
Impact of Open Office Work Environment on Employee Psychological Well-Being: A Study with Special Reference to the Banking Industry of Sri Lanka

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A B S T R A C T

Optimizing employee psychological well-being is a must for an organization, so it has become a major concern gaining more importance in organizational disciplines nowadays. However, a gap is found in the extant literature between the ideal condition and the practical level of the employee's workplace well-being. The open office work environment is a novel concept in Sri Lanka and its effects on employee psychological well-being have not been well addressed yet. Hence, the current study attempts to assess the impact of an open office work environment on employees' psychological well-being with special reference to the banking industry in Sri Lanka. The study was quantitative in which a cross-sectional survey design was followed. A simple random sampling technique was applied, and the final sample consisted of 316 executive level employees selected from three licensed commercial banks in Sri Lanka. Primary data was collected via a standard measurement scale, and the analysis was done with the aid of SPSS employing correlation and regression analysis techniques. Findings reveal a significant impact of the open office work environment on employees' psychological well-being in the banking industry of Sri Lanka. Accordingly, it is concluded that an open office work environment improves the overall psychological well-being of employees due to advantages like allowing them to easily communicate with each other. It is suggested that to maximize the effectiveness of open offices further, organizations can take more initiatives to enhance the level of collaboration, manage the noise level, and increase the level of privacy in the work environment.

Keywords: banking industry, employee psychological well-being, open office work environment

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**10th ICME at University of Ruhuna, Sri Lanka
02nd September 2021
ISBN: 978-624-5553-03-7**

1. Introduction

In the contemporary business world, employees have become the most valuable assets of every organization. Therefore, most organizations tend to take good care of their employees. This is often done by paying attention to creating a positive work environment, leading to improved staff motivation, staff productivity, and a healthier atmosphere. A significant relationship is reported in the extant literature between the work environment and the well-being of individual employees, both physically and psychologically. So, a comfortable working environment can increase the sense of employee well-being (Nadia & Fathurahman, 2017). Most office employees spend more than half of their work time indoors. Therefore, for many office employees, the influence of the indoor environment on their health and well-being is the most significant.

The mental health problems that the work would generate can be more or less like mental distress. (Dagenais-Desmarais & Savoie, 2012) stated that striking data on employee psychological distress. Practitioners and academics further advocate the importance of developing optimal psychological health of workers rather than merely trying to heal mental illness. (Ganster & Rosen, 2013) mentioned that recent findings indicate more health issues in the workplace are psychologically related than physically. Further, (the World Health Organization, 2010) recognized that while at least 160 million new cases of work-related illnesses manifest each year, 8% of those diseases are from depression, which is currently attributed to occupational risks. Having examined a large sample consisting of around sixty thousand employees in the USA, (the European Agency on Safety & Health at Work, 2007) found a prevalence of high psychological distress with a likelihood of mental disorder of 4.5% and moderate distress with possible mental disorder at 9.6% (Suresh, 2016).

The psychological well-being issue is becoming a more important topic in the current context because globalization and technological improvements have influenced the nature of the workplace worldwide. (The European Agency for Safety & Health at Work, 2011) released a report concerning workplace mental health promotion in the European region, showing their concern about this issue (as cited in Kostaman, 2015). Open, flexible, activity-based spaces are displacing enclosed office rooms and forcing companies to implement open office designs. Out of an array of work environments that can be adopted by organizations across the globe, open- plan work environments enjoy the preference of employers as approximately 70% of employers in the United States of America are currently working in open-plan work environments (Wong, 2013 as cited in Kok et al, 2015).

However, office trends are frequently emerging. Among those, the most crucial thing that would not change is the impact that the office environment has on employees' health and well-being. As cited in Suresh (2016), researchers also postulate that physical environmental factors such as design elements, as well as psychosocial factors and individual background and characteristics, have the capacity to impact on the health and well-being of their occupants and users (Bluyssen et al., 2011; Galasiu & Veitch, 2006; Iqbal & Waseem, 2012). Having considered the reported empirical evidence in the extant literature, a significant gap between the best condition and the practical level of an employee's psychological well-being could be identified. There has been a substantial amount of research, from the 1960s to present, addressing the effect on employee job satisfaction as a motivation for moving from traditional private offices to open-plan spaces (Laughton, 2017). Though many studies are available regarding the nexus between the workplace environment and job satisfaction, productivity, and overall well-being, little attention has been given in previous studies to

examine the psychological well-being of occupants in such environments. However, a very small number of previous studies could be found, especially focusing on ‘open plan office design features’ that possibly affect the psychological aspects of employee well-being. Moreover, as the open office work environment concept has emerged in the western world of work, most of the previous studies have been limited to assessing such effects in that context. Today, with technological changes and other improvements, Sri Lanka also embraces this concept and most organizations in the banking sector have transformed their traditional office environments into open office work environments, featuring the lacuna in the context of investigating the scenario further in a more formal and scientific way.

1.1. Problem statement

A good quality work environment is an essential requirement in this modern world as employees spend most of their time inside office buildings. (ASHRAE guidelines, 2010) stated that employees spend about 80-90% of their time indoors, and studies have indicated that a range of comfort and health related effects are linked with the characteristics of office layouts as well (as cited in Al horr et al., 2016). A stressful work environment can lead to several disorders in physical health, mental health, and low job satisfaction (McGuire & McLaren, 2009). The current researchers have well-observed this reported issue in the banking industry as well. Most banks in Sri Lanka have transitioned their work environments from traditional cubicles to open offices, having considered the benefits of open office environments. In banks, the workplace environment and its related factors have been significantly neglected, and it is observed via the reported grievances to the HRM departments of the banks, that there is less focus on office design in Sri Lankan banks. The situation is that these circumstances influence the work motivation and the stress level of employees, and, ultimately, they affect the employees' psychological well-being. This will not only impact the employees, but due to the demotivated employees, customers will not be able to get the quality service from the bank as they had expected. Having considered the above reported and observed evidence, the below research questions are raised in the current study.

What is the impact of the open office work environment on the psychological well-being of the employees working in the banking industry of Sri Lanka?

1.2. Objectives of the study

1.2.1. General objective

To assess the impact of the open office work environment on the psychological well-being of the employees working in the banking industry of Sri Lanka.

1.2.2. Specific objectives

RO1: To assess the level of psychological well-being of employees in the banking industry.

RO2: To assess the employee perception of the open office work environment in the banking industry.

RO3: To assess the association between the open office work environment and the psychological well-being of employees in the banking industry.

1.3. Significance of the study

With the changes in time and technology, the spaces in which employees' work is done have also changed and will have to change in the future as well. There have been a substantial number of international research studies addressing the new types of work environments.

However, in Sri Lanka, most of the previous research studies about the work environment are more focused on traditional physical work environments related to variables like employee performance, satisfaction, and overall well-being. As the open environment is an emerging concept in the local context, there are a few studies done in the area. None of the findings were related to the open office concept and employee psychological well-being, with special reference to the service sector, like banking.

Hence, the conclusions of this research would be important to many parties in many ways, as this is a novel concept for Sri Lanka. In this case, as there are different kinds of impacts on the open office work environment, organizations and workers can get insights about how the open plan environment relates to the psychological well-being of employees in an organization, and they can use those findings as a part of achieving competitive advantage over their rivals. Moreover, engineers and architects, design consultants can use this knowledge in order to make improvements to their office environment design plans. The findings of psychological well-being will be helpful in identifying how employees understand their health and well-being through the work environment and the implementation of various health dimensions, and the scholars and undergraduates who are doing their research regarding the link between psychological well-being and the workplace environment can get insights from this research.

2. Literature review

2.1. Employee psychological well-being

Employee well-being is one of the significant concerns of any organization which deals with mental health (stress) that appears in the workplace (McGurie & McLaren, 2009). (Guest, 2017) stated some recent arguments suggesting that, given changes in working conditions such as the invasion of information technology, financial unsettlement, economic, political, and global upheavals, etc., in order for organizations to increase their performance, they first have to consider employee well-being.

According to Danna and Griffin (1999), well-being comprises of the mental, psychological, and emotional aspects of a worker and, as a broader construct, it encompasses psychological and behavioral displays. (Wyatt, 2005) found that psychological health at work is one of the most worrisome issues for many business communities (as cited in Dagenais-Desmarais, & Savoie, 2012). Moreover, (Shmotkin & Ryff, 2002) stated psychological well-being as an engagement with the existential challenges of life. Psychological well-being is the principal component of the overall well-being of the employees and is connected to physical and mental health, and a long life for them (Aryan & Kathuria, 2017).

2.2. Psychological well-being of employees at work

As Alvi (2017) stated, the origin of the concept of psychological well-being was found as early as 1920 and 1930, in studies related to Hawthorne experiments conducted at the Western Electric company, judging the characteristics of the level of brilliance on output. The significance of psychological well-being was first identified by (Jahoda, 1958) and presented from a clinical viewpoint as a state of individual mental health. Extending the above view further, (Ryff & Keyes, 1995) introduced the 'Ryff and colleagues' model of psychological well-being', which includes six dimensions; self-acceptance, personal growth, purpose in life, positive relations with others, environmental mastery, and autonomy (as cited in Loon et al., 2019).

Moreover, when considering psychological well-being, a distinction is often made between hedonic; positive emotions, and eudemonic; positive functioning (Guest, 2017). (Ryan & Deci, 2001) identified that hedonic well-being is typically represented by individual happiness, and is seen as driven by the need for rewards or pleasure and the avoidance of negative experiences (as cited in Loon et al., 2019). On the other hand, the eudemonic approach considers, as cited in (Dagenais-Desmarais & Savoie, 2012), psychological well-being in terms of optimal functioning, meaning, and self-actualization (Omodel & Wearing 1990; Ryff & Keyes 1995; Keyes, 1998; Ryff & Singer, 1998; Ryan & Deci, 2000). This approach is operationalized in Ryff's model of psychological well-being. Since the state of research around this conceptual debate doesn't allow for a clear theoretical position on which to base empirical work, several scholars and authors have recommended an integrative approach to psychological well-being as a viable third alternative (Dagenais-Desmarais, & Savoie, 2012).

Researchers have found that psychological well-being is a multi-dimensional construct which seriously relates to several outcomes. (Wright et al., 2007) found that psychological well-being has a significant moderating effect on the nexus between job satisfaction and job performance. (Wright & Cropanzano, 2000) in their research on psychological well-being and job satisfaction as predictors of job performance, found that psychological well-being is significantly correlated with performance ratings of employees (as cited in Aryan & Kathuria, 2017). Employees with a higher degree of psychological well-being at work are healthier, enjoy happier lives and longer lifespans. (Cartwright & Cooper, 2008 as cited in Loon et al., 2019).

As Dagenais-Desmarais and Savoie (2012) mentioned, psychological well-being is a concept gaining more attention in modern organizational disciplines. However, despite this recent interest, context-free measures of psychological well-being are by far preferred to work-related concerns. Hence, no adequate theoretical framework is currently devoted specifically to the psychological well-being of people at work. Most theories about psychological well-being were conceptualized within a context-free paradigm. It means that the concept is applicable in all settings of human life. However, workplace and organizational well-being is a special context given the specific roles and tasks assigned to individuals. As a result, there is a need for customizing the dimensions of the construct according to the situations in a particular workplace (Kostaman, 2015).

2.3. Open office work environment

Hundert and Greenfield (1969) stated that the idea of an open office environment was first introduced by two furniture manufacturers in Germany, namely, Eberhard and Wolfgang Schnelle. Later, it was extended to the USA in 1960 (as cited in Shafaghat et al., 2014). Open offices are common workspaces shared by employees, with workstations that are freely arranged into teams, and have partitions that are usually installed at the individual workstations to provide some privacy. In open offices, people who work together are physically located together, with the geometry of the layout reflecting the pattern of the workgroups. (Sanders & McCormick, 1993) stated that the areas in an open office could be arranged by plants, low movable screens, cabinets, shelving, or other furniture (as cited in Brennan et al., 2002). Therefore, the open office itself is based on a variety of technical and socio-psychological factors.

2.4. Influence of open office work environments

2.4.1. Level of interaction

As found in the extant literature, one major supportive factor for open offices is the encouragement of creativity and lateral collaboration among peers and supervisors. (Becker & Sims, 2000) found that, in general, offices that are more open increase comfort and trust among staff members, allowing interpersonal conversations to be initiated more easily, and one to see work in other units and departments. Further, such an environment promotes knowledge sharing within and across teams (Zagenczyk et al., 2007).

2.4.2. Effective work groups

Diesenhouse (2001) stated that open office environments are adopted in service organizations as such environments facilitate, in terms of ease and frequency, the rearrangement of workgroups (as cited in Zagenczyk et al., 2007). Moreover, such environments promote spontaneous interaction among employees (Evans *et al.* 1994; Oldham & Rochford, 1983).

2.4.3. Cost

Hedge (1982) estimated that there was an approximately 20% cost savings in creating and maintaining open-plan spaces. However, the original claims of the designers of open offices were that they created flexible space, allowing the layout to be more sensitive to changes in organization size and structure. Hence, the workstations in open office environments could be easily reconfigured at minimal cost to meet changing needs (Brennan et al., 2002).

2.4.4. Noise

Even though open office environments have evolved over the years and provide more opportunities for improving communication between employees (ultimately resulting in the reduction of costs for employers), they still bring unwanted interactions into the office setup (Maher & Von Hippel, 2005). Most of the empirical research findings emphasized the fact that the majority of complaints related to open office work environments are associated with the immediate increase in interruptions and conflicts, especially due to noise.

2.4.5. Privacy

Oommen et al. (2008) reported that employees working in open office environments frequently face a multitude of problems, such as loss of privacy, loss of identity, low work productivity, overstimulation, job dissatisfaction, and various health disorders (as cited in Richardson et al., 2017).

However, open office work environments can have important effects if applied in the most appropriate context. First, an open office environment can increase the number of opportunities for employee interactions, resulting in frequent work-related communication and a positive perception of relationships with peers, supervisors, and customers. Also, it improves the level of trust in management. Second, an open office environment could provide employees with a greater awareness of interdependence at work. Third, the lack of permanent physical boundaries in an organization allows the management to frequently rearrange workgroups (Zagenczyk et al., 2007). Wineman (1986) mentioned that not all research findings have shown that open offices cause employees to suffer from their working conditions. Employees who report complaints are often not forwarded the same problem, and also, different employees do not report suffering from the same severity (Brennan et al., 2002).

2.5. Employee psychological well-being and open office work environment

Having a conducive work environment can have a positive impact on employee well-being. Organizational support for employees can raise employee well-being in three ways: assisting employees in the face of stressful situations; helping employees develop new perspectives on stressful situations; and reducing emotional exhaustion associated with work problems (Nadia & Fathurahman, 2017). When investigating employees' psychological well-being further, one would find that the physical layout of the workplace is a significant determinant of the health of the employees at work. To understand the underlining relationships between employee health, well-being, and the work environment, there are several models to be considered, such as Affective Events Theory (AET) and Indoor Environmental Quality (IEQ), which permit further investigation.

The direction and rigorousness of the relationship between the physical environment and the psychological well-being of employees is inconsistent across various samples and domains. However, literature is aware that the relationship is crucial and significant (Klitzman & Stellman, 1989; McGuire & McLaren, 2008 as cited in Loughton, 2017). However, perceived psychological health is significantly correlated with the layout type that the employees occupied and there was a significant difference across different layout groups (Jegen & Chevret, 2017). Even when an employer does provide well-being support, it is often difficult to justify whether it includes psychological health support, since the parameters of psychological health promotion are more abstract in comparison to physical health (as cited in Brennan et al., 2002). Having considered the above reported evidence, it could be stated that there is a significant relationship between employee well-being and the workplace environment. Although banks tend to change their work environment according to the new trends emerging in the world, employers must be cautious when implementing practices like open offices as they have multiple consequences for employees' psychological well-being.

2.6. Conceptual framework & hypotheses

Building on the evidence in extant literature, the hypothesized relationships among the discussed variables are depicted in Figure 1; conceptual framework of the study.

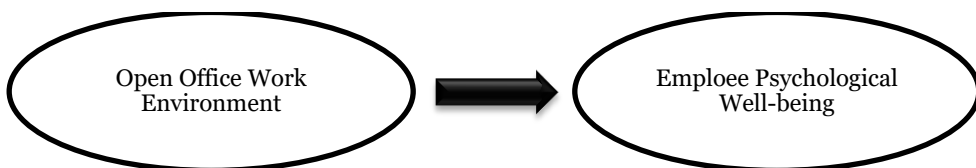


Figure 1: Conceptual Framework of the Study

Accordingly, the following hypotheses are advanced in the current study to be tested with primary data.

H1: There is a significant relationship between the open office work environment and the psychological well-being of employees in the banking industry.

H1: There is a significant impact of the open office work environment on the psychological well-being of employees in the banking industry.

3. Methodology

This study is a non-experimental field study due to the method used, as the researchers collected data from the field without manipulating anything in the field. Moreover, this study uses the methodology of quantitative nature as it gives emphasis to objective measurements and the statistical analysis of data collected through questionnaires and provides proper guidance compared to qualitative studies, predominantly applying the hypothetico-deductive approach. Further, this study becomes an explanatory research because it will assess the cause and effect relationship and impact of the variables that are used in the study. Data for this study was collected within a particular time period and there was no subsequent extension or repetition of primary data collection. Therefore, this is considered a cross-sectional-study. The population of the current study comprises the executive level employees working in the selected three banks, and therefore, the unit of analysis is at the individual level.

3.1. Sample and the sampling technique

The population concerned by the current study includes the licensed commercial banks in Sri Lanka. There are twenty-four (24) licensed commercial banks in Sri Lanka as at 31 December 2020. Among those, only three major banks were selected purposely for the current study. These selected banks for the study are characterized as "Outlook Stable", which is affirmed by Fitch Ratings. The sample of the current study comprises the executive level employees who are currently employed in the headquarters of the selected commercial banks located in Colombo. Executive level employees are selected because they are the major employee category who occupy open office environments, as opposed to managers and other corporate level employees who normally work in separate individual office partitions. As the total number of elements in the population is known to the researchers, a simple random sampling technique was adopted in the current study to select a representative sample. It gives an equal opportunity for all the elements in the population to be selected for the sample, and is meant to be an unbiased representation of a group. Executive level staff in the head offices of the above stated banks comprise of 2180 employees. The sample size was determined according to the (Krejcie & Morgan table, 1970), and the required sample size was 327 respondents.

3.2. Measurement scales of variables

The independent variable, open office work environment, was not assessed using a standard measurement scale used in prior studies. In the current study, researchers used a set of descriptive questions adopted from the extant literature, based on the attributes of the open office work environment stated by (Brennan et al., 2002) and (Zagenczyk et al., 2007). Nine (9) items were used to assess the perceptions of individual employees about the open office work environment, anchored on a five-point Likert scale. The construct 'psychological well-being' of employees was assessed using the adapted scale of Ryff's Psychological Well-being (SPWB), originally developed by (Carol D. Ryff, 1989), which is composed of six sub scales in accordance with the six dimensions of positive functioning, namely; autonomy, environmental mastery, personal growth, purpose in life, positive relations with others, and self-acceptance (Gao & McLellan, 2018). For SPWB, the respondents were asked to rate their level of agreement with the items given on a five-point Likert scale.

3.3. Data collection & data analysis techniques

For the current study, primary data was collected using a self-administered questionnaire through an online questionnaire survey, designed as a Google form. The questionnaire consisted of three sections. Data analysis and hypothesis testing were done with the aid of the Statistical Package for Social Sciences (SPSS) 23.0, employing correlation analysis and regression analysis as appropriate.

4. Analysis and results

In total, 350 questionnaires were distributed in on-line mode, as a Google form to respondents directly. Out of 350 questionnaires distributed, 329 were returned, and 316 were entered into SPSS as fully completed responses. Hence, the effective response rate is 90.3%. The composition of the study sample is given in Table 1.

Table 1: Sample Composition (N=316)

Gender	Male	176	55.7%
	Female	140	44.3%
Civil Status	Married	181	57.3%
	Single	135	42.7%
Age Group	Less than 24 years	3	0.9%
	24 – 30 years	33	10.4%
	30 – 36 years	136	43.0%
	36 – 42 years	107	33.9%
	More than 42 years	37	11.7%
Highest Education	Advanced Level	0	0%
	Diploma	17	5.4%
	Degree	147	46.5%
	Professional Qualification	80	25.3%
	Masters	72	22.8%
Working Experience	Less than 1 year	4	1.3%
	1 – 3 years	25	7.9%
	3 – 6 years	121	38.3%
	6 – 10 years	106	33.5%
Name of the Bank	More than 10 years	60	19.0%
	Bank A	102	32.3%
	Bank B	77	24.4%
	Bank C	137	43.4%

Source: Analyzed Data, 2021

In the current study, internal consistency statistics were used to ensure the reliability of measurement scales. As shown in Table 2, Cronbach's Alpha values obtained for all the constructs are greater than 0.7.

Table 2: Reliability Statistics

Constructs	Dimensions	No. of items	Cronbach's alpha
Employee Psychological Well-being (Cronbach's Alpha = .974)	Autonomy	05	.848
	Environment Mastery	06	.876
	Personal Growth	06	.890
	Purpose in Life	05	.870
	Positive Relations	06	.911
Open Office Work Environment (Cronbach's Alpha = .943)	Self-acceptance	05	.881
	Open Office Work Environment	09	.943

Source: Analyzed Data, 2021

In the current study, researchers employed the Kaiser-Meyer-Olkin (KMO) test and the Bartlett's test to find the sample adequacy and the sphericity respectively. As the KMO coefficient is greater than 0.7 for all dimensions of the dependent variable and for the whole independent variable, and the Sig. value is less than 0.05, statistically, it is claimed that the study sample of 316 observations is adequate enough to proceed with EFA.

According to the validity statistics depicted in Table 4, it can be concluded statistically that the construct validity is ensured as the cumulative percentage of the Extraction Sums of Squared Loadings (ESSL Cum%) of two constructs is greater than 50%, and the item Factor Loading (FL) values are above the threshold limit of 0.5 as recommended by Hair et al. (2010). Moreover, basic descriptive statistics are given in Table 5 to identify the univariate behavior of two variables.

Table 3: Results of the KMO and Bartlett's Test

Construct	Dimensions	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
			Approx. Chi Square	df	Sig.
Employee Psychological Well-being	Autonomy	.805	761.805	10	.000
	Environment	.831	1026.899	15	.000
	Mastery	.894	1070.476	15	.000
	Personal Growth	.869	830.314	10	.000
	Purpose in Life	.891	1405.994	15	.000
	Positive Relations with Others	.848	1032.452	10	.000
Self-acceptance					
Open Office Work Environment		.928	2282.912	36	.000

Source: Analyzed Data, 2021

Table 4: Validity Statistics [Exploratory Factor Analysis (EFA)]

Construct	Dimension	No. of Items	Lowest FL	Highest FL	ESSL Cum%
Employee Psychological Well-being	Autonomy	05	.619	.874	62.378%
	Environment	06	.754	.798	61.823%
	Mastery	06	.636	.880	65.845%
	Personal Growth	05	.644	.890	67.261%
	Purpose in Life	06	.515	.898	69.999%
	Positive Relations with Others	05	.599	.916	69.660%
Self-acceptance					
Open Office Work Environment		09	.758	.863	68.646%

Source: Analyzed Data, 2021

Table 5: Descriptive Statistics

Construct	N	Mean	SD	Skewness	Kurtosis
Employee Psychological Well-being	316	3.6130	.91066	-1.084	.034
Open Office Work Environment	316	3.6319	.96893	-.988	-.121

Source: Analyzed Data, 2021

Outliers of the dependent variable in the current study; employee psychological well-being, were checked using a box-plot. No critical outliers were found in the dependent variable. Moreover, normality was ensured based on the skewness and kurtosis values (between the expected range of -3 and +3). According to Table 5, it could be concluded that the data series of two variables are approximately normally distributed. Further, according to the constructed Scatter Plots in the analysis, a linear relationship was found between two variables; the open office environment and the psychological well-being of employees working in such office environments.

Table 6: Correlation Statistics

		Employee Psychological Well-being	Open Office Work Environment
Employee Psychological Well-being	Pearson Correlation	1	.799*
	Sig. (2-tailed)		.000
		Observations (N)	316

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

Source: Analyzed Data, 2021

According to the correlation statistics given in table 6, there is a strong positive relationship between the open office work environment and employee psychological well-being ($r=0.799$), which is statistically significant as Sig. 2-tailed (0.000) is less than the level of significance (0.01). Hence, H1a is accepted.

Table 7: Regression Statistics

Multiple R	.799 ^a	Observations (N)	316
R Square	.638 (63.8%)	F	552.637
Adjusted R Square	.637 (63.7%)	Sig.	.000 ^b
Standard Error	.54902	Regression Method	Linear - Enter

Source: Analyzed Data, 2021

According to the regression statistics depicted in table 7, 63.8% (R square = 0.638) of the variation in employee psychological well-being could be significantly (Sig. = 0.000, which is less than 0.05) explained by the independent construct in the research model. Further, as given in Table 8, the marginal contribution of the open office work environment (0.751) in determining the impact on employee psychological well-being is considered statistically significant (Sig. = 0.000) in the regression model/equation. Thus, H1b is accepted.

Table 8: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.887	.120	-	7.393	.000
¹ Open Office Work Environment	.751	.032	.799	23.508	.000

Source: Analyzed Data, 2021

Moreover, the residual analysis for model fitness was done to check whether the set regression model is fitted enough to predict future scenarios with similar effects. Residuals are distributed around the forty-five degree diagonal line of the plot, and there is no pattern to the distribution of those residuals as they are scattered. Moreover, the predicted level of employee psychological well-being as a result of the experience in an open office work environment also positively correlated with each other, indicating an approximately adequate fitness of the regression model in predicting the impact of the same in future scenarios.

5. Discussion of findings

As mentioned in the literature review of this article, Laughton (2017) has stated that the relationship between the physical work environment and the psychological well-being of the occupants is not clear and consistent, but there is a significant association. Some studies justified a moderate association between the said variables, while others confirmed a strong association (Klitzman, & Stellman, 1989; McGuire, & McLaren, 2008). The results of the current study confirm, aligning with most previous studies, that there is a significant impact of the open office work environment on employees' psychological well-being. Nadia and Fathurahman (2017) mentioned that there is a clear relationship between the work environment and the well-being of employees, both physically and psychologically, so that a comfortable working environment can increase the sense of employee well-being. Richardson et al. (2017) mentioned that open office work environments adversely affect the health and productivity of their occupants. However, the short-term financial benefits of open plan workspaces should be balanced against the long-term health harms of these types of workplace, including increased sickness absences (which may be associated with the easier transmission of infectious agents in open-plan spaces as well as impacts on psychological well-being), lower job satisfaction and productivity, and possible threats to recruitment and retention of staff. It is quite the opposite result to the current findings available in the extant literature, which might be due to contextual differences. Further, Wineman (1986) mentioned that not all research findings have shown that open offices cause employees to suffer from their working conditions. Even among those who do report complaints, they often do not experience the same problem at the same level of harshness in such an environment (Brennan et al., 2002). Hence, the results are context specific, and cannot be interpreted without considering the contextual uniqueness. So, employees' experience in such an environment in a line department of a business organization could be significantly different from a staff department which provides shared services in a business. Also, culture and climate, norms and other intangible aspects should not be neglected in such a setup (as cited in Brennan et al., 2002).

Furthermore, according to the data analysis of the current research, the mean value of employee psychological well-being was 3.6130, which implies that the existing level of employee psychological well-being in the banking industry in Sri Lanka is at a moderate level. Moreover, the mean value of the open office work environment was 3.6319, which means that the perception of employees about the open office work environment in the banking industry is at a moderate level. Hence, the general notion in the extant literature (Wineman, 1986) that moderate perception leads to a moderate outcome is validated in the current study as well.

6. Conclusion

Having considered the analysis results, the current study concludes the importance of the physical working environment in increasing employee psychological well-being, which in turn

generates higher job performance. An open office work environment can improve overall psychological well-being by reducing the stress level of employees and allowing them to easily communicate with each other. The workplace is not a mere place to come and work, rather it is a particular society in which employees try to fulfill their socio-emotional needs. Hence, as an open office makes it easier for employees to talk with co-workers compared to individuals in separate rooms, it enriches the opportunities available in the workplace to meet the social and emotional needs of employees. However, even in an open office layout, there should be specific working areas when employees need to concentrate wholly on their work. In conclusion, it could be stated that an efficient open office environment could have the potential to significantly manipulate employee job satisfaction, learning and growth, and finally lead to improved psychological well-being as well. Therefore, interior and exterior office design can help to increase psychological well-being, but this will only be achieved after a thorough study. In this regard, it is important for organizations to allocate employees as many as possible into open office work environments if their tasks and duties are possible to perform more effectively in such office setups.

6.1. Implications and recommendations

As the relationship between the open office work environment and employee psychological well-being is strong and positive, banks can improve their employees' psychological well-being by providing a conducive open office work environment. Well-designed physical office layouts provide opportunities for employees to choose when and how they want to interact with others at work. This would help to remedy problems like having demotivated employees and lead to increased productivity. Further, employees could perceive their psychological well-being through the physical office environment and use those insights in order to maximize their efficiency. Also, organizations can identify those findings and use them as a part of a strategy to achieve a competitive advantage over their rivals. At the same time, if organizations take sound initiatives to enhance the level of collaboration, manage the noise level and increase the level of respect for privacy in the work environment, it would further improve the effectiveness of the open office work environment. Moreover, both professionals and practitioners, such as engineers, architects, consultants, and analysts, can draw insights when deciding the requirements for the sustainability of an office design. If bank management could create an organizational culture that supports positive interaction and collaboration among their employees, it would also reinforce the psychological well-being of their employees. Moreover, a mechanism to identify the issues related to employee psychological well-being in banks is recommended to be established, which is an innovative and interactive one rather than a conventional grievance handling mechanism.

6.2. Limitations & directions for future research

The sample size of the current study might not be diverse enough to give an image of all the employees in the industry, as there is a huge population in the entire banking industry of Sri Lanka. Further, with the prevailing pandemic situation in the world (COVID 19), it wasn't easy to collect the data and statistics related to the population of the banks as most of the employees started working from home. Moreover, in the current study, the researchers found how the open office work environment affects psychological well-being only. However, there are some other variables to be considered; job satisfaction, job performance, and employee productivity that could be significantly affected.

Further, the results of the current study indicate an appropriate path for decision-making for enhancing the office layout features in future designs. Further, this can be

expanded by analyzing how the separate features of the open office work environment correlate with the employees' psychological well-being. It would lead to more important decisions regarding the work environment, which could impact directly on employees' well-being, which reinforces the level of performance and productivity. Another suggestion for future researchers could be the areas of possible other influencing variables of the dependent variable with the impact of mediated and moderated effects that should need to be analyzed.

Moreover, it would be better to increase the sample size to generalize the results. In future studies, samples can be taken from other banks as well. A comparison of similar scenarios between government banks and private sector banks would generate more academic value. Also, such a type of study can be done in other industries or as cross-industry research, and can be compared with the results of the current study. Further, future researchers can conduct more longitudinal and qualitative inquiries to validate the findings of the current study using some other data collection methods, like observations, interviews, and document analysis, in addition to the standard questionnaire.

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