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Factor analysis of teacher job satisfaction before and during WFH: Evidence from Indonesia

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Factor analysis of teacher job satisfaction before and during WFH: Evidence from Indonesia

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Abstract: This research aims to conduct a factor analysis of nine factors that influence teacher job satisfaction before and during Work from Home (WFH). This research employed a quantitative approach to investigate job satisfaction before and during WFH. Data collection involved surveys consisting of nine variables distributed to school teachers through instant messaging and got 97 respondents. The collected data was then analyzed using factor analysis from SPSS which helped to identify factors that explain the relationship between variables. Several factors remain dominant: the most dominant factors are Working Conditions, Income, Work Itself; the Colleagues factor remains in second dominance; and the Recognition factor remains in third dominance. However, the Responsibility, Advancement, and Supervision factors experienced a significant decrease in dominance, while the Security factor showed a significant increase in dominance. WFH itself is a change that needs to be managed well, apart from infrastructure, but also psychological readiness. And, because job satisfaction is a positive emotional state that results from a person's appreciation of their work or their own experiences, the psychological factors need attention. It was found that psychological readiness has not received much attention compared to others, for example, online infrastructure.

Keywords: Change management, Human resource management, Job satisfaction, Psychological factors, Work from home.

1. Introduction

Since March 2020, the COVID-19 pandemic has officially hit Indonesia, following outbreaks in various other countries. By March 16th, all activities transitioned to a remote format. Work and study shifted to home environments, with markets and shopping centers closing, and gatherings becoming prohibited. Economic activity was almost paralyzed.

Educational activities, involving large numbers of students and teachers, also have to adapt to avoid large crowds [1]. Students transitioned to learning from home (Learn from Home, LFH), while teachers provided lessons remotely (Work from Home, WFH). This shift meant that learning, traditionally conducted face-to-face in classrooms, now relied on internet facilities and applications like Zoom and Google Meet. Teachers and students continued to meet, albeit in cyberspace.

In contrast to the dedicated learning environment of a classroom [2] home remote presents challenges for both teachers and students. For example, not every house has a dedicated workspace. This means that when a teacher has to teach from home, they may potentially conduct lessons in the dining room or terrace, facing disruptions from other family members who are also active at home. The interactions that occur in cyberspace are also fundamentally different from direct interactions in the classroom. In a traditional classroom setting, teachers can easily identify students who are struggling to understand or who are not paying attention.

However, online learning makes it difficult for teachers to know whether students at home are distracted by other activities or unable to concentrate on their lessons. This lack of direct feedback from students is one of the key difficulties of online learning. Additionally, students may choose not to turn on their cameras due to various reasons, such as a poor internet connection where enabling the camera could disrupt the overall quality of the video call.

Not to mention that there are still many teachers who are mistaken that online learning is just moving teaching materials from hardcopy to softcopy and sharing them via the internet. Difficulties with quotas and internet quality also hinder the online learning process through applications such as Zoom because they require quite large quotas. If the quota is limited or the network is disrupted, the learning process will also be disrupted. Some of these examples result in teaching and learning interactions being very disrupted.

By working from home, interaction with fellow teachers or other parties at school who can usually help or make things easier also becomes very limited. Teachers can feel isolated because they have to do many things alone without support from colleagues. Therefore, this research aims to find out and compare the factors that influence teacher job satisfaction before the pandemic (Before WFH) and during the pandemic (During WFH). Therefore, this research aims to identify and compare the factors that influence teacher job satisfaction before the pandemic (Before WFH) and during the pandemic (During WFH). By understanding these factors, we can develop strategies to improve teacher well-being and effectiveness in both traditional and online learning environments.

Research gap. Job satisfaction is a concept that has been widely researched, but more needs to be done regarding the COVID-19 pandemic. This research was conducted in July 2020 when Indonesia had not implemented social restrictions for too long regarding preventing the spread of disease. This is the evidence gap as well as the state-of-the-art of the research.

This study brings new contributions as follows. Firstly, this study compares teacher behavior before and during work-from-home settings which are limited to be explored by previous studies, while they focused more on job satisfaction single variable, such as work-life balance [3] work productivity [4] work challenges [5] digital transformation [6] job stress [7]. Second, this study employed factor analysis as a tool for identifying which factors are differently related between and during COVID-19, while previous studies used SEM-PLS in testing the relationship of variables for the path analysis [8, 9].

2. Literature Review

2.1. Theory of Organizational Behaviour

The theory of organizational behavior is a multidisciplinary field that studies the behavior of individuals and groups within organizations. It encompasses various aspects of organizational functioning, including motivation, leadership, decision-making, and organizational structure [10]. The early theories of organizational behavior, such as classical theory and human relations theory, laid the foundation for understanding the complexities of organizational behavior. Classical theory, developed by Weber [11] emphasizes the importance of formal structures, hierarchy, and division of labor in organizations [12]. On the other hand, human relations theory, developed by Mayo [13] focuses on the social and psychological aspects of organizational behavior, highlighting the importance of employee satisfaction, communication, and teamwork in achieving organizational goals [13]. The behavioral theories of organizational behavior, such as motivation theories and leadership theories, further expanded our understanding of the factors that drive employee behavior. Motivation theories, developed by McClelland [14]; Lewin [15] and Banerjee, et al. [16] among others, explore the factors that drive employee motivation.

Theories of organizational behavior are applied in organizational development to improve organizational performance and employee satisfaction [17]. This includes practices such as team building, communication training, and leadership development. Theories of organizational behavior are

also applied in decision-making to improve the quality and efficiency of organizational decisions. This includes practices such as participative decision-making and risk management.

2.2. Job Satisfaction

Research within organizational behavior has extensively explored the concept of job satisfaction. From an employee's perspective, fair treatment is a significant factor. Feeling respected and satisfied at work can be an indicator of such fairness [18]. Organizations, on the other hand, recognize that high job satisfaction can translate to improved employee performance, ultimately impacting the company's bottom line [19]. Job satisfaction is a positive or pleasant emotional state that results from a person's appreciation of his or her own work or experiences [20, 21]. This concept has been widely researched and has produced various interesting findings regarding its determining factors.

According to Robbins and Judge [22] job satisfaction is a positive feeling about one's job resulting from an evaluation of its characteristics. Its levels can remain quite consistent over time. The higher the job satisfaction, the more positive how they see the organization. Job satisfaction rates tend to vary in different cultures worldwide [23, 24]. There are some characteristics that likely influence job satisfaction, including job conditions, personality, pay, and corporate social responsibility [25]. Among the impacts of job satisfaction are job performance, employee organizational citizenship behavior, customer satisfaction, and employee life satisfaction.

2.3. Previous Studies

The COVID-19 pandemic has brought about significant changes in the way people work, including the shift towards work-from-home (WFH) arrangements. Teachers, in particular, have had to adapt to this new reality, which has raised questions about the impact of WFH on their job satisfaction [26]. While there is limited research on this specific topic, existing studies provide valuable insights into the factors that influence teacher job satisfaction before and during WFH [27-29].

Mahmood, et al. [30] conducted a study about European teacher's job satisfaction toward teleconference work. This study used the Job Demand-Resource (JD-R) model and Conservation of Resources (COR) theory to investigate the relationship between job demands, job resources, and teleworking job satisfaction among European teachers during the pandemic. The results showed that job demands, such as workload and time pressure, negatively affected teleworking job satisfaction, while job resources, such as social support and autonomy, positively influenced it. These findings suggest that teachers who experience higher job demands and lower job resources while working from home are more likely to feel dissatisfied with their jobs.

Kowalski, et al. [31] analyzed work-From-Home Productivity and Job Satisfaction: A Double-Layered Moderated Mediation Model and explored the relationships between work-from-home productivity, work-life balance, emotional exhaustion, work stress, and job satisfaction. The study found that work-from-home productivity and work-life balance had a positive impact on job satisfaction, while emotional exhaustion and work stress had a negative impact. Additionally, the study identified that the relationships between these variables were moderated by individual differences in personality and organizational support. These findings suggest that teachers who are able to maintain a healthy work-life balance and manage their workload effectively while working from home are more likely to experience higher job satisfaction.

While there is limited research specifically on the factor analysis of teacher job satisfaction before and during WFH, existing studies provide valuable insights into the factors that influence teacher job satisfaction in general. The findings suggest that job demands, job resources, work-from-home productivity, work-life balance, emotional exhaustion, and work stress all play a significant role in determining teacher job satisfaction [32]. As WFH arrangements continue to evolve, it is essential to consider these factors and develop strategies to support teachers in maintaining their job satisfaction and overall well-being.

2.4. Conceptual Model

This research used teacher job satisfaction [32-34]. The nine variables are supervision, colleagues, working conditions, compensation, responsibility, the work itself, advancement, security, and recognition.

Supervision, namely supervision from superiors. This supervision includes two aspects, namely behavior (supervisors in) supervising and interpersonal relationships (with superiors). One of many methods of measuring job satisfaction is the summation of job facets, which identifies key elements in a job such as the type of work, skills needed, supervision, present pay, promotion opportunities, culture, and relationships with coworkers [22]. It is also identified as one of the factors that lead to extreme dissatisfaction and is classified as the hygiene factor [22].

Colleagues, namely co-workers, refer to group results and dependence on each other to achieve goals. A study by Khaliq [35] found that salary, promotion, and relationships with colleagues have a significant effect on teachers' job satisfaction.

Working conditions refer to the physical conditions of the work environment, including matters related to the environmental characteristics of the teaching situation such as the formation of school policies.

Compensation, including wages received for teaching work. Compensation comes in many forms, including salary, overtime, bonus, time off, and benefits [22]. This is a perception about the adequacy of the salary received, which may be obtained from a comparison with what the teacher thinks he deserves. A study by Rinny, et al. [36] showed that compensation, job promotions, and job satisfaction simultaneously had a significant effect on performance.

Responsibility, namely the desire to be responsible for one's own work, to help students learn, and the opportunity to take part in policy activities or decision-making. The three components in this factor are accountability for one's own work, student-teacher relationships, and participation in school policies.

The work itself, teaching work, or tasks related to that work. These factors include things related to daily tasks, creativity, and autonomy. This involves the freedom to authorize innovation and to utilize one's skills and abilities in designing work (creativity), as well as the freedom to experiment and influence or control what happens in work (autonomy).

Advancement, namely the opportunity to get a promotion. This refers to a change in status or position, which can be equated with greater wages and power. Promotion is often offered by the organization as an incentive to encourage changes [37]. A study by Rinny, et al. [36] showed that compensation, job promotions, and job satisfaction simultaneously had a significant effect on performance, whereas job promotion has a positive and significant effect on performance.

Security, which describes stability or instability in the school organization. Security refers to school policies regarding tenure, seniority, layoffs, retirement, and termination. According to Robbins and Judge [22] job security is one of the hygiene factors, which means that when this factor is adequate, people will not be dissatisfied.

Recognition, which involves attention, prestige, and appreciation from supervisors, coworkers, students, and parents. This factor includes acts of notification, reprimand, praise, or criticism. Employee recognition aims to encourage specific behaviors by formally appreciating specific employee contributions, it ranges from a spontaneous and private thank-you to widely publicized formal programs in which the procedures for obtaining recognition are clearly identified [22].

The relation between those variables is shown in the conceptual framework below. Anyway, this research doesn't aim to prove any relation but to find differences in priority factors for teacher job satisfaction before and during WFH.

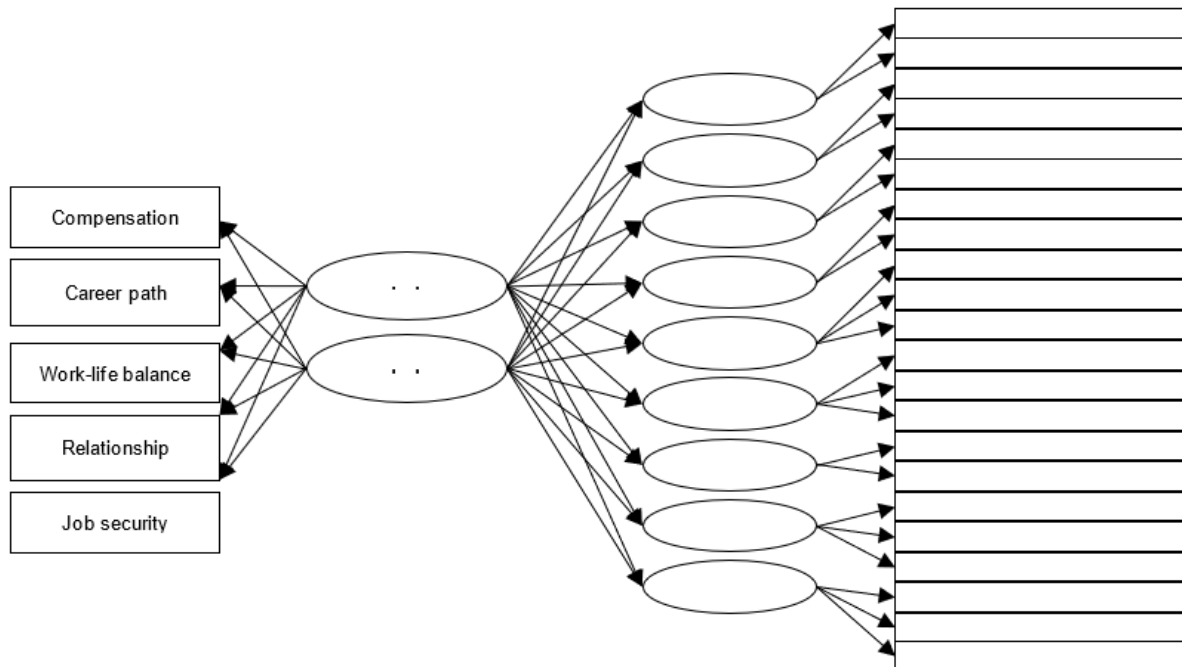


Figure 1.
Conceptual model.

3. Method

In order to achieve the objective, this study employed a quantitative research method. This study used 9 variables, namely Supervision, Colleagues, Working Conditions, Income, Responsibility, Work Itself, Advancement, Security, and Recognition. The study looked at job satisfaction before and during work from home and also constructed four factors as follows:

Factor 1: most dominant factor for teacher's job satisfaction

Factor 2: dominance is smaller than factor 1, but more dominant than factor 3 for teacher's job satisfaction

Factor 3: less dominant factor for teacher's job satisfaction

Factor 4: least dominant factor for teacher's job satisfaction

The primary data was collected through an online questionnaire using Google form and distributed to the respondents via the WhatsApp application. The sampling technique used in this study is convenience sampling through the teacher network (including teachers from SMPN 23-Jakarta, SMAN 58-Jakarta, SMAN 30-Jakarta, Santa Ursula School-BSD, and the Raudlatul Jannah Foundation-East Java) with a total of 97 respondents.

The data was analyzed using factor analysis run by SPSS. According to Kline [38] factor analysis is a method that allows reducing a large number of interrelated variables into a small number of latent or hidden dimensions. The goal of factor analysis is to achieve the simplest and most accurate explanation for cognitive processes and behavior by using the smallest number of explanatory concepts to explain the maximum amount of common variance in the correlation matrix. In this research, factor analysis was used to determine differences in priority factors for teacher job satisfaction before and during WFH. Of the nine variables, 2-3 indicators were created each to indicate what would be asked in the questionnaire which can be seen in table 1 below.

Table 1.
List of questionnaires.

Variables	Indicators	Questionnaire statements
Supervision	Superior behavior	My boss quickly provided assistance with the problems I faced.
		Superiors give appreciation for good performance.
		My boss is willing to listen to my input/opinions.
Colleagues (work groups and social aspects)	Interpersonal relationships	Bosses do not compare one member with another.
	Group results	I can work together with my work friends.
		Co-workers criticize each other.
Working Conditions (character of the environment related to teaching activities)	Dependence in groups	I have good relationships with my work friends.
		I have one or more work friends who are friends.
	Physical environmental conditions	I feel comfortable working at school.
Income (recognition of achievements)	School management	To teach offline, traveling from home to school is not a burden for me.
		The work administration is going well.
		I have no difficulty teaching online.
Responsibility	Financial	The financial compensation I receive is in accordance with government regulations (state) or school capabilities (private).
		The financial compensation I receive is in accordance with my duties and responsibilities.
		The financial compensation I receive provides me with financial security.
Responsibility	Non-financial	The non-financial compensation I receive is in accordance with my needs.
	Responsibility for work	I am responsible for the design and daily teaching and learning processes.
	Relationship with students	I am united with my students.
Work Itself (teaching and related duties)	Involvement with school policies	Teaching gives me the opportunity to help students.
		I understand the policies made by the school.
	Daily activities	I enjoy the daily interactions with students.
Advancement	Autonomy	Teaching gives me the opportunity to develop new methods.
		As a teacher, I do not have the freedom to make my own decisions.
	Creativity	Becoming a teacher develops my personality and/or skills.
Security	Promotion	I got the opportunity to take the training I needed.
	Professionalism	Being a teacher means that I have to continue learning from my profession.
		Becoming a teacher expands my professional network.
Recognition	Future guarantee	I had the opportunity to join and/or be active in teacher organizations.
		Teaching gives me security in old age.
	Length of service	I'm not worried about how long I can teach.
Security	Dismissal/retirement	I'm not worried about being laid off from my job as a teacher.
		I'm not worried about retirement.
	Attention	I received attention from the school where I work and/or my colleagues.
Recognition	Appreciation	I got the appreciation I deserved.
	Confident	My work inspires self-confidence.
		I feel confident in the way I teach.

Data analysis using factor analysis consists of several steps. First, *the determinant correlation value should be close to zero*. This assumption refers to the determinant of the correlation matrix used in the factor analysis. The determinant is a mathematical property that reflects the overall volume or "spread" of the data within the correlation matrix. In factor analysis, it expects the variables to be intercorrelated,

meaning they share some variance. A determinant close to zero suggests moderate intercorrelations between variables, which is ideal for factor analysis to extract meaningful underlying factors. *The KMO measure* is a sampling adequacy test used in factor analysis. It assesses whether the partial correlations (correlations between variables after accounting for other variables) are strong enough for factor analysis to be appropriate. Values closer to 1 indicate strong partial correlations, which is suitable for factor analysis. A KMO value greater than or equal to 0.05 (sometimes 0.5 depending on the reference) suggests that the partial correlations are not too weak, and factor analysis can proceed with caution. Lower values might indicate issues with the data or the number of variables. *Measures of Sampling Adequacy Value* should be ≥ 0.05 . This is a broader term encompassing various sampling adequacy tests used in factor analysis, including KMO. A value greater than or equal to 0.05 (sometimes 0.5) suggests the sample size is sufficient for factor analysis to produce reliable results. Lower values might indicate the need for a larger sample size or alternative data analysis methods.

Second, conduct a performance factor analysis. Common methods include Principal Component Analysis (PCA) and Maximum Likelihood (ML). PCA is generally preferred for initial exploration. This can be done based on eigenvalues (retain factors with eigenvalues > 1 for PCA), scree plot analysis, or theoretical considerations. Examine the extracted eigenvalues to understand the amount of variance explained by each factor. Then, rotating the component matrix helps improve the interpretability of the factors by maximizing the variance explained by each variable on a single factor. Look for variables with high loadings (absolute values close to 1) on specific factors. These variables are most strongly associated with that factor.

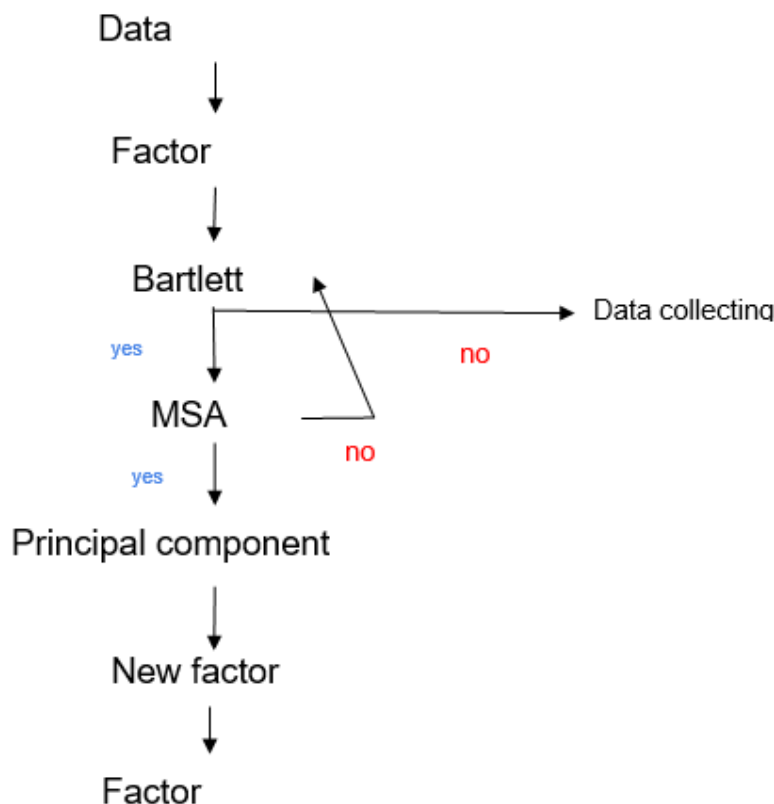


Figure 2.
Systematic data processing

4. Results and Discussion

To determine the feasibility of the analysis, KMO and Bartlett calculations were carried out using the SPSS program.

Table 2.

KMO and Bartlett

		Before WFH	During WFH
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.822	0.595
Bartlett's Test of Sphericity	Approx. Chi-Square	237.818	53.098
	df	36	36
	Sig.	0.000	0.033

In both questionnaires, the KMO MSA values (0.822 and 0.595) were greater than 0.5 and the Sig. (0.000 and 0.033) is smaller than 0.05, indicating that the sample is sufficient for factor analysis, so the factor analysis process can be continued.

To find out and determine which variables are suitable for use in factor analysis, Anti-image Matrices are used. The MSA (Measure of Sampling Adequacy) value for each variable studied can be seen in the table below.

Table 3.

Measure of Sampling Adequacy.

Variables	Before WFH	During WFH
Supervision	0.797	0.609
Colleagues	0.763	0.555
Working Conditions	0.869	0.605
Income	0.867	0.639
Responsibility	0.807	0.549
Work Itself	0.824	0.650
Advancement	0.850	0.522
Security	0.697	0.511
Recognition	0.820	0.584

The results above show that the MSA value for all variables studied is greater than 0.50, so the second requirement in this factor analysis is fulfilled.

For additional eligibility criteria for variables that are maintained by showing how much correlation the variable value has with the factors to be formed, the Communalities Table is used. From the results of data processing, data is obtained as in the table below.

Table 4.

Communalities Table.

Variables	Before WFH		During WFH	
	Initial	Extraction	Initial	Extraction
Supervision	1.000	0.631	1.000	0.576
Colleagues	1.000	0.590	1.000	0.639
Working Conditions	1.000	0.468	1.000	0.546
Income	1.000	0.434	1.000	0.508
Responsibility	1.000	0.621	1.000	0.672
Work Itself	1.000	0.588	1.000	0.439
Advancement	1.000	0.501	1.000	0.693
Security	1.000	0.809	1.000	0.601
Recognition	1.000	0.483	1.000	0.317

4.1. Extraction Method: Principal Component Analysis

The Communalities table shows whether the values of the variables studied are able to explain the factors or not. A variable is considered capable of explaining a factor if its Extraction value is greater than 0.50. Thus, if the extraction value is greater than 0.5, then the variable is worth maintaining because it has a strong correlation with the factors to be formed.

From the results above, it can be seen that the variables that have a strong correlation with the factors to be formed are different between before WFH and during WFH. Before WFH, there were 6 variables that were worth maintaining, namely Supervision, Colleagues, Responsibility, Work, Personal Development, and Job Security. Meanwhile, during WFH, there are 7 variables that are worth maintaining, namely Supervision, Colleagues, Working Conditions, Compensation, Responsibility, Personal Development, and Job Security.

Next, determine the factors that can be formed using Initial Eigenvalues (greater than 1) in the Total Variance Explained table. In the Before WFH questionnaire, three factors were formed, namely factor 1 with Eigenvalues 3.064; factor 2 with Eigenvalues 1.047; and factor 3 with Eigenvalues 1.013. Meanwhile, in the When WFH questionnaire, four factors were formed, namely factor 1 with Eigenvalues 1.694; factor 2 with Eigenvalues 1.174; factor 3 with Eigenvalues 1.070; and factor 4 with Eigenvalues 1.053.

To ensure which factor group a variable falls into, it can be determined by looking at the largest correlation value between the variable and the factor (Component) formed in the Rotated Component Matrix table.

Table 5.
Rotated Component Matrix.

Rotated Component Matrix ^a (Before WFH)				
	1	2	3	
Supervision	0.151	0.778	0.060	
Colleagues	0.153	0.750	0.060	
Working Conditions	0.646	0.223	0.016	
Income	0.609	0.041	0.249	
Responsibility	0.775	-0.036	0.139	
Work Itself	0.701	0.291	-0.108	
Advancement	0.624	0.310	0.126	
Security	0.053	-0.022	0.898	
Recognition	0.218	0.393	0.530	

Rotated Component Matrix ^a (During WFH)				
	1	2	3	4
Supervision	0.353	-0.252	0.618	0.072
Colleagues	0.259	0.372	0.223	-0.62
Working Conditions	0.689	0.071	-0.037	-0.255
Income	0.661	-0.03	0.258	0.059
Responsibility	0.101	0.27	0.209	0.738
Work Itself	0.502	0.39	-0.099	0.162
Advancement	0.017	0.832	0.012	0.202
Security	0.445	-0.221	-0.531	0.267
Recognition	0.006	0.054	0.558	0.049

Table 6.
Eigen Values.

Before WFH			During WFH		
Factor	Eigen-values	Variable	Factor	Eigen- values	Variable
Factor 1	3.064	● Working Conditions	Factor 1	1.694	● Working Conditions
		● Income			● Income
		● Responsibility			● Work Itself
		● Work Itself			● Security
		● Advancement			
Factor 2	1.047	● Supervision	Factor 2	1.174	● Colleagues
		● Colleagues			● Advancement
Factor 3	1.013	● Security	Factor 3	1.070	● Supervision
		● Recognition			● Recognition
			Factor 4	1.053	Responsibility

Table 6 shows the differences in factors or groups of variables between Before WFH and During WFH:

- Factor 1 is the most dominant factor, meaning that it is the main concern of teachers when considering assessing satisfaction with their work. Before WFH, the most dominant elements in determining teacher job satisfaction were: Working Conditions, Income, Responsibility, Work Itself, and Advancement. Meanwhile, when WFH, the most dominant elements are: Working Conditions, Income, Work Itself, and Security.
- Factor 2 is a factor whose dominance is smaller than factor 1, but more dominant than factor 3. Before WFH, factor 2 was filled by the Supervision and Colleague variables, and during WFH it was filled by the Colleagues and Advancement variables.
- Factor 3 is a less dominant factor, filled by the Security and Recognition variables before WFH. Meanwhile, when WFH, factor 3 is filled by Supervision and Recognition.
- Factor 4 is the least dominant and is only found during WFH. The variable that fills factor 4 is Responsibility.

With these results it can be seen that:

1. The Working Conditions, Income, and Work Itself variables remain "dominant" in Factor 1.
2. The Colleagues Variable remains "quite dominant" in Factor 2.
3. The Recognition variable remains "less dominant" in Factor 3.
4. The variables Responsibility, Advancement, and Supervision experienced a decrease in dominance.
5. The Security variable has increased dominance.

From these results it appears that working conditions, compensation and employment are important elements. However, the Responsibility and Advancement variables were dominant before WFH but less dominant during WFH, while the job security variable was less dominant before WFH and became dominant during WFH.

Regarding working conditions, this is supported by research by Díaz-Carrión, et al. [39] showing that there is no significant difference in overall job satisfaction between employees who work in normal conditions and employees who work in difficult working conditions. Working conditions as one of the factors that influence job satisfaction include things such as: matters related to employees – and are thus referred to as “subjective factors”; environmental conditions; and organizational factors – mainly related to the management of production processes. It is also supported by Niebuhr, et al. [40] stated that interesting work that provides training, diversity, autonomy, and control can provide satisfaction for most workers. Apart from that, a sense of interdependence, providing mutual feedback and social support, as well as good interactions with colleagues outside the office, are also closely related to job satisfaction.

In this research, these factors do not seem to differ much, either Before WFH or During WFH. This is because even though they teach from home, teachers can still have autonomy and control in their classes. Apart from that, relationships with colleagues to be able to provide each other with information and feedback can still be done through various instant conversation applications. Thus, teaching remains an interesting job for teachers. Even though we have to do it in a different way, this is not significant enough to reduce the level of job satisfaction of teachers.

Income is one of the factors that is widely associated with job satisfaction. Niebuhr, et al. [40] stated that compensation is related to job satisfaction and general happiness in many people, but the effect becomes smaller when the worker reaches a certain standard level of comfort in life. This means that for people who have reached a certain level, the size of compensation does not have a very significant influence on job satisfaction. With the results of this research, where compensation is still one of the dominant factors in job satisfaction, it can be suspected that the majority of respondents have not reached the intended level of comfort in life. In other words, they still have to work to earn a decent living, and thus compensation is still an important part of supporting their job satisfaction.

Work Itself—namely teaching activities and related tasks—are also factors that remain dominant. This was also mentioned by Mills [41] that employees who have a positive attitude towards work factors – such as type of work, compensation, opportunities for self-development, and recognition – tend to have high job satisfaction as well. These factors cause the work they do to become more meaningful, giving rise to satisfaction within the employee. Thus, even though it is necessary to use different teaching methods between Before WFH and During WFH, it seems that respondents realize that nothing has changed about their work as teachers. Teaching is what they do, a profession they choose, and a responsibility to students, whatever way it takes.

The following factor which also does not change its dominance—namely remaining in second place—is Colleagues. This was also conveyed by Horowitz and Parker [42] in a Pew Research Center report which stated that the aspects of job satisfaction mentioned by respondents included relationships with colleagues and superiors, daily work, feedback received, benefits provided by the company, opportunities to develop new skills and promotions, and compensation received.

Even though the pandemic means teachers cannot meet in person, technological advances with various conversation applications can be used to discuss and provide support as if they were meeting in person. When experiencing difficulties, for example, they can immediately contact friends or superiors for help. Moreover, with the ease of internet networks in big cities, video messages can also be sent almost without significant obstacles. If the pandemic occurred at a time when communication technology was not as advanced as it is today, teachers' opportunities to experience distraction due to reduced interaction with colleagues could affect their job satisfaction.

The Recognition factor also occupies unchanged dominance, namely in third place. Recognition involves respect, attention, and prestige from supervisors, coworkers, students, and parents. This factor includes acts of notification, reprimand, praise, or criticism. In various literature on job satisfaction, this factor is often mentioned, although in terms that are not exactly the same.

This shows that teachers still receive recognition from all parties who interact with them, even though the interaction is carried out remotely. Once again, advances in communications technology make remote interactions easier. Apart from that, because all parties are relatively new to distance learning, negative interactions such as reprimands or criticism seem less dominant. Each of them is unfamiliar with and feels unfamiliar with the distance learning method, so even if there are complaints, they are more of an information to work together to find a solution.

Why do the Responsibility, Advancement, and Supervision factors lose their dominance while the Security factor becomes dominant?

The decrease in the dominance of the Responsibility factor from the first factor to the fourth factor is possible because psychologically, working from the office seems more professional so that teachers prioritize responsibility. This seems to be related to the Supervision factor. The responsibility factor becomes important Before WFH because there is direct supervision from their superior. However,

During WFH, the absence of the Supervision factor directly resulted in a decrease in the Responsibility factor, even though the respondents were still responsible according to their profession and work as teachers—which was related to the Work Itself factor which remained dominant as the first factor.

The Advancement factor also experienced a decline in dominance. This seems to have happened because the change in the way of working Before WFH and During WFH attracted quite a lot of attention from respondents as teachers. They learn how to teach, provide assessments to students, and also maintain the quality of education provided in a completely new way. The effort devoted to adapting to these new ways seems to reduce the focus of teachers on developing themselves towards a better career. In other words, their focus when WFH is learning new ways to maintain the quality of the teaching and learning process.

If the research continues until the end of the WFH period, it is possible that the Advancement factor will start to become the dominant factor again because teachers are more accustomed to teaching remotely and more and more online learning services can be accessed for their career development. This means that the providers of education and training for teachers' self-development are increasingly ready to carry out distance learning, thereby enabling teachers to plan their self-development again.

The factor that experienced a significant jump in dominance was Security, from the third factor (least dominant) Before WFH to the first factor (most dominant) During WFH. When WFH, teachers face different challenges, namely online learning. Unless they have received distance education such as that provided by the Open University, not many people feel comfortable this way – either as teachers or students. In adapting to WFH, many difficulties are faced, which leads to concerns about performance. When an employee feels that his performance is not optimal, he tends to feel worried about job security, because poor performance has the potential to make the employee lose his job. Therefore, the Security variable – which was less prominent Before WFH – actually becomes an important factor during WFH.

Murerwa (2020) mentioned that job security is related to the tendency of employees to view their work relationship as a quasi-contractual relationship. There are three types of contracts contained in it, namely psychological contracts, transactional contracts, and relational contracts. The psychological contract reflects employees' beliefs about what they owe the organization and what the organization owes them; transactional contracts are based on a narrow set of specific monetary obligations, while relational contracts are based on a broader set of open-ended and subjective obligations. This quasi-contractual relationship seems to experience an imbalance or disruption During WFH so that in the process of adapting and rebuilding understanding of their work, respondents make this factor the dominant factor in their concept of job satisfaction.

5. Conclusion

From these results it can be seen that there are several changes in the dominance of factors that influence job satisfaction. The factors of Responsibility, Advancement, and Supervision lose their dominance while the Security factor actually becomes dominant during WFH. It appears that infrastructure factors are easier to manage, such as online teaching methods, the ability to manage classes remotely, and so on. However, what still seems to be an obstacle and receives less attention is the readiness of psychological factors. When respondents believe that a factor can be managed, the dominance of that factor tends not to change.

Working Conditions are factors that can be managed, although initially many felt disturbed by the changes resulting from online teaching. Income factors are also classified as factors that can be managed, because teachers experience almost no reduction in compensation related to changes in the way they work. Work Itself factors can also still be managed: teaching–somehow. With advances in technology, the Colleagues factor can also be managed, because teachers can still contact each other and get support from friends and superiors, both socially and professionally. Lastly, the Recognition factor—as long as the job doesn't change, it doesn't seem to change either. Teachers continue to receive attention, prestige and appreciation from superiors, colleagues, students and parents.

The factors that are losing their dominance – Responsibility, Advancement, and Supervision – show that teachers pay less attention to these matters. In the Responsibility factor, it does not mean that teachers are not responsible for their work, but because online teaching is something new for most educators, they do not really understand how to be responsible for teaching online. This can be related to the education system running at the school, including how the school management adapts to online learning.

Therefore, this Responsibility factor is also related to the Supervision factor, namely how teachers perceive superiors' behavior in supervising and interpersonal relationships with superiors. With remote working conditions, forming perceptions becomes difficult due to limited interaction. Thus, teachers tend not to take these factors into consideration in determining job satisfaction.

The Advancement factor is also not yet a primary consideration during WFH – let alone a determinant in assessing job satisfaction, because teachers appear to still be trying to adapt to new ways of teaching. It seems that the focus of teachers' attention is still directed at learning the ins and outs of online teaching, especially because this research was conducted in 2020, when the pandemic had just occurred.

Security factors have experienced significant changes: Before WFH was in last position, During WFH was in first position. This means that from factors that are not dominant in determining job satisfaction, they become the most dominant factors. Security refers to school policies regarding tenure, seniority, layoffs, retirement, and termination. Thus, Security is a factor that is beyond the teacher's control, so the uncertainty experienced regarding changes in the teaching and learning process during the pandemic is an important consideration for teachers in assessing their job satisfaction.

It can be concluded that when teachers feel that the control they have over one factor is not great, then the uncertainty caused by that factor will be the main consideration in assessing their job satisfaction. This occurs in the job security factor. Meanwhile, other factors have decreased, this happens because in change management, when a person focuses more on certain things that are considered important to him, then other things will decrease in priority. Thus, respondents tend not to really consider the factors of responsibility, supervision and self-development in assessing their job satisfaction.

In change management, ignorance is a significant barrier. Therefore, it is highly recommended to provide assistance in the transition process that occurs. However, in the case of the pandemic that has just passed, difficulties can occur because many people still don't know what to do, making it difficult to determine people who can accompany teachers through the changes. Social and professional groups can be an option to provide mutual support. In fact, with so much information found, this can add to confusion, so there needs to be a companion who provides confidence that they are on the right path of change. The role of change agents in this case is very significant.

Future research can be directed at the same thing, but after the pandemic has passed. This is to find out whether there is a change in the dominance of factors that influence job satisfaction after teachers return to teaching offline. Also, are there any differences with the offline period before the pandemic occurred? In this way, the understanding of job satisfaction becomes more comprehensive.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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References

- [1] F. Ferri, P. Grifoni, and T. Guzzo, "Online learning and emergency remote teaching: Opportunities and challenges in emergency situations," *Societies*, vol. 10, no. 4, p. 86, 2024. <https://doi.org/10.3390/soc10040086>
- [2] B. R. Werang, D. Wea, and A. K. Wolomasi, "Working conditions of Indonesian remote elementary school teachers: A qualitative case study in southern Papua," *The Qualitative Report*, vol. 27, no. 11, pp. 2446-2468, 2024. <https://doi.org/10.46743/2160-3715/2022.5834>
- [3] L. Bellmann and O. Hübler, "Working from home, job satisfaction and work-life balance – robust or heterogeneous links?," *International Journal of Manpower*, vol. 42, no. 3, pp. 424-441, 2024. <https://doi.org/10.1108/ijm-10-2019-0458>
- [4] A. Parayitam, B. Aruldoss, B. Gurumurthy, and K. B. K. Satyanarayana, "Work-from-home productivity and job satisfaction: A double-layered moderated mediation model," *Sustainability*, vol. 14, no. 18, pp. 12345-12360, 2024. <https://doi.org/10.3390/su141812345>
- [5] A. Ahmadi and L. R. Soga, *To be or not to be: Latent entrepreneurship, the networked agent, and the fear factor. In Technological Forecasting and Social Change*. Elsevier BV. <https://doi.org/10.1016/j.techfore.2021.121281>, 2022.
- [6] L. Li, "The impact of digital transformation on employee job satisfaction," Doctoral Dissertation. Huachiew Chalermprakiet University, 2023.
- [7] L. Martin, L. Hauret, and C. Fuhrer, "Digitally transformed home office impacts on job satisfaction, job stress and job productivity. COVID-19 findings," *Plos One*, vol. 17, no. 3, p. e0265131, 2022. <https://doi.org/10.1371/journal.pone.0265131>
- [8] D. Irawanto, K. Novianti, and K. Roz, "Work from home: Measuring satisfaction between work-life balance and work stress during the COVID-19 pandemic in Indonesia," *Economies*, vol. 9, no. 3, p. 96, 2024. <https://doi.org/10.3390/economies9030096>
- [9] U. S. Sultana *et al.*, "Exploring motivation and commitment on job satisfaction and employee performance in work from home (WFH) perspective," *Psychology and Education*, vol. 58, no. 3, pp. 2411-2424, 2021.
- [10] S. Kalwani and J. Mahesh, "Trends in organizational behavior: A systematic review and research directions," *Journal of Business & Management*, vol. 26, no. 1, pp. 1-20, 2020.
- [11] M. Weber, *Economy and society: An outline of interpretive sociology* (G. Roth & C. Wittich, Eds.). Berkeley: University of California Press, 1922.
- [12] N. Fligstein, *Fligstein, N. (2021). Organizations: Theoretical debates and the scope of organizational theory. In G. Ritzer (Ed.), Handbook of classical sociological theory*. Thousand Oaks, CA: Sage Publications, 2021.
- [13] E. Mayo, *The human problems of an industrial civilization*. New York: Macmillan, 1933.
- [14] D. C. McClelland, *The achieving society*. Princeton: Van Nostrand, 1961.
- [15] K. Lewin, *Field theory in social science: Selected theoretical papers*. New York: Harper & Row, 1951.
- [16] K. Banerjee, M. S. Adhikary, and M. S. Chatterjee, *Organizational behaviour*. India: RED'SHINE Publication Pvt. Ltd, 2020.
- [17] M. Akdere and T. Egan, "Transformational leadership and human resource development: Linking employee learning, job satisfaction, and organizational performance," *Human Resource Development Quarterly*, vol. 31, no. 4, pp. 393-421, 2020. <https://doi.org/10.1002/hrdq.21323>
- [18] K. B. Aydın, "Understanding the employee job satisfaction depending on manager's fair treatment: The role of cynicism towards the organization and co-worker support," *European Review of Applied Psychology*, vol. 72, no. 6, p. 100795, 2024. <https://doi.org/10.1016/j.erap.2022.100795>
- [19] A. B. Jamal and G. Anwar, "An empirical study of employees' motivation and its influence on job satisfaction," *International Journal of Engineering, Business and Management*, vol. 5, no. 2, pp. 21-30, 2024. <https://doi.org/10.22161/ijebm.5.2.3>
- [20] S. T. Dziuba, M. Ingaldi, and M. Zhuravskaya, "Employees' job satisfaction and their work performance as elements influencing work safety," *System Safety: Human - Technical Facility - Environment*, vol. 2, no. 1, pp. 18-25, 2024. <https://doi.org/10.2478/czoto-2020-0003>
- [21] N. Thevanes and M. Jathurika, "Employee happiness and its relationship with job satisfaction: An empirical study of academic staff in a selected Sri Lankan University," *Asian Journal of Social Science and Management Technology*, vol. 3, no. 1, pp. 34-43, 2021.
- [22] S. P. Robbins and T. A. Judge, *Organizational behavior*, 18th ed. Upper Saddle River, NJ: Pearson Education, 2021.
- [23] T. A. Judge, S. C. Zhang, and D. R. Glerum, *Job satisfaction. In Essentials of job attitudes and other workplace psychological constructs*. Cham, Switzerland: Springer, 2020.
- [24] Q. H. Tran, "Organisational culture, leadership behaviour and job satisfaction in the Vietnam context," *International Journal of Organizational Analysis*, vol. 29, no. 1, pp. 136-154, 2021. <https://doi.org/10.1108/IJOA-12-2019-1947>
- [25] P. Silva, A. C. Moreira, and J. Mota, "Employees' perception of corporate social responsibility and performance: The mediating roles of job satisfaction, organizational commitment, and organizational trust," *Journal of Strategy and Management*, vol. 16, no. 1, pp. 92-111, 2023. <https://doi.org/10.1108/JSAM-12-2021-0454>
- [26] H. Usman, "Job satisfaction and employee engagement of Finnish teachers: Remote working during COVID-19," *Journal of Education and Work*, 2021. <https://doi.org/10.1080/13639080.2021.1927260>

- [27] J. Yu and Y. Wu, "The impact of enforced working from home on employee job satisfaction during COVID-19: An event system perspective," *International Journal of Environmental Research and Public Health*, vol. 18, no. 24, p. 13207, 2021. <https://doi.org/10.3390/ijerph182413207>
- [28] H. Irshad *et al.*, "Impact of work-from-home human resource practices on the performance of online teaching faculty during coronavirus disease 2019," *Frontiers in Psychology*, vol. 12, p. 740644, 2021. <https://doi.org/10.3389/fpsyg.2021.740644>
- [29] J. Prodanova and L. Kocarev, "Employees' dedication to working from home in times of COVID-19 crisis," *Management Decision*, vol. 60, no. 3, pp. 509-530, 2022.
- [30] F. Mahmood, A. Ariza-Montes, M. Saleem, and H. Han, "Teachers' teleworking job satisfaction during the COVID-19 pandemic in Europe," *Current Psychology*, pp. 1-14, 2021. <https://doi.org/10.1007/s12144-021-02335-1>
- [31] K. B. Kowalski, A. Aruldoss, B. Gurumurthy, and S. Parayitam, "Work-from-home productivity and job satisfaction: A double-layered moderated mediation model," *Sustainability*, vol. 14, no. 18, p. 11179, 2022.
- [32] Z. Sahito and P. Vaisanen, "A literature review on teachers' job satisfaction in developing countries: Recommendations and solutions for the enhancement of the job," *Review of Education*, vol. 8, no. 1, pp. 3-34, 2020. <https://doi.org/10.1002/rev3.3129>
- [33] S. Baroudi, R. Tamim, and Z. Hojeij, "A quantitative investigation of intrinsic and extrinsic factors influencing teachers' job satisfaction IN Lebanon," *Leadership and Policy in Schools*, vol. 21, no. 2, pp. 127-146, 2024. <https://doi.org/10.1080/15700763.2020.1734210>
- [34] A. Q. Noori, "Job satisfaction variance among public and private school teachers: A case study," *Cogent Education*, vol. 10, no. 1, p. 2189425, 2024. <https://doi.org/10.1080/2331186x.2023.2189425>
- [35] A. Khaliq, "Effect of salary, promotion, and relationships with colleagues on secondary school teachers' job satisfaction," *Pakistan Journal of Educational Research and Evaluation*, vol. 4, no. 1, pp. 45-60, 2021.
- [36] P. Rinny, C. B. Purba, and U. T. Handiman, "The influence of compensation, job promotion, and job satisfaction on employee performance of Mercubuana University," *International Journal of Business Marketing and Management*, vol. 5, no. 2, pp. 39-48, 2020.
- [37] S. C. Ross, *Organizational behavior today*. New York: Routledge, 2021.
- [38] P. Kline, *An easy guide to factor analysis*. New York: Routledge, 2014.
- [39] R. Díaz-Carrión, V. Navajas-Romero, and J. C. Casas-Rosal, "Comparing working conditions and job satisfaction in hospitality workers across Europe," *International Journal of Hospitality Management*, vol. 90, p. 102631, 2020. <https://doi.org/10.1016/j.ijhm.2020.102631>
- [40] F. Niebuhr, P. Borle, F. Börner-Zobel, and S. Voelter-Mahlknecht, "Healthy and happy working from home? Effects of working from home on employee health and job satisfaction," *International Journal of Environmental Research and Public Health*, vol. 19, no. 3, p. 1122, 2022. <https://doi.org/10.3390/ijerph19031122>
- [41] M. Mills, *Teaching boys: Developing classroom practices that work*. London, UK: Routledge, 2020.
- [42] J. Horowitz and K. Parker, "How Americans view their jobs. Pew Research Center," Retrieved: https://www.pewresearch.org/social-trends/wp-content/uploads/sites/3/2023/03/ST_2023.03.30_Culture-of-Work_Report.pdf, 2023.