

## Review Article

# A critically appraised topic on what is known in the scientific literature about the effects of flexible working interventions on Work-nonwork conflict and, Psychological well-being

### ABSTRACT

Flexible working arrangements are becoming increasingly popular. Many organizations implement it to provide employees the flexibility to decrease work nonwork conflict and enhance their psychological well-being. In return, organizations expect higher commitment and productivity from their employees. This paper aims to critically appraise what is known in the scientific literature about the effects of flexible working intervention on both work nonwork conflict and employees' psychological well-being. Using the guidelines provided by the Center for Evidence-Based Management for Critically Appraised Topics, Amsterdam (2017). The assessed literature indicates that flexible working arrangements can reduce work-nonwork conflict depending on the type of flexibility the organization adopts. Additionally, introducing different flexible working arrangements improves employees' psychological well-being.

*Keywords: Flexible work practices, work-nonwork conflict, psychological well-being*

### 1. INTRODUCTION

The adoption of flexible working practices is expanding and is becoming a common practice in industrial countries. Introducing such practices aims to increase employees' satisfaction and commitment and improve overall performance by reducing employees' work-nonwork conflict and improving their psychological well-being [1]. For organizations to introduce flexible work practices, they need to investigate their effect on lowering work-nonwork conflict and improving employees' psychological well-being. The aim of this critically appraised topic (CAT) is to

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answer the following question to enable the organization to make an evidence-based decision about the value of introducing such practice.

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### Focus Question

What is known in the scientific literature about the effects of flexible working interventions on Work-nonwork conflict? and psychological well-being?

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Table 1. Key Definitions

Key Definitions	
Flexible work practices	Broadly defined as having options at work that allows the employee to have flexibility with regards to when, where, and how work is performed [2].
Work-nonwork conflict	“A form of interrole conflict in which the role pressures from the work and the nonwork domains are mutually incompatible in some respect” [2]. Nonwork domains include “family responsibilities, community activities, voluntary work, individual growth, and spare time and amusement” [3].
Psychological Well-being	It is defined in terms of “happiness and life satisfaction” as well as “optimal functioning, meaning, and self-actualization” [4].

A PICOC was developed to help and provide a framework for the search process:

Population: Employees

Intervention: Introduction of flexible work practices. Such practices include but are not limited to flextime, flexplace, part-time, job sharing, and compressed work weeks.

Comparison: Employees and organizations using flexible working arrangements and employees and organizations using traditional working arrangements.

Outcome: Effect on work-nonwork conflict (increase, decrease, no change) / Effect on psychological well-being (increase, decrease, no change)

Context: Organizations (workplace)

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## 2. INCLUSION CRITERIA

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The following inclusion criteria will be used to find relevant and helpful studies answering the CAT question.

**Date:** 2000 to 2019, no relevant studies were found before the 2000s

**Language:** English

**Type of studies:** Quantitative study usually includes a larger population, empirical study containing original research to better understand the intervention's effect.

**Study design:** meta-analysis and systematic review will be prioritized as they tend to have higher reliability than other study designs. Longitudinal studies, non-randomized controlled studies, and cross-sectional studies will also be considered.

**Measurement:** Studies discussing the effect of adopting flexible work practices on employees' work-nonwork conflict and psychological well-being.

**Outcome:** Increase/decrease/or no change on work-nonwork conflict. Increase/ decrease/ or no change on employees' psychological well-being.

**Context:** organizations

**Exclusion criteria:** Qualitative studies since they tend to be less reliable than quantitative studies due to the smaller population involved in the study, studies measuring the effect of flexible work practices on areas other than work-nonwork conflict and psychological well-being or any elements that relate to it such as stress or burnout, studies researching interventions affecting work-nonwork conflict and psychological well-being other than flexible working arrangements and studies that are not focused on a workplace context.

## 3. SEARCH STRATEGY

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The first step was to find several reviews discussing flexible work practices, work-nonwork conflict, and psychological well-being. To gain an understanding of the field and what each term entails.

Second, to find relevant studies investigating the effect of flexible working practices on work-nonwork conflict and psychological well-being. Business source complete database (EBSCO Host) was the

only source used. The search was limited to scholarly (peer-reviewed) journals.

To find relevant studies different search terms were used. The term flexible work arrangements or practices was used, as well as “flexible workplace” and “work flexibility.” Specific types of flexible working arrangements were researched including “flextime,” “flexplace,” “telecommunicating,” and “compressed working weeks.” Other terms used together and separately are work-nonwork conflict and psychological well-being. To expand the search different terms were used for both. Search phrases used for work-nonwork conflict are “work-nonwork balance,” “work-life conflict,” “work-life balance,” “work-family conflict,” and “work family balance”. However, the work-family conflict/balance search term was looked at carefully even though some literature uses the term interchangeably with work-nonwork conflict/balance. It only observes family-related matters without considering other obligations such as friends or personal matters.

Other terms for psychological well-being were used in the search, including “employee wellbeing,” “psychological health,” “mental well-being,” “emotional well-being,” “well-being /wellbeing,” “stress,” “health,” and “burnout”. This is with an understanding that the term emotional and mental well-being, stress, and burnout represents different aspects of psychological well-being and are considered to be elements of it.

The search table can be found in the [Appendix Table 2].

#### 4. STUDY SELECTION AND DATA EXTRACTION

The first step of selecting relevant studies was to judge the relevance of the title to the CAT question. The second step was reading the abstract to ensure that the study was still relevant. About 80 different studies were downloaded and reviewed based on the inclusion and exclusion criteria. This process yielded fifteen relevant studies to the CAT question, including one systematic review, two meta-analyses, two longitudinal studies, and ten cross-sectional studies.

Moreover, to answer the CAT question, relevant information was identified and extracted. They can be found in the [Appendix Table 3]. The information extracted includes:

- a) Title, Author, and Year
- b) Research Design
- c) Population/sector and Sample Size
- d) Type of flexible work arrangement if specified

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- e) Main findings
- f) Effect size
- g) Limitation
- h) Level

## 5. CRITICAL APPRAISAL

The quality of the studies found was rated based on a classification system developed by Shadish, Cook, and Campbell (2002), and Petticrew and Roberts (2008). It is a six-level classification ranging from AA to E based on the study design [5,6]. Most of the studies found were cross-sectional, classified as a D. The systematic review is classified as an A. Two meta-analyses were found but classified differently. One was based on randomized experiments and classified as AA, and the other was based on cross-sectional studies and classified as a D. Moreover, two longitudinal studies were also classified as a B. The overall quality of studies found is low. Ten out of the fifteen studies found were cross-sectional. The effect size of the studies ranged between small, medium, and large. Six of the studies included didn't provide an effect size for their observations. The quality of the study (level) and effect size are included in (Appendix Table 3).

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## 6. RESULTS

The results found show the possible effect of flexible working arrangements on work-nonwork conflict and psychological well-being. Flexible working refers to the options available to employees concerning where, when, and how they can perform their work. Such arrangements include but are not limited to flextime, flexplace, job sharing, and part-time. On the other hand, psychological well-being relates to the levels of contentment and satisfaction experienced by employees.

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For the effect on work-nonwork conflict, the meta-analysis study by Allen, et al. (2013) (effect size: small) found that flexible working arrangements negatively correlate with work-nonwork conflict, and the type of flexible arrangement used matters. The effect on work-nonwork conflict varies based on the type used or made available [2]. Other cross-sectional studies reached a similar conclusion. Both Wong, et al. (2017) (effect size: Large) and Ridic, et al. (2016) (effect size: moderate) found that flexible working arrangements positively relate to work-nonwork conflict [7,8]. However, Ridic, et al. explain that this is true for all employees included in their study regardless of their gender, age, number of children, and time needed to commute to work. Hayman (2009) (effect size: small)

also found that the “perceived usability” of flexible working arrangements improves work-nonwork conflict [9].

Those four studies were the only ones that looked at the effect of flexible working arrangements in general on work-nonwork conflict. The rest of the studies included study the impact of specific types of flexible working arrangements. Going back to Allen, et al. (2013) finding that the type of flexibility matters in reducing work-nonwork conflict, they found that the perceived availability of flextime negatively correlates with work-nonwork conflict more than the use of it [2]. The opposite was true for flexplace. Flextime was found as well by Hayman (2009), Russell, et al. (2009), and Breugh & Frye (2008) (effect size: small) to decrease work nonwork conflict [9,10,11]. However, Russell, et al. (2009) argue that its effect on work-nonwork conflict is less significant than the effect of part-time work.

On the other hand, findings on flexplace were not as aligned. Allen et al. found that flexplace negatively correlates with work-nonwork conflict [2]. Further studies by Russell, et al. (2009) and Breugh & Frye (2008) found that it tends to increase work-nonwork conflict [10,11]. Hayman (2009) found no significant correlation between flexplace and work-nonwork conflict. He also looked at the effect of job sharing on work-nonwork conflict and found no significant correlation [9]. Russell, et al. (2009) found that job sharing increases work-nonwork conflict [10]. The final study included by Higgins, et al. (2014) found different results. They concluded that using a traditional work schedule or a compressed work week has a better effect on reducing work nonwork conflict than flextime or flexplace [12].

Furthermore, only one relevant meta-analysis and one systematic review were found examining the effect of flexible working arrangements on psychological well-being. The meta-analysis by Kröll, et al. (2017) (effect size: moderate) found that flexible working arrangements, specifically flextime and place, have a positive effect on employees' psychological well-being [13]. The systematic review by De Menezes and Kelliher (2011) focused on the effects of flexible working arrangements on stress and found that lower stress levels were recorded due to the use of flexible arrangements. However, the type of flexibility matters since stress was found to increase with flexplace [14]. The two longitudinal studies found support the previous findings. Butler, et al (2009) (effect size: large) and Chandola, et al (2019) concluded that perceived flexibility at work and the use of reduced hours as means of flexibility reduce self-reported stress and improve psychological health [15,16]. Chandola, et al explained that the reduction in “chronic stress” resulted from moderating or reducing

the work-nonwork conflict for employees using flexible working arrangements.

Hoeven and Zoonen (2015) (effect size: large) findings were aligned with the previous ones. They found that flexible working arrangements indirectly enhance employees' psychological well-being by reducing work-nonwork conflict [17]. Russell, et al (2009) findings suggest that the more flexible working arrangements available for employees in an organization the lower their reported work pressure is. They found a negative correlation between flextime and part-time and level of work pressure, no correlation between job sharing and work pressure, and a positive correlation between flexplace and work pressure [2]. Moreover, Hayman (2010) and Ridic, et al (2016) examined the effect of flextime and flexplace on employees' well-being. They both found that flextime and flexplace improve psychological well-being due to improving work-nonwork conflict for employees [18,8]. Hayman's results had a moderate effect size for flextime and a small effect size for flexplace. The study by Javed (2019) (effect size: Small) main finding was that flexible working arrangements significantly improve psychological well-being and different arrangements are not equally effective [19]. Lastly, Grzywacz, et al (2008) (effect size: small) study concluded that flextime and compressed working weeks positively reduce employees' stress and burnout compared to employees who engage in traditional employment. Flextime effect on stress and burnout is more significant than compressed working weeks [20].

## 7. CONCLUSION

Based on the studies included measuring the effect of flexible working arrangements on work-nonwork conflict, it was found that such flexibility aids in reducing work-nonwork conflict.

However, there should be careful consideration regarding the type of flexible arrangement introduced. Some arrangements might have a minor effect on reducing work-nonwork conflict if not increase it. For instance, the findings on flexplace and its impact on work-nonwork conflict were not aligned.

On the other hand, the findings were consistent based on the scientific literature examining the effect of flexible working arrangements on psychological well-being. All the studies concluded that flexible working arrangements improved employees' psychological well-being. A few of the studies explained that such an effect was achieved indirectly through the reduction of work-nonwork conflict. However, it was observed that different types of flexible arrangements also affect psychological well-being.

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## 8. LIMITATIONS

One of the main limitations of this CAT is confining to one database (EBSCO Host). This limited the number of relevant studies found to answer the CAT question. The second limitation is the number and type of studies extracted to answer the CAT question. Apart from only finding fifteen relevant studies, most of the studies found were cross-sectional. Therefore, it is not of high quality and classified as a level D. A third limitation is that many of the studies found focus on specific types of flexible working arrangements. The majority were focused on flextime and flexplace. Thus, the findings should be viewed with careful consideration.

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## 9. IMPLICATIONS AND RECOMMENDATIONS

All the scientific evidence reviewed collectively agrees that flexible working arrangements have a positive effect on reducing work-nonwork conflict, which in return improves psychological well-being. Therefore, the recommendation is to introduce flexible working arrangements in organizations. However, this should be done with careful consideration of the type of flexible working arrangements introduced. Studies show that different arrangements can have different effects on both work-nonwork conflict and psychological well-being. For example, studies have shown that flextime correlates negatively with work-nonwork conflict. On the other hand, flexplace was found by a few studies to correlate positively with work-nonwork conflict.

Another recommendation is to adopt more than one type of flexible working arrangement. Since it has been found that the perceived availability of different flexible working arrangements and the autonomy it provides employees have a positive effect on reducing work nonwork conflict and improving their psychological well-being.

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## APPENDIX

**Table 2: Search Strategy**

Documentation of the Search	
Search Term	EBSCOhost
<b>Shared Searches</b>	
S1: "flexible work arrangements" AND "flexible work practices"	33
S2: "flexible work arrangements" OR "flexible work practices"	1,879
S3: TI "flexible working arrangements" OR AB "flexible working arrangements" OR TI "flexible working practice" OR AB "flexible working practice"	303
S4: "flexible work arrangements" AND "work-nonwork balance" AND "psychological well-being"	0
S5: "flexible work arrangements" AND "work-life balance" AND "psychological well-being"	3
S6: S3 AND TI "systematic review" OR AB "systematic review"	1
S7: S3 AND TI "meta-analys*" OR AB "meta-analys*"	4
<b>Work-nonwork conflict</b>	
S8: S2 AND "work-life balance"	221
S9: "flexible workplace" OR "flexible organization" AND "work-life balance"	127
S10: "work flexibility" AND work life balance"	93
S11: TI "work non work conflict" OR AB "work non work conflict" OR TI "work life conflict" OR AB "work life conflict" OR TI "work family conflict" OR AB "work family conflict"	1,170

S12: S3 AND S9	20
S13: TI "work non work balance" OR AB "work non work balance" OR TI "work life balance" OR AB "work life balance" OR TI "work family balance" OR AB "work family balance"	6,543
S14: S3 AND S13	6
S15: S11 And TI "meta-analys*" OR AB "meta-analys*"	11
S16: S11 AND TI "systematic review" OR AB "systematic review"	1
S17: S11 OR S13 AND TI "flexitime" OR AB "flexitime"	1,109
S18: S11 OR S13 AND TI "compressed work week" OR AB "compressed work week"	1,082
S19: S11 OR S13 AND TI "flexplace" OR AB "flexplace"	1,079
S20: S11 OR S13 AND TI "telecommuting" OR AB "telecommuting"	1,266
<b>Psychological well-being</b>	
S21: "flexible work arrangements" AND "psychological well-being"	8
S22: S2 AND "psychological well-being"	441
S23: S2 AND "'employee well-being" OR "psychological health"	59
S24: S2 AND "emotional well-being" OR "mental well-being"	864
S25: S2 AND "Well-being"	24
S26: S2 AND "Psychological health"	5
S27: "work flexibility" and "psychological well-being"	6
S28: "work flexibility" and "employee well-being"	9
S29: TI "flexible work*" OR AB "flexible work*" AND TI "psychological well-being" OR AB "psychological well-being" AND TI "employee wellbeing" OR AB "employee well-being"	2,670

S30: TI "psychological well- being" OR AB "psychological well-being" OR TI "psychological wellbeing" OR AB "psychological wellbeing" OR TI "psychological health" OR AB "psychological health"	2,886
S31: S3 AND S30	0
S32: TI "employee well-being" OR AB "employee well- being" OR TI "employee wellbeing" OR AB "employee wellbeing"	2,333
S33: S3 AND S32	1
S34: TI "emotional well-being" OR AB "emotional well-being" OR TI "mental well- being" OR AB "mental well-being"	1,065
S35: S3 AND S34	0
S36: S3 AND TI "health" OR AB "health"	102
S37: S3 AND TI "Stress" OR AB "stress"	17
S38: S3 AND TI "burnout" OR AB "burnout"	9
S39: TI "wellbeing" OR AB "wellbeing" OR TI "well-being" OR AB "wellbeing"	27,917
S40: S3 AND S38	2
S41: S30 AND TI "systematic review" OR AB "systematic review"	9
S42: S30 AND TI "meta-analys*" OR AB "meta-analys*"	33

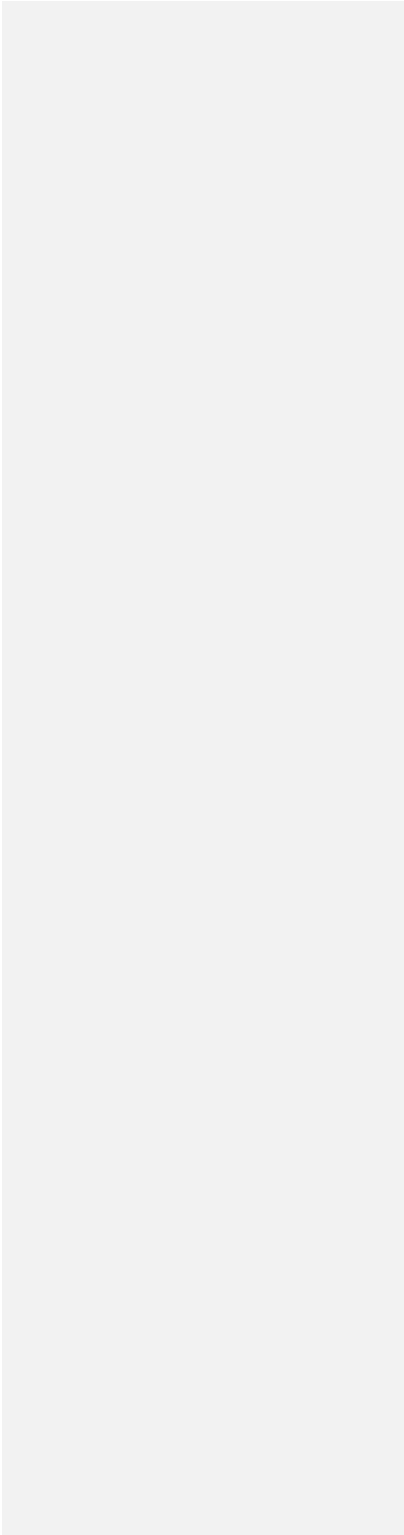
**Table 3: Data Extraction and Critical Appraisal**

**WORK-NONWORK CONFLICT**

Title, Author, and Year	Research Design	Population /Sector and Sample Size	Type of Flexible work	Main Findings	Effect Size	Limitation	Level
<p>Work-Family Conflict and Flexible Work Arrangements: Deconstructing Flexibility. By Tammy Allen, Ryan Johnson, Kaitlin Kiburz, Kristen Shockley, 2013</p>	<p>Meta-Analysis (CrossSectional)</p>	<p>Analysis based on 58 studies                      "The total sample size included in the primary analyses ranged from 12,853 to 112,834."</p>	<p>Flexitime and flexplace</p>	<p>"Flexibility overall was negatively associated with work family conflict, and the type of flexibility matters."                      "We found a stronger effect for flexitime than for flexplace."                      "Flexitime availability was more negatively associated with work interference with family than was flexitime use." "Flexplace use was more negatively associated with work interference with family than was flexplace availability." "Flexibility may not have the intended effect of reducing work-family conflict due to increased exposure to work-family role blurring."</p>	<p>Small</p>	<p>"The nature of the primary studies, as some of the findings were based on a small number of primary studies. Also, majority of the primary studies used were crosssectional."</p>	<p>C</p>

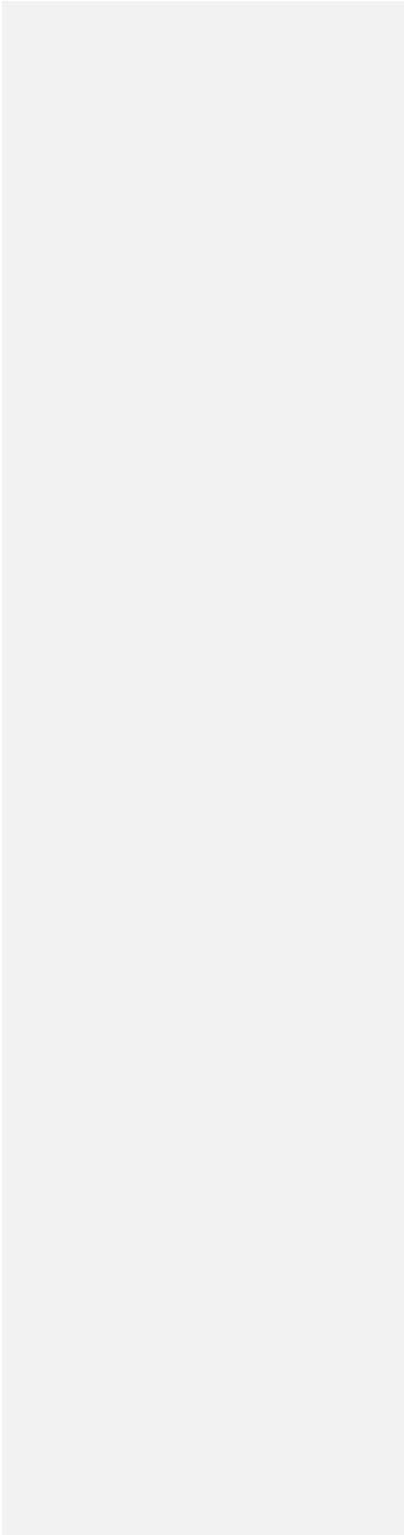
UNDER REVIEW

<p>Flexible work arrangements: exploring the linkages between perceived usability of flexible work schedules and work/life balance. By Jeremy R. Hayman, 2009.</p>	<p>Cross-Sectional</p>	<p>Administrative employees in a large university in Western Australia. <b>N=710</b></p>	<p>Flexitime, Flexplace, Job share</p>	<p>“The perceived usability of flexible work policies is linked to work/life balance.”</p> <p>“The results partly support the assertion that flexitime work schedules would be related to higher levels of work/life balance than fixed-hour work schedules.”</p> <p>“Flexplace and job share work schedules did not appear to significantly enhance employee Work/life balance.”</p>	<p>Small</p>	<p>“56% of the administrative employees are within one university.”</p> <p>“As a result of the crosssectional research design causality among the variables cannot be determined, but inferences can be made from the associations.”</p> <p>“There may be other factors that are linked to employee work/life balance.”</p> <p>“Bias due to the use of a self-report approach may have possibly inflated the magnitude of the observed correlations.”</p>	<p><b>D</b></p>
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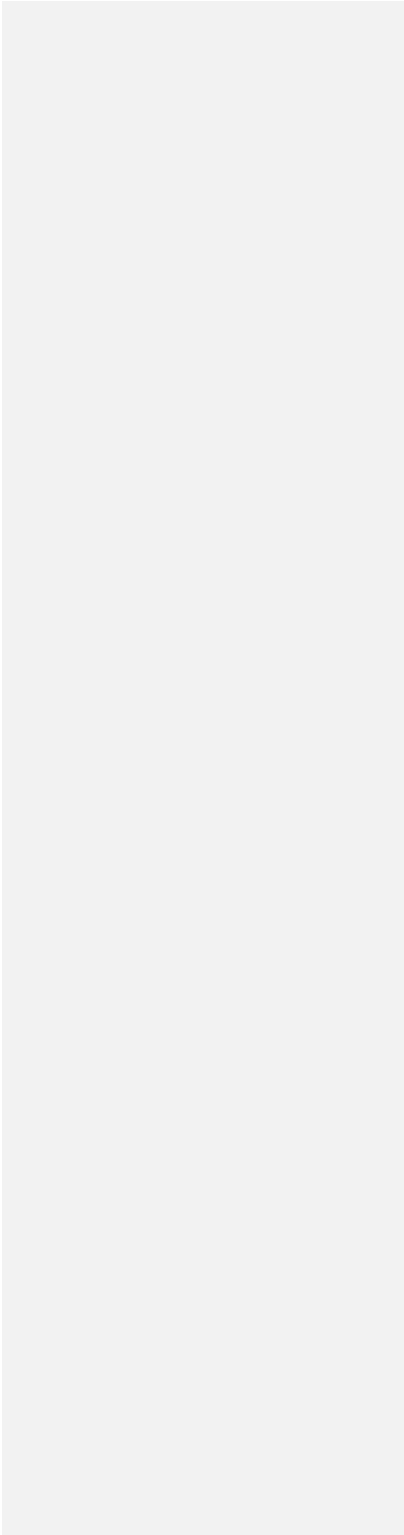
Analysis of Relationship Between Flexible Work Arrangements, Work Life Balance and Employees' Efficiency, By Ognjen Ridic, Adnan Avdibegovic and Senad Busatlic, 2016.	Cross-Sectional	BiH's IT employees <b>N=540</b>	Flexible work time and location	"Employees agree in their opinion about the positive impact which flexible work arrangements have on their work life balance irrespective to their gender, age, children status and time they travel to work."	Large	Not Included	<b>D</b>
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Workplace Factors and Work-Life Balance Among Employees in Selected Services Sector. By Pui-Yee Wong, Nur Fatimah Abdullah, and Jamayah Saili, 2017.	Cross-Sectional	Employees in the service sector in Malaysia <b>N=98</b>	Flexible working	There is a negative correlation between Flexible Working Arrangements and Work-Life Balance.	Moderate	"The research design may lead to self-report bias. Crosssectional design shows us the causal relationship between the independent and dependent variables but unable shows the relationship between independent and dependent variables across a period."	<b>D</b>
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UNDER REVIEW

<p>The Impact of Flexible Working Arrangements on Work-life Conflict and Work Pressure in Ireland. By Helen Russell, Philip O'Connell and Frances McGinnity, 2009.</p>	<p>Cross-Sectional</p>	<p>Employees in the Republic of Ireland <b>N=5198</b></p>	<p>Flexitime, part-time hours, working from home, and job sharing</p>	<p>“Part-time work is associated with a significant reduction in work-life conflict. Flexitime is also associated with lower work-life conflict, but this relationship is less significant.”</p> <p>“Those involved in home working experienced significantly higher levels of work-life conflict, compared to workers who share the same occupational and organizational characteristics but who do not work at home.”</p> <p>“Job sharing is found to significantly increase work-life conflict.”</p>	<p>Not Provided</p>	<p>“Because the data were crosssectional rather than longitudinal it is not possible to determine the direction of causality.”</p>	<p><b>D</b></p>
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<p>Work-Family Conflict: The Importance of Family-Friendly Employment Practices and Family-Supportive Supervisors. By James A., Breugh N., Kathleen Frye, 2008.</p>	<p>Cross-Sectional</p>	<p>Alumni of the College of Business of a public university and students enrolled in an evening MBA program working at least 35 hr a week</p> <p><b>N= 211</b></p>	<p>Telecommuting, ability to take work home, and flexible work hours</p>	<p>"The use of flexible hours was negatively correlated with self-reports of work-family conflict."</p> <p>"The use of telecommuting and taking work home positively correlated with self-reports of work-family conflict."</p>	<p>Small</p>	<p>"Low base rate for a few of the variables we examined."</p> <p>"The somewhat educated nature of our sample (everyone in the sample was a college graduate)."</p> <p>"The reliance on cross-sectional data."</p>	<p><b>D</b></p>
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<p>The relationship between work arrangements and work-family conflict. By Christopher Higgins, Linda Duxbury and Mark Julien, 2014.</p>	<p>Cross-Sectional</p>	<p>Canadian employees who worked for medium to large organizations</p> <p><b>N=16,145</b></p>	<p>Compressed work weeks (CWWs), flexitime, telework</p>	<p>"Employees who worked a schedule where start and stop times were predictable, such as the traditional 9-to-5 workday and the CWW, had lower levels of work-family conflict than those who used flexitime, and telework arrangements where work start and stop times were variable and less predictable."</p>	<p>Not Provided</p>	<p>"The data is cross-sectional and therefore causality cannot be established."</p> <p>"The data were self-reported; it is possible that respondents might exaggerate the number of hours they have spent in various work and non-work activities."</p> <p>"It could be argued that because all respondents worked for larger organizations the results may not be generalizable to those who work for smaller firms."</p>	<p><b>D</b></p>
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**PSYCHOLOGICAL WELL-BEING**

Title, Author, and Year	Research Design	Population /Sector and Sample Size	Type of Flexible work	Main Findings	Effect Size	Limitation	Level
Meta-analytic evidence of the effectiveness of stress management at work, By Claudia Kröll, Philipp Doebler & Stephan Nüesch, 2017.	Meta-analysis	Based on 43 Primary Studies <b>N=22,882</b>	Flexitime and telecommuting	"Flexitime and telecommuting are positively related to psychological health"	Moderate	"The metaanalyses show correlational associations rather than causal effects."  "Limited availability of primary studies that analyse the effects of flexible working arrangements."	A A

Flexible Working and Performance: A Systematic Review of the Evidence for a Business Case, By Lilian de Menezes and Clare Kelliher, 2011	Systematic Review	Based on 148 Primary Studies	Flexible working	Flexible working arrangements has appositve effect on reducing stress levels. However, some type of arrangements such as flexplace has found to increase the level of stress	Not Provided	"The empirical evidence tends to be based on singlelevel studies that are either comparisons between flexible and non-flexible workers, or crosssectional and therefore do not allow for causality to be assessed"	A
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<p>Are Flexible Work Arrangements Associated with Lower Levels of Chronic Stress-Related Biomarkers? By Tarani Chandola, Cara L Booker, Meena Kumari, and Michaela Benzeval, 2019.</p>	<p>Longitudinal Study</p>	<p>Employees in the UK Household <b>N=6025</b></p>	<p>Reduced hours flexible arrangements</p>	<p>“UK employees who used reduced hours flexible arrangements had lower allostatic load than their peers for whom either such arrangements were not available or who did not use such flexible arrangements.”</p> <p>“Reduced hours arrangements appeared to moderate some of the association of family and work stressors with allostatic load.”</p> <p>“Both women and men who made use of reduced hours arrangements had lower levels of allostatic load.”</p>	<p>Not Provided</p>	<p>“Operationalisation of allostatic load has been criticised.”</p> <p>“Biomarker data in surveys is the high proportion of missing biomarker data.”</p> <p>“The biomarker data were only observed once, which meant we could not examine changes in allostatic load. Hence, it is hard to infer whether flexible working arrangements or other work and family stressors had a causal effect on allostatic load.”</p>	<p><b>B</b></p>
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<p>Workplace flexibility, selfreported health, and health care utilization, by Adam Butler, Joseph Grzywacz, Susan Ettner and Bo Liu, 2009.</p>	<p>Longitudinal Study</p>	<p>US employees of a large multinational pharmaceutical company <b>N=2976</b></p>	<p>Perceived flexibility</p>	<p>“Greater levels of perceived flexibility are associated with better selfreported physical and psychological health.”</p>	<p>Large</p>	<p>“Several constructs were measured using singleitem measures. This is a consequence of performing a secondary analysis of data collected by an organization, where practical considerations often take precedence over psychometric concerns.” “This study doesn’t permit an analysis of which type of flexibility may be responsible for the observed effects.”</p>	<p><b>B</b></p>
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Flexible Work Schedules and Employee Well-Being. By Jeremy Hayman, 2010.	Cross-Sectional	Employees at an Australian University <b>N= 336</b>	Flexitime and flexplace	<p>"Flexitime work schedules are positively related to employee well-being."</p> <p>"Flexplace work schedules are only moderately related to employee well-being."</p>	Moderate, and Small	<p>"Limited study sample, bias due to the selfreporting nature of the study."</p> <p>"Causality among the variables cannot be determined."</p>	<b>D</b>
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Analysis of Relationship Between Flexible Work Arrangements, Work Life Balance and Employees' Efficiency. By Ognjen Ridic, Adnan Avdibegovic and Senad Busatic, 2016.	Cross-Sectional	BiH's IT employees <b>N=540</b>	Flexible time and location	"All participants agree that better work life balance, caused by flexible work time and flexible work locations will improve their efficiency and reduce stress."	Not Provided	Not Included	<b>D</b>
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Flexible work designs and employee wellbeing: examining the effects of resources and demands. By Claartje L. ter Hoeven and Ward van Zoonen, 2015	Cross-Sectional	Dutch webbased questionnaire by a data collection firm in the Netherlands. <b>N=999</b>	Flexible work designs (FWD)	<p>"FWDs yield a significant and positive indirect effect on employee well-being through work/ life balance."</p> <p>"FWDs and employee well-being are positively associated through enhanced work/life balance, greater autonomy."</p>	Large	<p>"We relied on cross-sectional data, which makes verifying causal relationships difficult."</p> <p>"We based our measurements on online self-reports taken the same day."</p>	<b>D</b>
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<p>The Impact of Flexible Working Arrangements on Work-life Conflict and Work Pressure in Ireland. By Helen Russell, Philip O'Connell and Frances McGinnity, 2009.</p>	<p>Cross-Sectional</p>	<p>Employees in the Republic of Ireland <b>N=5198</b></p>	<p>Flexitime, part-time hours, working from home, and job sharing</p>	<p>"Involvement in flexitime or in part-time work reduces the level of work pressure experienced by employees."</p> <p>"Relationship is stronger for part-time involvement than for flexitime."</p> <p>"Involvement in home working is associated with increased work pressure. And involvement in job sharing has no impact."</p> <p>"The number of flexible work practices available in the workplace is found to be associated with lower levels of work pressure."</p>	<p>Not provided</p>	<p>"Because the data were crosssectional rather than longitudinal it is not possible to determine the direction of causality."</p>	<p><b>D</b></p>
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<p>Schedule flexibility and stress: Linking formal flexible arrangements and perceived flexibility to employee health. By Joseph Grzywacz, Dawn Carlson, Sandee Shulkin, 2008</p>	<p>Cross-Sectional</p>	<p>WFD database N=85,936 employees from 9 different companies</p>	<p>Flexitime, Compressed work week (CWW)</p>	<p>"Workers engaged in each type of formal flexible arrangement reported less stress and burnout than workers who were not engaged in flexible arrangements."</p> <p>Flexitime has a better effect on reducing stress and burnout than CWW</p>	<p>Small</p>	<p>"Causal inferences can't be made from these crosssectional data."</p> <p>"The magnitude of the observed associations is quite small"</p> <p>"Generalizability of the findings are unknown because the participating companies were not randomly selected."</p>	<p><b>D</b></p>
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<p>Combining career and caregiving: The impact of familyfriendly policies on the wellbeing of working mothers in the United Kingdom. By Uzma Javed, 2019</p>	<p>Cross-Sectional</p>	<p>Female employees in Britain <b>N=4,247</b></p>	<p>Flexitime, job sharing, chances to reduce working hours, working the same number of hours across fewer days per week, working from home during normal working hours, working only during the school term.</p>	<p>“Family-supportive policies significantly improve employee attitudes and well- being. All policies are not equally effective in reducing anxiety or depression.”</p> <p>“Working the same number of hours across fewer days per week had the strongest impact on lowering anxiety and depression among never married mothers.”</p> <p>“The results also suggest that flexitime helps to reduce anxiety and depression for divorced, separated, or widowed mothers.”</p> <p>“Chances to reduce working hours, working from home during normal working hours, and working only during school term were found to be important for reducing depression among married mothers.”</p>	<p>Small</p>	<p>“cross-sectional design of this analysis does not allow for inferences about the causal links between perceived availability of family-friendly policies and well-being.”</p> <p>“Cross-sectional data allow for an exploration of the relationships between familysupport policies and well-being for different marital statuses only at a particular time and do not explain changes in family structure.”</p>	<p>D</p>
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