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Effects of Job Characteristics on Job Satisfaction and Work-From-Home Appeal: A Moderating Role of Work Location

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Abstract

After COVID-19, some organizations continued the work-from-home practice while some required employees to be back at their offices. Employees themselves also formed their own preferences about work location. Based on the job characteristics model, the characteristics of a job can cause psychological states and result in job satisfaction. This research investigated (1) the effects of job characteristics on job satisfaction, (2) the moderating effects of work location on the relationship between job characteristics and job satisfaction, and (3) the influence of job characteristics on work-from-home (WFH) appeal. Convenience and voluntary response sampling methods were employed. Four hundred and forty participants employed in non-managerial positions by organizations in Bangkok responded to an online questionnaire. Multiple linear regression analysis and PROCESS Macro V4.2 by Andrew F. Hayes were employed to test hypotheses. Findings indicated that autonomy and feedback predict job satisfaction. Results also showed that only the relationship between task significance and job satisfaction was moderated. A higher degree of task significance yielded higher job satisfaction, but only for participants who work in the office. For those who work from home, task significance didn't significantly yield job satisfaction. In addition, autonomy and feedback yielded positive effects on WFH appeal, while task identity yielded a negative effect. Participants whose jobs offered a high degree of autonomy and feedback found working from home more attractive. On the other hand, those with a high degree of task identity found WFH less desirable. Theoretical and practical implications discussed.

Keywords: job characteristics, job satisfaction, work from home appeal, work location

Introduction

During the COVID-19 outbreak, the Thai government asked for cooperation from both private- and public-sector organizations to allow employees to work from home (WFH) (Ministry of Public Health, 2021). Many obliged but at different levels – some worked from home, some hybrid, and some still working on-site.

When the situation subsided, some companies asked employees to return to their offices

full-time while some remained working remotely. Companies had different experiences during the lockdown. Many claimed that their employees had proven high productivity while working from home. They allowed employees to continue working remotely (Airbnb, 2022) and perhaps take advantage of cost savings. Other companies might have opposite experiences.

Regarding employees' preferences, many want to continue working from home or favor hybrid working (Parker et al., 2020). This is because of the flexibility. Working from home increases work autonomy and allows people to manage their own time. It also increases employees' work-life balance, leading to organizational pride and satisfaction (Mas-Machuca et al., 2016). On the other hand, some people found working from home challenging due to the absence of engagement with supervisors and colleagues, inadequate workspace at home, or limited access to information and software, for example (Saragih et al., 2021).

In reality, flexible work options depend on employers and the industries. Take the Tech industry for example. By 2013, many Tech companies – e.g. Google, Amazon, and Meta – require employees to work from their offices three days a week (CNN Business, 2023). This has caused some pushback from their employees. But the fact is Tech companies competing through innovation were focusing on designing onsite creative workspaces that allowed collaboration and mental stimulation long before the COVID-19 outbreak. In 2013, Yahoo banned remote working causing resentment among many employees. According to Pathak et al. (2015), an option to work from home may depend on the type of project. When collaboration is crucial, face-to-face interactions are beneficial. So, for projects aiming to create new product development, working at the office is beneficial and should be encouraged. On the other hand, interactions in the office won't add much value to the projects aimed at providing support to existing software (maintenance projects). In this type of project, efficiency in running the project is the key, and in a case like this, options for working from home can be offered. This suggests that the WFH option may also depend on the goals and the types of work one performs. In addition, the nature of the tasks also plays a role. For interdependent tasks, working from home may be undesirable. For example, Rojanaporn et al. (2022) found that employees in a technology business service unit of a multinational company in Thailand preferred a hybrid work location, followed by working onsite. Solely working from home was extremely undesirable for them.

Hence, there is simply no one best way in practice. Balancing between employers' needs, organizational culture, types of work, nature of tasks, and employees' satisfaction is important. And an understanding of this subject matter is a prerequisite in designing WFH policy.

Research Objectives

This research seeks to understand (1) the effects of job characteristics on job satisfaction, (2) the moderating effects of work location on the relationship between job characteristics and job satisfaction, and (3) the influence of job characteristics on work-from-home (WFH) appeal.

Literature Review

Job Satisfaction

Based on Zhu's (2013) review, there were two perspectives on defining job satisfaction. In the early years, job satisfaction was defined, based on an affective perspective, as the overall feelings and emotions of the work. When an employee is satisfied, he or she feels positive and pleasant toward his or her work. Later, a cognitive perspective was introduced to measure job satisfaction by evaluating various aspects of working conditions.

The characteristics of the job are one of the various factors relating to job satisfaction (Mishra, 2013) and can predict job satisfaction (Thomas et al., 2004). Herzberg (2003.) found that intrinsic factors can lead to satisfaction. These factors include, for example, achievement and recognition, personal growth, and the work itself. One aspect contributing to the intrinsic factors is the work itself. When work is interesting and challenging, one can learn and grow from performing it. The joy and satisfaction of performing the work is a reward in itself (Deci & Ryan, 2000). And when accomplishing challenging tasks, one could feel a sense of achievement and the job well done.

Research question 1: What characteristics of a job can lead to job satisfaction and to what degree?

Job Characteristic Model

Hackman and Oldham's (1975) Job Characteristics Model proposed five core dimensions that make a job enriched and more motivating. The job dimensions, then, cause psychological states and result in work-related outcomes such as work motivation, performance, and job satisfaction. The five job dimensions and explanation, as Hackman and Oldham's (1975, 1980) defined, are as follows:

Skill Variety refers to the degree to which an employee needs various skills to perform various activities in his or her job. A job that requires different tasks and different skills to perform should yield a positive psychological state – i.e., meaningfulness of the work – and result in positive work outcomes. On the other hand, routine simple work that requires very few skills to perform can result in negative outcomes.

H1a: Skill variety can lead to job satisfaction.

Task Identity refers to the degree to which an employee is required to perform the “whole” job, from beginning to end. A job is more meaningful when one gets to perform the whole job rather than involving just a small task with no visible outcome. Performing the whole job, one can also learn the whole work process and how various tasks come together. And with a visible outcome, one can assess how various tasks affect the outcome. Therefore, performing the whole job could yield personal development and result in higher satisfaction.

H1b: Task identity can lead to job satisfaction.

Task Significance refers to the degree to which one's work impacts others. The quality of one's work outcome can have a positive or negative impact on others. An employee can experience meaningfulness when he or she puts an effort into his or her work knowing that the quality outcomes will have a positive impact on other people's work. This sense of meaningfulness can result in higher job satisfaction.

H1c: Task significance can lead to job satisfaction.

Autonomy refers to freedom or independence to perform one's work. This includes the freedom given to an employee to schedule his or her own work and decide how the work will be performed. When one gets to design how to perform his or her job, he or she automatically assumes responsibility for the outcome. A sense of responsibility could yield intrinsic satisfaction.

H1d: Autonomy can lead to job satisfaction.

Feedback refers to the degree to which an employee receives information about the effectiveness of the work outcome. One can increase knowledge and develop through feedback on the job he or she performs. This knowledge and development could result in higher job satisfaction.

H1e: Feedback can lead to job satisfaction.

Telework

Flexible work arrangements (FWAs) can be considered a benefit employers provide to allow employees to take control over where and when to perform their jobs (Lambert et al., 2008). In general, FWAs consist of two aspects – time and location. Flextime allows employees to take control over when to start and stop working. Telework, sometimes called telecommuting, is concerned with where one works. Some organizations allow employees to work from home or from anywhere for some or all of the week. The main reason for FWAs is to allow employees to manage their own work-life balance. And that benefit results in higher loyalty, morale, and satisfaction (Giovanis, 2018).

The Evolution of Telework

Advancement in Information and Communication Technologies (ICTs) has been transforming the way we work, especially the detachment of work from traditional offices. Based on the comprehensive review Messenger (2015), there are three stages or generations of telework.

The first stage – the Home Office – is a period when the use of personal computers enabled employees to work outside their main offices, to eliminate commuting time. Although the “home office” in this period doesn't necessarily only mean home, it includes satellite business centers near employees' homes.

The second stage – the Mobile Office – is when laptops, mobile phones, and the growing Internet the World Wide Web enables employees' work mobility. In this period, devices became wireless and portable.

The third stage – Virtual Office – is when the devices get smaller, and information is accessible through clouds and networks. Powerful devices like smartphones and tablets enable employees to anywhere and right then.

Categorization of Telework

Based on Eurofound and International Labour Organization (2017), there are 4 categories according to the use of ICTs and place of work, as follows:

1. Regular home-based telework: Employees regularly work at their home (home-based) and other locations (other than employers' premises).
2. High mobile telework: Employees have a high level of mobility through ICTs. They can work anywhere on a regular basis.
3. Occasional telework: Employees can occasionally work anywhere.

4. Always at the employers' premises: Employees' work locations are solely at the employer's premises (in most cases, offices).

However, teleworking, whether working anywhere or home-based, might not be suitable or preferred by everyone. The nature of the job or tasks and individual differences can contribute to different suitability and preferences. Hackman and Oldham's (1980) job characteristics theory (JCT) states that people respond to job enrichment differently. They suggested that individual differences moderated the relationship between job enrichment and the outcomes. Those differences include knowledge and skills, growth-need strength, and context satisfaction (e.g., rewards, supervisor, and coworkers). For example, employees with low levels of skills may not appreciate skill variety. As well as those with less growth-need strength may not enjoy autonomy. And when employees are not satisfied with organizations or supervisors, they might not respond well to enriched jobs. In support of the JCT, Ghosh et al. (2015) found that employees who are satisfied with their job context are more likely to respond positively to job enrichment and, in turn, are more satisfied with their jobs. There are some disadvantages and challenges in working from home and they can cause some issues with job context – for example, lack of engagement with colleagues and supervisor, issues with team and supervisor, and feeling isolated (see Saragih et al., 2021). These issues are associated with working from home and can have impacts on employees. Hence, they can possibly alter the relationship between job characteristics and satisfaction.

Research question 2: Are relationships between job characteristics and job satisfaction moderated by work location?

People who work from home might not be satisfied or productive if they possess lower skills and knowledge, especially with jobs high in skill variety, as working from home could bring less or an absence of supervisor engagement and support (Saragih et al., 2021). In other words, the researchers hypothesize that, for some people, it is possible that they might be less (or more) satisfied with their jobs when working from home (or from their offices) when the jobs require a wide variety of different skills to perform.

H2a: Work location moderates a relationship between skill variety and job satisfaction.

Jobs with high levels of task identity and task significance may require high involvement with others (Othman & Mohd, 2019). Working from home might limit communication with others or at least it might require more effort to reach out to others (Oakman et al., 2020). For this reason, it is possible that working in an office may be better regarding communication with others. Therefore, we hypothesize that jobs that require a high level of task identity and task significance might yield higher job satisfaction when people work from their offices.

H2b: Work location moderates a relationship between task identity and job satisfaction.

H2c: Work location moderates a relationship between task significance and job satisfaction.

Jobs with high autonomy require employees not only to possess a high level of knowledge but also WFH-enabling skills such as organizational skills (Kumar et al., 2023). Some might need more supervisory support. Some might lack organizational skills and self-regulation. For whatever reason, because working from home intensifies autonomy, some employees might not be satisfied when working from home. This may be possible the other way around also. Those who possess work knowledge and WFH-enabling skills may enjoy

autonomy and need less supervision. Again, working from home intensifies autonomy, they, on the other hand, might be more satisfied when working from home. Therefore, the researchers hypothesize that, when working from home, jobs that provide different levels of autonomy may yield different levels of satisfaction.

H2d: Work location moderates a relationship between autonomy and job satisfaction.

The last job characteristic is job feedback. At a glance, when the job itself can provide feedback, face-to-face interaction may be less essential. For example, if you design an online advertising banner and place it on various social media channels, you can know how effective it is from the number of consumers responding to your ad. However, for some jobs, the speed at which the job itself can deliver feedback may vary. This is when face-to-face interaction may be at an advantage. For example, in an onsite training course, if half of the people in class seem disinterested or have fallen asleep, the instructor immediately knows (without having to put in any effort) that his or her teaching method may not be effective enough.

H2e: Work location moderates a relationship between feedback and job satisfaction.

As discussed, working from home might not be preferred by everyone. After going through the COVID lockdown, by this time, most employees have already experienced working in their office, working from home, and/or hybrid. Hence, employees can now form their own preferences. For some, working from home solely is extremely undesirable (see Rojanaporn et al., 2022). For others, hybrid may be the most preferred (Parker et al., 2020). Research questions 1 and 2 aim to measure whether various job characteristics yield satisfaction and whether their relationships differ based on work location. But to design a good work arrangement policy, understanding which job characteristics impact employees' desire to work from home is also necessary.

Research question 3: Do job characteristics have an impact on work-from-home appeal and to what degree?

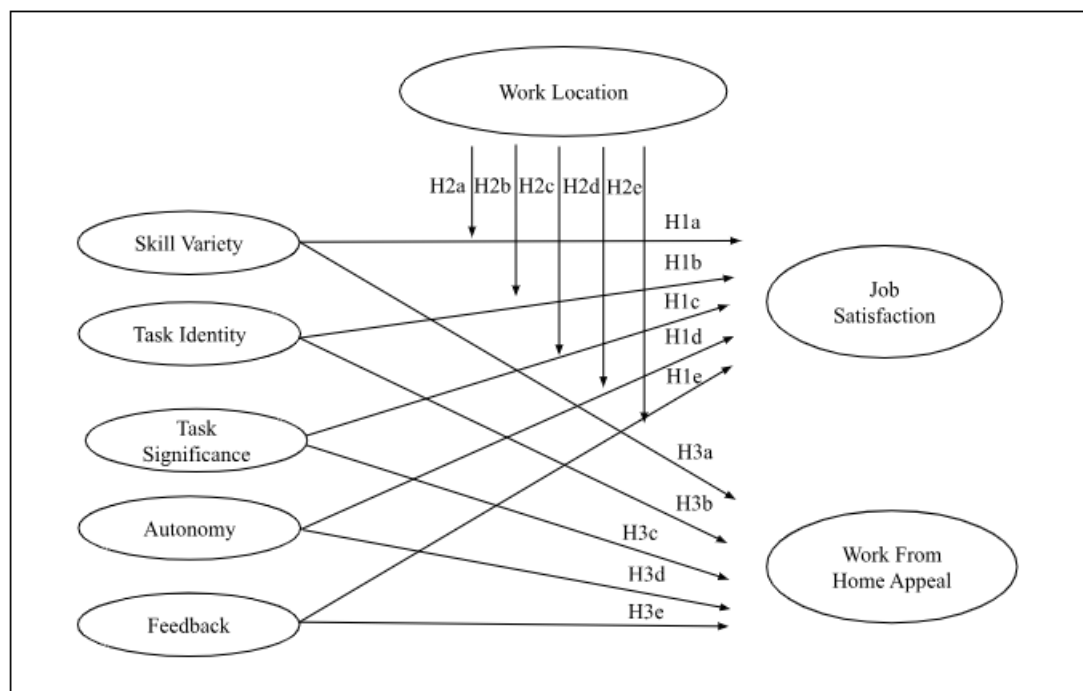
H3a: Skill variety has an impact on WFH appeal.

H3b: Task identity has an impact on WFH appeal.

H3c: Task significance has an impact on WFH appeal.

H3d: Autonomy has an impact on WFH appeal.

H3e: Feedback has an impact on WFH appeal.

Figure 1*Conceptual Framework*

Research Methodology

This quantitative research employed online questionnaires to collect data. The researchers used screening questions to ensure that participants were those employed in non-managerial positions by organizations in Bangkok, who are currently working mainly from home or mainly from offices. Those whose jobs can only be performed on-site were also screened out.

Sample Size and Sampling

Green (1991) discussed how many observations were needed for regression analysis and concluded that some rule of thumb of 5 subjects for a predictor may be too few while other recommendations of 300 or 400 subjects, for example, might not be necessary with few predictors. Hair et al. (2010) suggested a desired ratio between 15 to 20 subjects for each independent variable for multiple regression, which would be 100 subjects with 5 predictors (20×5).

In this research, convenience and voluntary response sampling methods were employed. A QR code was distributed through convenience sampling. To ensure the participants' diversity, links were also distributed and posted in various social groups. In total, the researchers received 526 submissions. Of those, 440 were completed and included in this study.

Research Instruments

Job Characteristics

This study employed a 24-item scale from Morgeson and Humphrey (2006) – e.g., “the job requires the performance of a wide range of tasks” for skill variety; “the job involves completing a piece of work that has an obvious beginning and end” for task identity; “the results of my work are likely to significantly affect the lives of other people” for task significance; “the job allows me to make decisions about what methods I use to complete my work” for autonomy; and “the job itself provides me with information about my performance” for job feedback.

Job Satisfaction

A 5-item scale from Judge and Klinger (2008) was used – e.g., “I feel fairly satisfied with my present job” and “each day at work seems like it will never end” (reversed).

Work From Home Appeal

A 3-item scale from Gainey and Clenney (2006) was employed to measure the WFH appeal variable – e.g., “I would rather work from my home than go to the office each day.”

All items were measured using a 5-point scale. Participants were asked to indicate the level of their agreement on the scale, with 1 being strongly disagree and 5 being strongly agree.

Work Location

The category response format was used for the moderating variable – work location. Taking on telework categorization from Eurofound and International Labour Organization (2017), the researchers combined “home-based” and “high mobile” telework into one category. For the other category, “occasional telework” and “always at the employers’ premises (office)” were combined. Therefore, the two categories were working (mainly) from home and working (mainly) at the office.

Pilot Testing

To ensure that all items were well understood, questionnaires were pretested twice, with a different set of participants each time. Once the final version of the questionnaire was obtained, pilot testing was performed with 32 participants. The Cronbach’s Alpha values ranged from 0.757 to 0.877, which was higher than the generally accepted value of .70 (Hair et al., 2010).

Data Analysis

To test the hypotheses in research questions 1 and 3, multiple linear regression analysis was employed. For research question 2, PROCESS Macro V4.2 by Andrew F. Hayes was employed to test moderating effects.

Results

Of the four hundred and forty participants, 65 percent were female. Over 70 percent of participants were over 25 to 40 years old. Most of them, 72 percent, held a bachelor’s degree. The participants held a wide range of job tenure from less than two years to over 10 years. They also came from various industries from telecommunication (over 30%), engineering/manufacturing (18%), advertising and media (19%), finance and banking (8%), to

real estate (3.6%). About 80% of them were from the private sector, and the rest were from government agencies and state-owned enterprises. All of them were in non-managerial positions in organizations, with about 56 percent working (mainly) from home and 44 percent working (mainly) at the office.

Table 1

Descriptive Analysis (n = 440)

Variables	Mean	SD	level
Skill Variety	4.15	0.72	High
Task identity	4.03	0.76	High
Task significance	3.94	0.77	High
Autonomy	4.27	0.64	Very high
Feedback	4.18	0.69	High
Overall	4.11	0.73	High
Job satisfaction	3.91	0.77	High
WFH appeal	4.31	0.86	Very High

Table 1 shows descriptive results for each of the job characteristics. To interpret Likert scale's mean values, the researchers followed Watson Todd (2018) by generating an equal length for each category (see Pahuriray & Algara, 2021 for mean range). The results showed a high level of overall characteristics (M = 4.11, SD = 0.73). Jobs were quite motivating. Participants reported a high level of skill variety (M = 4.15, SD = 0.72), task identity (M = 4.03, SD = 0.76), task significance (M = 3.94, SD = 0.77), feedback (M = 4.18, SD = 0.69), and very high level of autonomy (M = 4.27, SD = 0.64). Overall, participants were very satisfied with their jobs (M = 3.91, SD = 0.77). Findings also indicated that working from home was very desirable for them (M = 4.31, SD = 0.86).

Research question 1: What characteristics of a job can lead to job satisfaction and to what degree?

Table 2

Assessing Multicollinearity Issue

Variable	Skill Variety	Task identity	Task significance	Autonomy	Feedback	Tolerance	VIF
Skill Variety	1					.655	1.528
Task identity	.335**	1				.572	1.747
Task significance	.367**	.343**	1			.802	1.248
Autonomy	.526**	.511**	.293**	1		.570	1.753
Feedback	.431**	.601**	.345**	.524**	1	.547	1.828

Note. *p < .05, **p < .01, ***p < 0.001

Before applying regression analysis, the researchers assessed and verified the absence of a multicollinearity issue by following guidelines from Gujarati (2004). As shown in Table 2, although correlations among job characteristics existed (range between .293 to .601), they were below .80. Based on Gujarati (2004), the high correlation between regressors (exceeding .8) indicated a multicollinearity issue. Results from Table 2 also showed the variance inflation factor (VIF) values ranging from 1.248 to 1.828 (none of the values exceeded 10), and the tolerance values of each variable ranging from .547 to .802 (all above .10), indicating that there is no issue with multicollinearity (Gujarati, 2004).

Table 3

Regression Analysis for Job Satisfaction

Model	B	SE(B)	Beta	t	P-Value
(Constant)	1.184	.260		4.547***	.000
Skill Variety	.024	.056	.022	0.426	.670
Task Identity	.102	.056	.101	1.821	.069
Task Significance	-.003	.047	-.003	-0.066	.947
Autonomy	.245	.067	.203	3.643***	.000
Job Feedback	.282	.064	.253	4.446***	.000

Note. R = .481^a, R² = .231, AdjustedR² = .223, F = 26.143, *p < .05, **p < .01, ***p < 0.001

The findings from Table 3 showed whether job characteristics significantly predicted job satisfaction. The results of the regression indicated that job characteristics explained 22.3% of the variance in job satisfaction. Job feedback had the most significant impact on job satisfaction ($\beta = .253$, $p < .000$), followed by autonomy ($\beta = .203$, $p < .000$). Jobs with high levels of feedback and autonomy could lead to satisfaction. Findings also showed that skill variety, task identity, and task significance did not have a significant impact on job satisfaction. Therefore, only H1d and H1e were accepted.

Research question 2: Are relationships between job characteristics and job satisfaction moderated by work location?

To answer this research question, PROCESS Macro V4.2 by Andrew F. Hayes was performed using 5,000 bootstrapping at a 95% confidence interval to test moderation effects for each of the job characteristics on job satisfaction. The researchers found that work location only moderated the relationship between task significance and job satisfaction. For skill variety, task identity, autonomy, and job feedback, no moderation effect was significantly found between their relationship with job satisfaction. The result of only a significant moderation effect is shown in Table 4.

Table 4*Output of the PROCESS Macro for Simple Moderation Model (SPSS Process Model 1)*

	coeff	se	T	p	LLCI	ULCI
constant	3.646	.263	13.841***	.000	3.128	4.164
Task significance	.078	.065	1.207	.228	-0.049	0.206
Work location	-.953	.377	-2.528*	.012	-1.694	-0.212
Task Significance x Work location	.220	.094	2.336*	.020	0.035	0.406

Note. N = 440, *p < .05, **p < .01, ***p < 0.001

Table 5*Output of the PROCESS Macro for the conditional effect.*

Work Location	Effect	se	t	p	LLCI	ULCI
0	.078	.065	1.207	.228	-0.049	0.206
1	.299	.068	4.361***	.000	0.164	0.433

Note. N = 440, *p < .05, **p < .01, ***p < 0.001, 0 = work from home, 1 = work at the office

Our results indicated that work location moderated the relationship between task significance and job satisfaction, as shown in Table 5. Therefore, H2c was accepted. When testing the moderation effect of each of the work locations, results from Table 6 showed that task significance had an impact on job satisfaction only when participants worked at the office. When they worked from home, task significance had no significant impact on job satisfaction.

Research question 3: Do job characteristics have an impact on work-from-home appeal and to what degree?

Table 6*Regression Analysis for Work from Home (WFH) Appeal*

Model	B	SE(B)	Beta	t	Sig.
(Constant)	1.340	.288		4.652***	.000
Skill Variety	-.050	.062	-.042	-0.806	.421
Task Identity	-.146	.062	-.130	-2.353*	.019
Task Significance	.045	.052	.040	0.862	.389
Autonomy	.536	.074	.398	7.201***	.000
Job Feedback	.311	.070	.250	4.431***	.000

Note. R = .493^a, R² = 0.243, Adjusted R² = 0.234, F = 27.833, *p < .05, **p < .01, ***p < 0.001

The results from regression analysis showed that job characteristics explained 23.4% of the variance in WFH appeal. It was found that only three job characteristics had an impact on WFH appeal. Autonomy had the most impact ($\beta = .398$, $p < .000$), followed by job feedback ($\beta = .250$, $p < .000$). And, lastly, task identity was the only characteristic that had a negative impact ($\beta = -.130$, $p = .019$) on WFH appeal. Participants whose jobs possessed high levels of

autonomy and job feedback wanted to work from home. On the other hand, working from home was less appealing for those whose jobs had a high level of task identity. In other words, participants who were required to perform their jobs from the beginning to the end found working from home was less desirable. Only H3b, H3d, and H3e were accepted.

Discussion and Recommendations

Findings from research question 1 showed job feedback and autonomy positively influence job satisfaction. No significant influence of skill variety, task identity, and task significance were found. Advancements in technology and changes in demographics can offer some explanations for the findings.

First, advanced technology helps speed up the skill life cycle. The rapid changes in technology mean rapid changes in skills. Therefore, employee development has never become more crucial. Because job feedback provides knowledge of the results of the work activities (Hackman & Oldham, 1975). And the knowledge of results yields personal development and, in turn, improves one's performance and satisfaction. This can be seen in other studies, personal development and job feedback led to employee satisfaction (Milovanska-Farrington, 2023; Young et al., 2023). Second, people nowadays possess higher education (Gilbert, 2023). As a result, they may expect more freedom to choose how they perform their work (Chang, P. C. et al., 2021) – i.e., autonomy. And when autonomy is given, employees may experience higher satisfaction (Young et al., 2023). Third, technology may start to replace routine work activities (Beer & Mulder, 2020). It is true that the traditional concept of work specialization where jobs were cut into small tasks yielded productivity when employees possessed little or no skills, but it also created boredom as jobs were not meaningful and fulfilled. Today, this might not always be the case. Technology has replaced many of those routine work, coupled with employees holding higher education, most white-collar jobs these days may not lack meaningfulness (the psychological state that comes with skill variety, task identity, and task significance) in terms of job design. This notion is also reflected in the differences in the two studies. Abu Elanain (2009) found that skill variety, task identity, and task significance all affected job satisfaction in service and industrial product organizations (although they submitted the paper in 2007, so data collection was possibly right around 2007). A decade and a half later, advanced technology has replaced many of the jobs in the service and manufacturing industry (e.g., chatbots to replace call center employees and robots to replace manufacturing workers) or simply routine white-collar work. When the nature and the characteristics of jobs have changed, their impact might have changed too. For example, in Young et al. (2023) study, skill variety, autonomy, and feedback were found to have impacts on job satisfaction among IT professionals while task identity and task significance yielded no significant impact.

Findings from moderation analysis showed work location only moderated the relationship between task significance and job satisfaction. There was only an impact of task significance on job satisfaction when people work at offices. When we really think about all the job characteristics, task significance is the only characteristic that an employee him- or herself has a direct impact on others. Therefore, face-to-face interaction could perhaps yield higher work effectiveness (see Andres, 2002 for example) and, in turn, satisfaction. A face-to-face interaction also allows one to experience positive emotion when a positive impact of his

or her work on others is acknowledged.

When testing the effects of job characteristics on WFH appeal, A positive effect of autonomy and job feedback and a negative effect of task identity on WFH appeal were found. People performing jobs that allow high levels of autonomy and feedback reported higher levels of WFH attractiveness. Higher autonomy means less supervision is needed. Therefore, working from home is very feasible and desirable. In line with autonomy, if the feedback comes from the job itself, this could mean lower physical face-to-face boundaries. In other words, employees do not really need physical interaction to receive feedback if the job itself has already provided the feedback. Therefore, working in offices may not be very beneficial in this case.

Lastly, the negative effect of task identity on WFH appeal must be addressed. Higher task identity predicts lower WFH appeal. When one performs various tasks from the beginning of the job to the end, it is basically easier to perform at the office. Various tasks may involve various interactions with others or require more information from others. To get all that done efficiently and effectively, working at the office is perhaps more beneficial.

Our results suggest employers pay attention to autonomy and job feedback as both characteristics predict job satisfaction. Employers can also allow their employees whose jobs possess these two characteristics to work from home. But if their jobs “also” possess a high task identity, hybrid work can be implemented (since employees reported less WFH appeal when they had to perform the whole job from the beginning to the end). Lastly, although employees performing jobs with high task significance are more satisfied working in their offices, the researchers suggest that employers build an interaction system where people can communicate, share information, and show their appreciation to others if working from home is required.

In conclusion, this research highlighted the importance of autonomy and feedback on both job satisfaction and WFH appeal. People are more satisfied with their jobs when the jobs allow them to operate independently and when the jobs provide them with feedback. Employees whose jobs possess these characteristics also prefer to work from home.

Theoretical Contribution

From the findings, the researchers would like to address the uniqueness of two characteristics – task significance and task identity. Task significance did not significantly lead to WFH appeal. People with jobs high in task significance don’t necessarily and significantly want to work from home. However, results from moderation analysis indicated a higher degree of task significance also means higher job satisfaction when people work in their offices. Meanwhile, task identity negatively impacted WFH appeal. When task identity is high, people find working from home less desirable (therefore, working in their offices more desirable). Basically, people whose jobs possess high levels of task significance and task identity prefer or are more satisfied when working at their offices. This notion introduces another view on the Job Characteristics Model. Taking on the self-determination theory (SDT), three basic needs (autonomy, competence, and relatedness) are necessary for well-being (Deci & Ryan, 2000). When these needs are satisfied in the workplace, it increases work engagement and well-being (Deci et al., 2001). In terms of job design, the five job characteristics could enhance or help

satisfy those three basic needs.

Drawing from our conclusion, the researchers would like to distinguish the five job characteristics into two groups based on their shared unique nature and propose that job characteristics can help facilitate the need satisfaction based on the SDT.

First, autonomy, skill variety, and job feedback. These three characteristics produce an intrinsic process. Autonomy means people are in control and can perform how they'd like. Jobs that provide a high level of autonomy can satisfy the need for autonomy. And skill variety makes jobs more interesting and challenging while job feedback helps them learn and develop through the knowledge from the job outcomes. Skill variety and job feedback together can help people stay on the path to mastery. Therefore, skill variety and job feedback can help facilitate the need for competence. And the need for autonomy and competence both influence intrinsic motivation (Johnston & Finney, 2010).

Second, the remaining two dimensions – task significance and task identity – concern an external process. In the SDT, relatedness refers to “the desire to feel connected to others” (Deci & Ryan, 2000). Jobs that require a high level of task significance and task identity can help satisfy the need for relatedness. Task significance may yield a high level of relatedness where people are responsible for their actions because the outcomes of their jobs have impacts on others. Task identity may also help satisfy the need for relatedness since involvement with others may be needed.

In conclusion, this contribution sheds light on how job design can serve another function in boosting employees' well-being by helping them satisfy their basic needs in the work setting.

Limitations and Future Research

Due to the time constraint, the researchers found very few people who work solely from home. Perhaps those held specific types of employment. Future research could focus on specific types of employment or specific lines of work where participants working solely from home are available. Comparing job characteristics in various types of jobs or industries is also recommended as different jobs and different industries possess different natures of work and may yield different results.

Finally, future research may also help to further study how and to what degree the job design helps fulfill the need-satisfaction in work settings.

References

- Abu Elanain, H. M. (2009). Job characteristics, work attitudes and behaviors in a non-western context: Distributive justice as a mediator. *Journal of Management Development*, 28(5), 457-477. <https://doi.org/10.1108/02621710910955985>.
- Airbnb. (2020, April 28). *Airbnb*.
<https://news.airbnb.com/airbnbs-design-to-live-and-work-anywhere/>.
- Andres, H. P. (2002). A comparison of face-to-face and virtual software development teams. *Team Performance Management*, 8(1/2), 39-48.
<https://doi.org/10.1108/13527590210425077>.

- Beer, P., & Mulder, R. H. (2020). The effects of technological developments on work and their implications for continuous vocational education and training: A systematic review. *Frontiers in Psychology, 11*. <https://doi.org/10.3389/fpsyg.2020.00918>.
- Chang, P. C., Rui, H., & Wu, T. (2021). Job Autonomy and Career Commitment: A Moderated Mediation Model of Job Crafting and Sense of Calling. *SAGE Open, 11*(1). <https://doi.org/10.1177/21582440211004167>.
- CNN Business. (2023, June 1). *Meta asks office workers to return to in-person work*. <https://edition.cnn.com/2023/06/01/business/meta-return-to-office/index.html>.
- Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country: A cross-cultural study of self-determination. *PSPB, 27*(8), 930-942. <https://doi.org/10.1177/0146167201278002>.
- Deci, E., & Ryan, R. (2000). The "what" and "why" of goal pursuits: human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01.
- Eurofound and the International Labour Organization. (2017). *Working anytime, anywhere: The effects on the world of work*. Publications Office of the European Union, Luxembourg and the ILO: Geneva, Switzerland.
- Gainey, T. W., & Clenney, B. F. (2006). Flextime and telecommuting: examining individual perceptions. *Southern Business Review, 32*(1). <https://digitalcommons.georgiasouthern.edu/sbr/vol32/iss1/4>.
- Ghosh, P., Rai, A., & Chauhan, R. (2015). Exploring the moderating role of context satisfaction between job characteristics and turnover intention of employees of Indian public sector banks. *Journal of Management Development, 34*(8), 1019-1030. <https://doi.org/10.1108/JMD-10-2014-0138>.
- Gilbert, N. (2023, September 18). *19 Higher Education Trends for 2022/2023: Latest Forecasts To Watch Out For*. <https://financesonline.com/trends-in-higher-education/>.
- Giovanis, E. (2018). The relationship between flexible employment arrangements and workplace performance in Great Britain. *International Journal of Manpower, 39*(1), 51-70. <https://doi.org/10.1108/IJM-04-2016-0083>.
- Green, S. B. (1991). How many subjects does it take to do a regression analysis?. *Multivariate Behavioral Research, 26*(3), 499-510. https://doi.org/10.1207/s15327906mbr2603_7
- Gujarati, D. N. (2004). *Basic Econometrics* (4th ed.). Tata McGraw Hill.
- Hackman, J. R., & Oldham, G. R. (1975). Development of the Job Diagnostic Survey. *Journal of Applied Psychology, 60*(2), 159-170.
- Hackman, J. R., & Oldham, G. R. (1980). *Work Redesign*. Addison Wesley.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th ed.). Pearson.
- Herzberg, F. (2003). *One More Time: How Do You Motivate Employees?*. Harvard Business Review. <http://www.hbrreprints.org>.

- Johnston, M. M., & Finney, S. J. (2010). Measuring basic needs satisfaction: Evaluating previous research and conducting new psychometric evaluations of the basic needs satisfaction in general scale. *Contemporary Educational Psychology*, 35, 280-296. <https://doi.org/10.1016/j.cedpsych.2010.04.003>.
- Judge, T., & Klinger, R. (2008). Job satisfaction: Subjective well-being at work. In M. Eid & R. Larsen (Eds.), *The Science of Subjective Well-Being* (pp. 393-413). Guilford Publications.
- Kumar, N., Alok, S., & Banerjee, S. (2023). Personal attributes and job resources as determinants of amount of work done under work-from-home: Empirical study of Indian white-collar employees. *International Journal of Manpower*, 44(1), 113-132. <https://doi.org/10.1108/IJM-08-2021-0466>.
- Lambert, A. D., Marler, J. H., & Gueutal, H. G. (2008). Individual differences: Factors affecting employee utilization of flexible work arrangements. *Journal of Vocational Behavior*, 73(1), 107-117. <https://doi.org/10.1016/j.jvb.2008.02.004>.
- Mas-Machuca, M., Berbegal-Mirabent, J., & Alegre, I. (2016). Work-life balance and its relationship with organizational pride and job satisfaction. *Journal of Managerial Psychology*, 31(2), 586-602. <https://doi.org/10.1108/JMP-09-2014-0272>.
- Messenger, J. (2015, September 7-11). Three generations of telework: new icts and the (r)evolution from home office to virtual office. *Conference Paper presented at the 17th ILERA World Congress, Cape Town, South Africa*. <https://old.adapt.it/adapt-indice-a-z/wp-content/uploads/2017/07/IL156.pdf>
- Milovanska-Farrington, S. (2023). Gender differences in the association between job characteristics, and work satisfaction and retention. *American Journal of Business*, 38(2), 62-88. <https://doi.org/10.1108/AJB-07-2022-0115>.
- Ministry of Public Health. (2021). *Ratthabaan kho khwaamruuammur thuk nuaingan Work from Home lang Songkran*. <https://pr.moph.go.th/?url=pr/detail/2/04/156690/>.
- Mishra, P. K. (2013). Job Satisfaction. *IOSR Journal Of Humanities And Social Science (IOSR-JHSS)*, 14(5), 45-54. <https://www.iosrjournals.org>.
- Morgeson, F. P., & Humphrey, S. E. (2006). The work design questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, 91, 1337-1338.
- Oakman, J., Kinsman, N., Stuckey, R., Graham, M., & Weale, V. (2020). A rapid review of mental and physical health effects of working at home: How do we optimize health? *BMC Public Health*, 20, 1825. <https://doi.org/10.1186/s12889-020-09875-z>.
- Othman, N., & Mohd Nasurdin, A. (2019). Job characteristics and staying engaged in work of nurses: empirical evidence from Malaysia. *International Journal of Nursing Sciences*, 6, 432-438. <https://doi.org/10.1016/j.ijnss.2019.09.010>.
- Pahuriray, A. V., & Algara, R. O. (2021). Mobile-based PhilNITS reviewer design: Its functionality, reliability, usability and efficiency. *International Research Journal of Science, Technology, Education, and Management*, 1(2), 184-196. <https://doi.org/10.5281/zenodo.5726596>

- Parker, K., Juliana, M. H., & Minkin, R. (2020). *How the Coronavirus Outbreak Has – and Hasn't-Changed the Way Americans Work*. Pew Research Center. <https://www.pewresearch.org/social-trends/2020/12/09/how-the-coronavirus-outbreak-has-and-hasnt-changed-the-way-americans-work/>.
- Pathak, A. A., Bathini, D. R., & Kandathil, G. M. (2015). The ban on working from home makes sense for Yahoo. *Human Resource Management International Digest*, 23(3), 12-14. <https://doi.org/10.1108/HRMID-03-2015-0052>.
- Rojanaporn, T., Niyomsin, S., & Bangpan, P. (2022). Employee preference for flexible work arrangements: a case study of a business service unit in a multinational company in Thailand. *J. Bus. Adm. Soc. Sci. Ramkhamhaeng Univ.*, 5, 73-85. <https://so02.tci-thaijo.org/index.php/ibas/article/view/254674>.
- Saragih, S., Setiawan, S., Markus, T., & Rhian, P. (2021). Benefits and challenges of telework during the covid-19 pandemic. *International Research Journal of Business Studies*, 14(2), 129-135. <https://doi.org/10.21632/irjbs>.
- Thomas, A., Buboltz, W. C., & Winkelspecht, C. S. (2004). Job characteristics and personality as predictors of job satisfaction. *Organizational Analysis*, 12(2), 205-219. <https://doi.org/10.1108/eb028993>.
- Watson Todd, R. (2018). Analyzing and interpreting rating scale data from questionnaires. *REFlections*, 14, 69-77. <https://doi.org/10.61508/refl.v14i0.114230>
- Young, D. K., McLeod, A. J., & Carpenter, D. (2023). Examining the influence of occupational characteristics, gender, and work-life balance on IT professionals' occupational satisfaction and occupational commitment. *Information Technology & People*, 36(3), 1270-1297. <https://doi.org/10.1108/ITP-08-2020-0572>.
- Zhu, Y. (2013). A review of job satisfaction. *Asian Social Science*, 9(1), 293-295. <https://doi.org/10.5539/ass.v9n1p278>.