The Role of Transformational Leadership in Work-Life Balance and Employee Performance: A Post-Pandemic Pilot Study on Singapore Organisations

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Abstract

Working from home has increasingly become the norm since the outbreak of COVID-19, and as a result, it has taken a toll on both work and family life for many people around the world, including in Singapore. This research aimed to explore the role of transformational leadership in work-life balance and employee performance in Singapore after the pandemic. A pilot study was conducted using a cross-sectional quantitative design and an online survey with 31 participants. The data collected were statistically tested, and it was found that work-life boundary management had a significant positive relationship with both work-life balance and employee performance. In addition, work-life balance was shown to have a significant positive relationship with employee performance. The pilot study did not find any support for the impact of work-life policies and practices on work-life balance or employee performance. Work-life balance did not mediate the relationship between work-life boundary management or work-life policies and practices and employee performance. The moderating effect of transformational leadership was absent in all relationships in the proposed research model. These findings suggest that employees who can manage their work-life boundaries well have better work-life balance and perform better. Organisations should also do their part in facilitating the achievement of even greater work-life balance for their employees.

Keywords: transformational leadership, employee performance, work-life balance, boundary management, policies and practices, COVID-19

1. Introduction

The coronavirus pandemic significantly impacted the global economy, leading to widespread economic downturns. According to the World Bank, approximately 90% of countries experienced negative per capita GDP growth in 2020 (World Development Report, 2022). In Singapore, the economy contracted by over 4% that year, marking its worst performance in nearly 60 years (Singapore Public Sector Outcomes Review, 2022). Despite having a world-class healthcare system, the United States faced high mortality rates early in the pandemic. Researchers from Brown University attributed this to diminished trust in health authorities among its people (Nuzzo and Ledesma, 2023). These findings suggest the necessity of effective leadership during crises.

The pandemic also transformed workplace dynamics, with remote working becoming the new norm, supported by advancements in technology. This shift has rendered it challenging for employees to separate work from personal life. Leaders now need to re-evaluate their leadership strategies and the way they lead their organisations and employees in this new environment. By understanding how post-pandemic leadership approaches affect work-life balance and employee performance, organisations can better prepare for future challenges and enhance employee well-being.

This research aims to explore the role of transformational leadership in work-life balance and employee performance in Singapore after COVID-19, providing insights for improving leadership practices and organisational outcomes. The research setting is in Singapore, with data collected from individuals employed by Singapore-based organisations. Participant selection is carefully managed to ensure comprehensive coverage and representation across various industry sectors and job levels. This study may include small and medium-sized businesses, global companies, public institutions, and voluntary welfare organisations. Small and medium-sized businesses are a crucial

part of Singapore's economy, which made up 90% of firms and adding nearly 50% to Singapore's GDP (ANG, 2021).

The coronavirus pandemic stood out as a monumental event of this century, creating numerous challenges in the workplace, including balancing work and life commitments, especially for employees working from home. With data collected during the pandemic, Khalid et al. (2024) found strong evidence in favour of their proposed hypotheses, which suggest that working from home positively affects burnout and work-family conflict but negatively impacts work-life balance. Leadership is typically viewed as an evolving process that adapts to the changing demands of the business environment, and good leadership becomes crucial for the survival and recovery of organisations from crises such as the COVID-19 pandemic. This research will examine leadership and work-life balance after the pandemic and their impacts on employee performance, providing interdisciplinary contributions across 3 academic fields. It will bridge and advance knowledge within these fields, with the potential to offer new perspectives. Future studies can build on these findings by exploring the dynamics of leadership and work-life balance in different contexts, such as in regions with different national cultures, thereby allowing for greater generalisability and broader applicability.

Leaders, both present and future, must be equipped with the necessary knowledge and skills to lead their organisations through crises, given the ongoing changes from political, economic, and social factors. After experiencing the pandemic, leaders are not only struggling to understand the performance levels of employees working from home but are also concerned about the long working hours resulting from increasingly blurred boundaries. In the current context of Singapore, half of the workforce experienced longer working hours following the pandemic, with one out of every three employees working two hours or more daily, on top of their regular hours (The Straits Times, 2022). These issues may have negative impacts on both employees' physical and mental well-being, and their family lives. This study will help organisations grasp the role of leadership and work-life balance in such contexts and offer a deeper understanding of how post-pandemic leaders in Singapore can prepare and navigate these changes in the workplace.

2. Systematic Literature Review

A search was performed in Scopus and Web of Science. The following keywords were used for the search: Leadership, Performance, Work-Life Balance. The search was limited to English peer-reviewed journals in the field of business management, published between 2020 and 2024. As a result, a total of 112 (Scopus: 38, Web of Science: 74) journal articles were found. These articles were then screened by their titles and abstracts, to determine their relevancy to leadership and work-life balance, and it reduced the initial search list to 36 (Scopus: 16, Web of Science: 20) journal articles. As shown in Figure 1, full texts were screened, and this refined the search list to 25 (Scopus: 11, Web of Science: 14) journal articles for inclusion in this study. Lastly, the shortlisted journals were organised into sub-sections based on leadership themes. The 25 journal articles shortlisted in this systematic literature review were from 17 countries across 5 continents and they covered a wide range of industries. Among them, only 3 were qualitative studies, and 1 used a mixed-method approach. This literature review includes 12 leadership approaches that have continued to attract the interest of researchers in recent years. Notably, 5 of the articles focused on transformational leadership.

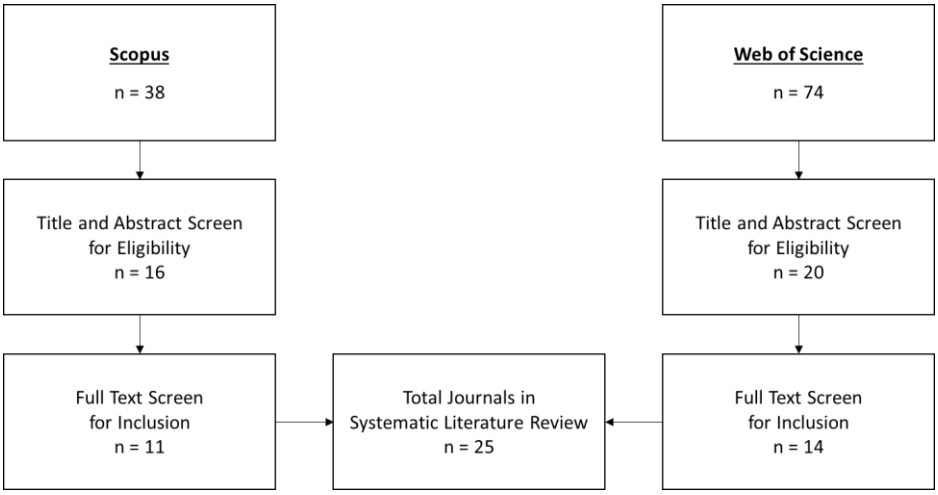

Figure 1. Systematic Literature Review

Given the aftermath of the pandemic, the use of technology to lead, work, and ensure business continuity has become increasingly critical. A study in this literature review section on the impact of servant leadership during the pandemic suggests that future researchers could focus on managing the blurred work-life boundaries caused by remote working to improve work-life balance and performance (Metselaar et al., 2023). A few articles in this section also discuss the importance of considering or enhancing work-life balance policies and practices to improve employee and organisational outcomes (Ugwoke et al., 2023, George and Sreedharan, 2023, Al-Fayez and Goodman, 2024, Jada et al., 2023). Thilagavathy and Geetha (2021) pointed out that there is limited research on the effectiveness of work-life balance policies post-implementation, thus this can be identified as another research gap. This research aims to address the gaps in transformational leadership, work-life balance, and employee performance in the post-pandemic era. Similar studies have not been conducted in Singapore. As the government continues to encourage hybrid work arrangements, gaining insights from such a study on Singapore organisations would be a valuable contribution to the field.

2.1 Transformational Leadership

Transformational leadership has been a prominent research topic among leadership scholars in recent decades, primarily due to its effectiveness in inspiring positive change. A time-lagged study of 338 full-time employees from various sectors in Canada, Ireland, the United Kingdom, and the United States has revealed that transformational leadership has positive effects on work-life balance, through employee self-control (Walsh et al., 2024). The researchers added that moderating with remote working can strengthen the aforementioned relationship. Sani and Adisa (2024) conducted 32 semi-structured interviews with participants from the banking, insurance, and information technology companies, and they found that transactional and transformational leaders can influence the employees on their usage of work-life balance policies and practices in the presence of reciprocity and trust. Transactional leaders restrict or reward their employees on the usage of such policies and practices based on performance. Transformational leaders encourage their employees to leverage these policies and practices to achieve work-life balance. Driven by the desire to attain work-life balance or as a reciprocated gesture, the employees in return outperformance themselves.

Another study on 360 accounting participants from universities in Nigeria confirmed that psychological empowerment and work-life balance can have individual and joint mediating effects on the relationship between transformational leadership and in-role performance (Ugwoke et al., 2023). Leaders should take into consideration the needs for psychological empowerment and work-life balance when developing organisational policies, as these needs may significantly improve employee performance. Apart from employee performance, transformational leadership and work-life balance are closely linked to other employee outcomes. George and Sreedharan (2023) performed a similar study on IT employees in India and their results showed that transformational leadership and work-life balance have a significant positive impact on job satisfaction, and therefore organisations should consider establishing work-life balance policies. For limitations, the researchers suggest that although transformational leaders offer good support in the work and family lives of their employees, other aspects of transformational leadership should also be examined to understand their effectiveness on job satisfaction. In Brazil, positive associations between

transformational leadership, work-life balance specifically in flexibility at work, and service innovation were discovered in a study involving architects and urban planners (Gomes et al., 2021). All 5 studies have highlighted the dynamics of transformational leadership and work-life balance on one another, and their connections with performance and other employee outcomes. Some researchers have emphasised the importance and the appropriate use of work-life balance policies and practices in organisations.

2.2 Hypotheses

Hecht and Allen (2009) argued that boundary strength consists of integrating work into family life and family life into work. A study of faculty members from universities in Jordan found that work-nonwork boundary strength has a significant positive relationship with work performance (Zamil et al., 2022). Results from another research by Abioro et al. (2018) have confirmed a positive relationship between work-life practices, namely flexitime, job sharing, and telecommuting, and employee productivity. The first 2 hypotheses are:

Hypothesis 1 (H1): There is a significant positive relationship between Work-Life Boundary Management and Employee Performance

Hypothesis 2 (H2): There is a significant positive relationship between Work-Life Policies and Practices and Employee Performance

Ashforth et al. (2000) argued that there are no clear work-life boundaries for people with high work-life integration. A study by Li et al. (2013) revealed that the B&B innkeepers who had greater work-life integration often had poorer work-life balance. Ngari and Mukururi (2014) reviewed various studies to link work-life balance to job satisfaction, by first explaining how work can affect family life and the other way around. Their research also demonstrated that effective work-life balance policies can enhance job satisfaction. A recent research in Indonesia revealed that work-life balance has a significant and positive impact on employee performance (Isa and Indrayati, 2023). Hence, the next 3 hypotheses are:

Hypothesis 3 (H3): There is a significant positive relationship between Work-Life Boundary Management and Work-Life Balance

Hypothesis 4 (H4): There is a significant positive relationship between Work-Life Policies and Practices and Work-Life Balance

Hypothesis 5 (H5): There is a significant positive relationship between Work-Life Balance and Employee Performance

Isa and Indrayati (2023) also stated that the negative impact of work-family conflict on employee performance can be mediated by work-life balance. In another research by Nugraha et al. (2022), their findings indicated that working from home significantly influences work-life balance, which subsequently affects employee performance. As such, these 2 hypotheses are proposed:

Hypothesis 6 (H6): Work-Life Balance mediates the relationship between Work-Life Boundary Management and Employee Performance

Hypothesis 7 (H7): Work-Life Balance mediates the relationship between Work-Life Policies and Practices and Employee Performance

Legutko (2020) reported that among the US Fortune 500 companies, transformational leadership is more commonly used in CEO letters than any other leadership styles. The systematic literature review of 25 journal articles in this research revealed that 5 of them (20%) focused on transformational leadership. A study of 401 Vietnamese employees had shown that transformational leadership significantly boosts quality of work-life, which in turn enhances employee performance (Vuong et al., 2019). Employees will be able to better manage their time either by setting clear work-life boundaries or through the use of work-life policies and practices that promote work-life balance. Work-life balance may improve if the adverse effects of time pressure are mitigated through the moderation of transformational leadership (Syrek et al., 2013). Conflicts in the workplace will inevitably cause work delays and reduce work efficiency. Transformational leadership was also found to have a significant moderating effect on the relationship between work conflict and employee performance (Haryanto et al., 2022). The final 5 hypotheses are:

Hypothesis 8 (H8): Transformational Leadership moderates the effect of Work-Life Boundary Management on Employee Performance

Hypothesis 9 (H9): Transformational Leadership moderates the effect of Work-Life Policies and Practices on Employee Performance

Hypothesis 10 (H10): Transformational Leadership moderates the effect of Work-Life Boundary Management on Work-Life Balance

Hypothesis 11 (H11): Transformational Leadership moderates the effect of Work-Life Policies and Practices on Work-Life Balance

Hypothesis 12 (H12): Transformational Leadership moderates the effect of Work-Life Balance on Employee Performance

2.3 Research Framework

The proposed research framework illustrates the effects of work-life boundary management, and work-life policies and practices, on employee performance through work-life balance, with transformational leadership moderating these relationships (see Figure 2). The model adopts both mediation and moderation, with the relationships in the model being influenced by changes in the value of the moderator (Wu and Zumbo, 2008).

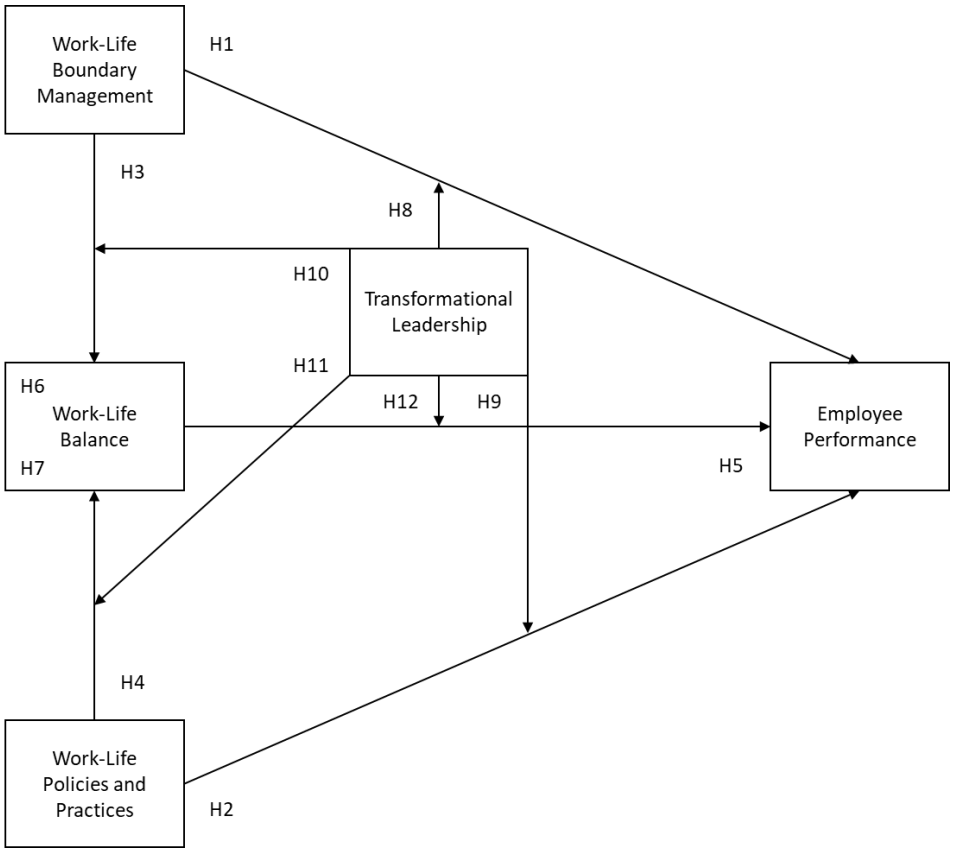

Figure 2. Research Model

3. Methodology

The choice of the research methods hinges on the ontological and epistemological assumptions held by the researchers. In quantitative methods, they typically involve evaluating the relationships between variables, gathering numerical data, and performing statistical analysis on the sample data (Taherdoost, 2022, Creswell and Creswell, 2017). With a positivist and deductive perspective, a quantitative method will be utilised to address the research questions in this study, since they mainly focus on the relationships between two variables.

3.1 Sampling Strategies

To ensure that relevant data is collected, convenience and purposive samplings from non-probability sampling are being employed. Participants who are easily accessible to the researcher and who met a specific criterion are invited for this pilot study. Johanson and Brooks (2010) recommended a sample size of no less than 30 for pilot studies for

evaluating the constructs of the survey. An anonymous online survey was conducted over a duration of 2 weeks from 19-Sep 2024 to 02-Oct 2024. Survey invitations were sent individually through LinkedIn messaging. The LinkedIn profiles of the participants were assessed to confirm that they worked in an organisation (not as sole proprietors) and were based in Singapore. 300 survey invitations were sent out, and among them there were 31 responses, which translated to a response rate of 10.33%.

3.2 Research Instrument

It is very common nowadays to conduct quantitative studies using online surveys. Google Forms was used for the online survey in this pilot study. Before beginning the survey, participants were expected to look through a brief information sheet summarising the purpose of the study, their roles and involvement. They were made aware that their participation was entirely voluntary and they could withdraw anytime during the survey. The next step was to obtain informed consent from those who wished to participate in the survey. The first section of the survey consisted of 25 short, close-ended questions (measuring items) adapted from the following sources (see Table 1).

Table 1. Adapted Sources for Survey Questions

Variables	Adapted Sources
Work-Life Boundary Management, WLBM (3 Measuring Items)	Li et al. (2013)
Work-Life Policies and Practices, WLPP (4 Measuring Items)	Ngari and Mukururi (2014)
Work-Life Balance, WLB (8 Measuring Items)	Li et al. (2013)
Employee Performance, PERF (4 Measuring Items)	Bodla and Ningyu (2017) Goetz and Wald (2021) Yang et al. (2022)
Transformational Leadership, LEAD (6 Measuring Items)	Kloutsiniotis et al. (2023)

A 5-point Likert scale was used for all 5 variables in the research model, and each variable was measured using 3 to 8 questions. A response of "strongly agree" was given a rating of 5, whereas "strongly disagree" was given a rating of 1. As published by Kusmaryono et al. (2022), they examined 60 papers and 90% of them used an odd-numbered Likert scale, and the 5-point scale was the most prevalent. The last section of the survey was made up of the demographic questions, for example, gender, age group, marital status, highest educational level, years of working experience, and industry sector, etc. These data can help researchers better understand the background of each participant. By gaining insights into the social and workplace structures of the participants, researchers can assess the representativeness of the sample relative to the broader population. Martinez and Herrera (2023) argued that a participant may be at risk of being identified if their details are cross-referenced with other datasets. Hence, even information such as their email addresses was not collected, as they might contain personal names or the names of their organisations. Participants were reassured that necessary steps would be taken to protect the confidentiality of their data.

4. Data Analysis and Results

4.1 Demographics

Table 2 shows the demographics of the survey participants (n = 31) with the red fonts denoting the highest segments. Majority of the participants are male (77%). Most are married (81%), and most are between 40 and 49 years old (61%). 58% of the participants have at least a Master degree, and 90% of them have over 10 years of working experience. About a third of them are from the information and communications technology (ICT) industry. More than half are middle management employees, and 9 in 10 are from organisations with more than 200 employees.

Table 2. Demographics of Survey Participants

Demographics		Number of Participants	% of Participants
Gender	Male	24	77%
	Female	7	23%
Age Group	29 and Below	1	3%
	30 to 39	6	19%
	40 to 49	19	61%
	50 to 59	5	16%
	60 and Above	0	0%
Marital Status	Married	25	81%
	Not Married	6	19%
Highest Educational Level	Master Degree and Above	18	58%
	Bachelor Degree, Graduate Diploma or Equivalent	11	35%
	Diploma, A Level or Equivalent	2	6%
	O Level and Below	0	0%
Years of Working Experience (In Total)	Below 3 Years	1	3%
	3 to 10 Years	2	6%
	Above 10 Years	28	90%
Years of Working Experience (In Current Organisation)	Below 3 Years	12	39%
	3 to 10 Years	16	52%
	Above 10 Years	3	10%
Industry Sector	Advertising and Media	1	3%
	Banking and Financial Services	1	3%
	Civil and Public Services	4	13%
	Consulting and Strategy	3	10%
	Education and Training	4	13%
	Energy and Chemicals	1	3%
	Engineering	1	3%
	Hospitality and Tourism	1	3%
	Human Resources and Recruitment	1	3%
	Information and Communications Technology	10	32%
	Market Research	1	3%
	Medical and Healthcare	1	3%
	Science and Technology	1	3%
	Trade and Services	1	3%
Organisation Size	Less than 10 Employees	1	3%
	10 to 50 Employees	1	3%
	51 to 200 Emloyees	1	3%
	More than 200 Employees	28	90%
Job Level	Senior Management	2	6%
	Middle Management	17	55%
	First-line Manager	6	19%
	Junior Executive	6	19%

Red Fonts denoting Highest Segments

4.2 Measurement Model

The values of Cronbach's Alpha can be used to evaluate the internal consistency of the questions in the survey. According to Nunnally (1978), a reliable construct would produce Cronbach's Alpha of no less than 0.7. The Cronbach's Alpha for the variables WLBM, WLB, PERF and LEAD were all more than 0.7. The values of Cronbach's Alpha for all the variables are shown as follows (see Table 3).

Table 3. Reliability Statistics

Reliability Statistics			
Variables	Cronbach's Alpha	Number of Measuring Items	Consistency
Work-Life Boundary Management (WLBM)	0.747	3	Reliable
Work-Life Policies and Practices (WLPP)	0.635	4	Satisfactory
Work-Life Balance (WLB)	0.739	8	Reliable
Employee Performance (PERF)	0.841	4	Reliable
Transformational Leadership (LEAD)	0.964	6	Very Reliable

Most statistical procedures require researchers to verify the normality assumption. Generally, there are 2 commonly used methods to perform normality checks; the numerical methods (Shapiro-Wilk normality test, and skewness and kurtosis indicators) and graphical methods (Q-Q plot, and histogram). From the following output of the Shapiro-Wilk normality test, all the variables can be seen having a p-value of more than 0.05 (see Table 4). Hence, the null hypotheses were accepted, and the variables were all normally distributed. The results can be further confirmed with the skewness and kurtosis indicators (z = skewness / std error and z = kurtosis / std error). All the z-scores of the variables were within the interval of -2.58 and 2.58 (see Table 5). Hence, the variables were all normally distributed with a 99% confidence level.

Table 4. Normality Test (Shapiro-Wilk)

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
WLBM	.224	31	<.001	.933	31	.052
WLPP	.147	31	.085	.958	31	.258
WLB	.124	31	.200*	.961	31	.313
PERF	.190	31	.006	.942	31	.097
LEAD	.121	31	.200*	.973	31	.591

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 5. Normality Test (Skewness and Kurtosis)

Variable	Skewness				Kurtosis			
	Statistics	Std Error	Score	Normal Distribution	Statistics	Std Error	Score	Normal Distribution
WLBM	-0.492	0.421	-1.169	Yes	-0.420	0.821	-0.512	Yes
WLPP	0.031	0.421	0.073	Yes	-0.753	0.821	-0.917	Yes
WLB	-0.159	0.421	-0.378	Yes	-1.047	0.821	-1.276	Yes
PERF	-0.180	0.421	-0.429	Yes	-0.393	0.821	-0.479	Yes
LEAD	-0.456	0.421	-1.084	Yes	-0.113	0.821	-0.138	Yes

4.3 Structural Model

For small sample size, an independent sample t-test can be applied to assess the relationship between 2 variables that are normally distributed. The output for the testing of hypotheses has been summarised in Table 6. From the results, the null hypotheses for the Levene's Test for Equality of Variances for H1, H2, H3, H4 and H5 were all accepted ($p>0.05$), meaning variances of the two groups in each hypothesis were similar (equal variances assumed). In this pilot study, H2 and H4 were not supported ($p>0.05$) whereas H1, H3 and H5 were supported ($p\leq0.01$). Specifically, employees with high WLBM have significantly higher WLB and PERF than those with low WLBM. Similarly, high WLB is associated with higher PERF.

Table 6. Hypothesis Test

t-test for Equality of Means			Significance (one-sided p)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		Outcome
Hypothesis	t	df				Lower	Upper	
H1: WLBM => PERF	2.640	29	0.007	0.51316	0.19438	0.11560	0.91072	Supported
H2: WLPP => PERF	1.246	29	0.111	0.27381	0.21977	-0.17566	0.72328	Not Supported
H3: WLBM => WLB	2.676	29	0.006	0.50384	0.18827	0.11878	0.88890	Supported
H4: WLPP => WLB	0.604	29	0.275	0.13155	0.21770	-0.31369	0.57679	Not Supported
H5: WLB => PERF	2.661	29	0.006	0.53810	0.20223	0.12448	0.95171	Supported

The Pearson correlation coefficient is an indicator that shows the strength and direction of a linear relationship between 2 variables that are approximately normally distributed. It is essential to ensure that the collected sample data does not contain significant outliers. The range of its value is between –1 and +1. Some researchers consider values between +0.7 and +1.0 (–0.7 and –1.0) as indicators of a strong positive or strong direct (strong negative or strong inverse) linear relationship (Dancey and Reidy, 2020, Ratner, 2009). Any values between 0 and 0.3 (0 and −0.3) would indicate a weak positive (negative) linear relationship, and those between 0.3 and 0.7 (−0.3 and −0.7) would indicate a moderate positive (negative) linear relationship. In this pilot study, variables in both direct paths were moderately positively correlated; WLBM and PERF ($r=0.626$, $p\leq0.01$), and likewise WLPP and PERF ($r=0.377$, $p\leq0.05$). The WLBM and PERF had a rather high correlation coefficient, $r=0.626$, meaning nearly 40% (coefficient of determination, $r^2=0.392$) of the variance in PERF can be statistically explained by WLBM in a regression model. Variables in the indirect paths were moderately positively correlated too; WLBM and WLB ($r=0.464$, $p\leq0.01$), and similarly WLB and PERF ($r=0.367$, $p\leq0.05$). Weak correlation was found for WLPP and WLB ($r=0.206$, $p>0.05$). Table 7 summarised the Pearson correlation coefficients of all the variables in this pilot study, excluding LEAD since it was only meant to be used as a moderator.

Table 7. Pearson Correlations

Correlations

		WLBM	WLPP	WLB	PERF
WLBM	Pearson Correlation	1	.362*	.464**	.626**
	Sig. (2-tailed)		.045	.009	<.001
	N	31	31	31	31
WLPP	Pearson Correlation	.362*	1	.206	.377*
	Sig. (2-tailed)	.045		.266	.036
	N	31	31	31	31
WLB	Pearson Correlation	.464**	.206	1	.367*
	Sig. (2-tailed)	.009	.266		.042
	N	31	31	31	31
PERF	Pearson Correlation	.626**	.377*	.367*	1
	Sig. (2-tailed)	<.001	.036	.042	
	N	31	31	31	31

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The objective of simple linear regression is to examine the relationship of 2 variables and to predict the values of the dependent variable, using the values of the independent variable by estimating the regression coefficient (slope) and the constant (intercept) of the regression model. The sample size for this pilot study was small and there could be

insufficient statistical power to observe an effect by the statistical tools from the earlier sections. Even for relationships with weak correlations, it is still useful to understand the effect size in regression using the coefficient of determination (r^2) and to determine whether additional studies are needed to identify other factors that might affect the dependent variable. Hence, simple linear regression analysis was conducted for all hypotheses, including those that did not show significant results. Since there were 2 independent variables in this pilot study, multiple linear regression analysis was conducted too, to study the relationship between WLBM and WLPP in predicting either WLB or PERF. The regression equations for all the hypotheses are shown as follows.

$$PERF = 2.596 + (WLBM \times 0.425)$$

$$PERF = 3.179 + (WLPP \times 0.290)$$

$$WLB = 2.617 + (WLBM \times 0.306)$$

$$WLB = 3.204 + (WLPP \times 0.154)$$

$$PERF = 2.678 + (WLB \times 0.378)$$

$$PERF = 2.337 + (WLBM \times 0.383) + (WLPP \times 0.133)$$

$$WLB = 2.554 + (WLBM \times 0.296) + (WLPP \times 0.032)$$

A mediator is a variable which helps explain how an independent variable influences a dependent variable. To conclude that mediation exists in a research model, the independent variable ought to significantly influence the dependent variable, the independent variable ought to significantly influence the mediator, and the mediator ought to significantly influence the dependent variable (Baron and Kenny, 1986). Partial mediation occurs when the direct influence of the independent variable on the dependent variable remains significant, while full mediation occurs when the direct influence becomes non-significant. Regardless of the significance of the results from the earlier sections, all relationships in the research model were tested for mediation. Such exploration enables researchers to gain a better understanding of the roles of mediators. Even if there are no significant findings from some earlier tests, the mediating effect could still be significant. Other useful insights can be derived for future research, especially when significant findings were reported in other studies with different contexts or samples.

In this pilot study, WLB was used as a mediator for both WLBM and WLPP on PERF. The PROCESS Macro created by Hayes (2022) for SPSS Statistics was used for mediation testing, with a bootstrap sample of 5,000. For WLBM on PERF via WLB, the direct effect is significant ($p \leq 0.01$) with a coefficient of 0.3949. However, the indirect effect was not significant, as the confidence interval (BootLLCI and BootULCI) contained zero. As such, this confirmed that there was no mediation. For WLPP on PERF via WLB, the direct effect was not significant ($p > 0.05$) with a coefficient of 0.2423. The indirect effect was not significant because the confidence interval (BootLLCI and BootULCI) also contained zero, which signified that there was no mediation. The results of the mediation test were shown in Table 8. Hence, H6 and H7 with WLB as mediator were not supported.

Table 8. Mediation Test

H6: WLB Mediate WLBM and PERF

```
Y: PERF, X: WLBM, M: WLB

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
      .3949      .1122     3.5184      .0015      .1650      .6248

Indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
WLB      .0305      .0653     -.1021      .1674
```

H7: WLB Mediate WLPP and PERF

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Y: PERF, X: WLPP, M: WLB

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
      .2423      .1303     1.8591      .0736     -.0247      .5092

Indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
WLB      .0478      .0722     -.0392      .2375
```

A moderator, under specific conditions, can affect the strength and direction of an independent variable on a dependent variable. In statistics, moderators are classified as interaction effects (Wu and Zumbo, 2008). In this pilot study, the PROCESS Macro created by Hayes (2022) for SPSS Statistics was also used for moderation testing. All the relationships in the research model, i.e. WLBM and PERF, WLPP and PERF, WLBM and WLB, WLPP and WLB, and lastly WLB and PERF, were all tested for moderation by LEAD. None of the 5 relationships had an interaction term that was significant ($p \leq 0.05$) between the independent variable and the moderator. This implied that LEAD did not moderate any of the relationships in the research model. The results of the moderation test were shown in Table 9. In summary, H8, H9, H10, H11 and H12 with LEAD as moderator were not supported.

Table 9. Moderation Test

H8: LEAD Moderate WLBM and PERF

```
Y: PERF, X: WLBM, W: LEAD

Product terms key:
 Int_1    :        WLBM     x        LEAD

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0014      .0634     1.0000    27.0000      .8032
```

H9: LEAD Moderate WLPP and PERF

```
Y: PERF, X: WLPP, W: LEAD

Product terms key:
 Int_1    :        WLPP     x        LEAD

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0040      .1263     1.0000    27.0000      .7251
```

H10: LEAD Moderate WLBM and WLB

```
Y: WLB, X: WLBM, W: LEAD

Product terms key:
 Int_1    :        WLBM     x        LEAD

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0323     1.1629     1.0000    27.0000      .2904
```

H11: LEAD Moderate WLPP and WLB

```
Y: WLB, X: WLPP, W: LEAD

Product terms key:
 Int_1    :        WLPP     x        LEAD

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0399     1.2215     1.0000    27.0000      .2788
```

H12: LEAD Moderate WLB and PERF

```
Y: PERF, X: WLB, W: LEAD

Product terms key:
 Int_1    :        WLB      x        LEAD

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0022      .0700     1.0000    27.0000      .7933
```

5. Discussion

Even though WLBM was found to have a direct effect on PERF in this pilot study, other studies in this area have produced mixed results. Kerksieck et al. (2022) performed a study in several countries on the effects of work-nonwork balance crafting, i.e. methods used to shape work-nonwork balance while considering an individual's boundary preference. They discovered that it has a significant correlation with job performance in Finland, but not in Japan. Other researchers, such as Scheibe et al. (2024), supported the claim that boundary management tactics can lead to increased productivity, such as a reduced number of uncompleted tasks, as well as improved work-life balance. In the same light, the increasing blurring of work and non-work boundaries was shown to reduce work performance and quality of life for university professors in Pakistan (Malik et al., 2021). In general, substantial similarities still exist between the findings of certain researchers and those of this pilot study.

Results from this pilot study are consistent with findings from similar studies that show effective WLBM can positively influence WLB. Li et al. (2013) claimed that high work-life integration would lead to poor work-life balance for B&B innkeepers. Examining work-life balance from another perspective, the study by Leduc et al. (2016) showed that work-life integration strategy, i.e. one of the boundary management strategies, could positively predict both work-family conflict and family-work conflict. In another study that yielded very similar results with this pilot study, Shu and Edward (2023) discovered that boundary management moderately affects work-life balance.

Work-life balance is widely known to improve employee productivity (Tamunomiebi and Oyibo, 2020, Mmakwe and Ukoha, 2018, Semlali and Hassi, 2016). There are many other studies that can provide evidences to support the positive association between work-life balance and employee performance. It was reported in a Malaysian study that work-life balance has a considerable bearing on job performance of teachers (Johari et al., 2018). Findings from another study by Campo et al. (2021) had also established the positive effect of work-life balance on job performance of teleworkers in Colombia. In other words, the outcomes of this pilot study regarding the impact of WLB on PERF support the findings from studies conducted in various contexts.

Not all hypotheses in the proposed research model were accepted. Findings from this pilot study had shown that WLPP did not have a significant relationship with PERF, although they had a moderate correlation that was significant at the 5% level. This suggests that the relationship could be non-linear or there could be confounding variables affecting both WLPP and PERF. Their non-significant relationship does not necessarily mean that the pilot study findings contradict existing theories and literature. Some literature, such as Barik (2020), focused more explicitly on certain work-life balance policies and practices in life insurance companies, and the researcher found that flexi-hours and place can positively affect work performance of the sales officers. Even for the same category of work-life balance policies, the effectiveness in performance outcomes may differ. Since the appeal of the policies may vary across different demographics or industries, organisations tend to customise their policies to better target the needs of their employees at different stages of their lives (Dasgupta, 2018).

In this pilot study, it was found that there was also no significant relationship between WLPP and WLB. Most organisations introduce work-life balance policies to improve work-life balance of their employees. In some cases, there may be underlying issues in the implementation of these policies, reducing their effectiveness. Researchers Downes and Koekemoer (2011) found that one of the key challenges in implementing the flexitime policy was the inconsistent understanding of the policy itself. Furthermore, the flexitime policy was informal and unstructured. Drawing from research by McCarthy et al. (2010), the perceived benefits of work-life balance policies for employers may shape their attitudes toward them. In the same vein, employers who believe that work-family programmes lead to better organisational outcomes are more likely to encourage participation in these programmes (Casper et al., 2004).

The data from this pilot study were unable to confirm the mediating effect of WLB on the relationship between WLBM and PERF, as well as between WLPP and PERF. This is inconsistent with the limited studies that have claimed work-life balance is an effective mediator for work-life and performance variables. Apart from the literature reviewed in this study, the mediating effects of work-life balance are also often examined in studies on other organisational and employee outcomes. Findings from Stankevičienė et al. (2021) suggest that with work-life balance as a mediator, a family-friendly work culture helps employees attain greater satisfaction in their overall well-being at work. A study like this enhances knowledge of work-life balance as a mediator in organisational contexts. Future scholars should continue to explore different approaches to improve employee outcomes, with a focus on the factors affecting work-life balance. Another option is to consider searching for more specific and relevant mediators for the research model, rather than using work-life balance, to increase the likelihood of observing mediation.

LEAD did not exert a significant moderating effect on any of the relationships in this pilot study. Transformational

leadership was found to moderate a number of organisational and employee-related variables in previous studies (Grau-Alberola et al., 2022, Kumako and Asumeng, 2013, Kearney and Gebert, 2009). Though the pilot study findings contradict earlier studies, it confirmed that WLBM affects WLB, and WLB affects PERF, regardless of the presence of LEAD. In addition, the pilot study findings further confirmed the need to continue studying the moderating role of transformational leadership because there is limited empirical evidence to support the claim. This indicates that the research gap still exists and yet to be addressed. Alternatively, it is essential to explore other roles for transformational leadership or consider other forms of leadership.

With limited data, the theoretical implications of the pilot study suggest that firstly, though not conclusive, WLBM can directly affect PERF without WLB. Secondly, since WLB is both a predictor and an outcome variable, it can still play a pivotal, non-mediating role in the relationship between WLBM and PERF. This pilot study acts as a springboard, paving the way for a larger sample size in the main study, which aims to reaffirm and make a major contribution to existing knowledge in the field of work-life balance. This pilot study also provides some potential, albeit non-definitive, practical implications that may improve organisational practices and outcomes. Organisations are typically concerned about employee performance. Given that WLBM has a direct effect on PERF, in the short run, employees with good boundary management may perform better. Overall, these employees may have a better work-life balance and hence, they perform better in the long run as well. Since managing work-life boundaries effectively benefits employees in their work and their families, leaders should create positive conditions to allow such boundaries to form. It will be challenging for employees to manage their work-life boundaries if their leaders view every task as urgent and expect it to be completed immediately. Please refer to Section 6.3 Action-Oriented Recommendations for actionable strategies that organisations can use to create the necessary conditions for employees to manage their boundaries more easily.

6. Conclusion

In conclusion, this study aimed to explore the role of transformational leadership in work-life balance and employee performance in post-pandemic Singapore. Findings from this pilot study indicated that WLBM can influence both PERF and WLB, while WLB can, in turn, influence PERF. Although WLPP was found to have a significant positive correlation with PERF, this relationship was not found to be significant in a t-test. None of the hypotheses involving WLB as a mediator and LEAD as a moderator were supported. Given these findings, there is a need to revisit the research model for a closer examination before data collection begins in the main study.

6.1 Limitations

This pilot study, like all research, is not perfect and has certain limitations. One of the main purposes of the pilot study is to allow issues to surface early and to facilitate exploration; therefore, the results are likely to be inconclusive at this stage. Firstly, the sample size was too small to adequately represent a larger population, making generalisation impossible. Next, given the time limitations, a cross-sectional study was conducted, which might not accurately predict the direction of effects or allow for the observation of long-term effects. If researchers are not constrained by time, it is advisable to conduct a longitudinal or time-lagged study to capture those effects. Lastly, social desirability bias from participants may affect the accuracy of the data, as they are asked to provide self-reported responses regarding their own performance through a survey. As stated in a literature review by Krumpal (2013), social desirability is more related to the sensitivity of the survey answers, even though the survey questions themselves may neither be intrusive nor sensitive. As a result, survey participants may understate those socially undesirable questions and overstate the socially desirable ones. One example could be to rate themselves highly on survey questions about employee performance, rather than reflecting their true performance level. Given these limitations, future researchers should validate or consider extending the research model to further investigate the broader implications.

6.2 Future Research

Besides the limitations discussed earlier, researchers can also focus on the following areas for future research. In order to attain wider applicability, it is recommended that researchers consider conducting the study in another context, such as a different country with a vastly different demographic population. Researchers can consider conducting qualitative studies, such as interviews or focus group discussions, to gain deeper insights into the diverse experiences and perspectives of participants. This will allow researchers to better understand if there are other reasons hindering work-life policies from achieving their intended goal of improving work-life balance in organisations. Last but not least, technology such as artificial intelligence (AI) has gained significant traction in the last few decades. The results from one of the studies in these areas showed that the managerial capabilities of AI had allowed women in Saudi educational institutions to manage their work more efficiently, thereby significantly

improving their work-life balance (Meharunisa et al., 2024). However, technology can be both a blessing and a curse. As discussed in a literature review by Stephen et al. (2024), although technology has provided greater flexibility and autonomy in both work and personal lives, it has also resulted in blurred boundaries between them, contributing to stress, burnout, and a range of physical and mental health issues. It will also be interesting to establish the reverse impact of increased employee performance on work-life balance brought about by these new technologies. Overall, this pilot study highlighted the importance of individual and organisational interventions working together for the common good of employees. It paved the way for uncovering additional factors that would fit into the proposed model, promoting greater mutual success for both employers and employees.

6.3 Action-Oriented Recommendations

Remote or hybrid work options, staggered or flexible hours, and time off to compensate for extended hours may also facilitate the formation of work-life boundaries. Such arrangements allow employees the flexibility to manage their time according to their family needs. They can be implemented easily at the team level and do not necessarily require formal policies. While these recommendations may appear straightforward and easy to implement, their success depends on several key enablers. If organisations are willing to invest resources and leverage technology, such as VPNs, collaboration tools, and video-conferencing platforms, employees can then truly enjoy the flexibility of working from home. Organisations can block off certain time segments and dedicate them to common team activities like department meetings, making the implementation of staggered or flexible hours easier. Performance evaluation for work-from-home employees can be challenging but not impossible. A Harvard Business Review article on best practices for remote organisations (Choudhury, 2020) revealed that remote organisations used soft metrics, such as quality of work, quality of virtual interactions, and customer feedback, to evaluate their remote employees. Organisations should promote a results-oriented culture that focuses on outcomes rather than a set of official working hours, so that employees are accountable for their own performance while working from home.

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Authors' contributions

The doctoral student contributed to the conceptualisation, study design, data collection, and analysis. Dr. Darwin drafted the manuscript, and both authors read and approved the final version.

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