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Job Connectedness Causing Poor-sleep and Work-family Conflicts in Professionals? The Moderating Role of Emotion Regulation: A Conceptual Framework

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Abstract

The common practice of connecting to one's job outside the primary office by using ICTs is linked to adverse outcomes like work-family conflict and poor-sleep quality. However, outcomes are shown to vary between individuals. This work aims to establish the root cause behind individual variations by unearthing the foundational generative mechanisms that lead to the outcomes. The ontological and epistemological approach of critical realism is used to propose a novel conceptual framework that offers a three-way interaction effect between psychological control over work-life balance, emotion regulation strategies and job-connectedness outcomes. According to the framework positive emotion regulation generated by the appropriate use of savoring and dampening strategies elicits specific neurobiological processes that mitigate adverse outcomes of job-connectedness. This work theoretically extends Bandura's agentic perspective of socio-cognitive theory and practically provides managers with a deep understanding of the generative forces underlying human functioning that can be leveraged for hiring, leadership development and performance-management. An additional contribution of this work is providing a taxonomy of traditionally interchangeably-used terms to denote different kinds of alternate work arrangements, thus clearing the prevalent ambiguity in literature. A research limitation is the theoretical nature of the framework that needs to be tested empirically to confirm the effect

sizes of the proposed relationships. This work is timely and offers future research directions in the interdisciplinary fields of IS and psychology.

Keywords: Job connectedness, Poor-sleep quality, Work-family conflict, Critical realism, Psychological control over work-life-balance, Emotion regulation

Job connectedness (JC) is defined as, *"the extent to which individuals remain connected to job matters via communication technologies from a location other than the central or primary workplace"* (Rajah, 2014). Job connected individuals use devices like computers, mobile phones, and tablets to remain connected to their jobs. Since the advent of the Corona Virus-19 pandemic (henceforth referred to as the pandemic), there has been an exponential rise in this mode of work. More and more professionals have been able to stay connected to their jobs from remote locations, long after the working hours are over. This has been facilitated by a surfeit of technological devices available now. This, while beneficial for meeting organizational targets, has led to conflicting cognitive, psychological, and behavioral outcomes. While some studies have reported increased job satisfaction owing to increased employee flexibility and autonomy, (Magsamen-Conrad & Greene, 2014), others have claimed undesirable consequences like techno-stress, Poor-sleep quality (PSQ), and Work-family-conflicts (WFC) (Afonso et al; 2017; Harris et al; 2021). This lack of consistency in research results indicates that significant gaps exist in our knowledge regarding the psychological mechanisms underlying JC outcomes. Our inability to explicate causation between the phenomenon and its outcomes is worrisome. What compounds the problem is that most studies in this domain have been accomplished in the pre-pandemic era. Since the pandemic, there has been an unprecedented rise in JC. Although the academic community has tried to keep up with the subject as it evolves, the dynamic nature of the phenomenon and the scarcity of longitudinal studies makes it impossible to study the long term emotional and psychological impacts on professionals. The grim reality of the prolonged persistence and further evolution of the pandemic implies that JC is going to become mandatory for a major percentage of the global working population, regardless of individual boundary preferences. The Pew research center (2021) forecasts that by 2025, people's relationship with technology will intensify and it will become a *"tele-everything world"*.

According to the research department of Statista, 68 percent professionals reported longer sleep latency (In Statista-the Statistics Portal, 2020), and 81 percent professionals reported feeling an increase in their workload during the pandemic and 60 percent found it difficult to balance work and family (In Statista-the Statistics Portal, 2021). Figure 1 depicts expert projections that the digital mode of work could double over the next five years in the U.S. alone. In such a scenario, our best bet as researchers is to investigate the underlying generative mechanisms that lead to the observed outcomes. This will not only help us to understand the true nature of the phenomenon, but may also reveal the reasons behind the conflict in outcomes. This is important if we are to tailor interventional and mitigating programs in the future. We limit the scope of the present study to two negative outcomes of JC, namely, PSQ and WFC. The reason behind this is our belief that the chosen constructs represent some of the most pernicious of JC outcomes that affect both the professional and personal lives of affected individuals. Most of the global working population is presently job connected and if these outcomes are not addressed urgently, it is in danger of suffering unprecedented repercussions in the form of deteriorating sleep quality and unmitigated WFC.

What makes such a study challenging, however, is firstly, the lack of a single term and coherent definition of what it means for professionals to be working remotely with the help of

technological devices (Vartiainen, 2021). Our review of literature reveals a plethora of terms that have been used interchangeably by scholars like virtual work, tele work, distributed work, flexible work, etc. each seemingly related, but actually different in connotation and context. It is essential that a clear demarcation be made between these terms to remove the current ambiguity in literature.

Another factor complicating the study of JC is the inconsistencies in outcomes. On one hand, traditional exhaustion research claims that professionals become vulnerable to stress when there is inconstant contact with co-workers. Refuting this, another stream of research stresses that 'human moments' are required for employee wellbeing and cannot be replaced by technology (Hallowell, 1999). It is possible that the reason behind the conflicting outcomes is the disparate theoretical perspectives that have informed the topic. Some key theoretical lenses that authors have used to study the phenomenon are the person-environment fit theory (Joo et al., 2016), transactional theory of stress (Lee et al., 2016), technology acceptance model (Shah et al., 2012), and job-demands-resource model (rajah et al., 2020) Not surprisingly, the identified contributive factors have been as diverse as the theoretical lenses themselves. Lack of organizational support, technology addiction, gender role expectations, computer anxiety, problematic cognitive thinking, stress paradox, and ICT duality have all been identified as factors leading to the outcomes. The contradictory reports and multiplicity of factors point to the fact that the phenomenon we seek to study is complex, only the surface of which has been scratched. We argue that this narrative needs to change and the search needs to be directed at the deepest level of the *generative mechanisms* to arrive at conclusive answers. Generative mechanisms are contextually contingent forces whose existence is proven by empirical manifestations and gradual theory building (Walsh & Evans, 2014).

The motivation behind this work is to initiate a first step towards theoretically explaining JC outcomes from the level of their generative mechanisms, unearth the reasons underlying individual differences in outcomes, and identify possible moderating mechanisms. We hope to start a dialogue on the impact of individual agency on the psychological and behavioral manifestations of JC. It is our belief that regardless of contributive factors, ultimately, professionals themselves are responsible for their outcomes and this depends on the extent to which they engage in recovery behavior depending on emotional self- regulation. This belief is rooted in Bandura's agentic perspective (1999) which is the overarching theory behind this work. This theory declares that motivational, emotional, and decisional processes determine individual interpretation of reality. The valence of, and consequent response to a professional situation, thus, is determined by the 'perceived controllability' of the situation rather than the situation itself (Rajah, 2014). We extend this argument further to propose that perceived controllability of a situation is borne of emotion regulation (ER). In professional situations, the emotion-experience can be maneuvered to ameliorate mental conflicts by engaging in ER (Gross, 1998). We also draw from Bhaskar's meta theoretical perspective of critical realism (2008), and a comprehensive review of literature on ER, WFC and PSQ to strengthen our arguments.

The purpose of this work is to identify the psychological mechanisms shaping individual responses to JC and the influence of ER on job-connected behavior. The ontological approach

of critical realism is taken to explicate this. We further aim to draw a conceptual framework that elucidates the causal relationships between the studied constructs. As a guidance for future scholars, we will additionally establish the conceptual differences between traditionally interchangeably used terms that denote different kinds of remote work arrangements. We thus aim to remove the present ambiguity in literature.

The main theoretical contribution of this work is twofold and addresses two seminal theories firmly entrenched in management research. It advances one, and fundamentally challenges another. Firstly, we advance work on Bandura's agentic perspective of social cognitive theory (1999) and posit it against the relatively new construct of JC by proposing a conceptual framework that expounds a three-way moderation effect between ER and psychological control over WLB that affects the outcomes. Thus, we extend the area of knowledge on ER and JC and create a fresh understanding and provide new information about both constructs.

The second major contribution of this work is in fundamentally challenging a core assumption of a very popular theory in work-family research- the boundary theory (Nippert-Eng, 1996; Ashforth et al., 2000). This theory is based on the assumption that individuals are, for the most part, free to choose their boundaries. Some people prefer a more integrated work-family interface, whereas others prefer a more segmented interface. Accordingly, they construct their boundaries. We challenge this core assumption on the basis of events that have unfolded in recent times. We are in the midst of a pandemic that has necessitated global lockdowns and made JC mandatory. Professionals have lost the freedom to choose their desired boundaries, whether they be segmentation or integration oriented. The result has been an unprecedented techno invasion that has shattered all erstwhile boundaries that would earlier neatly demarcate work-family domains, and premised on which, most of the previous work-family research was accomplished. Now that professionals are no longer free to choose their desired boundaries, the premise of boundary theory too, no longer seems to serve us. We argue that we need to base our work-family researches on another foundation that would remain stable in all contingencies. To accomplish this, we need to change our ontological and epistemological perspectives.

A third contribution of this work is in studying ER holistically wherein it is viewed as a *generative mechanism.* Studies on emotions, though numerous, have generally had an in-silo focus, studying effects at the superficial academic, or vocational level. A desegregated perspective for studying ER has not been undertaken before to the best of our knowledge.

This work holds the promise of helping academicians understand the complex mechanisms operating at the intransitive level of JC. Managers and policy makers can use the knowledge provided to formulate strategies that can ameliorate the adverse outcomes. At the individual level, the knowledge that certain ER strategies can ward off negative outcomes can have far reaching benefits for professionals. An additional contribution of this work is in establishing the differences between traditionally interchangeably used terms that denote different kinds of remote work arrangements, thus clearing the prevailing ambiguity in literature.

The paper has been structured thus- we begin with the theoretical background and propositions development. Next, we introduce critical realism and justify the use of its stratified ontology to investigate the conflicting JC outcomes. We follow this with a section on psychological control

over WLB and ER wherein we propose a conceptual framework that explicates the conceptualized link between JC outcomes, psychological control over WLB, and ER. Then we encapsulate the theoretical and practical contributions of this work. We conclude with limitations and future research directions in the field.

To the best of our knowledge, such a research endeavor has not been undertaken before. We believe that doing so is critical because unless we accept the ubiquitiousness of JC, ask pertinent questions about the underlying generative mechanisms and search for possible moderators, our understanding of this germane phenomenon will remain incomplete and unlikely to help the vast global population that is currently experiencing PSQ and WFC. Table 1 highlights the research questions (RQ)s, and justification for RQs.

Table 1. RQs and justification for RQs

RQ	Justification for RQ
RQ1. What are the reasons behind contradictions in JC outcomes?	Eliciting the root cause of the reported contradictions is essential to advance scientific knowledge and to curate preventative measures
RQ2. How do ER and psychological control over WLB impact JC outcomes?	Governments and organizations need to act pre-emptively to ameliorate adverse JC outcomes. Eliciting the direction of relationships between the studied constructs will identify the generative mechanism and assist in this endeavor
RQ3. What are the conceptual differences between the numerous terms denoting work accomplished remotely using ICTs? (e.g., telework, distributed work, remote work, etc.)	Establishing the conceptual meaning and conditions regarding the usage of each term will remove the prevalent ambiguity in literature. Additionally, by differentiating each term from JC, we will make our stance very clear on the specific conditions that need to be met before JC can be established

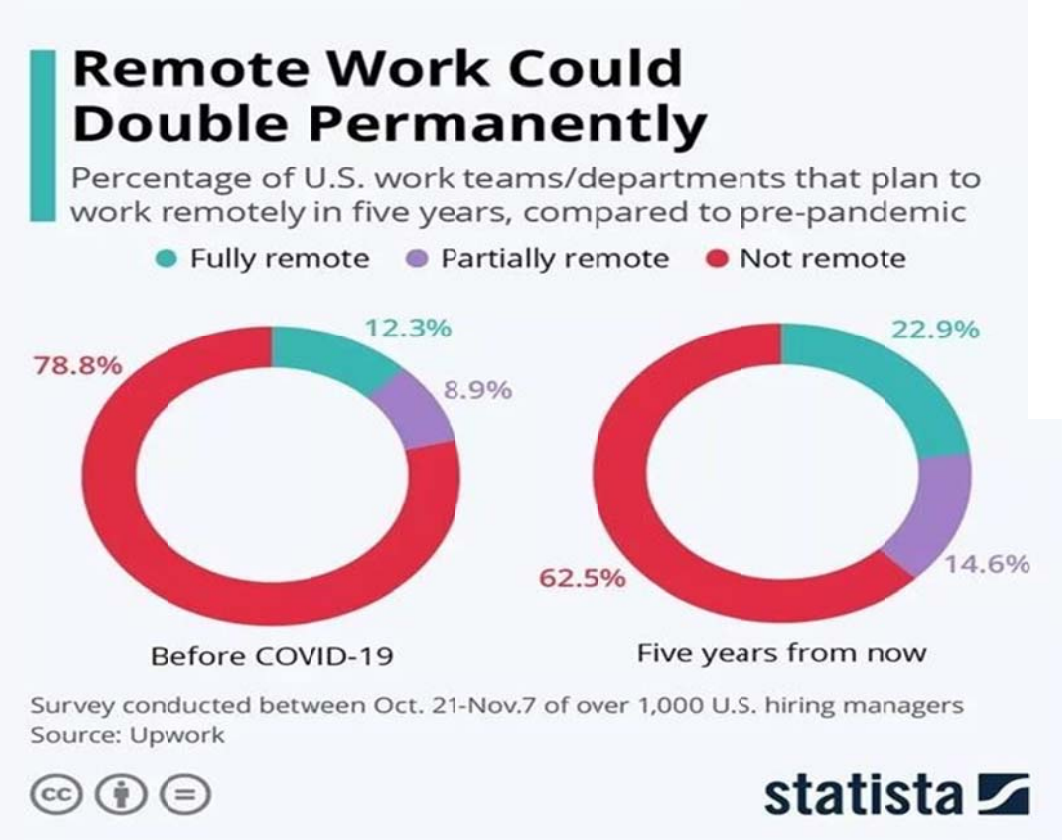

Figure 1. Remote work could double permanently over the next five years. Source: World economic forum, 2021.

2. Theoretical background and propositions development

2.1 Job connectedness

JC is the phenomenon of professionals remaining connected to their work from remote locations via technological means (Rajah, 2014). JC has three requirements-all of which need to be met before it can be established. Firstly, individuals must be connected for matters related to their jobs. Secondly, individuals must be connected from a location that is at a distance from their central workplace. Thirdly, individuals must make use of ICTs to remain connected. Job connected individuals use ICTs such as desktops, laptops, mobile phones, and tablets to make telephone calls, compose e-mails, and hold video conferences, etc. in order to fulfill professional obligations.

Note that this conceptualization of JC does not consider whether JC is undertaken voluntarily or not. JC is viewed as *"an objective behavior, free of attitudinal attachment"* (Rajah & Ilies, 2017). In the current times of pandemic induced social distancing, this conceptualization becomes more relevant than other modes of remote working since voluntariness is not optional anymore.

2.1.1 Negative outcomes associated with JC

JC is a relatively new construct in research and has been associated with PSQ and WFC

(Afonso et al., 2017; Harris et al., 2021).

2.1.1.1 Poor-sleep quality

JC is associated with PSQ. Constant exposure to technology without boundaries of space and time results in behavioral, psychological, and physiological changes such as insomnia, fatigue and irritability (Tarafdar et al., 2007). Being constantly connected to professional matters leads to behavioral changes such as repeatedly checking notifications and psychological ones such as anticipation of work-related communication and disconnection anxiety (Brivio et al., 2018). Lifestyle factors also include consumption of caffeine and nicotine, etc. in an effort to combat daytime sleepiness and impaired daytime functioning. Such behavioral patterns and irregular working hours manifest in reduced sleep and PSQ. Constant connectivity limits psychological detachment to work in the evenings-consequently reducing sleep quality and morning vigor (Afonso et al., 2017). These behavioral and lifestyle factors lead to physiological changes in the form of desynchrony between endogenous circadian rhythms and the environmental light/dark cycle. This misalignment causes sleep deprivation, PSQ, and detrimental effects on optimal performance and mental health (Shochat, 2012). This leads us to our first proposition:

P1

There exists a positive relationship between JC and PSQ.

2.1.1.2 Work Family Conflict

One of the most sought-after attributes of modern lives is “balance”. Ironically, one of the most frequently reported outcomes of JC is WFC. A review of literature reveals that some of the most common theories that have been employed to study the phenomenon are boundary theory (Nippert-Eng, 1996; Ashforth et al., 2000), work family border theory, and segmentation theory (Khateeb, 2021). These theories enrich our understanding regarding the conflicts that professionals face as they attempt to crossover from the personal to the professional sphere and vice versa. Despite these advances in knowledge, what remains perplexing is the persistence of the contradictory outcomes. It is obvious that some important dimensions of the construct are yet to be explored. A major area of concern is the research focus. Kreiner et al (2009) stated that most studies focus on hard to change variables. For example, a number of studies have focused on the associations between WFC and personality or demographical factors. However, personality, demography, and suchlike are relatively stable variables, and though such works advance our theoretical knowledge, they do not equip us with ‘actionable knowledge’, which is knowledge that can be put into practicable actions to reduce WFC in real life settings.

Kanter (1977), in her classic work 40 years ago claimed that the segregation of work and family is a “myth”. We suggest that we would do well to accept that work and family are inseparably intertwined. The more sensible thing to do would be to ask what can be done to reduce the cognitive and psychological burdens placed on professionals as they grapple family and work responsibilities across increasingly pervious and erstwhile differentially permeable boundaries. Note our use of the term “erstwhile differential” in the context of boundaries. We highlight this because according to the boundary theory, individuals create boundaries across a continuum, ranging from thick to thin, depending on their preferences for a desirable work

family interface (Ashforth et al., 2000). However, the advent of pandemic-spurred JC has invaded all previously erected boundaries that earlier provided a semblance of distinction between work and family domains. We will elaborate on this further in the following section where we will challenge the core premise of boundary theory. For now, we submit our second proposition:

P2

There exists a positive relationship between JC and WFC.

2.2. Psychological control over WLB

Extant literature reveals that psychological control over WLB provides professionals with the perception of being in control over environmental demands and moderates the adverse effects of JC (Rajah & Ilies, 2017). This implies the pivotal role of this construct in organizational settings. The feeling of being "in control" is a complex psychological phenomenon and is subject to conceptual variations. Some authors explain it by using terms such as 'self-efficacy' (Bandura, 1994) whereas others address it as 'locus of control' (Rotter, 1966).

In this study, we conceptualize psychological control over WLB as having either a higher internal locus of control or a higher perceived control over WLB. For this reason, we will use Leotti et al's (2010) definition of "*one's belief in one's ability to exert control over the environment so as to attain desirable outcomes essential for one's wellbeing".* According to this study, the perception of psychological control is not merely desirable for wellbeing; but it is an essential biological and social requirement and a significant component of work-related performance. In the current study we aim to uncover the mechanisms that regulate psychological control over WLB. We have explained our conceptualization of psychological control. We now provide the operational definition of WLB. Although the term is popular, a commonly agreed upon definition has proved elusive mainly because what might be 'balanced' for one, might not be so for another. For the current work, we will proceed with Kalliath and Brough's (2008) definition that *"work life balance is the individual perception that work and non-work activities are compatible and promote growth in accordance with an individual's current life priorities".* We use this conceptualization since it captures the notion of 'perception' of balance, as well as the acknowledgement that balance perception can change with time. JC is associated with a lack of balance perception in work-life realms, whereas psychological control over WLB is shown to moderate the adverse outcomes. Even the illusion of psychological control can augment self-efficacy and ER (Luthans et al., 2007; Leotti et al., 2010). This discussion leads us to our next proposition:

P3

Psychological control over WLB moderates the relationships between JC and PSQ and WFC in such a manner that the relationships are negative when psychological control over WLB is high, and positive when it is low.

At this point, it is worthwhile to mention that although in the present study we limit our scope to the adverse impacts of JC, the seminal work by Rajah (2014) claims that JC can cause both–

a perception of psychological control over WLB, or a lack of it, depending on individual boundary preferences. Rajah's work borrows heavily from boundary theory, which states that people differ in the kind of boundaries they construct in accordance with their desired level of WLB. Nippert-Eng (1996), in her landmark study classified people as "segmenters" or "integrators". She identified the creative ways in which people use space, time, and things to construct physical and psychological boundaries between home and work. For instance, segmenters might have a separate set of key rings for home and office, whereas integrators might keep family photographs in their office. Though Nippert-Eng conceded that dynamic forces might push or pull people away from their constructed boundaries, both hers, Rajah's and a copious amount of work in the area is based on the assumption that individuals are, for the most part, free to choose their boundaries. This is where our work challenges this fundamental assumption. We argue that these studies were conducted years ago and the core assumption on which boundary theory is based no longer holds. Current times have witnessed an unanticipated pandemic that has for the large part, mandated JC. This has resulted in a kind of techno invasion that has dismantled all previously constructed physical and psychological boundaries demarcating the work and family domains. We agree that erecting physical and notional boundaries is effective as long as professionals have some degree of freedom to do so in accordance with their orientations. However, we now know that this cannot always endure. The freedom to erect boundaries can be snatched abruptly, and the expected outcomes, based on years of research, consequently thrown off-balance.

We had earlier mentioned differentially permeable boundaries. Now we posit that forced techno invasion is likely to impact not only the segmenters, but also the integrators, the reason being the perception of a lack of psychological control. When boundaries are invaded unbidden- though they be thin, the boundary creator loses the sense of control. These effects are naturally more pronounced for those with higher segmentation preferences, but they affect integrators too. We thus posit that since boundary theory is no longer relevant in current times, what we need is a stable foundation to base our work-family researches on- one that remains steady in all contingencies. To accomplish this, we need to unearth the generative mechanisms of experienced phenomenon, and to achieve that, we need to re-evaluate our ontological and epistemological perspectives.

Implicit in our argument is the belief that individuals, when armed with an understanding of the root cause of their responses, can actively change their outcomes of their own volition. This argument is in accord with Bandura's contention (1994) that human beings are not passive receptors of environmental stimuli. They possess the power to combat stressors. Lazarus and Folkman (1984) provide support to this argument by claiming that the outcome of stressors depends entirely on individual perception. Stressors are not really 'stressors' until appraised as such. Thus, the individual appraisal that one is in possession of psychological control over WLB can powerfully mitigate professional stressors. Evidence converged from neuro imaging studies, clinical works and animal behavior reveals that psychological control over WLB is governed by multiple factors in the anatomical, physiological, and psycho-social domains. The anatomical development of the brain has been such that certain parts can become dominant during stress (Pace-Schott et al., 2019; Goleman, 1996). Physiologically, specific hormones

secreted by the hypothalamus lead to psychological control. Interestingly, the same hormones are also released in response to social cues (Liu, 2015). It is thus evident that the experience of JC is a complex phenomenon, affected by multiple factors. As we attempt to investigate this, a conceptual framework becomes necessary that complements this complexity and helps us to examine the phenomenon in its entirety. Bhaskar (2008) introduced *critical realism* in the 1970s, which is a philosophy to study people in their social context. This philosophy argues for a stratified ontology that makes a distinction between transitive reality - what is *observed* and an intransitive reality – the *causal mechanism* behind what is observed. In the present work, we will employ the lens of critical realism to reveal the causal mechanisms underlying empirical JC outcomes.

3. Justification for using the critical realist approach

Critical realism posits that reality is structured and has three ontological levels: 'empirical', 'actual' and 'real'. These can be illustrated by using a metaphorical representation of the three layers of the Earth (crust, mantle and core) in Figure2.

- Empirical: This is the peripheral layer-where events are *experienced* or perceived (like the Earth's crust which is the outermost layer where life is observed).

- Actual: This layer comprises the mechanisms that *regulate* what is experienced at the periphery. These may or may not be observable (like the Earth's mantle where tectonic movements affect life at the crust but these are not generally perceivable).

- Real: This is the deepest layer wherein lie the *generative mechanisms* behind observed surface phenomenon (like the Earth's Core which is responsible for sustenance of all life by virtue of its magnetic field. However, this cannot be seen). Bhaskar (2008) claims that the empirical layer only expresses tendencies- the actual cause of which are the generative mechanisms.

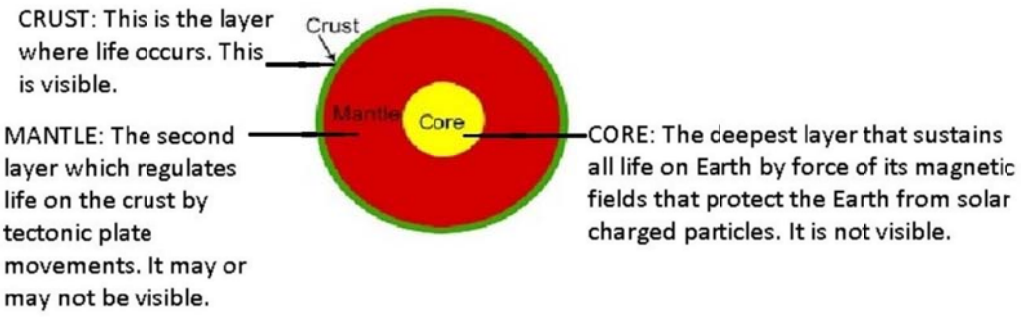

Figure 2. Earth diagram representing three ontological layers: empirical, actual, and real. Source: Evanmonroe (2022)

The critical realist approach to JC would be thus–

- At the '*empirical'* level, adverse JC outcomes are observed in the form of PSQ and WFC.

- At the '*actual'* level, psychological control over WLB moderates the relationship between

JC and the adverse outcomes in such a manner that the relationship is negative when psychological control over WLB is high and positive when it is low.

- At the *'real'* level, generative mechanisms exist that stimulate psychological control over WLB.

We propose that ER is the generative mechanism that stimulates psychological control over WLB and moderates adverse JC outcomes in a three-way interaction effect. Our claim is based on a thorough review of the corpus of literature detailing the functional anatomy of the brain, physiology of emotions, and socio-psychological influences over human emotions (Goleman, 1996; Liu, 2015; Smith et al, 2018). In the following section, we define ER and describe its impact on sleep quality, WFC and psychological control over WLB.

4. Emotion regulation

According to Gross (2002), one of life's greatest challenges is to regulate one's emotions. Since ancient times, philosophers from Socrates to Darwin, Freud to Lazarus have attempted to understand the mechanisms that elicit and regulate emotions. One of the most enduring models is the process model proposed by Gross (1998) who defines ER as *"the strategies that people use to influence which emotions they have, when they have them, and how they experience or express them".* This enables them to attain psychological control over WLB and boosts their cognitive and behavioral abilities. This model rests on the premise that during the emotion-process, there are distinct stages at which emotions can be regulated and specific strategies that work for each stage. Of the five ER strategies namely, situation selection, situation modification, attention deployment, cognitive reappraisal, and response modulation, cognitive reappraisal is recognized as the most effective one since it increases positive affect and decreases negative affect while leaving cardiovascular activities unaltered (Verzeletti et al., 2016). Thus, cognitive reappraisal through an augmented appreciation of positive emotions and a downplay of negative emotions would seem to serve professionals best when encountering challenging situations. What makes the study of ER so relevant, is that if practiced continually, it becomes habitual (Goleman, 1996). Traditionally, studies on emotions have had an in-silo focus, studying effects at the superficial academic or vocational level. An integrated perspective where ER is viewed at the level of the *intransitive reality* has not been undertaken before to the best of our knowledge. What *is* well documented, is that people with well-developed ER skills are more optimistic, goal-oriented, motivated, and socially comfortable (Goleman, 1996). The same competencies lead to psychological control over WLB (Leotti et al., 2010) which in turn, moderates PSQ and WFC.

4.1 Effect of ER on WFC stress

ER is documented comprehensively as a moderator in the stress process (Hasan & Kamalanabhan, 2021; Mikolajczak et al; 2007). It is only natural that the same moderating effect would apply to stress created as a result of work-family imbalances. People create their subjective experiences and determine their interpretation of reality by regulating their emotions and motivations (Bandura, 1999). These experiences underpin all professional, personal, and symbolic interactions. ER would thus, protect individuals from stress caused due to WFC at

two levels. As a first line of defense, professionals with higher ER abilities might not perceive WFC as such a threat as compared to those with lower ER abilities. This is explained with the help of neuro imaging studies of the brain which reveal that individuals with higher ER abilities make greater use of the frontal neo cortex that governs psychological control (Smith et al., 2018). On the other hand, individuals with lower ER abilities act more under the influence of the amygdala, which is a primitive brain part originally meant to operate under "fight or flight" situations. Since the modern workplace hardly qualifies for "fight or flight" scenarios, this higher amygdala influence leads such individuals to perceive professional challenges as more threatening than they actually are. Such perceptions augment negative outcomes.

As a second line of defense, even when JC is identified as causing WFC, higher ER elicits higher positive emotions. Positive emotions are potent personal resources that change subjective interpretation of situational variables (Luthans et al; 2007). This leads to greater psychological control and a powerful combat of professional stressors (Hasan & Kamalanabhan, 2021).

ER alleviates WFC in additional ways also: firstly, individuals with higher ER are better able to manage distressing emotions arising as a result of conflicting demands. They are capable of concentrating on the task at hand, whether it is managing family distractions while working, or professional distractions while concentrating on family (Restubog et al., 2020). Additionally, these individuals enjoy a high degree of social support and better interpersonal relationships in both family and work domains. Better emotional support in both domains naturally mitigates conflicts arising between the two and also provides assistance when required. This leads us to our fourth proposition-

P4

ER moderates the relationship between JC and WFC such that the relationship is negative when ER is high and positive when it is low.

4.2 Effect of ER on sleep quality

In section 2.1.1.1 we had mentioned JC causing PSQ and deleterious effects on performance and mental health. This was attributed to behavioral and lifestyle changes leading to de-synchrony between endogenous circadian rhythms and the environmental light/dark cycle. If we juxtapose these lifestyle and behavioral elements with Bandura's agentic perspective, we find that one of the main features of the agentic perspective is intentionality, i.e., actions done intentionally. Intentional ER grounded in self-motivation results in better mental health practices which include better sleep patterns and adequate quantity and quality of sleep. Sleep dependent modulation of mood state is believed to be through the recuperative function of sleep. Neuro imaging research finds convergence in the centers of the brain that are responsible for ER and sleep-modulation (Wright et al., 2012). An acrophase of the cerebrospinal fluid occurs in the night that assists physiological homeostasis. High-quality sleep promotes habituation and extinction- both mechanisms of ER. Contrarily, disrupted sleep increases the levels of pro inflammatory cytokines resulting in emotion disorders (Pace-Schott et al., 2019). Emotional self-awareness and self-regulation lead to a more restorative sleep and lesser

insomnia symptoms owing to greater psychological control (Emert et al., 2017).

ER also plays a protective role in moderating indiscriminate use of ICTs, integration of technology into the personal sphere, and late-night usage of technology that leads to psychological maladjustments and increased sleep onset latency and PSQ (Shochat, 2012). Interestingly, there is reciprocity exhibited in the relationship between ER and sleep quality. Poor sleep also leads to poor ER abilities (Mauss et al; 2013). Thus, we can expect poor-sleep regulation and poor ER to exhibit a vicious cycle, with one feeding off the other. Our fifth proposition is thus:

P5

ER moderates the relationship between JC and PSQ such that the relationship is negative when ER is high and positive when it is low.

4.3 Effect of ER on psychological control over WLB

In section 2.2 we operationalized psychological control over WLB as having either a higher internal locus of control or higher perceived control over WLB. Psychology research abounds with studies showing linkages between ER abilities and psychological control. Positive ER enhances psychological belief in environmental mastery. Damirchi et al (2018) found in their experimental study between two groups that the group that exercised greater positive ER had significantly higher internal locus of control as compared to the one with lower ER abilities. Similarly, Schuppert et al (2009) conducted a randomized clinical trial whereby ER training was given to one group and not to the other. At the end of the training period, the group that was trained in ER reported having a better 'sense of control' over themselves and their environment. Similar studies have been conducted on different groups of society. All studies are unanimous in demonstrating a significant relationship between positive ER and psychological control (Thompson et al., 2020; Verzeletti et al., 2016).

In the following section we demonstrate that positive ER is effectuated by savoring and dampening strategies.

4.4 Positive ER is engendered by utilizing greater savoring and lesser dampening strategies

Nelis et al (2009) identified the predilection of individuals to employ one of two possible strategies in any given life situation- savoring or dampening. 'Savoring' means intentionally using one's thoughts and actions to intensify the appreciation and duration of positive emotions and 'dampening' refers to intentionally mitigating the effects of positive experiences by down-playing them and finding reasons to remain unhappy. The use of either of these leads to different outcomes of similar situations. Professionals who report greater fulfillment imbue routine activities with a higher sense of purpose along with a stamp of their personal identity. They self-direct, self-monitor and self-regulate their actions in accordance with their aspirations (Bandura, 1999). Moreover, they deliberately indulge in patterns of thoughts that give them a sense of pride and self-worth (savoring) while it takes them away from thoughts of self-devaluation and self-censure (dampening). Successive metanalyses support that positive ER engendered by savoring and dampening moderates adverse outcomes. The benefits accrue

through both- indulgence in strategies that enhance positive affect, as well as avoidance of strategies that minimize positive affect. Higher ER leads to lower reactivity to stress at both psychological and biological levels and predicts career and life satisfaction (Mikolajczak et al; 2007).

Most authors agree that ER arises as a result of the combination of brain activity, personality, and temperamental traits (Morawetz et al., 2017). It should follow then, that individuals possessing the desired combination of brain activity, personality, and temperament will demonstrate positive ER consistently. However, this does not necessarily follow. Clearly, there is an unexplained mechanism that needs to be activated to set the ER process in motion. Kirk et al (2009) claim that self-belief determines engagement in ER or otherwise. This resonates with Bandura's self-efficacy beliefs leading to the claims related to coping behaviors. Bucich and MacCann (2019) demonstrated in an experiment that individuals who scored higher in ability-based EI tests, still could not regulate their emotions as well as those who rated themselves higher in self-reports of EI. They concluded that possessing ER abilities in itself is not enough. One must *believe* that one is capable of regulating one's emotions for the ER process to be activated. This line of reasoning would also seem to settle the prolific debate between ability-based EI and self-rated EI's differential outcomes. Clearly, only when one believes in one's capacity for ER, is ER actuated. Thus, we offer our sixth proposition:

P6

ER, coupled with self-efficacy beliefs, moderates the relationship between psychological control over WLB and JC outcomes of PSQ and WFC such that the relationship is positive when ER is high and negative when it is low.

5. Conceptualized link between JC outcomes, psychological control over WLB and ER

Our review of literature has made it abundantly clear that positive ER is associated with specific neurobiological processes that mitigate negative JC outcomes. The key operating mechanism through which this occurs is through generation of positive emotions by the appropriate use of 'savoring' and 'dampening' strategies (Nelis et al., 2009). We thus offer that positive ER leads to greater psychological control over WLB which in turn, moderates adverse JC outcomes namely, PSQ and WFC.

This reasoning is especially encouraging in the context of our search for actionable knowledge as theoretical models claim that it is possible to deliberately enhance positive ER. The requisite skills can be developed through training, education, and feedback that leads to rewiring of the neural circuitry in the prefrontal cortex. ER abilities can modify professionals' predictive relationship to organizational outcomes (Goleman, 1996). We do not claim that these strategies can change the predilections that people are born with, or dispense with the childhood experiences that shaped them, but ER training can help them react judiciously during challenging situations. In the following section we proffer the conceptual framework of the study.

6. Conceptual framework

The conceptual framework of this study rests on the premise that there are potential negative effects of being job connected. References to the corpus of documented work make the foundation for this framework. We integrate literature on JC, PSQ, WFC, psychological control over WLB, and ER and juxtapose it against the backdrop of Bandura's agentic perspective (1999). With this framework, we answer Ayyagari et al's call (2011) to explore unintended psychological consequences of technology by integrating IS literature with psychology theories. In this framework, JC is the independent variable and its adverse outcomes, namely, PSQ and WFC are the dependent variables. Psychological control over WLB mitigates these outcomes. ER enhances self-efficacy beliefs and helps individuals tackle personal and professional demands by diminishing the frequency and intensity of negative emotions and increasing the frequency and intensity of positive emotions leading to a perception of psychological control over WLB.

Thus, we arrive at the proposition that the mitigation of adverse JC outcomes occurs in a three-way interaction effect wherein psychological control over WLB moderates JC outcomes and is itself moderated by ER. The reasons underlying the proposal of a three-way interaction is based on our goal to probe underneath observable surface phenomenon. Researchers in social sciences tend to conclude results at the level of linear relationships, forgetting that the impacts of the predictor variable might be due to an amalgamation of interactions (da Silva Faia & Vieira, 2018). Luthans et al (2007) urge researchers to explore the complex cognitive, conative, behavioral and emotional mechanisms involved in the relationship between the predictor and the criterion variable. ER as the generative mechanism comprises the cognitive dimensions of self-awareness and self-evaluation, the affective dimensions of optimism, and the conative dimensions of goal-setting and self-regulation. These capacities, over a period of time, escalate and build perceptions of well-being and psychological control thus enabling individuals to handle challenges with these built-up resources. The behavioral response component of ER allows the expression of emotions in adaptive ways that minimizes negative outcomes and maximizes subjective well-being. We have discussed how subjective appraisal of events leads to different neural and mental representations and hence the variation in outcomes. This line of reasoning provides the answer to RQ 1. Figure 3 depicts the conceptual framework that illustrates the relationships between JC, PSQ, WFC, psychological control over WLB and ER. With this framework we arrive at the answer to RQ2. The answer to RQ3 is highlighted in Table 2 that details the conceptual differences between different kinds of alternate work arrangements, distinguishing JC from each.

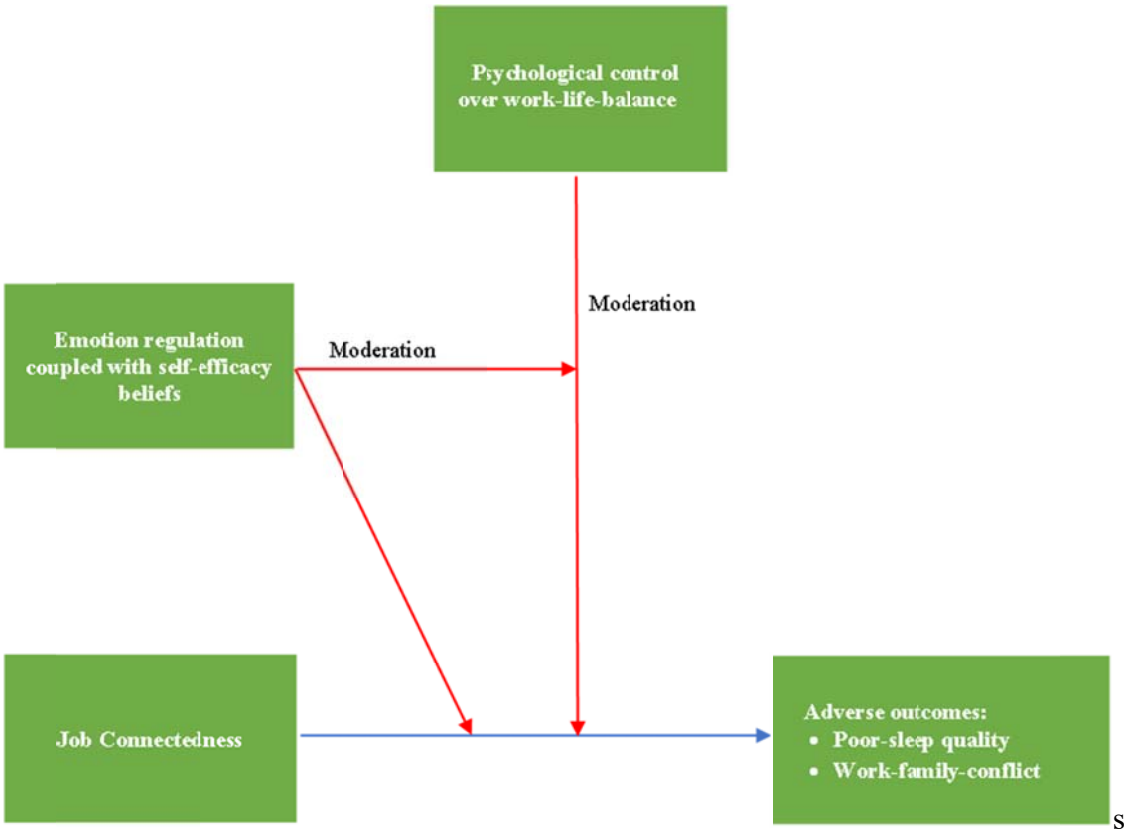

Figure 3. Conceptual framework depicting a three-way moderation between adverse outcomes of job connectedness, psychological control over work-life-balance and emotion regulation.

Table 2. Different kinds of alternate work arrangements, their elements and differences with JC

S. No.	Work arrangement	Elements	Differences with JC
1.	**Virtual work arrangement** (Kirkman& Mathieu, 2005; Golden, 2006)	• Flexible and temporary; involving interdependent teams from various organizations • Can be accomplished from primary office • Virtuality depends on informational value of device • Makes a distinction between synchronous and asynchronous exchanges (asynchronous implies higher virtuality)	• No requirement of interdependent teams • Accomplished away from primary office • No such requirement • Includes both synchronous and asynchronous communications
2.	**Distributed work**	• Work is distributed	• No such requirement

	(Collins, 1998; Hinds et al., 2002)	geographically • Requires member collaboration and use of digital tools • Generally, a hybrid team • Employees do not have a permanent work location on company premises • Work at sites located near homes to save commuting • Mandatory to work part of the time from home	• No such requirement • No such requirement • No such requirement • No such requirement • No such requirement
3	**Computer based supplemental work at home** (Hinds et al., 2002)	• Full time employees working from home in evenings and on weekends	• Not operable only in evenings or weekends
4.	**Telework** (Nilles et al., 1976)	• Formal arrangement to have a set amount of time working away from the central office • Accomplished from home or a local centre • Often work in teams	• Not a formal arrangement • Accomplished from any place away from the central office • No such requirement
5.	**Technology-assisted supplemental work** (Fenner & Renn, 2010)	• In-role work behavior • Need not be outside primary office • Accomplished outside 'working' hours	• Not an in-role work behavior • Needs to be outside primary office • Accomplished anytime
6.	**Remote Work** (Vartiainen, 2021)	• Teleworkers use personal ICTs • Requires periodic visits to the main office • Often work in remote teams	• No such requirement • No such requirement • No such requirement
7.	**Flexible work** (Ray & Pana-Cryan, 2021).	• Formal agreement for flexibility in the number of hours or days or months	• No formal agreement on hours, number of breaks or location

		worked • Accomplished from home or a satellite location	
8.	**Hoteling** (Davenport & Pearlson, 1998)	• Interchangeable office spaces; workers reserve an office every time they need one	• No such requirement
9.	**Home based remote work** (Vartiainen, 2021)	• Accomplished from home; ICTs not required	• ICTs required
10.	**Digital online telework** (Vartiainen, 2021)	• Online platforms meant for collaboration between individuals or organizations to solve problems/provide services	• Collaboration not necessary

7. Contributions

7.1 Theoretical contributions

This study makes some important theoretical contributions. Firstly, it extends Bandura's agentic perspective of social cognitive theory (1999), where the supremacy of human agency over external factors is claimed. In consonance with this, we state that deliberate up-regulation of savoring and down-regulation of dampening behaviors radically alters adverse JC outcomes. This perspective of internal mechanisms' primacy is especially needed in current times when JC is unavoidable. Secondly, we challenge a core assumption of boundary theory- that of individuals being at least moderately free to choose their boundaries. The pandemic has made it clear that this might not always be possible and we need to conduct work-family researches from a fundamentally different perspective. Hence, our third contribution is stated- we propose using the underutilized, but arguably very powerful critical realist ontology and epistemology to study humans in their social context. Human phenomenon like the effects of JC on the human mind and wellbeing are multilayered, and cannot be reasoned away by the dispassionate objectivity of positivism. They need an equally multilayered ontological perspective to make sense of them. In employing the critical realist approach, we overcome earlier ontological limitations and propose a three-way moderation effect underlying the predictor variable's outcomes.

Finally, this study contributes to research on the highly relevant but relatively new construct of JC. Since JC is rapidly evolving and carries with it the very real risk of negative consequences, the scarcity of scholarly research in the domain requires urgent attention. It is said that purely conceptual papers rarely stress upon new constructs or theories (MacInnis, 2011). Through this

work we take an original theoretical stance on ER and posit it within the evolving field of JC by proposing a three-way moderation between ER and psychological control over WLB. Hence, we offer a richer and more nuanced understanding of the contingent nature of JC outcomes than has been attempted before. This study may represent a reference point for scholars and stimulate future research.

7.2 Practical contributions

This study offers practical contributions at the individual, managerial and policy levels. At the individual level, drawing from Bandura's views on intentionality, we propose that the self-referent sub-functions of ER, namely, self-guidance, self-monitoring, and self-correction can guide professionals in successfully navigating the constant push and pull of the work-family domains (Bandura, 1994).

At the managerial level, we provide managers with a previously uncharted and deeper understanding of human functioning based on underlying psychological forces that has important implications for hiring and placement, leadership development and performance-management. Managers can equip employees with psychological resources that help build their leadership potential and manage their performances better. For example, managers can tailor the work environment in a manner that satisfies employees' psychological needs. Cognitive psychology and neuroscience researches assert that cognition depends not only on signals to the brain, but also on the environment in which the signals are generated. The work environment can be designed to stimulate Oxytocin secretion in employees. This can be brought about by information sharing and investing in employee growth. Employees can also be involved in designing their job roles which will accord them with a feeling of psychological control over their jobs. Managers may enforce mandatory breaks from JC at stipulated intervals during the day or on certain days. This will tilt the work-family interface in favor of 'family', bestowing employees with a feeling of psychological control during these times.

The framework has some practical implications for policy makers also. Policies can be formulated to make a cognitive behavioral module mandatory for organizations. Physical meetings at regular intervals for employees can be ordained so that job connected individuals do not lose out completely on the 'human touch'. Additionally, policies can be formulated for organizational funding of family vacations at an annual or biennial basis. These steps can go a long way towards increasing employee wellbeing and organizational productivity.

8. Limitations and future research directions

Though we have thoroughly explored JC and proposed a novel theoretical approach to investigate surface phenomenon, the concepts need to be empirically tested by future studies. Also, a confirmation of the effect sizes of the conceptualized relationships is necessary to corroborate the robustness of the proposed framework. There may be other factors pushing in other directions that we might have overlooked. The possibility of a reciprocity in the proposed relationship between ER and psychological control over WLB cannot be ruled out. It will be interesting to explore this in future studies. We have provided an initial reference

point. We leave it to future scholars to investigate and probe this germane phenomenon with empirical cross-sectional and longitudinal studies.

9. Conclusion

This study enhances our understanding of the deep-rooted psychological processes that individuals undergo as they engage in JC. We rigorously investigate the RQs and identify ER as the generative mechanism that moderates psychological control over WLB that in turn, moderates adverse JC outcomes, namely, PSQ and WFC. We propose a conceptual framework outlining the direction of relationships and emphasize that developing ER skills is possible. An interesting premise of our study is that not only ER ability, but self-efficacy belief is required to actuate the ER process. We offer neurological, physiological, and psychosocial evidences at sufficient length to support our arguments and advance Bandura's agentic perspective of socio-cognitive theory (1999). We stress that JC research is especially needed in today's times when the boundary theory (Ashforth et al., 2000) has lost its relevance. We provide substantive argumentation to challenge boundary theory and suggest the use of critical realism's stratified ontology to understand the intransient reality underlying surface phenomenon. Our study additionally takes the first step in differentiating traditionally interchangeably used terms that actually denote different kinds of alternate work arrangements, thus clearing the prevailing ambiguity in literature. We offer interdisciplinary opportunities in the fields of IS and psychology literature for future research. We conclude that this study offers an initial reference point for scholars to consolidate and empirically align the conceptualized link between ER and JC and take the research topic forward in a meaningful direction.

Competing Interests Statement

We declare that we have no significant competing financial, professional, or personal interests that might have influenced the performance or presentation of the work described in this manuscript.

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