork life help me be a better employee/coworker.
Efficiency	W – L	The time management strategies I use at work help me complete nonwork responsibilities.
		Using time efficiently at work helps me be more productive in my personal life.
		Effectively managing my time at work helps me be a better family member/friend.
	L – W	The time management strategies I use in my personal life help me complete work responsibilities.
		Using time efficiently in my personal life helps me be more productive at work.
		Effectively managing my time in my personal life helps me be a better employee/coworker.
Support	W – L	Individuals at work give me support to face the difficulties in my personal life.
		The emotional support I receive from my coworkers helps me complete tasks in my personal life.
		The support I receive from others at work helps me be a better family member/friend.
	L – W	My family/friends give me support to face difficulties at work.
		The emotional support I receive from my family/friends helps me complete tasks at work.
		The support I receive from my family/friends helps me be a better employee/coworker.
Affect	W – L	Getting home from work in a good mood has a positive effect on the atmosphere at home.
		Being in a positive mood at work helps me be in a positive mood when I am not at work.
		Having a good day at work allows me to be optimistic with my friends/family.
	L – W	Getting to work in a good mood has a positive effect on the atmosphere at work.
		Being in a positive mood off the job helps me be in a positive mood when I am at work.
		Having a good day with my friends/family allows me to be optimistic at work.

Table 8

Discriminant Validity of the Eight Dimensions of Work-Life Positive Spillover

Positive Spillover Dimension	M	SD	α	1	2	3	4	5	6	7	8
1. Work-Life Development	3.589	0.921	0.860	-							
2. Work-Life Efficiency	3.846	0.907	0.864	0.655	-						
3. Work-Life Support	3.382	1.051	0.902	0.605	0.497	-					
4. Work-Life Affect	4.235	0.704	0.820	0.521	0.618	0.451	-				
5. Life-Work Development	3.964	0.695	0.785	0.493	0.435	0.332	0.347	-			
6. Life-Work Efficiency	3.938	0.858	0.905	0.421	0.562	0.408	0.361	0.569	-		
7. Life-Work Support	3.967	0.863	0.875	0.438	0.472	0.419	0.439	0.483	0.479	-	
8. Life-Work Affect	4.305	0.638	0.853	0.347	0.436	0.342	0.524	0.540	0.487	0.511	-

Note. $N = 429$; All correlations significant at $p < .01$.

Table 9

Descriptive Statistics, Correlations, and Reliabilities of Work-Life Interface Scales

	M	SD	α	1	2	3	4	5	6	7	8	9
1. New WLPS	3.841	0.694	0.915	-								
2. New LWPS	4.127	0.642	0.926	.718**	-							
3. WLE	3.590	0.902	0.942	.756**	.591**	-						
4. LWE	3.794	0.693	0.897	.609**	.695**	.657**	-					
5. WLC	2.612	0.989	0.918	-.336**	-.285**	-.418**	-.277**	-				
6. LWC	2.033	0.814	0.905	-.160**	-.231**	-.200**	-.280**	.591**	-			
7. WLPS	3.404	0.868	0.813	.618**	.549**	.684**	.572**	-.330**	-.204**	-		
8. WLNS	2.606	0.931	0.913	-.260**	-.230**	-.400**	-.285**	.774**	.479**	-.275**	-	
9. LWPS	3.602	0.837	0.754	.442**	.556**	.436**	.536**	-.321**	-.325**	.598**	-.316**	-
10. LWNS	2.249	0.843	0.862	-.051	-.090*	-.119**	-.176**	.496**	.662**	-.076*	.571**	-.235**

Note. *N* = 701; LWPS = work-life positive spillover, LWPS = life-work positive spillover, WLE = work-life enrichment, LWE = life-work enrichment, LWC = work-life conflict, LWC = life-work conflict, WLNS = work-life negative spillover, LWNS = life-work negative spillover.
*p < 0.05; **p < 0.01

Table 10

Bivariate Correlations between Work-to-Life Positive Spillover and Outcomes

	New Measure	McNall et al. (2010)	Lapierre et al. (2018)	Zhang et al. (2018)
Work Domain Outcomes				
Work Satisfaction	**.23***	.27	-	.41
Affective Org. Commitment	**.29****	.28	-	.23
Turnover Intentions	**-.23***	-.05	-	-.19
Engagement	**.34****	-	.42	.32
Personal Domain Outcomes				
Psychological Health	**.20***	.17	-	.14
Physical Health	**.20***	.17	-	.14
Life Satisfaction	**.11**	.26	-	.46
Burnout	**-.09**	-	-	-.17

Note. $N = 99$; values provided from McNall et al. (2010) and Lapierre et al. (2018) are correlations and values provided from Zhang et al. (2018) are weighted correlations.
*p < 0.05; **p < 0.01

Table 11

Bivariate Correlations between Life-to-Work Positive Spillover and Outcomes

	New Measure	McNall et al. (2010)	Lapierre et al. (2018)	Zhang et al. (2018)
Work Domain Outcomes				
Work Satisfaction	**.17**	0.16	-	.25
Affective Org. Commitment	**.25***	0.19	-	.20
Turnover Intentions	**-.22***	0.01	-	-.08
Engagement	**.33****	-	.28	-
Personal Domain Outcomes				
Psychological Health	**.11**	0.17	-	.12
Physical Health	**.21***	0.17	-	.12
Life Satisfaction	**.24***	-	-	.29
Burnout	**-.02**	-	-	-.06

Note. $N = 99$; values provided from McNall et al. (2010) and Lapierre et al. (2018) are correlations and values provided from Zhang et al. (2018) are weighted correlations.
*$p < 0.05$; **$p < 0.01$

Table 12

Standardized Regression Coefficients between Spillover Facets and Outcomes

	Work Outcomes				Personal Outcomes			
	Work Satisfaction	Affective Org. Commitment	Turnover Intentions	Engagement	Physical Health	Psychological Health	Life Satisfaction	Burnout
Work-to-Life								
Development	.05	.18	.12	.23	-.10	.06	-.10	.05
Efficiency	.09	-.05	-.13	.09	.28*	.09	.03	.09
Support	.18	.19	-.21	.00	.01	.07	.00	.18
Affect	-.03	.06	-.11	.14	.12	.05	-.03	-.03
Life-to-Work								
Development	-.11	.12	.08	-.05	.06	.04	.19	.12
Efficiency	.15	.12	-.14	.13	.23*	.02	-.10	.00
Support	.10	.02	-.03	.27*	-.01	-.05	.12	.01
Affect	.09	.09	-.24	.08	.00	.16	.10	-.18

Note. $N = 99$
*$p < 0.05$