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## A Meta-Analysis: Impact Of Flexible Hours On Work-Life Balance

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### Abstract

The purpose of this paper is to examine the effect of flexible hours on work-life balance or stress between work and life. A systematic literature and Meta-analysis technique is used to achieve our objective. Publication bias was checked through Funnel Plot. Forest Plot is used to analyze the impact of all studies with the weighted mean. The finding of our study is showing a summary effect of all studies with the Random effect model.

**Keywords:** Work-life balance, Heterogeneity, Meta-Analysis, Publication bias

### I Introduction

Due to technological and economic changes, expansion of the service sector, and the global economy, the demand for 24 hours services has increased. Non-standard working hours can disturb employed mothers(Hwang, 2019). Due to technological and economic changes, there are significant changes in the family composition and an increase in dual-career couples at the workplace. It has changed lifestyle and career priority(Shanmugam & Agarwal, 2019). Researchers have examined the impact of menopausal women on work-life balance(Viotti et al., 2020)

Work-life balance practices help in attaining personal and professional goals. These are the reason to leave and stay in an organization. (Dousin et al., 2020). Practices of work-life balance such as flexible arrangements alleviate work-life balance problems and the intention to leave jobs in countries such as Malaysia. Inflexible working hours can lead to job intensification and tension at work. (Dousin et al., 2020).Flexible employment conditions are an integral part of employee satisfaction and retention in the workplace. Flexibility at work will mitigate the detrimental effects of work-life balance (Wynendaele et al., 2021). A correlation exists between arrangements for working time and work-life balance. Employees work and private life may be impacted by longer working hours.(Brauner et al., 2020) .

Flexible hours/flexible refers to the willingness of the employee to adjust their work schedules. Tele-working and employees' flexibility over the amount of work and their time can also be included in flexible working.Flexible working can increase employees' performance by reducing sickness/absenteeism (Chung & van der Horst, 2020). Flexible working can help employees preserve their workability by giving them time to take care of their health. Flexible working can improve health and help in improving

work-life balance(Viotti et al., 2020). Family-friendly policies like leave, flexible working hours, and supervisor support help reduce parent stress(Viotti et al., 2020). To motivate and retain workers, decision-makers should bring flexibility and work autonomy in the working environment (Ogbuabor& Okoronkwo, 2019). Flexitime offers greater work autonomy and higher quality and results (Jackson & Fransman, 2018). A flexible schedule with employee choice can reduce work conflict (Hyatt &Coslor, 2018)

This research is intended to investigate the following:

To check the heterogeneity within studies

To analyze the summary effect of all the existing studies

To check the publication bias between studies

## II Research Methodology

We are using existing studies with a correlation value on the impact of flexible hours on work-life balance. To gather the overview impact of all research, the meta-Analysis approach is used. Our Research is organized in the following structure

- Identifying and defining the search terms
  - Selection of studies through Web of Science Database
  - Include/Exclude study according to specified criteria
  - Selection of study with correlation value
- Conduct Meta Analysis through Jamovi software

<b>Table No 1: Identifying and Refinement of Search Terms</b>	
<b>1</b>	<b>Identifying the search terms through Web of Science:</b> .(impact of flexible hours on work-life balance) [n=21]
<b>2</b>	<b>Refinement of search terms:</b> i. (((Flexible hours) AND (Work-life balance OR work-life conflict OR work-family conflict) )) [n=133] ii. ((Flexible hours) AND (Work-life balance OR work-life conflict OR work-family conflict) ) [n=126]
<b>3</b>	<b>3. Total records screened</b> <ul style="list-style-type: none"> <li>• English language paper included               <ul style="list-style-type: none"> <li>• Qualitative paper excluded</li> <li>• Not related to topic excluded</li> </ul> </li> <li>• Paper with correlation value included</li> </ul>
<b>4</b>	<b>4. Total studies included in Meta-Analysis</b> N=24

**Table No 2: Studies included**

Sr. No.	Authors	N	R
1	Dousin, O; Collins, N; Bartram, T; Stanton, P	379	0.12
2	Brauner, C; Wohrmann, AM; Michel, A	8580	-0.22
3	Viotti, S; Guidetti, G; Converso, D; Sottimano, I	1069	-0.03
4	Hwang, W	223	-0.16
5	Ogbuabor, DC; Okoronkwo, IL	87	0.56
6	Shanmugam, MM; Agarwal, B	203	0.677
7	Jackson, LTB; Fransman, EI	252	0.05
8	Hyatt, E; Coslor, E	799	0.86
9	Chen, Y; Fulmer, IS	17895	0.26
10	De Menezes, LM; Kelliher, C	2617	0.05
11	Uzoigwe, AG; Low, WY; Noor, SNM	173	0.196
12	Tang, YP; Hornung, S	179	0.17
13	McNamara, TK; Pitt-Catsoupes, M; Matz-Costa, C; Brown, M; Valcour, M	1851	0.07
14	Golden, TD	316	0.02
15	Valcour, M; Ollier-Malaterre, A; Matz-Costa, C; Pitt-Catsoupes, M; Brown, M	2025	0.16
16	Bohle, P; Willaby, H; Quinlan, M; McNamara, M	179	0.295
17	Wajcman, J; Rose, E; Brown, JE; Bittman, M	850	-0.15
18	Grotto, AR; Lyness, KS	1178	-0.15
19	Carlson, DS; Grzywacz, JG; Kacmar, KM	607	-0.17
20	Lautsch, BA; Kossek, EE; Eaton, SC	90	0.07
21	McNall, LA; Masuda, AD; Nicklin, JM	220	0.32
22	Breaugh, JA; Frye, NK	96	-0.23
23	Hornung, S; Rousseau, DM; Glaser, J	887	-0.05
24	Brough, P; O'Driscoll, MP; Kalliath, TJ	398	-0.17

### III Meta Analysis

Meta-Analysis is a quantitative method by summarizing all past research that provides views about a particular subject. This technique includes all studies, whether published or unpublished. Meta-Analysis is a method to objectify the literature review process. Inclusion and exclusion laws are an integral component of meta-analysis.(Stanley & Jarrell, 2005). Meta-analysis is a tool used to calculate the strength of relationships between variables using effect size(Shelby & Vaske, 2008). The meta-analysis technique

takes data from different studies and calculates all studies' combined effect with a weighted mean.

### Fixed and Random effects Models in Meta-Analysis

The choice between two models depends on the homogeneity of the parameters of the effect size. We use the fixed effect model if all studies predict a similar effect size, but we use random effects models if studies use heterogeneity (Hedges & Vevea, 1998). Different tests are used to choose between fixed and Random Model. In Figure I square value is 99.48% more than 95% it means we can use Random effect model to calculate summary effect. More I square imply more variability across studies.

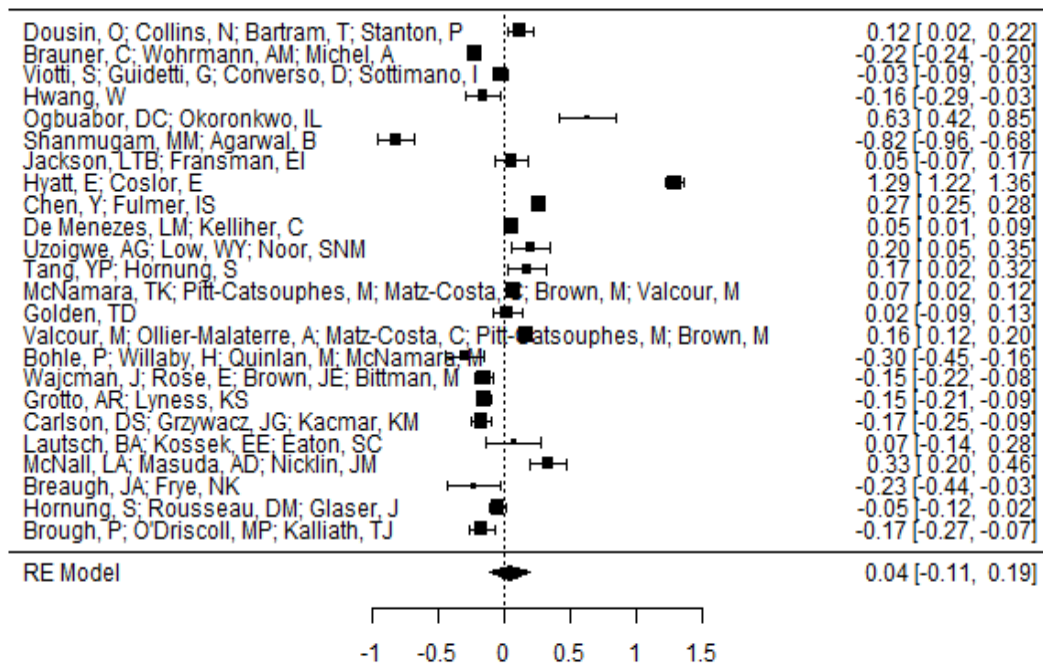
**Table No 3: Heterogeneity Statistics**

<b>Tau</b>	<b>Tau<sup>2</sup></b>	<b>I<sup>2</sup></b>	<b>H<sup>2</sup></b>	<b>R<sup>2</sup></b>	<b>df</b>	<b>Q</b>	<b>p</b>
0.377	0.1419	(SE= 0.0429 )	99.48%	192.368	23.000	3045.165	<.001

### Forest Plot

Forest Plot is a graph that represents information from all studies studying the same thing. The figure represents the diamond below the Forest plot, which is the weighted average for all studies. There is a longer confidence interval (1.22, 1.36) of the study Hyatt, E, representing less reliable results. The larger the box in the plot represents, the more the sample size. Diamond is touching the line of no effect, which shows results are not statistically accurate. The summary effect here is 0.04 at 95 percent confidence interval with confidence intervals are -0.11 and 0.19. Confidence interval crosses the line of no effect; therefore overall all result is not significant.

**Table No 4: RE Model**



Here we are using standardized mean differences, therefore Z value is used to determine P value. P value is 0.607 which is more than alpha level of 0.05, so summary effect is statistically insignificant.

**Table No 5: Random-Effects Model (k = 24)**

	Estimate	se	Z	p	CI Lower Bound	CI Upper Bound
Intercept	0.0400	0.0779	0.514	0.607	-0.113	0.193

Note. Tau<sup>2</sup> Estimator: Restricted Maximum-Likelihood

### Publication Bias

Publication bias is one of the problems in meta-analysis and systematic review. Publication bias is due to the fact that not all research carried out in practice is included in the meta-analysis (Jin et al., 2015). In Figure According to Egger's Regression P value is >0.05, it means no biasness. In Kendall's Tau, also P value is >0.05, means no biasness.

**Table No 6: Publication Bias Assessment**

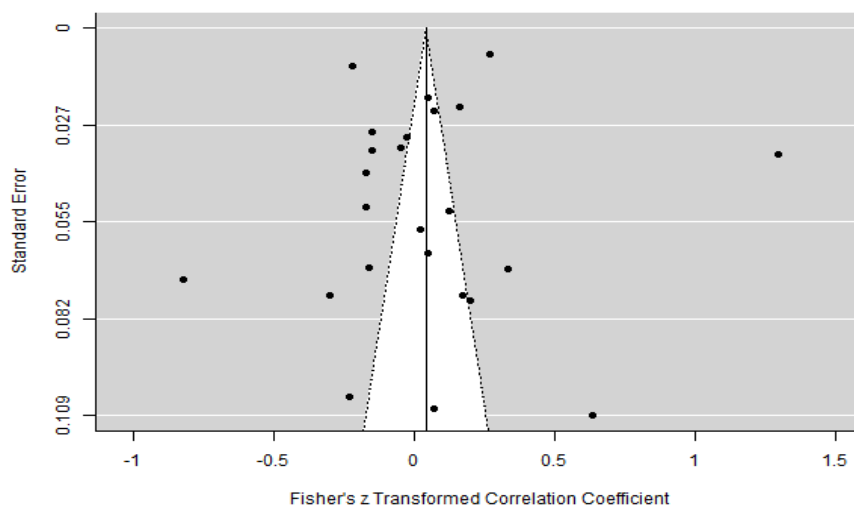
Test Name	value	P
Fail-Safe N	688.000	<.001
Kendalls Tau	0.156	0.286
Egger's Regression	-0.122	0.903

Note. Fail-safe N Calculation Using the Rosenthal Approach

**Publication Bias Assessment through Funnel plot**

Funnel Plots are used in Meta-Analysis to test the probability of publication bias. Funnel Plots are used to define bias or systemic heterogeneity as a visual aid. Dot in Funnel Plot represents each study. If the standard error is small, it means sample size is large. Funnel Plot is symmetrical and inverted; it means most of the important study is included.

**Chart No 1: Fisher's z Transformed Correlation Coefficient**



**IV Limitations**

The Meta-analysis has some limitations. One of the limitations is that the studies which we have taken are less in numbers. Second, we have taken studies from the web of science, which is a part of publication bias. Other researchers can try to remove this bias after taking published or unpublished studies. The study considers only one variable of work-life balance, but other variables also affect work-life balance. We are taking studies with correlation values. Other studies that do not have correlation values, we are not considering here.

**V Results & Discussion**

This study is using a Random effect model due to Heterogeneity in the study. The total summary effect of all studies is 0.04 with a confidence interval of -0.11 and 0.19. The diamond effect touches the line of no effect, which shows the summary effect is not statistically significant. This bias can be removed with the help of including more

studies from different databases, one of the limitations of this study. This study gives future researchers future opportunities to consider more studies related to work-life balance variables and consider effect size other than correlation values for getting a significant result.

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