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Quality of Work Life as a Precursor to Work–Life Balance: Collegiality and Job Security as Moderators and Job Satisfaction as a Mediator

Samuel Jayaraman [1], Hesil Jerda George [2], Mariadoss Siluvaimuthu [3] and Satyanarayana Parayitam [4,*]

[1] Loyola College (Autonomous), Chennai 600034, India; sarcsamj@gmail.com
[2] Holy Cross College (Autonomous), Manonmaniam Sundaranar University, Tirunelveli 627012, India
[3] St. Xaviers College (Autonomous), Manonmaniam Sundaranar University, Tirunelveli 627012, India; mdoss87@gmail.com
[4] Charlton College of Business, University of Massachusetts Dartmouth, North Dartmouth, MA 02747, USA
* Correspondence: sparayitam@umassd.edu

Abstract: The current study investigates the relationship between quality of work life (QWL) and work–life balance (WLB) among construction workers in a developing country, India. A multi-layered conceptual model involving collegiality and job security as moderators in the relationships were developed. A survey instrument was used, and data were collected from 592 construction workers from southern India. After checking the psychometric properties of the measures using LISREL 9.30 software for covariance-based structural equation modeling (CB-SEM), a structural model was analyzed using Hayes's PROCESS macros. The findings indicate the following: (i) QWL is positively associated with (a) WLB and (b) job satisfaction; (ii) job satisfaction positively predicts QWL; and (iii) job satisfaction mediates the relationship between QWL and WLB. The results also support the following: (i) work environment (second moderator) moderates the moderated relationship between QWL and collegiality (first moderator) in influencing job satisfaction; and (ii) work hours (second moderator) moderates the moderated relationship between job satisfaction and job security (first moderator) to influence WLB. The first three-way interaction between QWL, collegiality, and work environment and the second three-way interaction between job satisfaction, job security, and work hours have been investigated for the first time concerning construction workers in a developing country context and make a novel contribution to the advancement of literature on QWL and WLB. Further, this study contributes to the socio-economic well-being of workers and contributes to the sustainable working environment. The implications for theory and practice are discussed.

Keywords: quality of work life; work–life balance; job satisfaction; job security; collegiality; work environment; work hours; moderated-mediation; construction workers; India

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1. Introduction

During the past three decades, scholars in organizational behavior and human resource management have focused on two fundamental constructs: quality of work life (QWL) and work–life balance (WLB) [1–9]. A recently-hit global pandemic has significantly influenced the QWL of employees because of frequent lockdowns, social distancing, work-from-home or remote working, increased stress, and burnout when dealing with the unprecedented changes in work [10–13]. As a result, employees struggle to balance challenging work demands and personal priorities, resulting in a work–life imbalance [1,14]. Realizing the importance of maintaining WLB, earlier scholars have suggested that organizations offer flexible and remote working hours, provide job security, and create a congenial work environment [15–17].

A literature review reveals that research on QWL has been conducted in developed countries [3,18], as well as some developing countries: Malaysia [19], Iran [20], Nigeria [21], Philippines [22], Egypt [23], and India [1,15]. While previous scholars studied

the QWL of employees in various sectors (technology, healthcare, manufacturing, and education [24,25]), little is known about the QWL of construction workers, especially in the context of a developing country such as India.

The context of this study is construction workers in a developing country, namely, India. According to Statista and World Bank data from International Labor Organization (ILO), construction workers in India were 53.7 million in 2021 out of a total labor force of 520 million, thus representing 10.32 percent of the entire labor workforce [26]. Extant research on the labor market in India revealed the fragilities of construction workers reflected in informal employment, poor working conditions, job insecurity, and long work hours [27,28]. Most workers live in the countryside, with temporary slums in cities, and work in an unhealthy environment. Further, the majority are migrant workers from different states and have unstable accommodation, poor entitlements, and lack of organizational and political support [29,30]; hence, the QWL is radically different from the employees in the organized sector. The lack of research on the QWL and WLB of these construction workers is a considerable research gap that the present study aims to address. This study attempts to answer the following research questions:

RQ 1: How does QWL predict WLB and job satisfaction among construction workers in India?;

RQ 2: How does job satisfaction act as a mediator in the relationship between QWL and WLB?;

RQ 3: How do collegiality and work environment moderate the relationship between QWL and job satisfaction?;

RQ 4: How do job security and work hours moderate the relationship between job satisfaction and WLB?

Therefore, this paper intends to unfold the relationship between QWL and WLB, which have been adversely affected by the global pandemic. In light of restoring normalcy, this study explores the investigation of boundary conditions leading to the WLB among construction workers in India. This study makes five significant contributions to advancing literature on QWL and job satisfaction in organizational behavior and human resource management. First, this study provides empirical evidence that QWL is a significant predictor of WLB. Second, consistent with the extant research conducted in various sectors, this study adds that QWL is a precursor to the job satisfaction of workers in the construction industry. Third, collegiality among workers plays a vital role in strengthening the positive effect of QWL on job satisfaction.

Further, a supportive work environment fortifies the moderating effect of collegiality in the relationship between QWL and job satisfaction. Fourth, this study highlights the importance of job security among workers to enhance WLB. When workers perceive job insecurity, it is more likely that they will be unable to balance their work and private lives. Further, convenient work hours enable the workers to maintain a high level of WLB. Fifth, the multi-layered conceptual model, exploring the three-way interactions between (a) QWL, collegiality, and work environment influencing job satisfaction, and (b) job satisfaction, job security, and work hours influencing WLB, makes a pivotal contribution to the bourgeoning literature on QWL and WLB. To sum up, to the best of our knowledge, the three-way interactions (moderated moderated-mediation) among the study variables explored in this research, particularly concerning the construction workers, significantly advance theory and practice.

2. Literature Review and Variables in the Study

This study uses seven variables: QWL, WLB, job satisfaction, work environment, collegiality, job security, and work hours.

2.1. QWL

The literature review on QWL, WLB, and job satisfaction is exhaustive [1,3,8]. According to Feldman [5], QWL is a multi-dimensional construct denoting the quality of

the relationship between employees and the total work environment. Organizations are conscious that QWL is necessary to generate trust among employees, maintain job satisfaction, improve employee commitment, and increase performance [31,32]. Extant research reported benefits of QWL in terms of reduced employee turnover and increased job satisfaction [6,33], while poor working conditions, increased workload, and unsupportive relationships with supervisors are severe obstacles to QWL of employees [34].

2.2. WLB

WLB primarily concerns how employees balance their work and personal lives [35,36]. Balancing the work demands and non-work-related household activities is not an easy task, and an increase in family-related activities may have a negative impact on WLB because employees will not be able to find time to perform both work-related and non-work-related activities at the same time [37,38]. WLB is another crucial construct widely researched in organizational behavior [39,40]. Extant research reported that, when organizations provide a friendly work environment, it is more likely that employees will be able to maintain higher levels of WLB [7,15,41]. In addition, some early scholars found that WLB is positively associated with employee commitment [42], and well-being [43].

2.3. Job Satisfaction

'Job satisfaction', perhaps, ranks as one of the top variables widely studied in the literature on organizational behavior and personnel psychology [44]. According to Locke [45], job satisfaction is a "pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1304). An individual evaluates various aspects of a job, including satisfaction with pay, supervisors, colleagues, and work environment [46–48]. This research uses job satisfaction as a mediator between QWL and WLB.

2.4. Job Security

An essential variable influencing employee commitment is how secure the employees perceive their job to be [49,50]. Employees can perform their duties effectively when job security is high. If the employees feel that there is no security for their jobs and it is more likely that they will be laid off, they will not be able to focus on their work. In the construction industry in developing countries such as India, especially for the construction workers themselves, jobs are not secure, as most workers are hired as a temporary labor force. It also can be noticed that most of the workers are migrant laborers who do not have permanent settlements.

2.5. Work Environment

An important variable that affects job satisfaction and performance is the environment in which employees perform their jobs [51]. The work environment includes both the physical setting and psychological climate that affects employees' cognitions and mental make-up. A positive work environment steers employees to perform better, whereas an uncongenial climate results in stress and burnout [52].

2.6. Collegiality

The extent to which employees get along with others is represented by collegiality [53]. Researchers have documented that a higher level of collegiality results in extra-role behaviors (e.g., organizational citizenship behavior), where employees help each other at work beyond their job description [54,55]. Most present-day organizations follow an organic structure wherein collegiality plays a vital role in achieving higher performance.

3. Theoretical Background and Hypotheses' Development

This research uses 'the role balance theory (RBT) [56] and need–satisfaction theory [57–60] as theoretical platforms for explaining hypothesized relationships between QWL and WLB. The basic tenet of RBT is that individuals create a nonhierarchical pattern of performing

different roles (at work, at home, and in life) [61]. Although when people join organizations, balancing work and life may be difficult, gradually, individuals learn how to cope with the demands of work and home [62]. Various scholars have used RBT as a theoretical base in research related to WLB [6].

The need–satisfaction theory has foundations in Maslow's hierarchy of needs, McClelland's achievement–motivation theory, Herzberg's two-factor theory, and Alderfer's existence–relatedness–growth. Individuals who fulfill their basic requirements through workplace experiences are more likely to perform better than those whose basic needs are not met [63]. In the context of workers in the construction industry, when an employer provides adequate compensation to workers so that their basic needs are fulfilled, it is more likely that the workers perform at their best. The need–satisfaction theory, therefore, helps explain how the QWL affects job satisfaction and WLB.

Using the RBT and need–satisfaction theory as theoretical underpinnings, we developed a double-layered moderated-mediation model (Figure 1) to explain the relationship between QWL, job satisfaction, and WLB. The conceptual model presenting the relationship between these variables is presented in Figure 1.

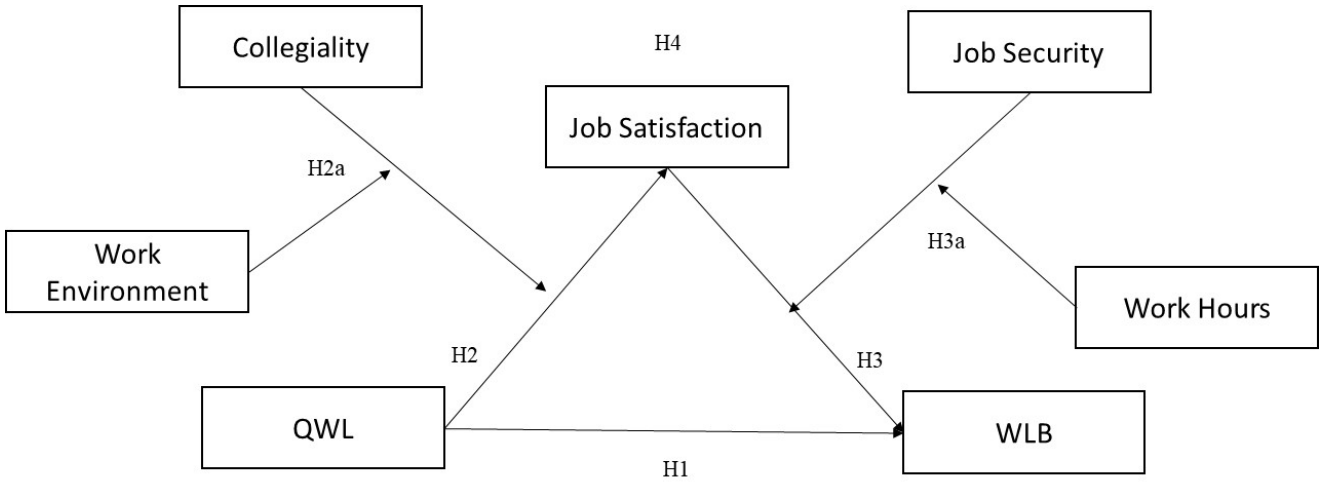

Figure 1. Conceptual model.

3.1. QWL and WLB

Prior studies evidenced a positive effect of QWL on job commitment [63–65] and a negative impact on job stress [66,67]. Though some researchers have identified the indirect effect of QWL on WLB through job stress, job satisfaction, and job commitment [6], the direct impact of QWL on WLB has been rarely examined [33,68,69]. When employees are comfortable at work, they are more likely to allocate time between home and work to maintain WLB. On the contrary, low levels of QWL may make employees feel torn between household duties and work, resulting in a low level of WLB. The inability to balance work and life results in low WLB, which may have a spillover effect on performance and satisfaction. Therefore, managers attempt to ensure high QWL for employees to exhibit a higher level of commitment and contribute to organizational success. In a recent study, Rasool et al. [70] found that a toxic work environment reflected in low QWL adversely affects employees' psychological well-being and hampers WLB. Based on abundant empirical evidence and logos, the following hypothesis is offered:

H1. *QWL Is Positively Associated with WLB.*

3.2. QWL and Job Satisfaction

Job satisfaction is one very important variable that managers and supervisors give priority to because they are aware that employees who are satisfied with their jobs contribute to productivity [71–74]. Extant research documented a positive association of QWL

with job satisfaction because individuals who have higher levels of QWL showed higher levels of job satisfaction [15,75–77]. Nearly two decades earlier, Sirgy et al. [63] suggested that individuals consider work life as a psychological space wherein they store their work experiences and derive satisfaction. Based on available abundant empirical evidence, the following hypothesis is offered:

H2. *QWL is positively associated with job satisfaction.*

3.3. Job Satisfaction and WLB

Despite voluminous research on job satisfaction, a relatively small number of previous researchers have investigated the effect of job satisfaction on WLB [36,78]. It is also interesting to note that the relationship between job satisfaction and WLB is bi-directional (similar to satisfaction and performance) because employees who can balance their work and life can work productively in organizations and, hence, achieve higher job satisfaction. Job dissatisfaction may spill over into WLB, as dissatisfied employees may carry their feelings and emotions to home and life. Some scholars contend that a happy employee becomes more productive when compared to an unhappy worker, and productivity is rewarded by employers [39,79]. It is more likely that happy employees will be able to devise an appropriate time-sharing ratio between work and family and, hence, maintain WLB. In some recent studies conducted in the Indian context, researchers found that job satisfaction among 445 employees in transport companies was positively associated with WLB [6]. In a large study conducted among 1416 employees from 7 different populations: Malaysian, Chinese, New Zealand Maori, New Zealand European, Spanish, French, and Italian, researchers found that job satisfaction and life satisfaction were positively associated with WLB [80]. In a recent study conducted in Indonesia, Irawanto et al. [81] documented that job satisfaction was a significant predictor of WLB. Thus, based on available empirical support, the following hypothesis is developed:

H3. *Job satisfaction is positively associated with WLB.*

3.4. Job Satisfaction as a Mediator

Though the direct effect of QWL on WLB is understandable, the indirect impact of QWL on WLB through job satisfaction is worth investigating. Digging up the literature review, the authors found that most scholars have studied the indirect effects of QWL on WLB through job commitment, employee engagement, and social support [70]. In addition, previous studies indicated that investigating mediators helps explain how QWL increases WLB [40,82]. In this research, the authors argue that employees' positive perception of work life balances work and life through enhanced job satisfaction. Thus, based on anecdotal evidence and available empirical evidence of possible moderation effects, the following hypothesis is proposed:

H4. *Job satisfaction mediates the relationship between QWL and WLB.*

3.5. Collegiality and Work Environment as Moderators: First Three-Way Interaction

While direct relationships between QWL on job satisfaction and WLB are intuitively appealing, this research is undertaken to explore the boundary conditions that help enhance job satisfaction.

The first boundary condition is 'collegiality' among the employees, which refers to positive interpersonal interactions and a friendly approach at work. Collegiality is cooperative interaction with colleagues (other employees) to reach common goals [83]. Collegiality is concerned with how individuals in organizations maintain relationships with each other and work towards achieving desired goals. High collegiality exists when individuals respect each other and share knowledge and information that helps the organization reach goals. Collegiality emphasizes trust and builds relationships between organizational par-

ticipants [84]. Building rapport and learning about each other gradually develops trust between the employees, thus promoting collegiality [85]. In present-day moderations where organizations emphasize organic structure, collegiality is vital in enhancing productivity and performance. Extant research on higher education institutions found that collegiality and knowledge sharing play a critical role in improving the academic performance of faculty members [86–88]. In this study, the authors argue that collegiality among construction workers increases the strength of the relationship between QWL and job satisfaction. The logos behind such positive interaction is that, when workers cooperate with their co-workers, they work as a team, resulting in higher job satisfaction.

A supportive work environment is essential to further increase the strength of the interactive effect of collegiality and QWL. Conversely, collegiality may not bring the expected results when employees find an unsupportive work environment. Therefore, to ensure the benefits of collegiality, this study contends that the work environment moderates the relationship between QWL and job satisfaction. The work environment consists of support from the supervisors, the reward for superior performance, and social support from others when employees have some problems related to work. To the best of our knowledge, prior researchers have not explored the double moderation effect of work environment and collegiality; as such, the following exploratory moderated moderated-mediation analysis is proposed:

H2a. *Work environment moderates the moderated relationship between QWL and collegiality to influence job satisfaction, such that, in a supportive (unsupportive) environment, higher (lower) levels of collegiality interact with QWL to positively (negatively) influence job satisfaction.*

3.6. Job Security and Work Hours as Moderators: Second Three-Way Interaction

Since the context of the present study is workers in the construction industry, job security is a serious problem. Most employees work temporarily, and the labor market in India is such that the trade unions representing the labor force (primarily migrant labor) are weak [29,30]. Therefore, this study argues that job security plays an essential role in the WLB of workers [89]. When workers perceive that they will not be laid off shortly and their jobs are secure, it is more likely that job satisfaction will have a significant positive effect on WLB. On the contrary, job insecurity will negatively affect the relationship between job satisfaction and WLB.

Another important moderating variable that profoundly influences WLB is the work hours assigned by the supervisors. Longer work hours and inconvenient timings of work are more likely to hamper WLB, whereas convenient work hours would promote happy WLB [90,91]. In this study, the authors argue that, while job security strengthens the positive effect of job satisfaction on WLB, convenient work hours will fortify such strength. In other words, work hours act as a second moderator. Though the direct effect of work hours is discernible, it is important to investigate the moderating role of work hours and job security in influencing WLB. As previous research indicated that flexible work hours enhance productivity [92–94], convenient work hours are more likely to increase WLB. Therefore, the authors offer the following exploratory moderated moderated-mediation hypothesis wherein job security (first moderator) and work hours (second moderator) interact with job satisfaction to influence WLB:

H3a. *Work hours moderates the moderated relationship between job satisfaction and job security to influence WLB, such that, at high (low) level of convenience of work hours, higher (lower) job security interacts with job satisfaction to result in an increase (decrease) in WLB.*

4. Method

4.1. Sample

Since this research focuses on investigating the relationship between QWL and WLB among construction workers in a developing country (India), the respondents consist of

employees working on construction projects. Though the global pandemic has disrupted work for nearly two years, normalcy has been restored, and construction projects have been restarted. A survey instrument was used to collect data. The respondents were construction workers involved in constructing residential houses in various locations in southern India. Since most respondents were residents and migrant workers (masons, tile workers, electricians, carpenters, fitters, painters, welders, and plumbers), the authors translated the survey instrument into their native language (Tamil). Before distributing the surveys, the authors explained to the respondents that confidentiality would be maintained and information would not be revealed to their supervisors. The authors distributed 750 surveys personally and interviewed the respondents. Furthermore, the authors explained that the research was conducted for academic purposes, not for evaluating their performance. One of the authors visited various construction sites and consulted supervisors about the purpose of this study, and, after receiving permission from supervisors, data were collected. Since there was no fixed list of employees (some employees were temporary and some permanent), it was become difficult for us to use probability-based sampling. Hence, the authors used convenience sampling, which is generally accepted and followed by previous researchers [15,95]. We have distributed 750 surveys and received 655 surveys (87.3% response rate), out of which 63 surveys were incomplete, meaning 592 were included in the final analysis. The authors tested non-response bias by comparing the first hundred responses to the last hundred and found no statistically significant difference between these groups.

4.2. Demographic Profile

The respondents were 488 (82.4%) males and 104 (17.6%) females. As far as age is concerned, 12 (2%) were below 20 years, 104 (17.6%) were in the age group of 21–30 years, 106 (17.9%) belonged to 31–40 years, 234 (39.5%) belonged to 41–50 years, and 136 (23%) were above 50 years. The mean age = 36 years (Skewness age = −0.47; Kurtosis age = −0.72). Concerning annual income, 78 (13.2%) had income below INR 120,000 (USD 140), 174 (29.4%) had income between INR 120,000 and INR 180,000 (USD 1400–USD 2100), 204 (34.3%) had income in the range of INR 180,000–INR 240,000 (USD 2100–USD 2800), 100 (16.9%) had income in the range of INR 240,000–INR 300,000 (USD 2800–USD 3500), and 36 (6.1%) had income greater than INR 300,000 (USD 3500). With regard to education, 222 (37.5%) had education until fifth grade, 154 (26%) had between fifth grade and eighth grade, 120 (20.3%) had between 9th and 10th grade, 48 (8.1%) had a high school degree, 34 (5.7%) had a vocational diploma (e.g., Industrial Training Institute), and 14 (2.4%) had an undergraduate bachelor's degree. Regarding work experience, 116 (19.6%) had experience less than five years, 138 (23.3%) had experience between 6 and 10 years, 80 (13.5%) had experience between 11 and 15 years, 88 (14.9%) had experience of 16–20 years, and 170 (28.7%) had experience of more than 21 years.

4.3. Measures

The measures of the seven constructs used in this study were adapted from the previously tested well-established sources. A five-point Likert scale ('5′ = strongly agree; '1′ = strongly disagree) was used to measure the constructs. The authors adapted the constructs to suit the context of construction workers.

QWL was measured with 10 items adapted from Sirgy et al. [63] and Walton [96], and the sample items read as "I get cooperation from other departments", "Training programs are organized to improve the quality of work life in my organization". The reliability coefficient (Cronbach's alpha) for QWL was 0.89.

WLB was measured with eight items adapted from Helml et al. [97], Fisher et al. [98], and Shukla and Srivastava [99], and the sample items read as: "I have time sufficient time to take care of my children even if supervisor asked me to put more time at work". The reliability coefficient (Cronbach's alpha) for WLB was 0.81.

Work environment was measured with seven items adapted from Sirgy et al. [63] and Walton [96], and the sample items read as "The overall working environment in my organization is very congenial". The reliability coefficient for work environment was 0.78.

Job satisfaction was measured with five items adapted from Schriesheim and Tsui [100], and the sample items read as "I am satisfied with my current job". The reliability coefficient of job satisfaction was 0.76.

Collegiality was measured with five items adapted from Miles [54], and the sample items read as "When I am in difficulty to perform at work, my colleagues help me". The reliability coefficient of collegiality was 0.77.

Job security was measured with five items adapted from Sirgy et al. [63] and Walton [96], and the sample items read as "I have no fear of losing my job". The reliability coefficient of job security was 0.78.

Work hours are concerned with how employees feel about the work they put in the organization. Work hours were measured with five items adapted from Sirgy et al. [63] and Walton [96], and the sample items read as "Total work hours are very convenient". The reliability coefficient of work hours was 0.81.

The constructs, indicators, and sources of these constructs are presented in Table 1.

Table 1. Confirmatory factor analysis.

Constructs and the Sources of the Measures	**Alpha**	**CR**	**Standardized Loadings (λ_{yi})**	**Reliability (λ^2_{yi})**	**Variance ($Var(\varepsilon_i)$)**	**Average Variance-Extracted Estimate $\Sigma (\lambda^2_{yi})/ [(\lambda^2_{yi}) + (Var(\varepsilon_i))]$**
QWL [63,96]	0.89	0.93				0.58
I get cooperation from other departments.			0.76	0.58	0.42	
I receive adequate and proper communication from my supervisors.			0.77	0.59	0.41	
Relationship with immediate supervisors is good.			0.75	0.56	0.44	
Grievance redressal system is excellent.			0.78	0.61	0.39	
Training programs are frequently conducted in my organization.			0.73	0.53	0.47	
Training programs are organized to improve the quality of work life in my organization.			0.77	0.59	0.41	
I get fringe benefits in my organization.			0.81	0.66	0.34	
Overtime wages are provided in my organization.			0.74	0.55	0.45	
Rewards based on performance are given in my organization.			0.79	0.62	0.38	
Compensation for night shifts is available in my organization.			0.71	0.50	0.50	

Table 1. *Cont.*

Constructs and the Sources of the Measures	Alpha	CR	Standardized Loadings (λ_{yi})	Reliability (λ^2_{yi})	Variance ($Var(\varepsilon_i)$)	Average Variance-Extracted Estimate $\Sigma (\lambda^2_{yi})/[(\lambda^2_{yi}) + (Var(\varepsilon_i))]$
WLB [97–99]	0.81	0.91				0.56
I have an adequate time to spend with the family even if I work in the organization overtime.			0.72	0.52	0.48	
I have sufficient time to take care of my children even if supervisor asked me to put more time at work.			0.75	0.56	0.44	
I have enough time to take care of elderly dependents even if I work in organization extra-hours.			0.74	0.55	0.45	
I am not missing important social occasions because of my work in organization.			0.73	0.53	0.47	
I can maintain my work and family with a proper schedule even if I have to stay in organization for longer period on some days.			0.80	0.64	0.36	
I have enough time to take medical health checkups even if I work in organization overtime.			0.74	0.55	0.45	
My personal life does not suffer because of work.			0.77	0.59	0.41	
I do not neglect personal needs because of work.			0.72	0.52	0.48	
Work Environment [63,96]	0.78	0.89				0.55
The working environment in my organization is good.			0.78	0.61	0.39	
I do not see any harassment at work by supervisors.			0.71	0.50	0.50	
My co-workers are very cooperative at work.			0.73	0.53	0.47	
Safety measures are strictly followed in my organization.			0.72	0.52	0.48	
The overall working environment in my organization is very congenial.			0.76	0.58	0.42	
Health precautions are taken by my organization.			0.72	0.52	0.48	
The employer recognizes and appreciates all my work at the work place.			0.75	0.56	0.44	

Table 1. *Cont.*

Constructs and the Sources of the Measures	Alpha	CR	Standardized Loadings (λ_{yi})	Reliability (λ^2_{yi})	Variance ($Var(\varepsilon_i)$)	Average Variance-Extracted Estimate $\Sigma (\lambda^2_{yi})/[(\lambda^2_{yi}) + (Var(\varepsilon_i))]$
Job Satisfaction [100]	0.76	0.85				0.53
I am satisfied with my current job.			0.71	0.50	0.50	
I am satisfied with my current co-workers.			0.79	0.62	0.38	
I am satisfied and feel happy with my current boss.			0.71	0.50	0.50	
I am satisfied with my current salary.			0.70	0.49	0.51	
Overall, I am satisfied with my current job.			0.73	0.53	0.47	
Collegiality [54]	0.77	0.86				0.55
I receive adequate support from my co-workers.			0.74	0.55	0.45	
I can count on my co-workers to do more than their share when needed.			0.76	0.58	0.42	
My co-workers respect each other.			0.72	0.52	0.48	
When I am in difficulty to perform at work, my colleagues help me.			0.76	0.58	0.42	
I have respect for my colleagues.			0.71	0.50	0.50	
Job security [63,96]	0.78	0.86				0.54
The job security provided by my employer is good.			0.75	0.56	0.44	
I feel secured of my job.			0.73	0.53	0.47	
I have no fear of losing my job.			0.71	0.50	0.50	
The conditions on my job allow me to be as productive as I can be.			0.78	0.61	0.39	
I did not see any layoffs in my organization during the last three years			0.71	0.50	0.50	
Work Hours [63,96]	0.81	0.88				0.60
Total work hours are very convenient.			0.76	0.58	0.42	
Work hours in my organization make employees feel at ease.			0.77	0.59	0.41	
Overtime work is optional during festive season.			0.81	0.66	0.34	

Table 1. *Cont.*

Constructs and the Sources of the Measures	Alpha	CR	Standardized Loadings (λ_{yi})	Reliability (λ^2_{yi})	Variance ($Var(\varepsilon_i)$)	Average Variance-Extracted Estimate $\Sigma (\lambda^2_{yi})/[(\lambda^2_{yi}) + (Var(\varepsilon_i))]$
My organization does not force employees to do overtime.			0.74	0.55	0.45	
I am comfortable with my work hours			0.78	0.61	0.39	

In this cross-sectional research, the authors used structural equation modeling with the LISREL package to test the measurement model. To test the hypothesized relationships mentioned in Figure 1, this study used Hayes [101] PROCESS macros [models 4, 11, and 18].

5. Analysis and Findings

5.1. Measurement Model and Confirmatory Factor Analysis (CFA)

The authors followed the two-step procedure of checking (i) measurement model and (ii) structural model, as suggested by Anderson and Gerbing [102]. The measurement model was checked by using the LISREL 9.30 software for structural equation modeling (SEM); results of CFA are presented in Table 1.

As shown in Table 1, the factor loadings for all the indicators were over 0.70. The reliability coefficient (Cronbach's alpha) for all seven constructs were over 0.70 (ranging between 0.76 and 0.89). The composite reliability (CR) values were over 0.70 (ranging between 0.85 and 0.93). Further, the average variance extracted (AVE) estimates for all the seven constructs were greater than 0.50 (ranging between 0.53 and 0.60). These statistics vouch for discriminant validity, reliability of the constructs, and consistency of the measures [103–105].

5.2. Convergent Validity, Discriminant Validity, and Common Method Bias

Discriminant validity is established when the square root of AVEs exceed the correlations between the variables [106]. By observing the correlations between the variables (see Table 2), one can see that the square root of AVEs of the variables exceeded the correlations between the variables.

Table 2. Descriptive statistics: means, standard deviations, and zero-order correlations.

	Mean	Standard Deviation	1	2	3	4	5	6	7	Alpha	CI	AVE
1.QWL	3.98	0.54	**0.76**							0.89	0.93	0.58
2.WLB	3.95	0.71	0.35 ***	**0.75**						0.81	0.91	0.56
3.Work Environment	3.33	0.55	0.26 ***	0.12 ***	**0.74**					0.78	0.89	0.55
4.Job Satisfaction	3.29	0.70	0.54 ***	0.48 ***	0.39 ***	**0.73**				0.76	0.85	0.53
5. Collegiality	3.51	1.05	0.41 ***	0.27 ***	0.25 ***	0.50 ***	**0.74**			0.77	0.86	0.55
6. Job Security	3.84	0.60	0.55 ***	0.36 ***	0.36 ***	0.65 ***	0.46 ***	**0.73**		0.78	0.86	0.54
7. Work Hours	3.76	0.74	0.36 ***	0.51 ***	0.30 ***	0.49 ***	0.26 ***	0.25 ***	**0.77**	0.81	0.88	0.60

*** $p < 0.01$; CR = Composite Reliability; AVE = Average Variance Extracted; Numbers in the diagonals and bold are square roots of AVE.

The correlation between QWL and WLB was 0.35, and the square root values of AVE were 0.76 and 0.75. Similarly, the correlation between collegiality and job security was 0.46,

and the square roots of AVE were 0.74 and 0.73. The correlations between all other variables were also less than the square root of their respective AVEs, thus providing support for discriminant validity between the variables [107].

The goodness-of-fit statistics of CFA revealed that the seven-factor model fit the data well ($\chi 2/df$ = 3.23; Root mean square error of approximation (RMSEA) = 0.054; Root mean square residual (RMR) = 0.046; Standardized RMR = 0.041; Comparative Fit Index (CFI) = 0.935; Goodness of fit index (GFI) = 0.912). As such, the goodness of fit indices (RMSEA < 0.08; CFI > 0.90; and other indices) vouch for the validity and reliability of the constructs used in this research [108].

5.3. Descriptive Statistics and Multicollinearity

The descriptive statistics consisting of means, standard deviations, and zero-order correlations are presented in Table 2.

Data are said to be infected with multicollinearity if the correlations between the variables exceed 0.75 [109]. In this study, the highest correlation was 0.65 (between job security and job satisfaction), and the lowest correlation was 0.12 (between WLB and work environment). All correlations were in the expected direction, for example, correlation between work environment and job satisfaction (r = 0.39; $p < 0.01$), QWL and WLB (r = 0.35; $p < 0.01$), and QWL and job satisfaction (r = 0.54; $p < 0.01$), suggesting that the relationships between these variables were in the expected direction. To check multicollinearity, the authors performed another statistical check by verifying variance inflation factor (VIF) and found that the VIF values for all the variables were less than 0.5, suggesting that multicollinearity is not a problem with the data [110].

5.4. Common Method Variance (CMV)

Following the suggestions of Podsakoff et al. [111], CMV was checked by performing Harman's single-factor test and found that a single factor accounted for less than 30% of variance, thus indicating that CMV is not a problem with the data. As an additional check, the authors also performed a latent-factor method by subjecting all the indicators to a single factor each time and found that the VIF values were less than 3.3, suggesting that that the data did not have a pathological collinearity problem and the data were not contaminated by CMV [112].

5.5. Hypotheses Testing

The structural model was tested using [101] PROCESS macros. The authors used model # 4 for testing H1-H4 (the results are presented in Table 3).

Table 3. Testing H1, H2, and H3.

	DV = WLB				**DV = Job Satisfaction H2**				**DV = WLB**			
	Step 1				**Step 2**				**Step 3**			
	Coeff	**se**	**t**	***p***	**Coeff**	**se**	**t**	***p***	**Coeff**	**se**	**t**	***p***
Constant	1.5699	0.1550	10.1274	0.0000	1.1779	0.1366	8.6227	0.0000	1.0720	0.1528	7.0164	0.0000
QWL H1	**0.4617**	**0.0511**	**9.0326**	**0.0000**	**0.7093**	**0.0450**	**15.7464**	**0.0000**	0.1619	0.0566	2.8612	0.0044
Job Satisfaction **H3**									**0.4227**	**0.0434**	**9.7414**	**0.0000**
R-square	0.121				0.296				0.243			
F	81.58				247.94				94.73			
df1	1				1				2			
df2	590				590				589			
p	0.0000				0.0000				0.0000			

Table 3. *Cont.*

	DV = WLB				**DV = Job Satisfaction H2**				**DV = WLB**			
	Step 1				**Step 2**				**Step 3**			
	Coeff	**se**	**t**	***p***	**Coeff**	**se**	**t**	***p***	**Coeff**	**se**	**t**	***p***
Total Effect												
			Total Effect		se	t	*p*	LLCI	ULCI			
			0.4617		0.0511	9.0326	0.0000	0.3613	0.5621			
Direct Effect												
			Direct Effect		se	t	*p*	LLCI	ULCI			
QWL → WLB			0.1619		0.0566	2.8612	0.0044	0.0508	0.2730			
Bootstrapping Indirect Effect (H4)												
			Indirect Effect		BOOT se	BOOT LLCI	BOOT ULCI					
QWL → Job Satisfaction → WLB			**0.2998 (0.7093 × 0.4227 = 0.2998)**		**0.0385**	**0.2257**	**0.3759**					

Notes: N = 592, Boot LLCI = Bootstrapping lower limit confidence interval, Boot ULCI = Bootstrapping upper limit confidence interval. The results were based on 20,000 bootstrapping samples [$p < 0.05$]. It is recommended to use four decimal digits because some values may be very close to zero. Values in bold represent significance of regression coefficients supporting hypotheses.

Step 1 from Table 3 shows that the regression coefficient of QWL on WLB was positive and significant (β = 0.462, t = 9.03; $p < 0.001$). The results based on 20,000 bootstrap samples show that the 95 percent bias-corrected confidence interval (BCCI) was 0.3613 (LLCI) and 0.5621 (ULCI). These results support H1, i.e., that QWL positively predicts WLB.

Hypothesis 2 proposes that QWL positively impacts job satisfaction. The regression coefficient of QWL on job satisfaction (step 2, Table 3) was positive and significant (β = 0.709; t = 15.74; $p < 0.001$), thus supporting H2.

Hypothesis 3 posits that job satisfaction positively predicts WLB. Step 3 (Table 3) shows that the regression coefficient of job satisfaction on WLB was positive and significant (β = 0.423; t = 9.74; $p < 0.001$), thus supporting H3.

Hypothesis 4 states job satisfaction mediates the relationship between QWL and WLB. The indirect effect (as shown in the bottom of the Table 3) was 0.2998 (Boot se = 0.0385; Boot LLCI = 0.2257; Boot ULCI = 0.3759), and, since zero was not contained in the Boot LLCI and Boot ULCI, the results support the mediation hypothesis (i.e., H4).

The direct effect (0.1619) and indirect effect (0.2998) give the total effect (0.4617). It can be seen from Table 3 that the indirect effect is a product of regression coefficient of QWL on job satisfaction (0.7093) and regression coefficient of job satisfaction on WLB (0.4227) [0.7093 × 0.4227 = 0.2998]. The indirect effect of QWL → job satisfaction → WLB was significant, thus providing support for H4.

5.6. Testing the H2a (Three-Way Interaction)

This study used Model # 11 of [101] PROCESS macros to check the three-way interactions (the results are presented in Table 4).

Hypothesis 2a posits that collegiality (first moderator) and work environment (second moderator) interact with QWL to influence job satisfaction. The regression coefficient of the three-way interaction was significant ($\beta_{\text{QWL} \times \text{collegiality} \times \text{work environment}} = 0.14$; t = 2.27; $p < 0.05$; Boot LLCI = 0.0201; Boot ULCI = 0.2724). Conditional effects of the focal predictor (Job Satisfaction) at values of moderators (Collegiality × Work environment) and moderator value(s) defining Johnson–Neyman significance region(s) are mentioned at the bottom of the Table 4.

Table 4. Testing of H2a (three-way interaction) [Model number 11 in [101] PROCESS macros].

		DV = Job Satisfaction					
Variables		**Coeff**	**se**	**t**	***p***	**LLCI**	**ULCI**
Constant		−5.6633	2.2504	−2.5166	0.0121	−10.0831	−1.2435
QWL		3.3000	0.8470	3.8963	0.0001	1.6366	4.9635
Collegiality		1.0340	0.6074	1.7023	0.0892	−0.1590	2.2270
Work environment		1.9970	0.6934	2.8801	0.0041	0.6352	3.3588
QWL × Collegiality		−0.5065	0.2176	−2.3278	0.0203	−0.9339	−0.0792
QWL × Working environment		−0.8192	0.2548	−3.2152	0.0014	−1.3197	−0.3188
Collegiality × Work environment		−0.2411	0.1822	−1.3232	0.1863	−0.5989	0.1168
QWL × Collegiality × Work environment **H2a**		**0.1462**	**0.0642**	**2.2767**	**0.0232**	**0.0201**	**0.2724**
R-square		0.456					
F		70.07					
df1		7					
df2		584					
p		0.0000					
	Conditional Effects of the Focal Predictor (Job Satisfaction) at Values of Moderators (Collegiality × Work Environment)						
Collegiality	**Work Environment**	**Effect**	**se**	**t**	***p***	**LLCI**	**ULCI**
Low	Low	0.8115	0.0926	8.7643	0.0000	0.6296	0.9933
Low	Medium	0.5246	0.0678	7.7338	0.0000	0.3914	0.6579
Low	High	0.2378	0.1047	2.2708	0.0235	0.0321	0.4435
Medium	Low	0.6690	0.0705	9.4891	0.0000	0.5305	0.8075
Medium	Medium	0.4991	0.0466	10.7159	0.0000	0.4077	0.5906
Medium	High	0.3293	0.0585	5.6330	0.0000	0.2145	0.4441
High	Low	0.5622	0.0965	5.8236	0.0000	0.3726	0.7517
High	Medium	0.4800	0.0628	7.6483	0.0000	0.3568	0.6033
High	High	0.3979	0.0694	5.7296	0.0000	0.2615	0.5343
	Moderator value(s) defining Johnson–Neyman significance region(s)						
			Value	% below		% above	
			2.7142	13.5135		86.4865	

The indirect effect of QWL on WLB through job satisfaction is mentioned in Table 5. The index of moderated moderated-mediation was 0.0618 and was significant [Boot LLCI = 0.0136; Boot ULCI = 0.1198], as zero was not contained in the confidence intervals. These results provide support for the moderated moderated-mediation hypothesis (H2a).

The visual presentation of three-way interaction is shown in two panels of Figure 2. The effect of interaction of QWL and collegiality on job satisfaction at unsupportive work environments is shown in Panel A (Figure 2). As can be seen, job satisfaction decreases sharply when collegiality is low, as compared to a high level of collegiality. The interaction effect of QWL and collegiality on job satisfaction is low, and an unsupportive work environment's adverse effect on job satisfaction is higher when collegiality is low, as compared to a high level of collegiality (though the slopes of curves are negative). However, as can be seen in panel B (Figure 2), the interaction effect of QWL and collegiality at supportive work

environment results in an increase in job satisfaction (slopes of curves are positive). These figures render strong support to H2a.

Table 5. Indirect effect (QWL → Job Satisfaction → WLB).

Collegiality	Work Environment	Effect	Boot SE	Boot LLCI	Boot ULCI
2.3333 (Low)	2.7333 (Low)	0.3430	0.0540	0.2447	0.4550
2.3333 (Low)	3.3333 (Medium)	0.2218	0.0366	0.1542	0.2976
2.3333 (Low)	3.9333 (High)	0.1005	0.0456	0.0109	0.1908
3.6667 (Medium)	2.7333 (Low)	0.2828	0.0449	0.2019	0.3770
3.6667 (Medium)	3.3333 (Medium)	0.2110	0.0305	0.1550	0.2742
3.6667 (Medium)	3.9333 (High)	0.1392	0.0260	0.0919	0.1938
4.6667 (High)	2.7333 (Low)	0.2376	0.0512	0.1462	0.3473
4.6667 (High)	3.3333 (Medium)	0.2029	0.0358	0.1380	0.2795
4.6667 (High)	3.9333 (High)	0.1682	0.0301	0.1138	0.2316
Index of moderated moderated-mediation					
	Index	BOOT SE	BOOT LLCI	BOOT ULCI	
	0.0618	0.0273	0.0136	0.1198	
Indices of moderated moderated-mediation by Collegiality					
Work Environment	Index	BOOT SE	BOOT LLCI	BOOT ULCI	
Low	−0.0452	0.0234	−0.0944	−0.0015	
Medium	−0.0081	0.0168	−0.0407	0.0256	
High	0.0290	0.0234	−0.0138	0.0779	

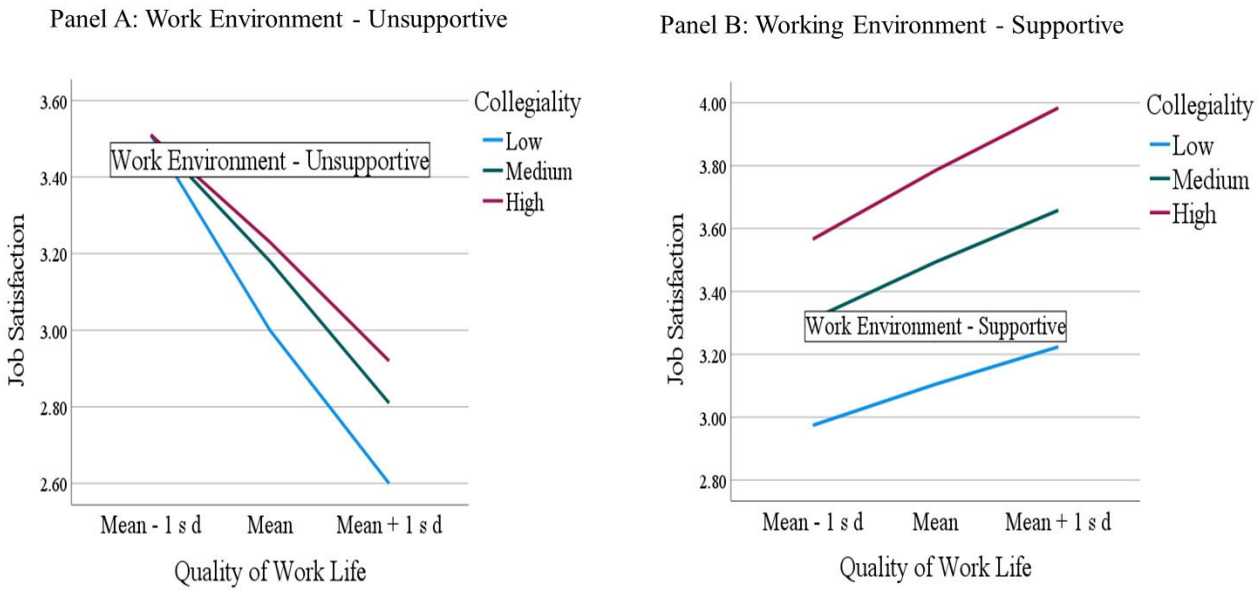

Figure 2. (**A**) The moderating effect of quality of work life and collegiality on job satisfaction at unsupportive work environments. (**B**) The moderating effect of quality of work life and collegiality on job satisfaction at supportive work environment.

5.7. Testing the Second Moderated Moderated-Mediation Hypotheses (H3a)

To test H3a this study used model # 18 of [101] PROCESS macros and presented the results in Table 6.

Table 6. Testing of H3a (three-way interaction) [Model number 18 of [101] PROCESS macros].

		DV = WLB					
Variables		**Coeff**	**se**	**t**	***p***	**LLCI**	**ULCI**
Constant		−2.0832	2.1711	−0.9595	0.3377	−6.3474	2.1810
QWL		0.0960	0.0566	1.6969	0.0902	−0.0151	0.2072
Job Satisfaction		1.8396	0.7923	2.3218	0.0206	0.2834	3.3957
Job security		1.0925	0.5612	1.9465	0.0521	−0.0098	2.1948
Work hours		0.8330	0.7815	1.0659	0.2869	−0.7019	2.3679
Job Satisfaction × Job security		−0.4920	0.1917	−2.5663	0.0105	−0.8685	−0.1155
Job Satisfaction × Work hours		−0.4141	0.2594	−1.5961	0.1110	−0.9236	0.0955
Job security × Work hours		−0.2392	0.2019	−1.1845	0.2367	−0.6358	0.1574
Job Satisfaction × Job security × Work hours **H3a**		**0.1345**	**0.0621**	**2.1680**	**0.0306**	**0.0127**	**0.2564**
R-square		0.367					
F		42.17					
df1		8					
df2		583					
p		0.0000					
	Conditional Effects of the Focal Predictor (WLB) at Values of Moderators (Job Security × Work Hours)						
Job Security	**Work Hours**	**Effect**	**se**	**t**	***p***	**LLCI**	**ULCI**
Low	Low	0.2759	0.0880	3.1343	0.0018	0.1030	0.4488
Low	Medium	0.2939	0.0657	4.4739	0.0000	0.1649	0.4229
Low	High	0.3238	0.0898	3.6054	0.0003	0.1474	0.5002
Medium	Low	0.1421	0.0680	2.0897	0.0371	0.0085	0.2757
Medium	Medium	0.2086	0.0512	4.0744	0.0001	0.1080	0.3091
Medium	High	0.3192	0.0729	4.3790	0.0000	0.1761	0.4624
High	Low	0.0196	0.0786	0.2488	0.8036	−0.1348	0.1739
High	Medium	0.1304	0.0602	2.1647	0.0308	0.0121	0.2486
High	High	0.3150	0.0785	4.0124	0.0001	0.1608	0.4693
	Moderator value(s) defining Johnson–Neyman significance region(s)						
			Value	% below		% above	
			2.7653	52.0270		47.9730	

Hypothesis 3a is related to interaction between job satisfaction, job security (first moderator), and work hours (second moderator) influencing WLB. The regression coefficient of the three-way interaction was significant ($\beta_{\text{job satisfaction} \times \text{job security} \times \text{work hours}} = 0.135$; t = 2.16; $p < 0.05$; Boot LLCI = 0.0127; Boot ULCI = 0.2564). Conditional effects of the focal predictor (WLB) at values of moderators (Job security × Work hours) and moderator value(s) defining Johnson–Neyman significance region(s) are mentioned at the bottom of Table 6. The indirect effect of QWL on WLB through job satisfaction, when job security and work hours as moderators, was mentioned in Table 7. The index of moderated moderated-mediation was 0.0954 and was significant [Boot LLCI = 0.0074; Boot ULCI = 0.2182] as zero was not contained in the confidence intervals. These results provide support for the moderated moderated-mediation hypothesis H3a.

Table 7. Indirect effect (QWL → Job Satisfaction → WLB).

Job Security	Work Hours	Effect	Boot SE	Boot LLCI	Boot ULCI
3.3000 (Low)	2.0000 (Low)	0.1957	0.0572	0.0846	0.3092
3.3000 (Low)	2.6000 (Medium)	0.2084	0.0495	0.1029	0.2978
3.3000 (Low)	3.6000 (High)	0.2297	0.0892	0.0373	0.3891
3.9000 (Medium)	2.0000 (Low)	0.1008	0.0443	0.0120	0.1855
3.9000 (Medium)	2.6000 (Medium)	0.1479	0.0345	0.0804	0.2155
3.9000 (Medium)	3.6000 (High)	0.2264	0.0645	0.1002	0.3538
4.4500 (High)	2.0000 (Low)	0.0139	0.0582	−0.1033	0.1255
4.4500 (High)	2.6000 (Medium)	0.0925	0.0456	0.0063	0.1854
4.4500 (High)	3.6000 (High)	0.2235	0.0686	0.0969	0.3654
Index of moderated moderated-mediation					
	Index	BOOT SE	BOOT LLCI	BOOT ULCI	
	0.0954	0.0539	0.0074	0.2182	
Indices of moderated moderated-mediation by Job security					
Work hours	Index	BOOT SE	BOOT LLCI	BOOT ULCI	
Low	−0.1581	0.0645	−0.2891	−0.0345	
Medium	−0.1008	0.0570	−0.1992	0.0273	
High	−0.0054	0.0798	−0.1162	0.2001	

The visual presentation of three-way interaction is shown in two panels of Figure 3.

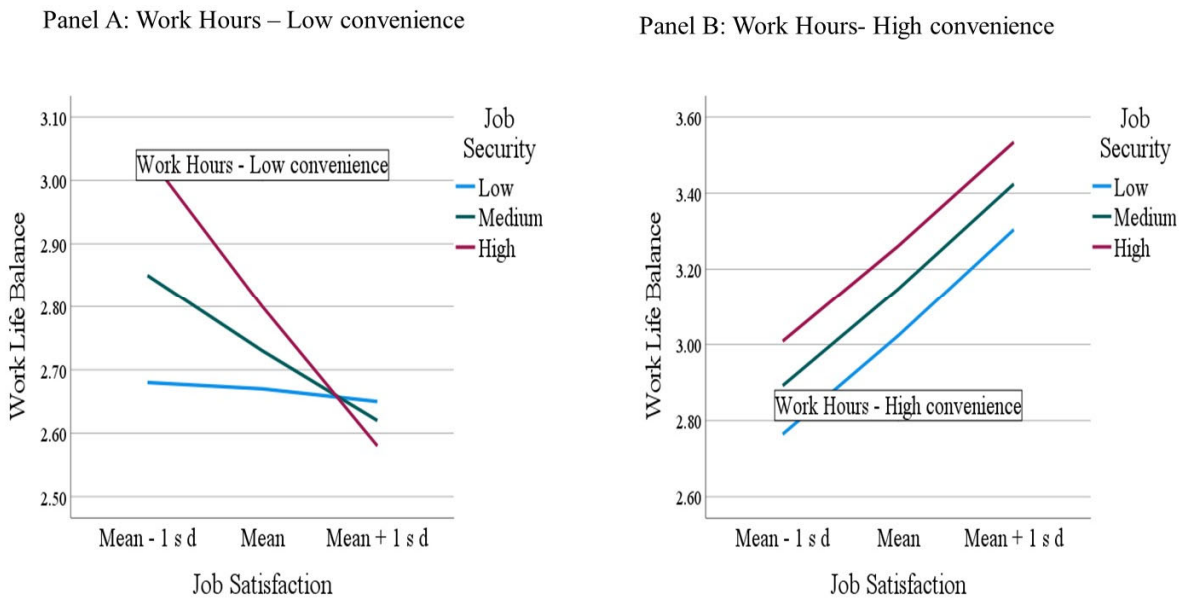

Figure 3. (**A**) The moderating effect of job satisfaction and job security on work–life balance at low convenience of work hours. (**B**) The moderating effect of job satisfaction and job security on work–life balance at high convenience of work hours.

Panel A (Figure 3) shows the moderating effect of job satisfaction and job security on WLB at low convenience of work hours. As can be observed from Figure 3A, the moderating effect of job security in the relationship between job satisfaction and WLB at lower levels of convenience of work hours was negative (shown in the slopes of curves at low, medium, and higher levels of job security). As can be seen in Figure 3B, at high levels

of convenience of work hours, the interaction effect of job satisfaction and job security on WLB is positive (slopes of all the curves were positive). These results provide support for H3a.

The empirical model is presented in Figure 4.

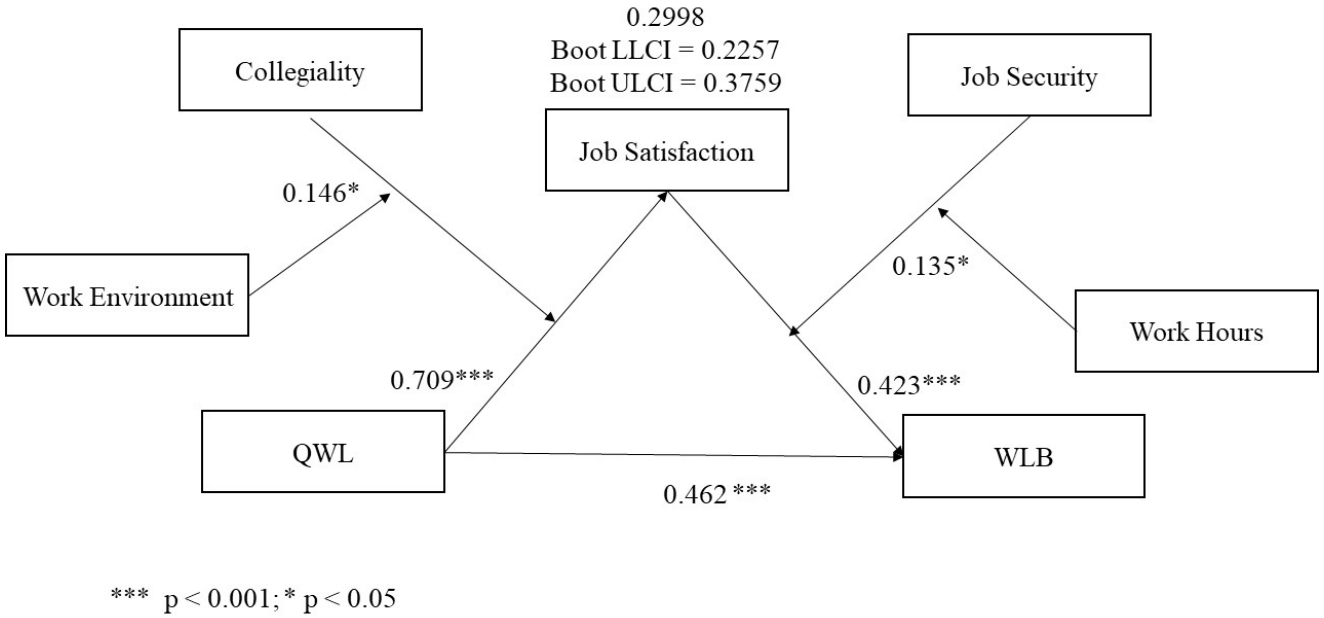

Figure 4. Empirical model.

6. Discussion

Drawing on the RBT and need–satisfaction theories, this study developed a multi-layered conceptual model to investigate QWL → job satisfaction → WLB. The proposed hypotheses were tested using the data collected (N = 592) from workers in construction projects in southern India. After checking the psychometric properties of the survey instrument and establishing convergent, discriminant validity, and reliability, the authors tested the structural model using Hayes' [101] PROCESS macros. The research found support for all the hypothesized relationships.

First, the findings reveal that QWL is a precursor to WLB (Hypothesis 1), consistent with the results from previous studies [6,33,68,69]. It is expected that, when workers perceive the total working environment to be congenial, the rationing of time between work and life becomes balanced. Second, the results indicate that QWL is positively associated with job satisfaction (Hypothesis 2); this finding aligns with other studies conducted in various sectors in different countries, including India [15,75–77]. Individuals derive satisfaction from their work when the work environment is healthy and superior performance is rewarded. Third, this study found that job satisfaction enhances WLB (Hypothesis 3), supported by results from previous studies [39,79–81]. Job satisfaction indicates that employees are happy with their pay, relationships with supervisors, reward system, and career advancement and are more likely to balance their personal lives and work. Fourth, the indirect effect of QWL on WLB through job satisfaction (Hypothesis 4) is supported by this research. Though prior studies did not dwell on the mediation of job satisfaction between QWL and WLB, evidence from direct relationships can support this [40,82].

A fifth key finding in this study is the moderating effects of collegiality and work environment in the relationship between QWL and job satisfaction (Hypothesis 2a). The cooperative working relationship between colleagues (co-workers) strengthens the positive association between QWL and job satisfaction [84–87], and a supportive work environment further strengthens the association. Though the authors did not find any studies from the literature review that explored the double moderation, the results are intuitively

convincing because of the expected direct effects of collegiality and the work environment. Sixth, this study found the moderating role of job security in strengthening the relationship between job satisfaction and WLB, and the effect of convenient and flexible work hours to enhance such an association (Hypothesis 3a). Again, none of the previous studies were available to vouch for this double moderation; some studies corroborate these relationships [29,30,89]. To sum up, the findings validate the hypothesized relationships described in the conceptual model.

6.1. Theoretical Implications

This research significantly adds to the literature on QWL, job satisfaction, and practicing managers. First, this study re-iterated the importance of QWL as a precursor to WLB. The post-pandemic scenario has altered the working conditions in all sectors in various countries; the construction industry is not an exception. Construction projects are undertaken throughout developing countries such as India, and worker demand constantly increases. Though the global pandemic stopped construction projects for nearly two years, with the restoration of normalcy, the importance of workers in construction projects cannot be underestimated. Following these lines of thinking, this study investigated the effect of QWL on WLB, and the results corroborate the findings from the literature. Second, consistent with other studies, this research found that QWL significantly predicts job satisfaction. Third, results also reveal a positive association of job satisfaction with WLB. The fourth significant contribution of this study is the indirect effect of QWL on WLB via job satisfaction, which aligns with one of the recent studies conducted among employees in the transportation sector in India [6].

The fifth pivotal contribution of this study is the three-way interaction between QWL, collegiality, and work environment influencing job satisfaction. More specifically, collegiality (first moderator) and work environment (second moderator) interact with QWL to positively and significantly enhance job satisfaction. This moderated moderated-mediation concerning construction workers in India represents a unique contribution to the literature. Considering that job security is a problem for construction workers, the authors investigated the moderating effect of job security between job satisfaction and WLB. This study found significant positive moderation, strengthened by convenient and flexible work hours. Thus, the sixth significant contribution of this research is the three-way interaction between job satisfaction, job security, and work hours in enhancing WLB. To sum up, the two three-way interactions (QWL $\times$ collegiality $\times$ work environment; job satisfaction $\times$ job security $\times$ work hours) provide a new dimension of research that substantially contributes to the bourgeoning literature on organizational behavior and human resource management. It is essential to observe that, though this study was conducted in the context of a developing country—India, the results are consistent with the findings from research on WLB in developed countries [36,113].

6.2. Practical Implications

This research has several implications for organizations interested in ensuring WLB for their employees. First, this study documented that managers need to create a climate to provide a suitable environment so that they perceive their QWL to be high, can work productively, and contribute to achieving organizational goals. Second, managers need to acknowledge that job satisfaction affects WLB, which will have a spillover effect on the performance of employees. Therefore, managers need to devise strategies that promote employee job satisfaction. Rewarding superior performance, providing support when employees face difficult situations in the work environment, and creating opportunities for career growth are some strategies managers may employ to steer job satisfaction. Third, as the recent global pandemic has adversely affected the functioning of many industries, including the construction industry, workers have come back to normal functioning after prolonged lockdowns; it is essential that managers provide a friendly environment so that employees will be able to maintain a happy balance between work and life.

The fourth important practical implication is that managers must provide an environment encouraging collegiality. Since workers in the construction industry work in teams, cooperation between co-workers plays a vital role in completing projects on time. In addition, collegiality enhances job satisfaction, as documented in this study. Further, a supportive environment combined with collegiality helps workers to derive satisfaction from their jobs. In developing countries such as India, there is no labor force shortage, and increasing competition (as the labor supply is greater than the demand) requires dedication and commitment by the workers so that they can be retained until the completion of construction projects. Workers are also mindful that cooperation with co-workers is essential to continue to work, lest survival becomes challenging.

The fifth significant contribution of this study is that managers need to provide flexible work hours and ensure job security to the workers, so that they work to their total capacity and increase productivity. Thus, the findings from the conceptual model and hypothesized relationships provide some insights to the practicing managers to devise strategies to create work conditions that help employees to balance work and life. This study suggests that supervisors take feedback from workers to see how they perceive work pressure and whether they can balance work and life.

6.3. Limitations

The findings from this research need to be interpreted in light of some limitations. First, this study was conducted in the context of construction workers in a developing country (India). Since the focus was on employees in one particular sector, the results may not be generalizable across all other sectors. However, to the extent that the perceptions of QWL and WLB are the same, irrespective of the sectors the employees belong to, the relationships studied in this conceptual model are expected to be generalizable. Second, since this research focused on developing countries, results may be generalizable across other developing countries (such as Bangladesh, Sri Lanka, and Pakistan) but may not apply to developed countries where work conditions are radically different. The QWL and WLB of individuals in developed countries may differ because of cultural, infrastructural, and work climate differences. Therefore, the results must be interpreted carefully when this model is applied in a developed country context. Third, a small sample size (N = 592) may constitute another limitation restricting generalizability. Fourth, the social desirability and common method biases inherent in survey research must be acknowledged. The authors, however, attempted to reduce social desirability bias by anonymizing the responses. In addition, the authors performed adequate statistical checks to minimize common method bias (as discussed in the analysis section).

6.4. Future Research

This research provides several avenues for future research. First, this study focused on construction workers in a developing country. Future studies may involve respondents from multiple industries (healthcare, information technology, manufacturing, education) so that the relationships documented in this study hold in other sectors. Second, this research is limited to some variables and ignored some of the antecedents of QWL, including work–family conflict (WFC) and family–work conflicts (FWC). Future studies may include the antecedents to QWL and unfold the effects of these on job satisfaction. Third, the authors considered job satisfaction as a mediating variable between QWL and WLB but did not include commitment, stress, emotional exhaustion [114,115], or employee engagement as moderators that may significantly impact WLB. Fourth, it may be interesting to investigate the role of organizational citizenship behavior in influencing job satisfaction and WLB. Fifth, future researchers may make cross-country and developed versus developing countries comparisons to identify if cultural differences may alter the relationships documented in this study. Finally, future studies may involve longitudinal studies involving large samples to explore the dynamics of relationships.

6.5. Conclusions

Riding on need–satisfaction and RBT theoretical frameworks, a conceptual model was developed to test how QWL affects WLB of employees working in the construction sector in a developing country context. The results underscore the importance of QWL as a precursor to WLB. Most importantly, the benefits of QWL were routed through job satisfaction, suggesting that managers need to provide a supportive work climate to enhance job satisfaction so that employees can balance work and life. Considering the aftermath of the recent global pandemic, which left a big scar on all individuals worldwide, it is imperative to focus on QWL and its effect on organizational outcomes, including WLB. By highlighting the importance of QWL in maintaining proper WLB, this study suggests that corporate leaders chalk out strategies to maintain good working conditions. As the pandemic has nearly ended and the restoration of normalcy is slowly on its way, researchers may continue to focus on the contribution of antecedents and consequences of QWL during the post-pandemic period to a sustainable socio-economic environment. With the rapidly changing work environment worldwide following the pandemic, research on QWL and WLB continues to be on the research agenda in organizational behavior and human resource management.

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