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Happy Work, Happy Life? A Replication and Comparison of the Longitudinal Effects Between Job and Life Satisfaction Using Continuous Time Meta-Analysis

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ABSTRACT

Capturing the evolving journey of workers' well-being, our research unveils how the intertwined paths of job and life satisfaction shift and shape each other over time. We contribute to the field's understanding of the dynamic interplay between job and life satisfaction by exploring the time-bound nature of satisfaction, teasing apart the between- and within-person effects, and uncovering the relative strengths of these effects. Our findings ($k = 28$; $N = 161\,412$) suggest that (1) job and life satisfaction are related to one another over time, (2) life satisfaction has a stronger effect (+32%) on future job satisfaction than the converse, (3) these effects peak around 17.2 months (between-person effects), and (4) effects peak at shorter intervals of 8.2 months when accounting for unobserved heterogeneity (within-person effects). In the latter case, the differences between the two effects were still significant, but the dominance of life satisfaction shrank from 32% to 8%. This investigation not only bridges critical gaps but also sets a new precedent for future research on the temporal dynamics of well-being, promising to transform theoretical perspectives and practical approaches alike.

1 | Introduction

Life and job satisfaction are two forms of an employee's well-being, and questions addressing their interplay have pervaded the organizational behavior literature for decades (e.g., Bowling, Eschleman, and Wang 2010; Judge and Watanabe 1993). Researchers have long recognized that an employee's life satisfaction (i.e., overall cognitive/affective evaluations of life as a whole; Diener et al. 1985) contributes to their job satisfaction (i.e., well-being surrounding an overall evaluation of work environment/experiences; Judge and Klinger 2008) and that the converse

is also true. However, answers generated by this research are often temporally bound. Historically, most research focuses on their cross-sectional effects (Weziak-Bialowolska et al. 2020), which can lend insight into whether this relationship was positive (i.e., the complementary or spillover model) or negative (i.e., the compensatory model; Brayfield, Wells, and Strate 1957; Chacko 1983; Keon and McDonald 1982; Wilensky 1960). While important, and despite several authors asserting a longitudinal relationship between job and life satisfaction based on primary studies (e.g., Judge and Watanabe 1993; Unanue et al. 2017), the nuanced temporal dynamics of this relationship are presently

unclear. To clarify the temporal interplay between these two constructs, the current efforts synthesize the existing research using novel, time-focused meta-analytic techniques to reveal how employees' well-being at work and in their lives influence one another over time.

We push the field forward in several meaningful ways to accomplish this goal. First, we go beyond previous research (e.g., Bowling, Eschleman, and Wang 2010; Judge and Watanabe 1993) by directly examining the timing effects of the relationship between job and life satisfaction, aligning with calls for a *truly* temporal understanding of phenomena (Ancona, Okhuysen, and Perlow 2001). While prior research has relied heavily on cross-sectional designs or single longitudinal studies, these approaches can only provide limited insight. Cross-sectional studies offer a static snapshot, and single-time longitudinal studies, though informative, cannot fully capture how the relationship between job and life satisfaction unfolds dynamically over time. By synthesizing and extending this earlier work, we provide a more complete understanding of this relationship that accounts for how this relationship changes over time.

Second, we extend the extant theory of the relationship between job and life satisfaction by incorporating *time*. While previous work has empirically examined this relationship longitudinally, traditional theorizing seldom explains how job and life satisfaction influence one another over time. Building on this empirical work, we make strides in theoretical development by grounding our approach in the Conservation of Resource Theory (Hobfoll 1989). As highlighted in Figure 1, a resource perspective helps explain the direct temporal linkages between these two critical aspects of an employee's well-being. Importantly, theorizing how time plays a role in this relationship not only allows us to discuss the linear temporal effects (i.e., job satisfaction predicts future life satisfaction), but we also take advantage of this opportunity to highlight the *temporal patterning* of how these effects will unfold over time. Specifically, we explore (1) how these lagged relationships will reach an apex and taper off over time and (2) whether the impact of job satisfaction on future life satisfaction is stronger than the reverse (i.e., the relative strength of these relationships). Highlighting these temporal patterns not only contributes to our theoretical understanding of job and life satisfaction but will also benefit organizations seeking to improve their employees' well-being (e.g., how long will it take a life satisfaction intervention to impact job satisfaction?).

The current study makes another contribution by separating the between- from within-person effects of this relationship. Prior research tends to report between-person effects using longitudinal data, while their theorizing describes within-person effects. This has been highlighted as a common issue in the organizational sciences (Zyphur et al. 2020). Examining only the between-person is problematic as they are prone to various trait-based confounds (e.g., age, gender, and personality) that result in significant bias when estimating cross-lagged effects (Hamaker, Kuiper, and Grasman 2015). This is because the resulting between-person effects represent a mix of between- and within-person variance (Driver, Oud, and Voelkle 2017). Delineating between these effects is critical as between- and within-person effects represent different psychological processes and can provide different insights (Curran and Bauer 2011). To the best of our knowledge, this is the first longitudinal meta-analysis investigating this reciprocal relationship of within-person changes. In the current work, we discuss and analyze our data in such a way that will lend insights into how individuals who are generally happier with their lives will be happier at work (between-person) *and* how changes in life satisfaction for an employee will affect their future job satisfaction (within-person).

In summary, we contribute to and extend previous work by making *time* a central aspect of our theorizing and analysis. In the following section, we take a resource perspective to explain how these relationships unfold over time. Next, we discuss the temporal patterning of these effects, positing when they reach their apex and which effect will be stronger (i.e., life satisfaction predicting future job satisfaction or job satisfaction predicting future life satisfaction). We then describe the approach we used to analyze these relationships (Continuous Time Meta-Analysis;
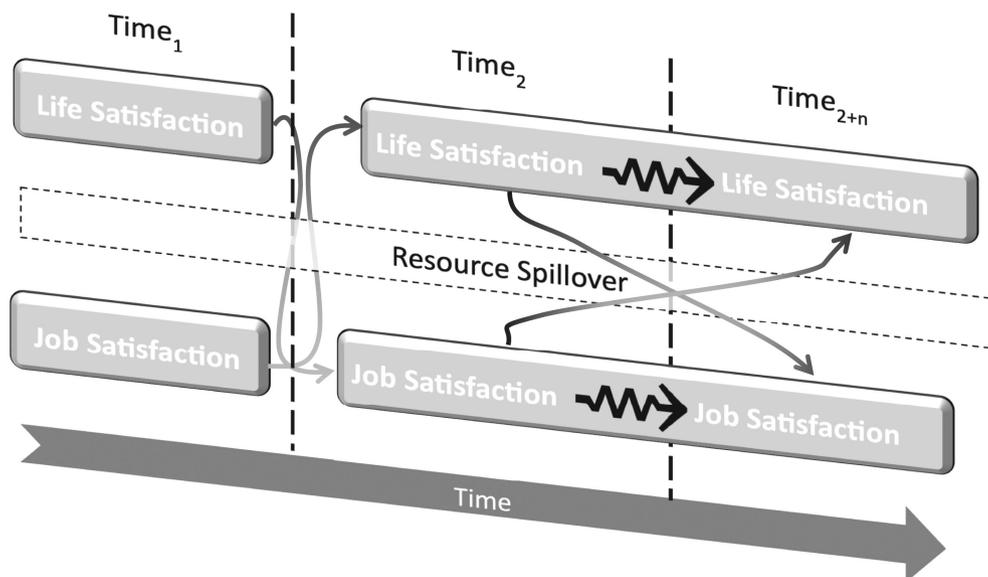

FIGURE 1 | Unfolding model of the relationship between job and life satisfaction over time.

Dormann, Guthier, and Cortina 2020) and report our results. Finally, we conclude our paper by discussing how our results fit into the literature at large and highlighting areas for future research.

1.1 | Person-Centric Perspective of Life and Job Satisfaction's Reciprocity

We adopt a person-centric perspective (Weiss and Rupp 2011) to explain why life and job satisfaction influence one another over time. This perspective posits that an employee exists both within and outside the workplace and, consequently, organizational sciences should not limit their understanding of the employee as if they only exist within the workplace at a discrete point in time. In this vein, job and life satisfaction are considered two different indicators of employee well-being. *Job satisfaction* reflects an individual's contextual well-being surrounding their work. That is, it is a multifaceted indicator of well-being that reflects an individual's overall assessment of their job, encompassing both affective reactions and cognitive evaluations of various aspects of their work environment, such as supervision, pay, opportunities for promotion, relationships with coworkers, and the nature of the work itself (Judge and Klinger 2008). *Life satisfaction* is a more general indicator of well-being, concerning a cognitive/affective evaluation of one's life as a whole (Diener et al. 1985). With the employee at the center of our theorizing, the question of why we should expect their job and life satisfaction to influence one another becomes central.

It is important to note there is substantial cross-sectional evidence that supports how an employee feels at work and how they feel in their life are related to one another (Bowling, Eschleman, and Wang 2010; Judge and Watanabe 1993; Rice, Near, and Hunt 1980; Steel et al. 2019; Unanue et al. 2017; Wright, Bennett, and Dun 1999). One of the earliest reviews came from Rice, Near, and Hunt (1980), who revealed a moderate interrelationship relationship between job and life satisfaction across 23 studies. Judge and Watanabe (1993) extend this work, delving deeper into the conceptual underpinnings of why these two facets of well-being are related to each other and how additional factors (e.g., personal and environmental) might influence the dynamics between job and life satisfaction. The work on the cross-sectional relationship culminates in the meta-analysis by Bowling, Eschleman, and Wang (2010), which provides a comprehensive review of the empirical work that examines the relationship between job and life satisfaction, noting a critical need for more longitudinal research in this area. However, the theoretical tenets used to support this relationship when they are measured simultaneously need to be extended when discussing how job and life satisfaction influence one another over time.

Past work in the area has commonly relied on bottom-up and top-down perspectives to explain the relationship between job and life satisfaction. The bottom-up perspective argues that life satisfaction is fundamentally comprised of satisfaction across various life domains (e.g., job, family, leisure, marital; Brief et al. 1993), and individuals implicitly consider how satisfied they are in each of these domains when making life satisfaction judgments. Relatedly, the top-down perspective, also sometimes

called the dispositional approach (Judge and Hulin 1993; Schmitt and Mellon 1980), views life satisfaction as a trait-like disposition that influences how individuals experience and react to events in various life domains (Erdogan et al. 2012). These perspectives implicitly assume that there will be a longitudinal effect, which is why much of the research examining the longitudinal relationship between job and life satisfaction tends to leverage these perspectives in their own work.

While few studies have explicitly examined the longitudinal relationship between job and life satisfaction, two significant contributions stand out. Unanue et al. (2017) and Bialowolski and Weziak-Bialowolska (2021) both explore this relationship over time across different studies. In their work exploring the longitudinal relationship between job and life satisfaction across three studies, Unanue et al. (2017) leveraged the bottom-up and top-down approach, suggesting that these effects persist cross-sectionally and over time. Similarly, Bialowolski and Weziak-Bialowolska (2021) examined the longitudinal relationship between job and life satisfaction using data from three nationally representative samples. They also use the bottom-up and top-down perspectives to justify the longitudinal relationship between job and life satisfaction. Again, these perspectives imply a longitudinal relationship, but additional theorizing is needed to explain these effects directly. In the following, we leverage the COR theory (COR; Hobfoll 1989) and spillover theories (Edwards and Rothbard 2000; Lambert 1990) to explain how job and life satisfaction influence one another over time.

1.1.1 | Resources, Well-Being, and Resource Spillover

According to COR theory, well-being can be considered a fundamental resource that can be conserved or invested (Hobfoll, Neveu, and Westman 2023). *Resources* are broadly defined as any objects, conditions, personal characteristics, or energies that are personally valued (Hobfoll 1989). Generally, "anything perceived by the individual to help attain his or her goals" (Halbesleben et al. 2014, p. 1338) can be considered a resource, and, importantly, research demonstrates that well-being can help individuals achieve their goals. Well-being can help individuals lead healthier and longer lives (Lyubomirsky, King, and Diener 2005), can be used to help individuals achieve work goals (Kansky and Diener 2017; Sears et al. 2013; Wright and Cropanzano 2000), and facilitate goal reengagement (Haase et al. 2021). Critically, these theories also discuss how well-being will influence individual perceptions as well as whether (and where) they invest future resources, creating cycles of loss- or gain-spirals. In the following, we elucidate the theoretical underpinnings of this process, generally, and then turn our attention to how it applies to the relationship between job and life satisfaction.

As depicted in Figure 1, we use *resource spillover* to capture the transference of resources between different life domains and propose two central ways it occurs (i.e., the arrows between job and life satisfaction between Time 1 and Time 2). First, an individual's well-being affects the lens through which they perceive the world. According to the COR theory, when individuals possess higher levels of well-being, they are more likely to perceive their environment as less threatening

(Pressman, Jenkins, and Moskowitz 2019) and replete with opportunities to gain additional resources (Halbesleben et al. 2014; Hobfoll, Neveu, and Westman 2023). Similarly, COR theory suggests that lower well-being can constrain how individuals perceive their situation, limiting an individual's ability even to consider behavioral actions that may facilitate well-being (Halbesleben and Buckley 2004). Moreover, an individual's well-being influences what they attend to in their lives, making them more likely to selectively attend to aspects of their lives that align with their current well-being state (Raila, Scholl, and Gruber 2015).

The second pathway moves beyond perception to focus on behavioral investment of resources. According to COR theory, individuals with higher levels of well-being resources do not just see more opportunities for gaining resources, but they are also more inclined to act in ways that align with their values (Oishi et al. 1999), capitalizing on those resource-gain opportunities. Indeed, studies show that people who feel good about their lives are more likely to engage in activities that promote growth, such as pursuing goals and building relationships (Lyubomirsky, King, and Diener 2005). Conversely, COR theory suggests a different approach for those with lower well-being resources. The theory explains that the fear of losing resources is more impactful than the potential for gain (Hobfoll et al. 2018), and this saliency may lead individuals to only think about and engage in activities that seek to preserve their remaining resources. The inclination to protect their remaining resources may manifest in various withdrawal behaviors (e.g., absenteeism, lack of engagement in home life; Halbesleben 2010; Hobfoll et al. 2018; L. Zhang et al. 2019), as proactive involvement is perceived as risking the few resources they possess. However, as we discuss below, conserving these well-being resources will likely have negative consequences for their future well-being.

It is crucial to note that the resource spillover process occurs over time and, consequently, across life domains. In Figure 1, this is represented by the oscillating lagged arrows (e.g., life satisfaction at Time 2 and life satisfaction at Time $2 + n$) and the cross-lagged arrows (e.g., life satisfaction at Time 2 and job satisfaction at Time $2 + n$). The oscillating arrows represent, for example, how job satisfaction at Time 1 will not only affect life satisfaction at Time 2 but will also have a long-lasting impact on life satisfaction in the future. The cross-lagged arrows represent the recursive influences of these two well-being indicators over time. The COR theory posits these recursive influences as occurring through gain and loss spirals.

Loss spirals represent an ever-decreasing scope of possible actions, leading to a greater tendency for individuals to act in a way that conserves resources (Hobfoll 2011; Hobfoll et al. 2003). When individuals proceed down a loss spiral, they may enter a desperation mode, where they seek only to preserve the self and begin acting in irrational ways (Hobfoll et al. 2018). Conversely, *gain spirals* illustrate how positive experiences can lead to further benefits, creating a cycle of increasing well-being. In this scenario, individuals engage in activities that not only support their current well-being but also contribute to their future happiness and resource base. These activities could be building a stronger relationship with their spouse, spending quality time with their family, engaging in physical activity during their leisure time, engaging in creative activities (e.g., painting and making music), or meditating. These actions are beneficial in the immediate sense but also pave the way for continued well-being and satisfaction in the long run. Unlike previous frameworks (e.g., top-down, bottom-up), these pathways (perception, behavior) and their underlying principles can be applied to understanding why job and life satisfaction influence one another over time.

1.1.1.1 | Life Satisfaction Predicting Future Job Satisfaction.

Leveraging COR theory, individuals with higher levels of life satisfaction possess a stronger base of well-being resources, positively influencing how they perceive and engage with their work. Life satisfaction enables individuals to view their environment through a more resource-rich lens, influencing their experience and reaction to events in various life domains, including work (Erdogan et al. 2012). This aligns with COR theory's proposition that resource-rich individuals perceive their environments as less threatening and more abundant with opportunities for further resource acquisition as compared to less-resource rich individuals, who tend to focus on potential threats or resource losses (Halbesleben et al. 2014; Hobfoll, Neveu, and Westman 2023). Consequently, those with higher levels of life satisfaction are more likely to perceive and recall work events positively, influencing their satisfaction with their job (Bower 1981; Judge and Watanabe 1993).

Relatedly, perceptions may remain relatively stable across time. Ample evidence suggests that life satisfaction is relatively stable over time (e.g., Schimmack and Oishi 2005) as one's genetics play a significant role in both evaluations of life satisfaction and the temporal stability of life satisfaction (e.g., Lykken and Tellegen 1996; Tellegen et al. 1988). Hence, the lens through which employees perceive and recall work events should remain—to a degree—consistent over time.

Life satisfaction not only shapes how individuals view their work but also expands the range of actions they might consider taking within their professional environment. Recall that COR theory posits that resourceful individuals are more inclined to invest their resources in ways that promote further resource gain (Hobfoll 2011; Hobfoll et al. 2018). Applied to the current argument, individuals with higher levels of life satisfaction will be more inclined to allocate their resources toward activities that enhance their job satisfaction. For instance, individuals may invest their resources in crafting their jobs. Job crafting is a resource-intensive activity to improve an employee's overall work experience (Lazazzara, Tims, and de Gennaro 2020; F. Zhang and Parker 2019), which has been shown to improve job satisfaction (Tims, Bakker, and Derks 2013). Importantly, job crafting behaviors create sustaining changes in one's work environments and have been shown to affect job satisfaction over time (Dubbelt, Demerouti, and Rispens 2019; Tims, Bakker, and Derks 2015). Similarly, happier individuals will devote resources in ways that will improve long-lasting social relationships at work or lead to positive performance appraisals (e.g., OCBs, engagement; Donovan 2000; Giluk 2010; Shockley et al. 2012). Through these strategic investments, life satisfaction fosters enduring changes in professional environments and work relationships,

ultimately leading to enhanced job satisfaction over time. Consequently, life satisfaction is expected to positively predict future job satisfaction.

Hypothesis 1. *Life satisfaction will positively predict future job satisfaction.*

1.1.1.2 | Job Satisfaction Predicting Future Life Satisfaction. In line with the person-centric approach (Weiss and Rupp 2011) and COR theory (Hobfoll 1989; Hobfoll et al. 2018), we know that what happens to an employee at work does not stay at work. Specifically, work experiences shape *perceptions* and *behaviors* in non-work domains that are key to life satisfaction, partly because resources gained or lost in one domain spill over into other life domains. For instance, individuals who are unhappy at work (low resources) may find themselves less inclined to engage in enriching non-work activities due to how they perceive those activities (resource conservation). This aligns with COR theory's assertion that individuals who experience resource loss tend to adopt a defensive posture, avoiding further resource expenditure in order to prevent additional losses (Hobfoll 1989). As a result, these individuals may engage less in recovery activities, making it harder for them to disengage from work-related stressors and invest in personal growth or leisure activities that would enhance life satisfaction (Kinnunen et al. 2017; Perko, Kinnunen, and Feldt 2017). Over time, this can lead to compounded negative effects, where reduced engagement in resource-restorative activities further limits opportunities to enhance life satisfaction.

Conversely, higher levels of job satisfaction can generate positive effects on life satisfaction by enabling individuals to gain resources – such as improved mood, energy, and self-efficacy— that spill over into non-work life. Satisfied employees are more likely to perceive a wider range of enriching activities in their personal lives, opening up opportunities to invest in leisure activities that promote life satisfaction. For instance, those with high job satisfaction are likely more inclined to think of engaging in physical exercise, social activities, or hobbies during their leisure time that promote life satisfaction (Wiese, Kuykendall, and Tay 2018), as they will view these activities as opportunities to further build resources and enhance well-being. These activities not only replenish resources but also create pathways for personal growth, aligning with COR theory's proposition that resource investment leads to long-term well-being improvements.

Further, the degree to which one is satisfied with their job will influence their behavior outside their work life. For example, individuals who are more satisfied with their jobs are likely to engage in various resource recovery activities, which are crucial for maintaining well-being (Sonnentag, Cheng, and Parker 2022). Given the limited time available for recovery during the workweek (Pindek et al. 2021), choosing effective resource recovery activities is essential to maintaining and improving one's well-being. These activities, such as physical exercise, socializing, or creative hobbies, require individuals to invest their resources (e.g., time and energy), but the long-term payoff is an accumulation of personal resources supporting life satisfaction. Conversely, those with lower job satisfaction may be apprehensive about investing their resources and, instead, conserve them by engaging in more sedentary activities that do not effectively support their well-being (Huang 2022; Tkach and Lyubomirsky 2006).

Moreover, sustained resource investments from individuals with high job satisfaction may lead to the development of habitual behaviors that consistently support well-being over time. Individuals with high job satisfaction are more likely to engage in resource-building behaviors, such as physical exercise or social engagement, which, over time, can become habits that continuously contribute to their well-being (Carden and Wood 2018; Rodríguez-Muñoz et al. 2018). These habitual behaviors enable individuals to continuously benefit from the resources they build, creating a foundation for long-term improvements in life satisfaction. Hence, we expect that job satisfaction will positively predict future life satisfaction.

Hypothesis 2. *Job satisfaction will positively predict future life satisfaction.*

1.2 | Temporal Pattern

Thus far, we have utilized the theoretical principles of COR theory to explain the reciprocal influence of job and life satisfaction over time, positing a simple positive effect over time. Specifically, we propose that mechanisms of resource gain and loss can account for why, for instance, job satisfaction at present can predict life satisfaction 6 months in the future. Importantly, the foundational tenets of COR theory suggest that these effects may propagate forever—without direct intervention—through the concepts of gain and loss spirals. However, this perpetuation is unlikely to persist indefinitely, as noted by scholars who highlight this as a limitation of COR theory (Ford et al. 2023; Sonnentag and Meier 2024). Critics argue that COR theory lacks specificity in defining the temporal boundaries of these effects and that there is limited empirical evidence to support the notion of infinite spirals. In response to these critiques, scholars have called for further theorizing to clarify the temporal dynamics involved. In what follows, we incorporate context theorizing (Bamberger 2008) and draw from best practices in time theorizing (Aguinis and Bakker 2021; George and Jones 2000) to elucidate the *temporal patterns* - how relationships between variables evolve and change over time—in the interplay between job and life satisfaction.

When theorizing about time, it is crucial to specify the nature of the temporal phenomenon under examination. The relevance of specific temporal considerations hinges on factors such as whether the temporal pattern is reactionary or proactive (e.g., whether job satisfaction fluctuates in response to a sudden organizational change or evolves gradually as a result of long-term career planning), or whether the unfolding of the relationship is attributable to a specific event or represents a more gradual developmental process. A useful framework for conceptualizing temporal phenomena in the current study can be drawn from the work–family literature, distinguishing between an episodic approach and a levels approach (Maertz and Boyar 2011). The episodic approach focuses on specific, discrete events occurring over shorter time intervals and explores how these events influence immediate outcomes. In contrast, the levels approach aggregates experiences over extended periods, capturing

broader patterns of change and stability. The levels approach is particularly well-suited for examining long-term trends and steady-state dynamics, whereas the episodic approach is more appropriate for investigating moment-to-moment fluctuations in relationships over time.

In the present study, our theorizing and methodology align with the levels approach rather than the episodes approach. This choice is informed by the nature of our research question, which seeks to understand how cognitive reflections of well-being (e.g., job satisfaction) at a given point in time influence similarly measured well-being reflections (e.g., life satisfaction) across varying time intervals—days, weeks, months, or even years later. The levels approach is particularly suitable as most research in the field relies on reflective judgments of well-being, which capture an aggregate view of these dynamics rather than focusing on discrete events or episodes. For example, life satisfaction is rarely measured moment-to-moment, as fluctuations in life satisfaction are unlikely to occur over such short intervals. Furthermore, life satisfaction, as a construct, is inherently more stable (Schimmack and Oishi 2005), making it less suited for episodic research and reinforcing the appropriateness of the levels approach. Given that theorizing within a specific temporal framework is considered a best practice (Aguinis and Bakker 2021), the subsequent theorizing is conducted within the levels of the temporal framework.

With this in mind, we draw on best practices for theorizing about time (Aguinis and Bakker 2021; George and Jones 2000) to supplement and extend COR theory. Specifically, these best practices emphasize the importance of considering key temporal dimensions—such as duration (i.e., the length of time over which an effect or relationship persists), incremental versus discontinuous change (i.e., whether change occurs gradually over time or in distinct and abrupt shifts), and spirals and intensity (i.e., how the strength of a relationship increases or decreases in magnitude as it progresses) – in understanding how relationships unfold and evolve over time. This approach allows us to expand on the foundational principles of COR theory and develop a more inclusive framework for interpreting the temporal patterns at play. In particular, we explore how the lagged relationship between job and life satisfaction is expected to gradually increase, reach an apex, and then degrade over time.

1.2.1 | Gradual Increase

COR theory does an excellent job of explaining why job and life satisfaction should influence one another gradually over time. COR theory explicitly recognizes the spiraling nature of resources, where both gain spirals and loss spirals describe the cumulative, reinforcing effects of resource investment or depletion (Hobfoll 2011; Hobfoll et al. 2018). Furthermore, discussions on the differences in the rhythmic patterns of gain and loss spirals within COR theory highlight that resource gain spirals are typically slower and weaker than resource loss spirals (Hobfoll et al. 2018). This implies an underlying rhythmic pattern in which positive effects build more slowly while negative effects escalate more rapidly—shaping both short-term and long-term

outcomes. From this, we can argue that the effect of one satisfaction on the other is not strongest immediately but grows gradually over time, lending some insight into one aspect of temporal patterning.

1.2.2 | Reaching an Apex and Declining

Yet, these effects are not expected to propagate forever but eventually reach an apex. While tenets of COR theory do not explicitly support reaching a climax, related resource-based concepts can be used to extend COR theory. Specifically, the concepts of resource saturation and variability of resource investment can be used to explain how these effects can reach an apex and then decline over time. Here, we define *resource saturation* as the diminishing marginal returns of continued resource investment, which can be thought of as occurring through two primary pathways. First, as individuals repeatedly invest in well-being-promoting activities, they adapt to the benefits of those investments, reducing their impact over time. Second, when the area in which resources are being invested reaches a state of relative satisfaction, additional resource investment does not result in further improvements. In these cases, the same actions or efforts that once significantly enhanced well-being may no longer provide the same returns. This phenomenon has been supported in related research (e.g., Barnes and Van Dyne 2009; Kushlev et al. 2018). For instance, resource-demanding activities, such as work engagement, exhibit declining effects on desired outcomes over time (Bouckenooghe et al. 2022; Gerpott and Van Quaquebeke 2023).

Simultaneously, individuals are unlikely to consistently invest their resources the same way over time, introducing variability in resource investment. This variability further explains why the effects reach an apex and slowly decline. Two important factors contribute to this variability: First, individuals may not consistently allocate their job or life satisfaction resources to activities that will promote future satisfaction in these domains. For example, an employee might initially dedicate resources from life satisfaction to skill development to enhance job satisfaction but later shift focus to other activities that do not directly contribute to future job satisfaction. Second, individuals may not always invest in ways that maximize future job or life satisfaction. Cognitive biases, limited information, shifting goals, or misjudgments about what will yield the greatest well-being can result in suboptimal investments that reduce the effectiveness of resource accumulation (e.g., Ainslie 1975; Locke and Latham 1990; H. A. Simon 1955). For example, individuals may engage in activities that provide immediate gratification but offer little long-term benefit, thereby not directly promoting either long-term job or life satisfaction (Hofmann et al. 2012; Hofmann, Reinecke, and Meier 2016). These decisions can not only mitigate the proposed gain spiral—causing the effects to reach an apex—but also reduce the effectiveness of resource investments, leading the effects to slowly diminish over time.

In summary, we extend COR theory to explain the reciprocal influence of job and life satisfaction over time, while acknowledging the limitations of the theory's assumption of indefinite

spirals. Although COR theory effectively describes the gradual, positive relationship between job and life satisfaction through gain and loss spirals, it lacks specificity regarding the temporal boundaries of these effects. We propose that these effects will gradually increase, reach an apex, and then decline over time, drawing on resource-based concepts such as resource saturation. Unlike previous hypotheses, we do not make specific predictions about the timing of the apex or how quickly the effects will decay. Instead, by adopting a more exploratory stance, we aim to provide a foundation for future research to refine these temporal dynamics and encourage scholars to investigate the specific mechanisms and timing behind resource accumulation and depletion that shape these patterns.

Research Question 1: *How does the relationship between job and life satisfaction unfold over time?*

1.3 | Relative Effects

We also investigate which of these effects will be stronger than the other over time. Revealing the relative strength of the job satisfaction-life satisfaction relationship addresses the ongoing debate in the literature (e.g., Bialowolski and Weziak-Bialowolska 2021; Unanue et al. 2017). Surprisingly, however, relatively little longitudinal research assesses the relative effects of this relationship. We identified studies whose primary purpose was to investigate the relationship between life and job satisfaction over time, which revealed only seven studies that provided mixed results (Table 1).[1] Evidence from three of these studies suggests stronger support for life satisfaction predicting future job satisfaction perspective (Bialowolski and Weziak-Bialowolska 2021; Chacko 1983; Orpen 1978). Two other studies suggested the converse (Judge and Watanabe 1993; Schmitt and Mellon 1980); one found the effect sizes to be relatively equivalent (Unanue et al. 2017), and another found no relationship between job and life satisfaction (Near et al. 1984). Interpretation of these effects is further convoluted by the variability of the time lags used in these studies, which ranged from as short as 2 months (Unanue et al. 2017) to as long as 5 years (Judge and Watanabe 1993) as well as by the variability in statistical techniques (e.g., frequency of change in product moment analysis, Chacko 1983; cross-lagged path analysis, Near et al. 1984). Hence, it is difficult to draw any conclusions from the current longitudinal evidence, and a more comprehensive approach is needed to address this gap in the literature.

On average, life satisfaction is expected to have a stronger effect on future job satisfaction than the converse. Individuals who are experiencing higher life satisfaction will likely have a greater pool of psychological resources that can be applied across various life domains (including work). They could apply these psychological resources in the workplace, allowing them to view their work more positively, engage more fully in their tasks, and cope better with work-related stressors. Conversely, boundaries exist between an individual's work and non-work life, which may interfere with the strength of the spillover effect between job and life satisfaction. In addition, comparing meta-analytic findings concerning life satisfaction (Schimmack and

Oishi 2005) and job satisfaction (Dormann and Zapf 2001) suggests that life satisfaction ratings are more stable over time than job satisfaction ratings, which should result in a more consistent influence. An illustrative example can be found by comparing the two figures from these manuscripts. While these job satisfaction retest correlations are stable in the short term, they fall below 0.20 after 10 years. In contrast, it takes 5 years longer for the life satisfaction retest correlation to reach a similar level. Further, the test–retest correlations with no lag between measurements are also higher for life satisfaction ($r = 0.86$) than for job satisfaction ($r \approx 0.55$). Beyond visual comparison, heritability studies similarly suggest that life satisfaction is more stable over time than job satisfaction. Specifically, the amount of variance accounted for by genetics varies between 40%–50% (e.g., Bartels and Boomsma 2009), whereas estimates for job satisfaction are less (30%, Li et al. 2016). Hence, it is expected that life satisfaction will have a stronger effect on job satisfaction over time compared to the effect of job satisfaction on future life satisfaction.

Hypothesis 3. *Life satisfaction will more strongly predict future job satisfaction over time than job satisfaction predicting future life satisfaction.*

1.4 | Current Study

The current manuscript takes stock and synthesizes the current state of the literature by leveraging Continuous Time Meta-Analysis (CoTiMA; Dormann, Guthier, and Cortina 2020) to test our assertions. CoTiMA has several advantages over other analytic techniques used to investigate longitudinal relationships. In previous meta-analyses, cross-lagged effects among studies cannot be easily compared or aggregated if studies are applied at different time intervals. In fact, cross-lagged effects over different time intervals are neither metric nor even ordinally scaled, making it more challenging (Dormann, Guthier, and Cortina 2020). Previous meta-analyses have sought to overcome this problem by categorizing studies into groups with similar time intervals (e.g., short, medium, and long). However, such categorizations are typically not based on theoretical considerations but rather on the time intervals and their frequencies used in extant studies. Moreover, even if time intervals were identical across studies, differences in stabilities (autoregressive effects) of variables between studies do not allow for valid comparison and aggregation of their cross-lagged effects; again, differences in autoregressive effects prevent valid comparison or aggregation of cross-lagged effects (Dormann, Guthier, and Cortina 2020).

Another problem is that previous meta-analyses of longitudinal studies had to cope with studies comprising a different number of waves. In most cases, researchers either select the first two waves (where the sample size is usually the largest) or one pair of waves with a time interval corresponding to the most frequent time interval of all other studies considered (cf., Dormann, Guthier, and Cortina 2020). For most analyses, CoTiMA uses all available waves simultaneously, thereby including all available information and maximizing statistical power. The result of our efforts is a more comprehensive, informative, and accurate account to date of how job and life satisfaction influence one another across time.

TABLE 1 | Summary of longitudinal studies that model job and life satisfaction at multiple time points.

Study	Sample	Waves	Measurement frequency	Summary of JS/LS Relationship
Orpen (1978)	White first-line managers from South Africa	2	1 year	Cross-lagged correlations were stronger for the JS→LS relationship than for the LS→JS relationship.
Schmitt and Mellon (1980)	US Civil Service	2	1 year	Used cross-lagged and dynamic correlations in demonstrating that that there is more evidence for LS→JS than JS→LS
Chacko (1983)	National probability sample from the United States	2	4 years	Used frequency of change in product moment analysis. Results were more supportive of the JS→LS relationship than the converse.
Near et al. (1984)	National probability sample from the United States	2	4–5 years	Used cross-lag correlations and path analysis to demonstrate that there is no relationship between JS→LS or LS→JS, controlling for several other variables.
Judge and Watanabe (1993)	National probability sample from the United States	2	4–5 years	Used covariance structure model that demonstrated the relationship from JS→LS (0.07) was weaker than LS→JS (0.26)
Unanue et al. (2017)	Chilean working adults	2	2 months	Used cross-lagged panel analysis to show that the LS→JS relationship was relatively equivalent to JS→LS relationship
Bialowolski and Weziak-Bialowolska (2021)	National probability sample from the United Kingdom, Germany, and Swiss	Varies	Varies	Used time-series vector autoregression to show that the LS→JS relationship was stronger than the JS→LS relationship, but the size of the effects differed by country.

Abbreviations: JS, job satisfaction; LS, life satisfaction.

2 | Methods

2.1 | Search Strategy and Coding

Several search strategies were used to identify published and unpublished studies. EBSCOhost (APA PsycInfo, Academic Search Complete, APA PsycArticles, Business Abstracts with Full Text, Business Source Complete, Psychology and Behavioral Sciences Collection, Humanities & Social Sciences Index Retrospective: 1907–1984 (H.W. Wilson), Vocational and Career Collection), Web of Sciences, and ProQuest Abstracts and Dissertations were used to find journal articles and dissertations. Results included articles that used the terms *job satisfaction* and *life satisfaction* or *subjective well-being* anywhere in the entire manuscript and *longitudinal* or *cross-lagged* or *repeated measures* or *multiwave* or long-term or *cohort study* or *panel study* or *time-series* either within the keywords or full text. The results of this search yielded 4537 articles as of September 2023.

2.1.1 | Inclusion/Exclusion Coding

The coding of these articles occurred in two phases. The first phase of coding had three inclusion criteria: The article had to (1) be unique (i.e., not a duplicate), (2) contain quantitative information, and (3) measure both job and life satisfaction. Concerning the last criteria, we had specific definitions of both job and life satisfaction. *Job Satisfaction* refers to the extent to which individuals feel positively or content about their work, including their tasks, work environment, and overall experience in their job role. It encompasses an employee's emotional and cognitive evaluations of their work and how well it aligns with their needs, values, and expectations. This allowed for the inclusion of studies that examined job satisfaction via a single-item measure or multidimensional measure of job satisfaction. Similarly, *Life Satisfaction* was defined as the cognitive, affective evaluation of one's life as a whole (Diener et al. 1985). This allowed for the inclusion of both single- and multiple-item measures of life satisfaction. Studies that did not meet any of these criteria were excluded. The first and last two authors did this phase of coding. Phase 2 coding was more thorough and only included studies that (1) were longitudinal (i.e., measured constructs at multiple points in time), (2) collected both job and life satisfaction at multiple points in time in the same sample (e.g., longitudinal studies but only measures life and job satisfaction at one point in time, or were longitudinal but did not collect the same sample across time), and (3) contained enough quantitative information to compute lagged effects (e.g., job satisfaction predicting future life satisfaction, life satisfaction predicting future job satisfaction). While coding, we also noted and rejected studies that utilized publicly accessible datasets, such as longitudinal panel datasets like Midlife in the United States (MIDUS), Midlife in Japan (MIDJA), and Household, Income, and Labour Dynamics in Australia (HILDA). These datasets are particularly valuable because they offer raw data that can be directly analyzed by CoTiMA. This approach allowed us to leverage the original, complete data from these publicly accessible datasets rather than relying on potentially incomplete or aggregated data derived from effect sizes reported in individual studies. If a study used one of these datasets, we rejected it as if it were a duplicate sample. We provide a list of the publicly accessible datasets we eventually used in the publication bias section of the manuscript.

The first and third authors coded a portion of these ($n = 569$), and the last two authors coded the second portion ($n = 3967$), with oversight from the first author. The second coding phase was conducted independently and came together for final inclusion decisions, where disagreements were resolved. For the first and third authors, interrater agreement was calculated for sample size (98%), construct coding (90%), and effect size coding (92%), which was overall acceptable (92%). For the seventh and eighth authors, interrater agreement was calculated for sample size (96%), construct coding (100%), and effect size coding (94%), which was overall acceptable (96%). Figure 2 displays a flow chart of selection decisions, which resulted in 12 manuscripts with effect size data from 14 samples ($n = 12$, $k = 14$). As noted in the following section, this does not represent our final data set as we incorporated data from both publicly available datasets and requests for unpublished data.

2.2 | Publication Bias

We took several steps to combat publication biases. First, if the studies used publicly available datasets, the datasets were logged and obtained to be directly inputted into CoTiMA. Nine publicly available datasets were logged and obtained: The Korean Labor and Income Panel Study (KLIPS), The HILDA, the German Socio-economic Panel Study (SOEP), MIDUS, MIDJA, Longitudinal Internet studies for the Social Sciences (LISS), the British Household Panel Survey (BHPS), the Health and Retirement Study (HRS), and the Ghent 1994 College Alumni Study. Second, for studies that did not report enough quantitative data, the authors were contacted to obtain effect size information. Two authors graciously provided effect size data from their studies (Neumeier et al. 2017; Осин and Леонтьев 2020). Finally, three studies came from our request for unpublished data. They are cited as the Professional Paths Survey (2017), Kujanpää et al. (2021), and Zacher and Rudolph (2021). In total, raw data or effect size estimates were gleaned from 28 different samples (three unpublished, two unreported, nine archival datasets, and 14 from the initial search).

These studies are summarized in Table 2, with more detailed descriptions provided in the online supplementary material (Table 1). On average, the studies included 5.75 waves of data collection, with a mean time interval between measurement points of 21.41 months (SD = 29.26 months, range = 2 weeks to 7 years). Although there was some variation in the measures used to assess job and life satisfaction, the most common job satisfaction measures were either a single-item measure or the five-item scale developed by Judge et al. (1998). For life satisfaction, the most frequently used measures were either a single-item measure or Diener et al.'s (1985) Satisfaction With Life Scale. Concerning the representativeness of our sample, a substantial portion of our samples came from national probability, publicly available datasets, such as the British Household Panel Study, the HILDA study, the Korean Labor and Income Panel Study, and the MIDUS study. Other datasets were drawn from generally representative samples (e.g., Baumann, Danilov, and
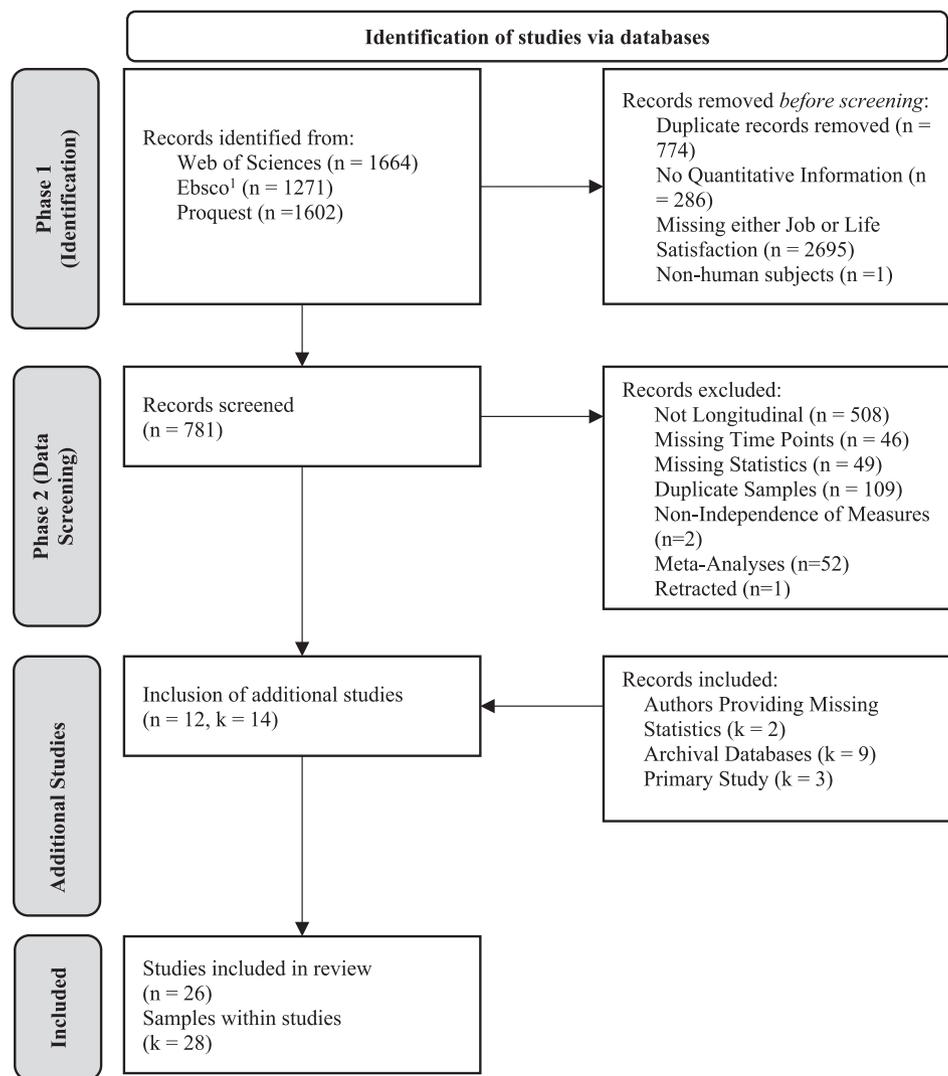
Identification of studies via databases

Phase 1 (Identification)

Records identified from:
Web of Sciences (n = 1664)
Ebsco[1] (n = 1271)
Proquest (n =1602)

Records removed *before screening*:
Duplicate records removed (n = 774)
No Quantitative Information (n = 286)
Missing either Job or Life Satisfaction (n = 2695)
Non-human subjects (n =1)

Phase 2 (Data Screening)

Records screened (n = 781)

Records excluded:
Not Longitudinal (n = 508)
Missing Time Points (n = 46)
Missing Statistics (n = 49)
Duplicate Samples (n = 109)
Non-Independence of Measures (n=2)
Meta-Analyses (n=52)
Retracted (n=1)

Additional Studies

Inclusion of additional studies (n = 12, k = 14)

Records included:
Authors Providing Missing Statistics (k = 2)
Archival Databases (k = 9)
Primary Study (k = 3)

Included

Studies included in review (n = 26)
Samples within studies (k = 28)

FIGURE 2 | Meta-analysis coding summary. *Note. n = number of articles, k = number of studies.* [1]These included APA PsycInfo, Academic Search Complete, APA PsycArticles, Business Abstracts with Full Text (H.W. Wilson), Business Source Complete, Psychology and Behavioral Sciences Collection, Humanities & Social Sciences Index Retrospective: 1907–1984 (H.W. Wilson), and Vocational and Career Collection.

Stavrova 2023a, 2023b; Judge and Watanabe 1993), while a few focused on specific occupations or job contexts (e.g., Academics, Ghasemy and Frombling 2022; University Employees, Heller, Judge, and Watson 2002). In total, the 28 studies included in our analysis provided a combined sample of 161 412 participants.

2.3 | Meta-Analytic Strategy

The present study utilized CoTiMA using the R package CoTiMA (Dormann et al. 2022) to examine the longitudinal relationship between life and job satisfaction. CoTiMA is based on continuous-time structural equation models (ctsem; e.g., Driver, Oud, and Voelkle 2017; Voelkle et al. 2012; Voelkle and Oud 2013), which has slightly different terminology compared to discrete-time structural equation modeling. Most importantly, autoregressive and cross-lagged effects are instead referred to as *auto* and *cross* effects, respectively. Collectively, these effects are referred to as continuous-time *drift* coefficients.[2] For our purposes, CoTiMA is best presented in two different analysis phases.

In the first phase, continuous-time effect size estimates are estimated for each study. Specifically, CoTiMA is based on continuous-time structural equation models (ctsem), which take the time intervals exactly into account by means of stochastic differential equations. Specifically, separate ctsems are fitted for each of the primary studies. These estimates reflect the drift coefficients for a uniform time interval across studies (1 month). Each of these analyses yields four drift coefficients: two auto effects (one for job satisfaction and one for life satisfaction) and two cross effects (one for job satisfaction life satisfaction, one for life satisfaction ➔ job satisfaction). In order to deal with multi-wave studies, some previous meta-analyses of longitudinal studies selected a single pair of two waves (e.g., Mathieu et al. 2015; Riketta 2008) or aggregated correlations from multiple waves by using Fisher's z-scores (Nohe et al. 2015). Selecting or aggregating across waves implicitly assumes stationarity. That is, assuming that the processes do not change across time points. CoTiMA also assumes stationarity, but it simultaneously uses all available waves to estimate a unique set of four continuous-time drift coefficients (two auto effects and two cross effects) irrespective of how many waves were in the primary study and

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TABLE 2 | Characteristics of studies included in CoTiMA analysis.

Study	Sample	Waves	Measurement frequency
Baumann, Danilov, and Stavrova (2023a)	258 UK individuals from Prolific	3	1 week, 4 months
Bergman and Daukantaite (2009)	277 Swedish Women from a subset of the Individual Development and Adaptation (Magnusson, 1988) study.	2	6 years
BHPS[a]	9208 individuals from a representative sample from the United Kingdom	7	1 year
Duffy et al. (2022)	856 United States working adults	2	3 months
Ghasemy and Frombling (2023)	220 Malaysian academics	3	2 months
Ghent[a]	341 Belgian University graduates	2	7 years
Haase, Heckhausen, and Silbereisen (2012)	498 German University graduates	4	6 months
Heller, Judge, and Watson (2002)	135 United States University employees	2	6 months
HILDA[a]	17 867 adults from the Household, Income and Labour Dynamics in Australia (HILDA) study	15	1 year
HRS[a]	31 460 from the Health and Retirement Study	8	2 years
Осин and Леонтьев (2020)[a]	372 Russian working adults	2	2 years
Judge and Watanabe (1993)	804 individuals from a National Probability Sample in the U.S.	2	4–5 years
KLIPS[a]	331 individuals from the Korean Labor and Income Panel Study (KLIPS)	18	1 year
Kujanpää et al. (2021)	433 Japanese and Finish workers	3	3 months
LISS[a]	6805 individuals from the Longitudinal Internet Study for the Social Sciences from the Netherlands	10	1 year
MIDJA[a]	382 individuals from the Midlife in Japan (MIDJA) Survey	2	4 years
MIDUS[a]	6506 individuals from the Midlife in the United States (MIDUS) survey	3	10 years
Neumeier et al. (2017)	128 international sample (32 different nationalities/16 different countries)	2	2 weeks
Perry (2000)	289 working veterans from Oregon	3	9 months
PPS[a]	935 individuals from French and German-speaking regions of Switzerland	3	1 year
Rinas et al. (2023)	489 German University Instructors	2	3 months
Rode (2002)	892 individuals working in the United States	2	3 years
SOEP[a]	79 479 German individuals from the Socio-Economic Panel	33	1 year
Stone (1995)	407 Canadian working adults	3	2 years
Unanue et al. (2017—Study 1)	210 Chilean working adults	2	2 months
Unanue et al. (2017—Study 2)	272 Chilean working adults	2	1 month
Unanue et al. (2017—Study 3)	258 Chilean working adults	2	1 month
Zacher and Rudolph (2021)[a]	1300 working adults in Germany	19	1 month

Abbreviations: JS, job satisfaction; LS, life satisfaction.
[a]Raw data used in the study.

irrespective of the possibly varying lengths of time intervals between the waves.

Interpreting continuous-time drift effects is not easy, but these difficulties can be circumvented. For instance, for cross effects, a positive sign means a positive relation; the larger the cross effect, the larger the relation. Auto effects are usually negative, and the closer the auto effects are to 0, the more stable these variables are over time. Although the sizes (e.g., 0.008 is twice as strong as 0.004) and signs (e.g., −0.008 vs. 0.008) of the drift coefficients can be compared, their magnitudes cannot be easily interpreted. Therefore, as we do later, the continuous-time drift coefficients can be transformed into discrete-time cross-lagged regression coefficients across any desired time interval with their usual interpretation.

The second phase involves aggregating these effects to estimate the drift coefficients, which can be accomplished in two ways. Following the approach outlined by Borenstein et al. (2010), the first way involves traditional fixed and random effects analysis using each of the four drift coefficients from the primary studies. In the fixed effects analysis, it is assumed that a "true" drift coefficient exists, and each drift coefficient is then aggregated across all 28 primary studies under this assumption. In the random-effects analysis, aggregation is done assuming that there is no single true effect but rather that true effects randomly vary. Each primary study is drawn from the distribution of true effect sizes. A disadvantage of this approach is that only one out of the four drift coefficients can be estimated for a given analysis.

Consequently, the second approach to aggregating these drift effects involves simultaneous aggregation provided by CoTiMA. This is important because the size of a single cross-effect cannot be interpreted without considering the other cross-effect sizes and the auto effect (Dormann, Guthier, and Cortina 2020). One could think of a CoTiMA in two conceptually different ways but with identical results. According to the first conceptualization, CoTiMA is a multi-group ctsem in which the drift coefficients are forced to be invariant across primary studies (i.e., groups). According to the second conceptualization, there is a single-group ctsem with additional dummy variables representing the primary studies. These dummy variables affect all model parameters (e.g., T0 covariances, error terms) *except* the drift coefficients (hierarchical cstem; Driver and Voelkle 2018), making them invariant across primary studies. CoTiMA is advantageous because the entire causal system is considered. For example, the effect of job satisfaction on life satisfaction and vice versa are simultaneously aggregated.

It is important to note that we deviate from Guthier, Dormann, and Voelkle (2020)—a previous publication using CoTiMA—by providing one methodological extension of their analytical procedure. The authors relied only on the correlation matrices reported in primary studies. We also extended the CoTiMA R package (Dormann et al. 2022) to additionally include raw data. Specifically, we included raw data from ten of the studies (noted in Table 2). Access to the r-code and input data can be found at https://osf.io/r4m29/?view_only=afb77d31535540fbb6829f14285ab448.[3]

2.4 | Testing Hypotheses and Examining Research Questions

To contextualize these analyses with respect to our hypotheses, support for Hypotheses 1 and 2 comes through the interpretation of (1) the drift coefficients for each individual study, (2) the aggregated fixed and random effects using the traditional method, and (3) the aggregated effects provided by CoTiMA. Hypothesis 3 is also examined in the last phase of these analyses by comparing the relative effects of this relationship using common practices (Dormann, Guthier, and Cortina 2020; Guthier, Dormann, and Voelkle 2020; Voelkle et al. 2012).

To examine Research Question 1, the continuous-time effect estimates are translated into more common discrete-time interval effects. The drift coefficients produced by CoTiMA are not easily interpreted, and, consequently, they hold little intuitive value. To enhance interpretability, these drift coefficients were estimated across various discrete time points (from 1 to 120 months). These converted drift coefficients can be interpreted as cross-lagged effect sizes (e.g., an effect of 0.20 implies that a change of 1.0 standard deviations in job satisfaction at Time 1 increases life satisfaction at Time 2 by 0.20 standard deviations, when keeping Time 1 scores of job satisfaction constant). These results can then be plotted to represent how these cross-lagged relationships change as a function of the time interval between measurement occasions.

To account for small sample bias, we apply a new type of analysis that aims at estimating and simultaneously reducing small sample bias. Sample size bias in longitudinal studies is a more complicated issue compared to cross-sectional studies. Problems emerge because sample sizes vary across the different measurement occasions and variables involved, which is especially an issue when using raw data in the analysis. Furthermore, tests for small sample bias (e.g., Egger's Test) usually use 'precision' as weights, which is typically the inverse standard error (i.e., larger studies yield estimates with lower standard errors; e.g., Borenstein et al. 2010). We augment these approaches to correct for small sample bias in CoTiMA, and we computed an index labeled "dataPoints" for each primary study, which is the average pairwise N at the first two waves of measurement.[4] Specifically, the log of "dataPoints" was used and centered, so that 0 represents the mean log averaged pairwise N across Waves 1 and 2. This value is included as a moderator in CoTiMA on the LS➔JS and JS➔LS effects such that a negative moderator effect would indicate that the effect size increases as the sample size decreases. Importantly, this moderator effect is partly controlled for small sample bias (partialled out) in the estimated drift effects, which represent the expected effects for a study with an average sample size (log [dataPoints]).

Lastly, we also estimate a CoTiMA model that includes random intercepts to account for unobserved heterogeneity (i.e., unmeasured stable characteristics) between participants. A classic cross-lagged model represents a mixture of both between- and within-person variance. The inclusion of random intercepts allows the interpretation of these effects from purely a within-person perspective (Hamaker, Kuiper, and Grasman 2015; Hamaker and Muthén 2020). With many waves of observation and raw data, it would also be possible to estimate random drift effects. However, only correlations and/or two waves were

available for several studies. Thus, we simply fitted a CoTiMA with random continuous-time intercepts. We provide funnel plots, forest plots, Egger's tests, and PET-PEESE estimates to detect possible publication biases.

3 | Results

In the following, we first report the results for our hypotheses and research questions using the full CoTiMA, which does not include the random intercept. We then report the results for publication bias. Finally, we report the results for our hypotheses and research questions using a model with a random intercept. For ease of presenting the results, we use shorthand to refer to the effect of life satisfaction on future job satisfaction (LS➔JS) and job satisfaction on future life satisfaction (JS➔LS).

3.1 | Fixed Effects Results

The drift coefficients provided by the first phase of CoTiMA are presented in Table 3. On the surface, they support our assertions regarding the temporal tenets of both that life satisfaction predicts future job satisfaction (LS➔JS effects) AND that job satisfaction predicts future life satisfaction (JS➔LS effects). Across all samples and measurement lags, we found support for both LS➔JS effects (24 of 28 primary studies indicated a significant positive cross effect, and no studies indicated a significant negative effect) and JS➔LS effects (21 of 28 primary studies indicated a significant positive cross effect and no studies indicated a significant negative effect).

In support of both Hypothesis 1 and 2, both aggregation techniques provide additional evidence that job and life satisfaction influence one another over time. Using the traditional approach (summarized at the bottom of Table 3), the fixed[5] cross effects were significant (i.e., confidence interval excluded zero) for both LS➔JS (0.0272) and JS➔LS (0.0205). The same pattern of findings was true for random cross effects (LS➔JS = 0.375; JS➔LS = 0.0241). These results were paralleled with aggregating the effects through CoTiMA (Table 4). Specifically, the LS➔JS (0.0322) and JS➔LS cross effects (0.0244) were significant because the 95% confidence intervals excluded zero. Thus, all analyses consistently provide evidence for mutual, reciprocal effects between job satisfaction and life satisfaction.

In support of Hypothesis 3, these results also suggested that the LS➔JS effects were larger than the JS➔LS effects. To directly examine our proposition, we examined the relative strength of the LS➔JS and JS➔LS effects by specifying a model where the overall JS➔LS effects were constrained to be equal to the overall LS➔JS effects and comparing the fit of that model to a model where these parameters were not constrained. Results showed that the constrained model fit significantly worse than the model where the two effects were freely estimated (Δ-2Logliklihood = 539.6521, $\Delta df = 1$, $p < 0.0001$). Thus, the LS➔JS effects are slightly and significantly larger than the JS➔LS effects.

In exploring the temporal patterning of these effects, we translated the continuous-time effects to discrete-time effects to facilitate the interpretation of the results. Figure 3 shows the resulting plots for the LS➔JS and JS➔LS cross-lagged effects; they were computed for time intervals varying from 1 to 120 months (10 years). The black dashed lines show the meta-analyzed average (fixed) effect sizes over time based on the CoTiMA results presented in Table 4. The gray lines show the results of each primary study based on the results presented in Table 3. The dots show the discrete-time cross-lagged effect of each primary study for the respective time interval used. The CoTiMA results imply that the largest discrete-time JS➔LS cross-lagged effect is 0.1491, which occurs across a time lag of 17.2 months. The largest discrete-time LS➔JS cross-lagged effect is 0.1970, which also occurs across a time lag of 17.2 months.

3.2 | Publication Bias

Before including the random-intercept models, we applied the new analytical technique mentioned above that aims at estimating and simultaneously reducing small sample bias. As reported in Table 4, the drift effects from the model, including the moderation, were similar for both LS➔JS (Full = 0.0322; Mod = 0.0336) and JS➔LS (Full = 0.0244; Mod = 0.0246) effects. However, results suggested that studies with smaller samples did indeed produce significantly larger drift effects for LS➔JS effects (−0.0042, $p < 0.001$) and JS➔LS effects (−0.007, $p < 0.05$). Interestingly, the traditional tests for small sample bias (Egger's Test) did not reveal any publication bias associated with small samples (all $p > 0.5931$). Results from the funnel plot (Figure 4) did suggest more studies fell outside the plot for LS➔JS vs. JS➔LS effects. As a final note on publication bias, PET-PEESE (Stanley and Doucouliagos 2014) indicated that the LS➔JS (0.0272, $SE = 0.0020$) and JS➔LS effects (0.0205, $SE = 0.0014$) were the same as (or very close to) the fixed effects estimates (LS➔JS = 0.0272; JS➔LS = 0.0205; Table 3). The lack of deviation from these estimates indicates little evidence for publication bias.[6]

3.3 | Random Intercepts Results

Lastly, we examined how these effects change by including a random intercept. Cross-lagged effects from the previous models represent a mix of within- and between-person effects. Including a random intercept removes between-person differences (i.e., unobserved heterogeneity) and allows examining purely within-person processes (cf. Driver, Oud, and Voelkle 2017; Hamaker, Kuiper, and Grasman 2015). The results are shown in Table 4. A comparison between the model with (−2Loglikelihood = 3824818.2907) and without random-intercepts (−2Loglikelihood = 3924582.5913) indicated a significant difference between the two models (ΔLoglikelihood = 99764.3006, $\Delta df = 70$, $p < 0.0001$). Further, the variances of the continuous-time random intercepts were significant for both life ($p < 0.01$) and job satisfaction ($p < 0.01$), suggesting that they account for significant between-person heterogeneity. An inspection of the auto-effects from the random-intercept model revealed more negative auto effects for both life (−0.1289) and job satisfaction (−0.1155) as compared to the fixed effects CoTiMA, which was expected as the removal of trait-based variance lowers stability over time. Notably, the removal of between-person variance resulted in support for both Hypothesis 1 (Fixed

TABLE 3 | Estimated drift parameters for 1 year.

No.	Source	Cross effects						Auto effects					
		JS→LS	LL	UL	LS→JS	LL	UL	JS→JS	LL	UL	LS↔LS	LL	UL
1	Baumann, Danilov, and Stavrova (2023b)	**0.3716**	0.1042	0.6498	**0.5462**	0.2421	0.8559	**−0.9472**	−1.2238	−0.6711	**−0.8604**	−1.1616	−0.5655
2	Bergman and Daukantaite (2009)	**0.0588**	0.0474	0.0703	**0.0436**	0.0304	0.0565	**−0.0452**	−0.0622	−0.0316	**−0.0794**	−0.1051	−0.0570
3	BHPS	**0.0192**	0.0171	0.0214	**0.0303**	0.0279	0.0328	**−0.0710**	−0.0735	−0.0686	**−0.0580**	−0.0599	−0.0561
4	Kujanpää et al. (2021)	**0.0927**	0.0466	0.1391	**0.1102**	0.0684	0.1516	**−0.2137**	−0.2512	−0.1778	**−0.2879**	−0.3409	−0.2367
5	Duffy et al. (2022)	**0.0170**	0.0005	0.0339	**0.0708**	0.0495	0.0921	**−0.1218**	−0.1445	−0.1008	**−0.0590**	−0.0762	−0.0444
6	Ghasemy and Frombling (2023)	**0.1126**	0.0513	0.1705	**0.0675**	0.0142	0.1197	**−0.1641**	−0.2179	−0.1164	**−0.2277**	−0.2898	−0.1690
7	Ghent	0.0133	−0.8433	0.8354	0.0045	−0.8535	0.8979	**−0.1512**	−0.2697	−0.0640	**−0.1502**	−0.1661	−0.1341
8	Haase, Heckhausen, and Silbereisen (2012)	0.0142	−0.0054	0.0331	**0.0548**	0.0268	0.0826	**−0.1667**	−0.2029	−0.1328	**−0.0560**	−0.0725	−0.0419
9	Heller, Judge, and Watson (2002)	0.0118	−0.0152	0.0389	**0.0395**	0.0026	0.0768	**−0.0933**	−0.1395	−0.0569	**−0.0408**	−0.0699	−0.0207
10	HILDA	**0.0216**	0.0206	0.0227	**0.0342**	0.0329	0.0354	**−0.0728**	−0.0741	−0.0715	**−0.0553**	−0.0563	−0.0544
11	HRS	**0.0082**	0.0069	0.0095	**0.0096**	0.0079	0.0113	**−0.0287**	−0.0308	−0.0266	**−0.0205**	−0.0214	−0.0197
12	Осин and Леонтьев (2020)	0.0004	−0.0080	0.0088	−0.0017	−0.0098	0.0062	**−0.0224**	−0.0306	−0.0157	**−0.0308**	−0.0411	−0.0223
13	Judge and Watanabe (1993)	**0.0308**	0.0187	0.0427	**0.0725**	0.0649	0.0801	**−0.1001**	−0.1186	−0.0827	**−0.0354**	−0.0471	−0.0257
14	KLIPS	**0.0380**	0.0314	0.0444	**0.0252**	0.0198	0.0305	**−0.0616**	−0.0664	−0.0571	**−0.0999**	−0.1077	−0.0923
15	LISS	**0.0160**	0.0147	0.0172	**0.0197**	0.0183	0.0212	**−0.0345**	−0.0359	−0.0331	**−0.0332**	−0.0344	−0.0320
16	MIDJA	**0.0116**	0.0051	0.0180	**0.0094**	0.0027	0.0161	**−0.0205**	−0.0280	−0.0145	**−0.0209**	−0.0279	−0.0152
17	MIDUS	0.0125	−2.0674	2.0951	0.0030	−1.8337	1.8372	**−0.1881**	−0.5668	−0.0066	**−0.2247**	−0.7948	−0.0010
18	Neumeier et al. (2017)	**0.7555**	0.2796	1.2294	0.0548	−0.2701	0.3731	**−0.4031**	−0.6605	−0.1602	**−1.1960**	−1.6598	−0.7286
19	Perry (2000)	0.0012	−0.0106	0.0130	**0.0158**	0.0015	0.0298	**−0.0622**	−0.0783	−0.0483	**−0.0357**	−0.0482	−0.0255
20	PPS	**0.0104**	0.0053	0.0153	**0.0249**	0.0184	0.0314	**−0.0682**	−0.0763	−0.0605	**−0.0311**	−0.0355	−0.0270
21	Rinas et al. (2023)	**0.0641**	0.0360	0.0927	**0.0453**	0.0145	0.0766	**−0.1226**	−0.1557	−0.0924	**−0.1111**	−0.1398	−0.0856
22	Rode (2002)	**0.0075**	0.0032	0.0117	**0.0064**	0.0023	0.0105	**−0.0225**	−0.0267	−0.0188	**−0.0261**	−0.0310	−0.0218
23	SOEP	**0.0246**	0.0240	0.0252	**0.0301**	0.0294	0.0308	**−0.0674**	−0.0681	−0.0667	**−0.061**	−0.0615	−0.0605
24	Stone (1995)	**0.0050**	0.0007	0.0093	**0.0113**	0.0066	0.0160	**−0.0315**	−0.0369	−0.0267	**−0.0213**	−0.0255	−0.0176

(Continues)

TABLE 3 | (Continued)

No.	Source	Cross effects						Auto effects					
		JS→LS	LL	UL	LS→JS	LL	UL	JS→JS	LL	UL	LS→LS	LL	UL
25	Unanue et al. (2017—Study 1)	**0.2408**	0.0683	0.4166	**0.2715**	0.0959	0.4442	**−0.4441**	−0.6153	−0.2757	**−0.4530**	−0.6342	−0.2800
26	Unanue et al. (2017—Study 2)	**0.1543**	0.0068	0.3022	**0.2478**	0.0825	0.4153	**−0.5858**	−0.7617	−0.4136	**−0.4287**	−0.5705	−0.2925
27	Unanue et al. (2017—Study 3)	0.0993	−0.0186	0.2141	**0.2883**	0.1379	0.4376	**−0.4871**	−0.6482	−0.327	**−0.2303**	−0.3439	−0.1289
28	Zacher and Rudolph (2021)	**0.1588**	0.1401	0.1773	**0.2222**	0.2030	0.2413	**−0.5032**	−0.5229	−0.4831	**−0.4216**	−0.4399	−0.4032
	Fixed Eff./limits	**0.0205**	0.0201	0.0210	**0.0272**	0.0267	0.0277	**−0.0602**	−0.0607	−0.0597	**−0.0488**	−0.0492	−0.0484
	Random Effects	**0.0241**	0.0197	0.0286	**0.0375**	0.0314	0.0435	**−0.0995**	−0.1108	−0.0882	**−0.0823**	−0.0922	−0.0724

Note: CI = LL = lower limit; UL = upper limit; JS = job satisfaction, LS = life satisfaction; JS→LS = effects of job satisfaction on future life satisfaction; LS→JS = effects of life satisfaction on future job satisfaction; JS→JS = auto effect estimates of job satisfaction; LS→LS = auto effect estimates of life satisfaction; WLS = weighted least squares. Random effects were computed as recommended by Borenstein et al. (2010). The overall −2 Loglikelihood value for the multigroup heterogeneity model was −2ll = 397411.5299. Significant effects are bold.

Intercept = 0.0322; RI = 0.0266) and Hypothesis 2 (Fixed Intercept = 0.0244, RI = 0.0245). However, their standard errors (*sd* in Table 4) show that the distributions do not overlap within the 99% range (i.e., $\pm 2.58 \times sd$). Thus, the JS→LS effect remained significantly smaller than the LS→JS effect. A final observation is that both JS→LS (0.0744) and LS→JS discrete time effects (0.0805) peak at 8.2 months compared to the 17.2-month apex found in the Fixed Effects CoTiMA. Importantly, the continuous-time intercepts suggested that both life and job satisfaction decrease as time passes, with the decline being more pronounced for job satisfaction than for life satisfaction (see Figure 5).

4 | Discussion

The current work significantly contributes to the study of job and life satisfaction by advancing both theoretical and empirical understanding of how these two key aspects of well-being influence one another over time. Building on a rich foundation, our findings align with seminal contributions in this area (e.g., Bowling, Eschleman, and Wang 2010; Judge and Watanabe 1993; Rice, Near, and Hunt 1980), demonstrating that job and life satisfaction are modestly and reciprocally related. At the same time, we add to this foundation work by leveraging advancements in both this area of research and research methodologies to demonstrate that these effects are dynamic, unfolding both between and within individuals over time. Unlike earlier studies that primarily focused on cross-sectional effects (e.g., Bowling, Eschleman, and Wang 2010) or single discrete periods (e.g., Judge and Watanabe 1993), our work provides a novel temporal perspective. This temporal granularity represents a transformative step forward in understanding how these relationships evolve, offering a richer and more detailed perspective on their interplay.

Moreover, we also make significant theoretical contributions to understanding these effects. By incorporating and extending COR theory, we advance the theoretical foundation for why these two key aspects of well-being interact over time. Our work moves beyond prior models, often lacking a comprehensive temporal framework. Importantly, we introduce a new perspective on the temporal patterning of this relationship, showing that cross-lagged effects between job and life satisfaction rise steadily, reaching a peak, and then gradually decline. This theoretical grounding provides a novel explanation for how these two domains of well-being evolve together over time and suggests new avenues for future exploration. In the following sections, we discuss our findings—focusing on the between- and within-person results, temporal patterning, and relative effects—highlight their practical implications, address limitations, and propose directions for future research.

4.1 | Overall Findings

4.1.1 | Between- and Within-Individual Effects

A key objective of our work was to replicate and confirm the findings of prior single-study research while also building on cross-sectional research by demonstrating that job and life

TABLE 4 | Estimates for CoTiMA results of the relations between job satisfaction and life satisfaction.

	Est	*SE*	LL	UL
Full CoTiMA				
JS→LS	**0.0244**	0.0002	0.0239	0.0249
LS→JS	**0.0322**	0.0003	0.0317	0.0328
JS↔JS	**−0.0672**	0.0003	−0.0678	−0.0666
LS↔LS	**−0.0576**	0.0002	−0.0581	−0.0572
Small sample bias				
JS→LS	**0.0246**	0.0003	0.0241	0.0251
LS→JS	**0.0336**	0.0003	0.0330	0.0342
JS↔JS	**−0.0672**	0.0003	−0.0679	−0.0666
LS↔LS	**−0.0555**	0.0003	−0.0560	−0.0550
Moderator effects				
JS→LS log (dataPoints)	**−0.0007**	0.0003	−0.0013	−0.0001
LS→JS log (dataPoints)	**−0.0042**	0.0004	−0.0050	−0.0035
JS↔JS log (dataPoints)	0.0000	0.0004	−0.0008	0.0008
LS↔LS log (dataPoints)	**−0.0057**	0.0003	−0.0063	−0.0051
Random intercept model				
JS→LS	**0.0245**	0.0006	0.0233	0.0257
LS→JS	**0.0266**	0.0007	0.0251	0.028
JS↔JS	**−0.1155**	0.0007	−0.1169	−0.1142
LS↔LS	**−0.1289**	0.0006	−0.1302	−0.1277
Variance of JS ct intercept	**0.6141**	0.0139	0.5866	0.6413
Variance of LS ct intercept	**0.6901**	0.0156	0.6594	0.7204
Mean of JS ct intercept	**−0.0025**	0.0002	−0.0028	−0.0022
Mean of LS ct intercept	**−0.0004**	0.0001	−0.0007	−0.0001

Note: LL = lower limit; UL = upper limit; JS = job satisfaction; LS = life satisfaction; S→LS = effects of job satisfaction on future life satisfaction; LS→JS = effects of life satisfaction on future job satisfaction LS→JS = effects of life satisfaction on future job satisfaction; JS↔JS = auto effect estimates of job satisfaction; LS↔LS = auto effect estimates of life satisfaction. ct = continuous time. Significant effects are printed in bold face. $k = 28$, −2ll = 3924582.5599 (full CoTiMA), 3923097.6224 (small sample bias), 3824856.6811 (random intercept).

satisfaction are reciprocally related at the between-person level over time – a relationship we successfully confirmed. Crucially, we also extend these findings by demonstrating the same reciprocal effects within individuals. This distinction is critical, as much of the prior research focused primarily on between-person effects, often confounded by stable individual differences. By disentangling the within-person and between-person effects, we show that the dynamic temporal interplay between job and life satisfaction is not simply the result of individual differences but rather represents a true, reciprocal relationship that unfolds over time within individuals. Moreover, unlike previous work that emphasized the broader reciprocal relationship without exploring timing, our findings reveal critical time-based patterns that advance both theoretical understanding and practical applications. Discussion of these temporal dynamics is explored in greater detail presently.

4.1.2 | Temporal Patterning

One of the most intriguing findings from our work is the timing of these effects, specifically the rate at which they increase until reaching an apex, followed by their gradual decline. We found that the between-person effects peaked at 17.2 months, while within-person effects reached their apex at 8.2 months, for both the LS → JS and JS → LS relationships, with the effects slowly dissipating over time. By grounding our work in COR theory and incorporating the concepts of resource saturation and variability in resource investment, we respond to scholars' calls for more temporal theorizing within COR (Ford et al. 2023; Sonnentag and Meier 2024) and provide empirical support for these dynamics. Uncovering this temporal pattern is a significant advancement and reveals a clear next step: explaining why these effects specifically peak around the 17- and 8-month marks, which could provide deeper insights into the mechanisms underlying these interactions.

The next step in understanding these effects may involve incorporating principles from other theories to better explain the underlying mechanisms. For example, need-based theories (e.g., Maslow 1943; Ryan and Deci 2000) could offer insights into how individuals allocate their resources. Once lower-order needs (e.g., safety, physiological) are fulfilled, individuals may be more inclined to invest their excess resources from job satisfaction into activities that support higher-order needs, which typically take longer to develop. Indeed, some research has found that events associated with high job satisfaction (e.g., getting a job) increase life satisfaction over time, peaking at around 15 months (Reitz et al. 2022). Learning a new language (Demie 2013), developing new friendships (Fehr 1996; Schinoff, Ashforth, and Corley 2020), reaching a weight loss goal (Lowe, Miller-Kovach, and Phelan 2001), and gaining expertise in a musical instrument (Cope 2005; Pitts, Davidson, and McPherson 2000) all take significant time to accomplish. The same can be said for the resource spillover from life satisfaction to job satisfaction, as it takes time to get a promotion, achieve recognition, be awarded a raise, or develop stronger relationships with coworkers—which are all associated with high job satisfaction (Spector 1997).

Other theories that could be incorporated to explain variability in resource investment are temporally informed value-based theories. For instance, Carstensen's (1992) Socioemotional Selectivity Theory suggests that as individuals age, their time horizons shrink, leading to a shift in their values and priorities. Younger individuals tend to focus on future-oriented goals, such as career advancement and accumulating knowledge or skills,
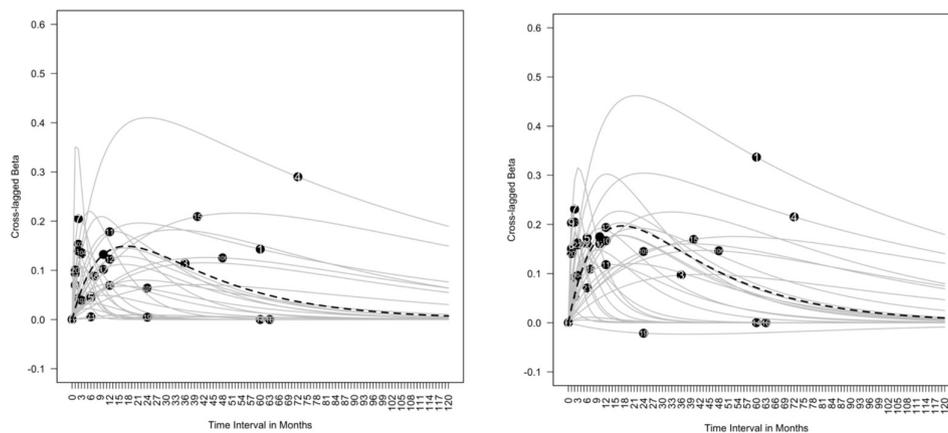
FIGURE 3 | Graphical illustration of discrete-time JS→LS (left) and LS→JS (right) cross lagged effects across 1 to 120 months. The black dashed lines show the fixed effect CoTiMA effect sizes over time. The gray lines show the results of each primary study. The dots show the discrete-time cross-lagged effect of each primary study for the respective time interval employed in the study under consideration.
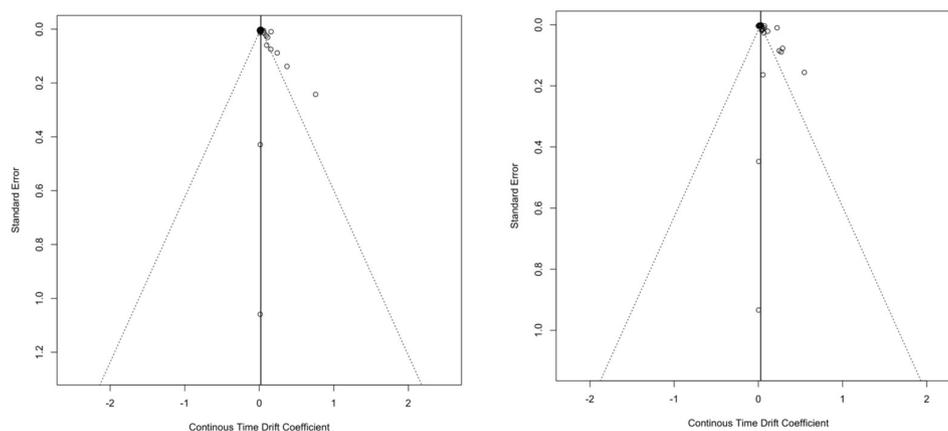

FIGURE 4 | Funnel plots for continuous time cross-effects of job satisfaction on life satisfaction (left) and life satisfaction on job satisfaction (right).

which align with long-term investments in job satisfaction. However, as individuals age, their focus shifts toward emotionally meaningful experiences, like spending time with loved ones or engaging in fulfilling activities outside of work. This shift in priorities influences where individuals choose to invest their resources. For example, an individual may reinvest their resources from life satisfaction into other domains (e.g., leisure) rather than supporting their satisfaction at work, resulting in a weaker relationship between life satisfaction and future job satisfaction over time.

While we elaborate on this point in our future directions section, there is a clear need to integrate tenets of various theories (e.g., resource-based, need-based, and value-based) to develop a more comprehensive programmatic theory of how job and life satisfaction influence one another over time. Unlike prior research, which often focuses on specific life events (e.g., job loss or promotion) and their impact on well-being, our findings extend this body of work by demonstrating that changes in satisfaction occur even when broad evaluations are used. This suggests that job and life satisfaction interact over time, even without significant events. Therefore, the trajectories discovered in this study apply broadly to individuals with varying life circumstances rather than being limited to those experiencing

specific, potentially unrepresentative events. Future theoretical developments leveraging the results of this work should aim to reflect this broader applicability, providing a more generalizable understanding of these two indicators of well-being influence on another in everyday contexts and across the lifespan.

4.1.3 | Relative Effects

Another important takeaway from the current work concerns the relative effects. Both the between- and within-person examination of this relationship supports our assertion that the LS→JS effects would be larger than the JS→LS effects, clearing up an ongoing debate in the literature (e.g., Bialowolski and Weziak-Bialowolska 2021; Unanue et al. 2017). Moreover, this finding highlights the possibility of more research/interventions geared toward facilitating job satisfaction through improving life satisfaction. As noted earlier, research now supports the idea that life satisfaction is malleable and can change over time (Diener, Inglehart, and Tay 2013; Lyubomirsky, King, and Diener 2005). In other words, global life satisfaction does not correspond entirely to a dispositional causal entity but also reflects a malleable component that directly captures the overall level of well-being based on current circumstances. Hence, these findings should
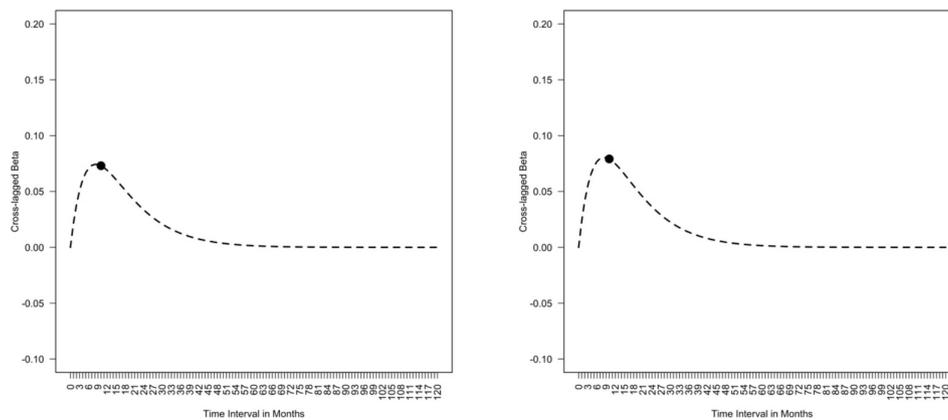
FIGURE 5 | Graphical illustration of discrete-time JS→LS (left) and LS→JS (right) cross lagged effects across 1 to 120 months for within-person effects.

encourage future researchers and policymakers also to explore initiatives that can influence life satisfaction directly, as an additional payoff is likely an employee who is more satisfied with their job.

4.2 | Practical Implications

Importantly, the confirmation of these effects occurring at both the within- and between-person has implications for organizations. Foremost, interventions or policies designed to improve an individual's well-being (whether in the form of life and job satisfaction) are likely worthwhile and may be more effective than one might initially think. Given the reciprocal relationships found in this study, efforts to improve one form of well-being (i.e., life or job satisfaction) will likely have implications for the other downstream. Hence, organizations should expect to see not only improvements in well-being but also other work outcomes associated with job/life satisfaction (e.g., engagement, performance; Bolino and Turnley 2003; Cropanzano and Wright 2001; Wright and Cropanzano 1998). Critically, a significant implication of this manuscript is showing that these effects may take time to develop, which aligns with other work in this area (Lucas 2004). Of course, any person-centric well-being initiatives, which have become more prevalent in contemporary organizations (e.g., Rupp and Mallory 2015; Weiss and Rupp 2011; Woo et al. 2018), will have an immediate impact. However, the true effects of these initiatives may take time to manifest, and we encourage organizations to keep this in mind.

Relatedly, this work also underscores the importance of organizations supporting their employees' well-being both at work and in life more broadly (Tay et al. 2023). Our findings highlight the temporal interplay between job and life satisfaction, suggesting that changes in one domain are likely to influence the other over time. As such, organizations should proactively foster environments that promote positive experiences in both domains, rather than solely reacting to declines in well-being. For example, providing resources that encourage employee growth, such as opportunities for job crafting, flexible work arrangements, and support for work–life balance, may help sustain well-being across time. Importantly, this work highlights the potential long-term effects of neglecting employees' well-being. Decreases

in job or life satisfaction may lead to further challenges in maintaining well-being if left unaddressed. Thus, organizations might benefit from being attentive to indicators of declining satisfaction in either domain and taking preventative actions, such as enhancing supportive workplace practices or improving access to resources that promote recovery and satisfaction. These efforts could mitigate potential downstream negative effects and support employees' sustained well-being.

4.3 | Limitations

As always, the current work has limitations. One limitation concerns the heterogeneity of the sample populations across the included studies. Our meta-analytic dataset spanned multiple geographic regions, industries, and job types, which may introduce variability in the observed effects. Moreover, there are likely unobserved moderators (e.g., personality, life events, and organizational culture) that could influence the observed effect size strength. While our approach allows for a more nuanced temporal understanding of the relationship between job and life satisfaction over time through advanced temporal meta-analytic methods, it may also obscure more context-specific patterns that could emerge when these factors are considered. For instance, because individuals tend to invest their resources into activities that align with their values, and cultural norms heavily influence what people value (Hofstede 2011; Sagiv and Schwartz 2022), the way job satisfaction influences life satisfaction may vary by cultural context. In a country with a strong collectivist culture like Japan, where social harmony and group well-being are highly valued, individuals might invest more resources into family and community activities outside of work. As a result, job satisfaction may have a weaker influence on life satisfaction compared to individualistic cultures like the United States, where personal achievement and autonomy are highly valued, and job satisfaction might have a stronger direct impact on overall life satisfaction. While these contextual considerations are important, we note that a significant portion of our data came from nationally representative samples, allowing us to generalize these findings at a broader population level. This representative sampling enables us to speak to the overall patterns of job and life satisfaction interactions across diverse groups, even as future research can further explore how specific

cultural, occupational, or organizational contexts shape these dynamics.

Our decision to exclude papers using intensive longitudinal methods (e.g., experience sampling method, ecological momentary assessment) from our meta-analysis is also a limitation. Including studies with these designs could have revealed important nuances in the short-term dynamics between job satisfaction and life satisfaction, such as whether daily fluctuations in job satisfaction lead to immediate changes in life satisfaction or if short-term spillover effects exist between the two domains. Importantly, our search criteria were designed to capture studies using these methodologies, and—with guidance from a reviewer—we revisited our article databases to check for studies using these methodologies. While some studies measured job satisfaction daily, only two also measured daily life satisfaction (Sheridan and Ambrose 2022; L. S. Simon, Judge, and Halvorsen-Ganepola 2010)—highlighting the opportunity for future work in this area.

4.4 | Future Research

4.4.1 | Theoretical Development

The current work provides an initial theoretical grounding for why job and life satisfaction will influence each other over time, but—as noted earlier—additional theoretical and empirical work is needed to fully explain this relationship. Integrating motivational, value-based, event-based, identity-based, need-based, and well-being theories (e.g., Brickman and Campbell 1971; Carstensen 1992; Helson 1948, 1964; Kiefer, Barclay, and Conway 2024; Lucas 2007; Maslow 1943; McAdams and McLean 2013; Morgeson, Mitchell, and Liu 2015; Ryan and Deci 2000; Solomon and Corbit 1974) would help extend our initial theoretical work presented herein. For instance, Opponent Process Theory (Solomon and Corbit 1974)—which posits that emotional experiences are regulated by opposing processes, where an initial reaction is followed by a counteracting response that reduces the intensity of the emotion and brings it back to a baseline—could be used to explain why a work event that increases job satisfaction (e.g., pay increase) will eventually have a small impact on life satisfaction as it will initially (1) result in a primary reaction of positive feelings, (2) dampen over time as individuals go through a process of adaptation, (3) stabilize above an individual's hedonic baseline, and (4) may completely disappear (and may be accompanied by negative feelings) during an opponent process phase.

Another potential theory to be incorporated is Event System Theory (EST; Morgeson, Mitchell, and Liu 2015), which suggests that particular types of events can interrupt established patterns of behavior and well-being, influencing both job and life satisfaction over time. These events can act as catalysts, initiating shifts in how individuals perceive their work and life environments. When paired with COR theory, the resource implications of these events become clearer: events that disrupt job satisfaction, such as a major promotion or workplace conflict, may deplete or accumulate resources, which then spill over into other life domains, impacting life satisfaction. For example, a positive work event like a promotion could lead to an initial resource gain, where accumulated resources from job satisfaction will then spill over into increased life satisfaction. However, as EST suggests, the long-term impact of such events depends on how they are interpreted and sustained, which aligns with some of the arguments made in the current paper. Regardless of the theoretical lens, our results suggest that additional theoretical development that promotes a more comprehensive theory is needed to explain how these effects unfold over time.

4.4.2 | Moderators

Moreover, our results can be leveraged to understand additional factors that may influence the temporal dynamics of life and job satisfaction over time. As reported in our online supplementary materials, there was significant between-study heterogeneity in the effect size estimates, indicating the presence of moderators. Hence, researchers interested in this relationship are highly encouraged to understand better the conditions affecting the relationship between job and life satisfaction. These researchers should build upon existing work, such as the recent publication by Bialowolski and Weziak-Bialowlska (2020), who demonstrated that this relationship's strength differed between countries of origin. Another factor that may be of interest is the measures used in these studies. For instance, job satisfaction measures often assess different facets of the job (e.g., pay, supervision, and the work itself), and the strength of these JS➔LS effects may be influenced by what the individual values the most.[7] An additional direction would explore tenets of the compatibility theory (e.g., Ajzen and Fishbein 1980; Harrison, Newman, and Roth 2006), where a match between the levels of specificity for both measures may affect the magnitude of the relationship between job and life satisfaction over time.

4.4.3 | Methodological Development

Future work should also investigate how the relative effects of job and life satisfaction unfold over time. While CoTiMA allows for the estimation of discrete-time intervals for these cross-lagged relations, these estimates are influenced by the overall between-variable effects. As an illustrative case, the present efforts demonstrated that the LS➔JS effect was generally stronger than the JS➔LS effect over time. These estimates are used in determining the discrete-time intervals, and consequently, the LS➔JS effect will always be larger than the JS➔LS effect over time. Relatedly, the functions estimated in our application of CoTiMA have a single global and local maximum—essentially limiting the pattern of finding to a two-dimensional linear system (i.e., one peak for cross-effect). Consequently, further development of CoTiMA is needed to fit nonlinear effects in a dynamical system. As research increasingly adopts multi-wave designs with time intervals varying both within and between individuals (cf. Voelkle and Oud 2013) and as advancements in software packages allow for the modeling of these complex structures (e.g., ctsem; Driver, Oud, and Voelkle 2017), there is ample opportunity to refine these methods. Future efforts should focus on developing dynamic modeling approaches to capture more complex temporal patterns, such as multiple peaks or fluctuating effects over time.

5 | Conclusion

Through adopting a person-centric approach, the current efforts summarize and extend our knowledge of the temporal interplay between life and job satisfaction. Our results provide much-needed clarity to the literature by providing comprehensive, longitudinal evidence of both between- and within-person effects, in addition to resolving questions surrounding the relative effects of these relationships. We also provide initial evidence of how these effects might look over time by showing when they peak and how quickly they deteriorate. Through coalescing the empirical evidence, we provided a new direction for future research that should focus on providing a more nuanced understanding of how job and life satisfaction affect one another across time.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are openly available in OSF at https://osf.io/r4m29/?view_only=afb77d31535540fbb6829f14285ab448.

Endnotes

[1] This search differs from our meta-analytic search. This initial search only included studies whose intended, explicit purpose was to investigate the relationship between job and life satisfaction. The meta-analytic search included any study that include job and life satisfaction as control or main variables in their efforts. As many studies include these variables as control variables, these initial search results and meta-analytic search results significantly differ from one another.

[2] Additionally, the terms *innovations* and *diffusion coefficients* are used instead of errors and error (co-)variances, which we do not refer to in the current analysis but provide for the interested reader (see Dormann et al. 2020; Voelkle et al. 2012 for more details).

[3] Due to permission restrictions and request from authors, the raw data is not included in the open access material. We do however provide the correlation matrixes based on these raw data for interested parties.

[4] We only use the first two waves for simplicity.

[5] The fixed cross effect is identical to its weighted least squares counterpart (cf. Stanley and Doucouliagos 2014).

[6] Results from traditional heterogeneity tests (e.g., I^2) revealed significant between-study variation and reported in detail in the online supplementary materials.

[7] In the current study, many studies used a single-item approach to measure job satisfaction. Further, those that used a multi-dimensional job satisfaction scale aggregated across these dimensions when reporting their effect size coefficients, leaving no opportunity to examine this question in the current work. We report the measures used in these studies in the online supplemental materials.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.