

The Influence of Subjective Well-Being on the Happiness among Mathematics Teachers

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Article Info

Page Number: 6157 – 6175

Publication Issue:

Vol 71 No. 4 (2022)

Abstract

Subjective well-being has the potential to influence a teacher's happiness. A happy teacher will display good behavior and emotions toward his or her students. However, there is a lack of empirical evidence on the extent of its contribution in the context of mathematics teachers. Hence, this study aims to examine the influence of subjective well-being on the level of happiness among mathematics teachers. This study used a survey design involving 191 teachers who teach mathematics in Hulu Langat, Selangor through a simple random sampling technique. Frequency analysis and simple linear regression analysis were used through SPSS version 25 software. The findings showed a significant impact of subjective well-being on the happiness of mathematics teachers with a predictive contribution of 26.6 percent. The findings are important to refine policies related to employee happiness whilst improving positive practices in the workplace. Further studies are suggested to examine other factors that influence the happiness level of teachers, especially mathematics teachers in Malaysia since the information is still limited. These factors can also be usefully included in the essence of training practice among teachers. This issue persists due to the constraints in happiness research according to subjects taught by teachers.

Article History

Article Received: 25 March 2022

Revised: 30 April 2022

Accepted: 15 June 2022

Publication: 19 August 2022

Keywords: Teachers' happiness, subjective well-being, mathematics teachers, education, influence.

Introduction:

A physically healthy person does not necessarily have a high level of mental health. Therefore, mental health care is very important for each individual. A study by the National Health and Morbidity Survey [1], found that 2.3% of Malaysian adults suffered from depression, and most of

the reported depression cases involved individuals living around the Federal Territory of Putrajaya with 5.4%. In addition, the study by [1] also discovered 424,000 children in Malaysia with mental health problems and most of them had problems interacting with peers 42.9%. The study conducted by NHMS proves that the mental health of Malaysians is increasingly worrying regardless of either adults or children.

Depression, anxiety, schizophrenia, and manic-depressive disorders are among the mental illnesses and disorders that will arise if mental health care is taken for granted. Mental health problems can cause adverse effects if they persist, especially for teachers. This is because most students usually spend their time with the teachers at school. Therefore, if the teachers suffer from severe and protracted mental health problems, this will have a bad impact not only on the teachers but also on the students and people around them. According to [2], stress can cause a decrease in teachers' job performance and make them suffer from emotional fatigue and depression. Stressed teachers are also likely to create stressful classroom environments. Additionally, [3] stated that stressful classrooms will easily make the students forget about the concept of mathematics taught to them despite their high knowledge of mathematics. In fact, students will also be less motivated in the mathematics learning process if the stressful classroom environment persists. Therefore, the influence of teachers on students is not only evaluated from the physical aspect and attitude of the teachers but also the emotional aspects of the teachers. This is because teachers with stable emotions will also give a positive impact on the emotions of students.

An individual's happiness begins with having stable emotions. As such, teachers who have stable emotions can be categorized as happy teachers and this will be a catalyst in influencing students to become happy individuals like their teachers. [4] stated that the relationship between teachers and students are psychologically interconnected and happy teachers will have a positive impact on their students. [5] reported almost the same findings as [4] that the happiness of teachers can influence the attitude and motivation of students in the learning process and the attitude of students towards the teachers will also increase positively. This shows that the needs of happy teachers are necessary for producing generations with a high level of happiness.

Accordingly, happy teachers should be of emphasis. A job as a teacher requires high patience, especially the teachers who teach mathematics subject. Mathematics is among the disliked subjects by most students. This can be seen from the analysis report of the 2019 Malaysian Certificate of Examination (SPM) results by the Examination Board, Ministry of Education Malaysia (2020), which shows that mathematics subject in 2019 was listed among the four core

subjects to experience performance declines compared to the previous year. Hence, the task of being a mathematics teacher is more challenging as the teachers need to inculcate students' interest in learning the concepts of mathematics. Interest in learning is an important element as a catalyst for students' motivation to continue learning [6], and student's interest in mathematics subject depends on the teachers' approach in teaching the subject [7]. This pressure has made the teaching profession, among other professions, to be exposed to high work pressures that will lead to a lack of happiness in life [8].

Subsequently, happiness is often associated with subjective well-being. [9] defined subjective well-being as an individual's emotional and cognitive assessment of his or her life. Subjective well-being also consists of happiness, peace, and satisfaction in life. Subjective well-being and happiness are top issue among happiness researchers to this day. This is because there are studies that contradict in terms of views and opinions on subjective well-being and happiness. [10] stated that subjective well-being and happiness are intertwined. However, [11] opined that subjective well-being and happiness carries a common meaning. Meanwhile, [12] stated that subjective well-being is an aspect of happiness. The statement by [12] was supported by [13], who stated that subjective well-being is the primary domain in measuring the happiness level of individuals.

Based on previous studies, this study was conducted to study the extent of the influence of subjective well-being on the happiness level of mathematics teachers in Malaysia. This study addresses three objectives: (a) examining the level of happiness among mathematics teachers; (b) examining the level of subjective well-being among mathematics teachers; and (c) examining the extent of the significant influence of subjective well-being on the happiness level of mathematics teachers.

This study was carried out with the importance of identifying the happiness level of mathematics teachers in Malaysia. This study also encompasses an early stage of screening to detect mental health symptoms among mathematics teachers in Malaysia. Most mathematics teachers with mental health problems are often embarrassed to seek further treatment because they tend to be worried about their career, community perceptions, and the pressures they may receive. Therefore, this study can assist in identifying the extent of the need for a happiness level test for every teacher in Malaysia according to the subjects taught by the teacher.

Literature Review:

The existence of the happiness concept dates back to Aristotle's time. Aristotle was the pioneer responsible for analysing the term “happiness”. In the days of Aristotle, happiness was known as eudaimonia. Eudaimonia is a Greek word that refers to 'good life' or 'alluring human' [14]. [15] stated that eudaimonia under Aristotle's ideology translates as interesting human activity or life and shows the characteristics of excellence in life. Eudaimonia or happiness as discussed by Aristotle also means meaningful and purposeful life with a comprehensive goal and an end to the goal of human life [16]. At the same time, from the point of view of Islamic scientists, [17] opined that happiness is the desire of the human soul in obtaining a happy life; there is nothing happier than getting happiness in life and the way to obtain happiness is by knowing and accepting the reality of life with logical reasons.

Researchers such as [18] stated that happiness is often defined as a feeling or a state of individual satisfaction. This was supported by [19], who defined happiness as a state of high life satisfaction coupled with high positive influences and low negative influences. Meanwhile, [20] opined that the general definition of happiness is a positive life that an individual feels. Happiness is also defined as cognitive assessment and assessment of life perceptions [21]. This indicates that each happiness researcher has his or her own opinions and views about the term “happiness” and happiness is inferred as a positive feeling in the life of an individual.

At the same time, the concept of happiness has several components that complement and influence the term “happiness,” for instance, subjective well-being. The influence of subjective well-being on happiness appears when researchers began focusing on research on happiness. Prior to the introduction of positive psychology by Seligman, in 1984, Diener stated that a good life is called 'subjective well-being' and sometimes, in language terms, subjective well-being is referred to as happiness [22; 23]. However, as positive psychological research intensifies, researchers found that the field of positive psychology can explain the well-being and satisfaction of life as a construct to happiness [24].

In addition, happiness and education are two interconnected things because happy teachers will build a pleasant school environment and prevent students from feeling stressed with high expectations and demands from their surroundings [8]. Therefore, teacher happiness is required for teachers to achieve their objectives in producing educated students in terms of academics and personalities. Based on the study by [25], there was a significant link between happiness, subjective well-being, creativity, and teacher job performance in the city of Ramhormoz and the study also

found that subjective well-being and happiness are the highest predictors of teacher job performance. Thus, teachers who have high subjective well-being and happiness will improve their job performance.

Based on the above literature, it can be concluded that subjective well-being is one of the elements that influence happiness. Meanwhile, in the world of education, happiness is a powerful influence in creating a positive school environment and enjoyed by students.

Methodology:

This study used a survey design due to its ability to obtain direct answers from the respondents to explain the scope of the research carried out by the researchers [26]. This survey also has high adaptability to be used on any research topic in the field of social sciences. Simple random sampling was conducted on 191 mathematics teachers who were teaching at schools under the District Education Office (PPD) Hulu Langat. From a total of 191 teachers involved, 121 of them were primary school mathematics teachers and 70 were secondary school mathematics teachers. Subsequently, two questionnaire instruments were used, namely the Subjective Well-Being of Teachers (SWBT) and the Oxford Happiness Questionnaire (OHQ). The SWBT is a questionnaire instrument developed by researchers from Mexico, [27], specifically to measure the level of subjective well-being among teachers. The SWBT questionnaire consists of 45 items that comprise four main constructs, while the measurement scale used in this questionnaire includes a five-point Likert scale. Meanwhile, the OHQ questionnaire instrument was developed by [28] to holistically examine the happiness level of individuals. This instrument is universal and suitable for use by any individual. The questionnaire comprises 29 items using a six-point Likert scale as a measuring scale for each item in the questionnaire. In total, the questionnaire consists of 77 items including 3 items that represent demographic questions for the respondents.

Prior to the actual study, the researchers initially conducted a pilot study. The pilot study employed 50 mathematics teachers who were teaching mathematics at the PPD schools in Hulu Langat, Selangor. [29] suggested a sample size of more than 30 people for a pilot study, while [30] stated that the maximum sample size for a pilot study is 50. Therefore, 50 mathematics teachers were selected as the samples for the pilot study and the selection of the pilot study samples was based on the same criteria as the actual study. To reduce bias and balance the selection of pilot study samples, 28 primary school mathematics teachers and 22 secondary school mathematics teachers were selected. This selection was made when the researchers considered the total

population of mathematics teachers around PPD Hulu Langat, in which the number of primary school mathematics teachers was greater than that of secondary school mathematics teachers. The selected pilot study samples were given the questionnaire instruments, which had already undergone a validity process.

Furthermore, the questionnaire distribution process was conducted online. The researchers used the Google Forms platform to facilitate the data collection process for the study. As for the distribution of questionnaires, the researchers used two methods to approach the samples. The first method is through an email; the researchers e-mailed the research information together with the online questionnaire link to the selected schools under PPD Hulu Langat to be forwarded to their mathematics teachers. As for the second method, the researchers contacted selected school representatives to inquire about the emails sent to them and, at the same time, the researchers could explain the study in detail. The implementation of these two methods can further facilitate the process of contacting the respondents of the study and speed up the process of data collection. After that, data from the questionnaires answered by the respondents were gathered in the Google Sheet database. These data were subsequently used for the analysis process of the research findings.

The research data were analysed using Statistical Package for the Social Sciences (SPSS) version 25. The statistical tests used in this study include frequency analysis as well as simple linear regression analysis. The frequency analysis was used to respectively identify the levels of well-being and happiness among mathematics teachers, while the simple linear regression analysis was used to identify the relationship between the independent and the dependent variables of this study.

Findings and Discussion:

This study addresses three research questions. The aspects of validity and reliability of the research instruments were tested by which the instrument validity entails testing the accuracy of the instruments used in the study[31], whereas validity refers to the accuracy of the instruments in measuring what the researchers intend to measure accurately[32]. There are two types of validity, namely face validity and content validity. Face validity is a test that evaluates the content of the instrument in terms of its relevance to the samples of the study. Face validity also evaluates the performance of the questionnaire instruments in terms of applicability, readability, consistency of style and format, and the clarity of the language used in the instruments [33]. Meanwhile, content validity refers to the ability of the items to accurately visualize the domain and the operational definitions of the instrument constructs [34].

Reliability analysis was also conducted to observe the internal consistency of the research instruments in measuring what needs to be measured [35]. In other words, reliability indicates the stability and consistency of the instruments in measuring what they intend to measure. The reliability analysis for the questionnaires was conducted using Cronbach Alpha analysis, α . Based on Table 1 below, the α values for SWBT and OHQ instruments are high with $\alpha=0.980$ for the SWBT instrument and $\alpha=0.876$ for the OHQ instrument. Additionally, the Cronbach's Alpha analysis results showed that the level of internal consistency reliability of the instruments used on the research respondents was high.

Table 1: Cronbach's Alpha, α

Instrument	Cronbach Alpha, α	No. of Items
<i>Subjective Well-Being of Teachers (SWBT)</i>	0.980	45
<i>Oxford Happiness Questionnaire (OHQ)</i>	0.876	29

Subsequently, descriptive statistics through frequency analysis and inference statistics through the simple linear regression analysis were conducted based on the three objectives involved in this study

i. First Research Objective: Examining the Level of Happiness among Mathematics Teachers

Frequency analysis was used to look at the happiness level of mathematics teachers as the respondents. Table 2 shows the findings for the respondents' happiness level.

Table 2: Frequency and Percentage of the Happiness Level of Mathematics Teachers (n=191)

Happiness Level	Frequency, f	Percentage, %
High	137	71.73
Extremely High	40	20.94
Moderate	14	7.33
Extremely Low	0	0.00
Low	0	0.00
Total	191	100.00

Table 2 shows that 71.73% of the respondents had a high level of happiness, while 20.94% of the respondents had an extremely high level of happiness, and the other 7.33% respondents recorded a moderate level. Overall, the happiness of the mathematics teachers is at a high level. This means that the mathematics teachers who teach in the PPD schools of Hulu Langat, Selangor consist of individuals who experience and enjoy happiness in their lives.

Several other studies, either nationally or abroad, have found that educators had a high level of happiness that exceeded the average score [20; 36; 37]. For example, a study on workplace happiness of primary school teachers in Pasir Gudang, Johor by [38] stated that the happiness of the primary school teachers was at a high level.

However, several recent studies have shown different findings such as a study by [39], which stated that teacher happiness in Ambon City, Indonesia was at a moderate level. Meanwhile, based on a study conducted in India, a large number of teachers teaching at the primary schools in the Western Bengal region were reportedly unhappy [40]. [40] also stated that the lack of infrastructure in schools, political interference that interferes with the teachers' ease of working, and the lack of teaching staff and materials were among the driving factors that made the teachers unhappy when teaching at schools. Based on the findings of this study as well as the findings of past studies, the researchers conclude that teachers, either in the country or abroad, are averagely happy. However, some of the teachers might still feel unhappy with their lives.

ii. **Second Research Objective: Examining the Level of Subjective Well-Being among Mathematics Teachers**

For the second objective, the frequency analysis method was also implemented to know the well-being level of the respondents. Table 3 below shows the frequency analysis findings for the subjective well-being of mathematics teachers.

Table 3: Frequency and Percentage of the Subjective Well-Being Level of Mathematics Teachers (n=191)

Subjective Well-Being Level	Frequency, <i>f</i>	Percentage, %
High	127	66.49
Extremely High	56	29.32
Moderate	6	3.14
Extremely Low	2	1.05
Low	0	0.00

Total	191	100.00
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Based on observation from the frequency analysis results for subjective well-being in Table 3, the researchers found that most of the respondents with 66.49% had a high level of well-being, followed by an extremely high level of well-being with 29.32%, and a moderate level of well-being with 3.14%. However, 1.05% of the respondents had a low well-being level. Based on the results, it can be concluded that the subjective well-being of the respondents was at a high level. However, at the same time, attention should be given to those with a low level of well-being so that they do not feel excluded. In addition, psychological assistance should be extended if necessary. This finding differed from that of the happiness level of mathematics teachers, which did not record a low level of happiness among the respondents. Nonetheless, based on the statistical analysis data on the subjective well-being and happiness levels of the respondents, the researchers found that two respondents had a low level of subjective well-being; however, both were still in the group of individuals who were happy with their lives.

In Malaysia, a study on teacher well-being in the workplace by [41] within the population of secondary school teachers in Kelantan, Malaysia reported that the mean score for teacher well-being in the workplace was high. Meanwhile, a study in the Philippines reported a similar finding to that of [42], in which a total of 251 teachers from 52 government schools, who were the samples of the study, had high job satisfaction and subjective well-being. Hence, on average, the results of past studies support the findings of this study where most teachers have a high level of subjective well-being.

iii. Third Research Objective: Examining the Extent of the Significant Influence of Subjective Well-Being on the Happiness Level of Mathematics Teachers

The final objective is based on the simple linear regression analysis to identify the extent of the significant influence of subjective well-being on the happiness level of mathematics teachers. Before conducting the simple linear regression analysis, a normality test was conducted using the Shapiro-Wilk test. Based on the Shapiro-Wilk statistical test results, the research data were normally scattered with a normality value of $p = 0.2$, where $p > 0.05$. The normality test results have qualified the implementation of the simple linear regression analysis on the research data.

Overall, based on Table 4, the analysis found that the regression model was significant $F(1,189) = 68.642$ and $R^2 = 0.266$; hence, this indicates that the percentage of the influence of subjective well-being on the changes in the happiness level of mathematics teachers is 26.6%

Table 4: Simple Linear Regression Analysis Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.516 ^a	0.266	0.263	7.70903

a. Predictors: (Constant), Score_Well-Being

ANOVA ^a						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4079.341	1	4079.341	68.642	0.000 ^b
	Residual	11232.104	189	59.429		
	Total	15311.445	190			

a. Dependent Variable: Score_Happiness

b. Predictors: (Constant), Score_Well-Being

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	34.605	4.627		7.478	0.000
	Score Well-Being	0.494	0.06	0.516	8.285	0.000

a. Dependent Variable: Score_Happiness

Subjective well-being ($B = 0.494$, $t = 8.285$, $p = 0.000$ where $p < 0.05$) is a significant predictor of the happiness level of mathematics teachers. Therefore, the H_{01} hypothesis is rejected. In addition, the regression analysis results also outlined the following equation in this regression model:

$$y = 34.605 + 0.494 x$$

Where,

y = Happiness Level

x = Subjective Well-Being

The regression model equation above indicates a significant influence of subjective well-being on the level of happiness of mathematics teachers in Malaysia. Overall, the study found that subjective well-being is among the variables that can influence the happiness level of mathematics teachers. In this regard, when an individual has good subjective well-being, then the individual also has a good level of happiness. This is because the element of happiness in life is influenced by the subjective well-being of an individual. A study by [26] reported similar findings to this study where the regression analysis results showed that subjective well-being, happiness, and work performance were strong predictors of one another. Although there are limitations in obtaining reference materials from the previous studies on the influence of subjective well-being on teacher happiness, the current study can prove a significant influence of subjective well-being on the level of happiness of mathematics teachers in particular.

Apart from subjective well-being, other variables or factors can also contribute to the increase in teacher happiness. In Malaysia, past studies have found that the relationship between Malaysians' trust in the surrounding people and their confidence in the authorities and government have a positive influence on the happiness of individuals in Malaysia[43]. In the context of teachers, research has shown that a good relationship between teachers and students will positively influence each other's level of happiness [4]. The same goes for social relationships between individuals and organizations, which play an important role in increasing the level of individual happiness. At the same time, good social relationships will have a positive impact on the subjective well-being of an individual, regardless of whether or not the individual is a teacher [44]. Social relationships are closely related to one's beliefs and confidence in an intertwined relationship. Generally, an individual has a problem trusting another person if the person has a different background such as race, ethnicity, nationality, or religion[44; 40; 44].

Variables such as work performance, spiritual health, life satisfaction, and quality of life also have a positive relationship with happiness [45; 46; 20; 25; 47; 39]. [38] in their study reported a high correlation between teacher happiness in the workplace and their motivation to work, where happy teachers would have high motivation in carrying out their duties as educators. Thus,

happiness is not only positively related to the subjective well-being aspect of the teachers but also many other positive aspects.

There were several constraints in the implementation of this study, for instance, in terms of the online survey data collection process. In early 2020, the Covid-19 virus began to spread around the world including Malaysia. Subsequently, in March 2020, the Malaysian Government issued a movement control order for all Malaysians to stay at home and stop all activities and movements outside their homes to break the infection chain. As a result, the researchers experienced problems in collecting data from the respondents and, as such, the collection of the research data was carried out using other alternatives such as online data collection. This means that the mathematics teachers who are the respondents of this study were required to answer the questionnaires online and all communications between the researchers and respondents should also be done online.

At the same time, the issue of insufficient reference materials was one of the factors affecting this study. Research on the happiness of mathematics teachers in Malaysia is very limited; hence, this has confined the study in terms of obtaining references in the context of teacher happiness according to the subjects taught, especially the mathematics subject in Malaysia. In fact, studies on teacher happiness in Malaysia in general are also limited and still lacking. Meanwhile, many studies abroad have been carried out on teacher happiness; however, research on the level of happiness among mathematics teachers remains limited, regardless of the research scope, either abroad or in the country. This is because most of the researchers had only examined teacher happiness universally without basing it on the subjects taught by the teachers. However, unknowingly, each teacher shoulders different burdens and pressures according to the subject that the teacher is teaching. Hence, the implementation of this study can help develop the issue surrounding the happiness of mathematics teachers in the field of research, especially in Malaysia.

iv. Research Implications

The implications of this study can be seen from various angles, for example, in terms of the theoretical implications. In this study, the authentic happiness theory serves as a guide. The authentic happiness theory is a theory inspired by Martini Seligman in 2002 [48]. This theory focuses on the three important types of life in achieving happiness in life: a pleasant life, a good life, and a meaningful life [49]. One of the reasons for the researchers to choose this theory is that the theory is general and does not focus on any individual. At the same time, this theory also covers the entire definition of happiness as stated by other happiness researchers. Through the results of the

study including the use of authentic happiness theory as a guide to this study, the researchers found that the authentic happiness theory can be practised in the educational context.

Besides theoretical implications, the practical implications of this study are also given attention. The practical implications serve as recommendations for the responsible parties, especially the Ministry of Education Malaysia (MOE) to improve the education system in Malaysia. These recommendations include the preparation of effective mindfulness training for teachers, especially future teachers. Mindfulness training is a teaching exercise that trains the minds of the teachers, especially the prospective teachers to be sensitive to the situation that they are facing. This training is very suitable for the mental health care of teachers and relatively trains the teachers to be positive in every situation. Previous studies have also stated that effective mindfulness training can enhance teacher happiness throughout the teaching process[8]. In addition, other past studies have also supported that mindfulness training programs can inculcate the ability of teachers to be sensitive to their situations as well as inculcating their caring attitude at schools and contributing to the improvement of subjective well-being of teachers and students [50]. Therefore, mindfulness training is not only able to increase the teachers' level of happiness but also their subjective well-being. This also means that mindfulness training is among the appropriate training to be practised by teachers in Malaysia. The Ministry of Education Malaysia can further incorporate mindfulness training into the educational teaching syllabus for students who are preparing to become teachers.

v. Recommendations for Future Research

Past studies have listed many factors other than subjective well-being that can influence the happiness level of teachers. Therefore, the researchers suggest that future researchers examine other factors that influence the happiness level of mathematics teachers in particular. This study found that the influence of subjective well-being on the happiness level of mathematics teachers was 26.6%. This means that the other 73.4% factors could also influence the happiness level of mathematics teachers. Besides, this study found that most past studies have emphasized that job satisfaction plays an important role and is significantly related to the level of happiness[42; 51; 41; 40]. Thus, future researchers can develop happiness research by examining the influence of job satisfaction on the happiness level of teachers. Other factors that contribute to the increase in happiness levels such as job performance, creativity, social relationships, and self-motivation can also be considered.

Furthermore, the researchers opined that the recommendations for future research should not only be focused on the context of teachers but can also be expanded in the context of non-teachers. The implementation of happiness research can help individuals, organizations, or governments in identifying the importance of the element of happiness in society.

Conclusion:

Overall, the happiness and subjective well-being of mathematics teachers are at a high level. In addition, the study has shown a significant influence of subjective well-being on the happiness level of mathematics teachers. Further research can be done to examine other factors besides subjective well-being that may influence the happiness level of mathematics teachers in Malaysia. Studies on happiness should also be developed more widely by forming a more realistic teacher happiness model. This is relevant so that more reference materials can be referred by the Ministry of Education Malaysia or schools in the issues related to teacher happiness in Malaysia.

Acknowledgments:

The authors would like to thank the anonymous reviewers for their valuable comments and suggestions, which helped them improve the content, quality, and presentation of this article. This study was funded by the Faculty of Education, Universiti Kebangsaan Malaysia (UKM) with a Publication Reward Grant (GP-2021-K021854).

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