

## **THE EFFECT OF WORK STRESS AND PAY SATISFACTION ON PERFORMANCE MODERATED BY INTERNAL LOCUS OF CONTROL**

**(Study on Air Traffic Controllers, Juanda International Airport)**

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### **ABSTRACT**

This study aims to determine the interaction of internal locus of control on the influence of work stress and pay satisfaction on the performance of Air Traffic Controller officers unit Surabaya. A total of 58 samples from 73 populations on officers who is operated in the tower and radar's section will explain the results of the study. To analyze this research using Hierarchical Regression Analysis. The result shows 1) the significant influence with negative regression coefficient between job stress on performance, 2) significant influence with positive regression coefficient between pay satisfaction to performance, 3) the interaction of internal locus of control and work stress on performance, indicating that individuals with internal locus of control will weaken the effect of work stress that is negative value to performance, so it does not degrade the performance quality of ATC unit Surabaya 4) the interaction of internal locus of control and pay satisfaction to the performance, indicating that individuals with the internal locus of control will strengthen the influence of pay satisfaction on performance, so that ATC officers are motivated by the level of salary provided by the company.

**Keywords:** Work stress, pay satisfaction, performance, internal locus of control, moderating, air traffic controller

### **1. INTRODUCTION**

Transportation is a means that has an important role in human life. No exception air transport facilities that are starting currently much of popular by the public. However, along with the increase amount of aircraft, of course, required of supervision, guidance, and control of the movement of the aircraft every day. Starting from the movement at the airport of departure, the

movement of aircraft in the air, until the plane landing at the destination airport which as a whole is the task of the flight traffic guide or also can be called as air traffic controller (ATC).

ATC is one of the job that has high work demands, heavy pressure because every day must be responsible to guide and supervise hundreds until thousands of aircraft. Not only that, ATC is responsible for the safety of passengers in the plane along with the crew in it. In giving instruction to the pilot, ATC uses a special language that only ATC and pilot can understand, or commonly referred to as Phraseology. This in addition to resulting saturation, the occurrence of Missed Communication between pilots and ATC can also result in aviation accidents. Can not be denied that ATC is one of the professions that have high levels of work stress. The situation will increase if something happens, including bad weather for flights, navigation equipment and communications that are not working properly, and the system of shifts rotation are not appropriate or not running properly.

In a previous study (Widodo, et al., 2015) found that work stress experienced by a flight traffic guide or air traffic controller (ATC) can significantly affect their performance. According to Hendra who served as Personnel ATC LPPNPI auxiliary unit of Malinau (21/7/2017) resulting from the inappropriate system of shift rotation can lead the work stress on the flight traffic guides, in addition to the satisfaction or dissatisfaction of compensation they get also directly affecting the performance of flight traffic guide officers in providing services.

Juanda International Airport includes the Airport which has a density level that entered the top 5 of the world, it is recognized by the General Manager of PT. Juanda International Airport Surabaya, in Sidoarjo, East Java. This level of density ultimately requires air traffic officers for extra work with full of concentration to guide and monitor airplane activity on a daily basis. In this study used Internal Locus of control which is one of personality variable. This variable is assumed by the researcher able to moderate a success or failure of employee performance with influenced by work stress and pay satisfaction on air traffic guide officers that exist in Juanda International Airport Surabaya.

- Work Stress ( $X_1$ )

Ivancevich, et al (2008) in Goswami (2015) defines work stress as a programmed response from individual threats to a group called stress. Stress can be positive (eustress) or negative (distress). Eustress results can stimulate performance improvement and positively encourage employees to produce a business or a work. Distress results in excessive negative impact on employee health and performance. Employee performance is negatively created by work stress (Zafar, et al, 2015). Indicators of work stress according to Robbins (2006: 796-797) are (1) Duty demands, that is factors related to the work of an employee such as working conditions, work procedures,

and physical location. (2) Role demands, that is factors which is related to a function of a certain role played in an organization. (3) Interpersonal demands, that is pressure caused by a colleague or other employee.

- Pay Satisfaction ( $X_2$ )

Satisfaction is a fun emotional attitude and shows a love for something. A person who is satisfied will show a positive attitude, and vice versa. this attitude in the company world can be reflected through morale of work, discipline, and work performance (Hasibuan, 2005). According to Zobel (1998) in Godeanu, A.M (2012) considers compensation as a motivation able influencing behavior, if an employee is rewarded for a specific behavior or performance, they will become more diligent to repeat the same behavior or reaction. Heneman and Schwab (1985) in Judge, TA and Welbourne, TM (1993) mentioned that there are some indicators of Pay satisfaction, namely (1) Pay level, (2) Pay raises, 3) Benefit, (4) Structure or administration.

- Internal Locus of Control (Z)

According to Robbins and Judge (2012) Internal locus of control is an individual who believes that they are the holder of control over whatever happens to themselves. In research Wuryaningsih DL and Kuswati, R (2013) Internal locus of control is perspective that good or bad results can be obtained from actions according to self-capacity (controlled) or factor from within self. Measurement of Internal locus of control variables was measured using instruments which is developed from the Rotter (1996) study in Hsinkuang, et al (2010). In this study to measure the Internal Locus of control are (1) The results achieved are from own effort, (2) Occupying a certain position in the work because of its own ability, (3) A success because of hard work, (4) The ability of individuals in determining his own way of life, (5) The individual's life depends on how his actions are, and (6) The failure experienced by the individual is due to his own behavior.

- Performance (Y)

Performance is a work result that is reached by a person in carrying out various assigned tasks to them based on his skills, experience, sincerity, and time (Hasibuan, 2001 in Wuryaningsih DL and Kuswati, R (2013) .Performance is the work achieved by an employee in carrying out its responsibilities in quality and quantity, it is also based on proficiency, experience, sincerity, and time (Mangkunegara, 2010: 9 in Saputra, KAK, 2012). Wirawan (2009: 166) suggests that performance indicators are job skills, job quality, responsibility, discipline, cooperation.

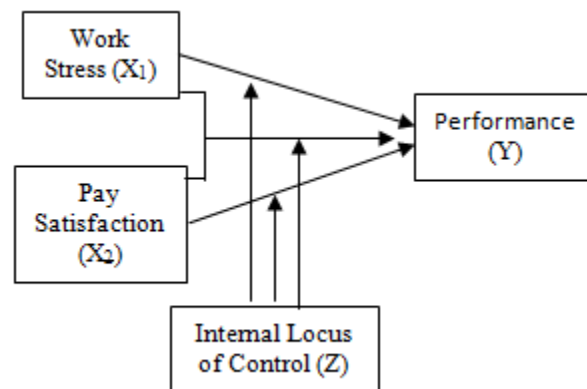
The hypothesis in this study as follows:

$H_1$  : There is a negative influence of job stress on performance of ATC officers branch Surabaya.

- H<sub>2</sub> : There is a positive influence of pay satisfaction on performance of ATC officers branch Surabaya.
- H<sub>3</sub> : There is an influence by work stress and pay satisfaction on performance of ATC officers branch Surabaya.
- H<sub>4</sub> : There is an interaction effect between internal locus of control and work stress on performance of ATC officers branch Surabaya.
- H<sub>5</sub> : There is an interaction effect between internal locus of control and pay satisfaction on performance of ATC officers branch Surabaya.
- H<sub>6</sub> : There is an interaction effect between internal locus of control and work stress, and between internal locus of control and pay satisfaction on ATC officers unit Surabaya's performance.

## 2. METHOD

This research uses quantitative approach with explanatory research's type. According Hermawan (2009: 20) explanatory research is a study that explains the causal relationship between variables through hypothesis testing. By using work stress (X<sub>1</sub>) and pay satisfaction (X<sub>2</sub>) as independent variable, Performance (Y) as dependent variable, and Internal locus of control (Z) as moderation variable. The population used is all ATC officers who are active on duty, both in Aerodrome Control Tower and Approach Control Unit. And sampling technique used in this research is multistage sampling, using table Isaac and Michael to determine the amount of sample size. So with an error rate of 5%, found 58 samples. It also required engagement of a supervisor to provide an assessment of each ATC officer's performance. This research model can be seen in Figure 2.1 as follows.



**Figure 1. Research Model**

Source: Writer (2018)

Figure 1 above shows relationship among variables that the Work stres ( $X_1$ ) and Pay satisfaction ( $X_2$ ) affect Performance (Y), and Internal locus of control (Z) as a moderating variabel.

### 3. FINDINGS

#### 3.1 Descriptive Analysis

Based on the results of the research from descriptive analysis in table 3.1 job stress obtained a value 2.52 which means that ATC officers have less or low of work stress, it can be interpreted that the ATC officers unit Surabaya had low work stress due to have sufficient of rest time and always calm in working. Despite having a high workload. Pay satisfaction variabel's obtained a value 3.86 which means that the ATC officers are satisfied with the salary who is obtained, this is because the salary given by the company is high enough and in accordance with what the officers expect. In addition ATC officers also have a personality of internal locus of control with an average value of 4.41 which means that the officer has a very good internal locus of control personality, this indicates that the ATC officers unit Surabaya have the ability and belief in themselves that they sure can control their own life purpose. And the performance of ATC officers has a value of 3.8 which means that officers have so far contributed well to the company.

**Table 1: Descriptive Analysis Result**

Variable	Avarage Value	Catagory
Work Stress	2,52	Low
Pay Satisfaction	3,86	Good
Internal Locus of Control	4,41	Good
Performance	3,8	Good

Source: Primary data processed

#### 3.2 Result of Hierarchical Regression Analysis Test

From 58 questionnaire administered to respondents, the results obtained through hierarchical regression analysis testing are as follows:

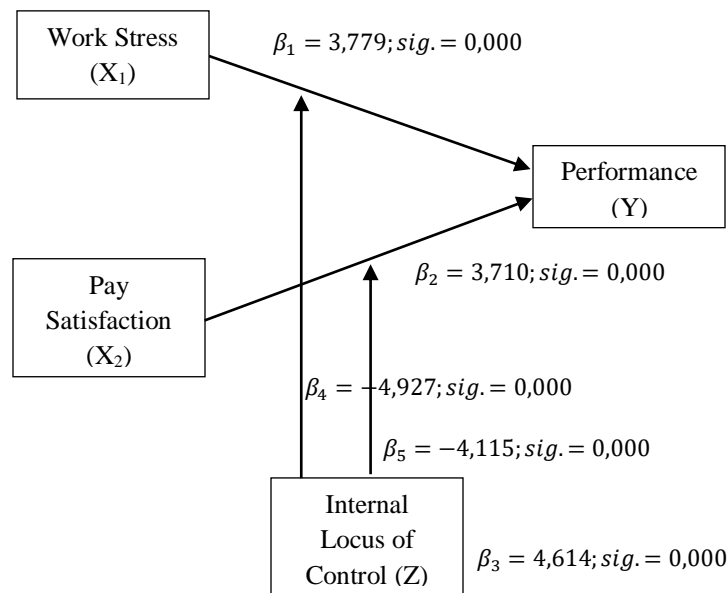
**Table 2: Hierarchical Regression Analysis Test With Performance (Y) as Dependent Variable**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Work Stress (X<sub>1</sub>)</b>	$\beta=-0,954^{**}$ (t=-23,769; sig.=0,000)		$\beta=-0,310^{**}$ (t=-4,352; sig.=0,000)	$\beta=1,032^{**}$ (t=2,164; sig.=0,035)		$\beta=3,779^{**}$ (t=5,711; sig.=0,000)
<b>Pay Satisfaction (X<sub>2</sub>)</b>		$\beta=0,977^{**}$ (t=34,384; sig.=0,000)	$\beta=0,686^{**}$ (t=9,615; sig.=0,000)		$\beta=0,151$ (t=0,390; sig.=0,689)	$\beta=3,710^{**}$ (t=5,753; sig.=0,000)
<b>Internal Locus of Control (Z)</b>				$\beta=1,299^{**}$ (t=4,429; sig.=0,000)	$\beta=-0,412$ (t=-1,941; sig.=0,057)	$\beta=4,614^{**}$ (t=5,735; sig.=0,000)
<b>Work Stress (X<sub>1</sub>) and Internal Locus of Control (Z)</b>				$\beta=-2,200^{**}$ (t=-4,154; sig.=0,000)		$\beta=-4,927^{**}$ (t=-6,202; sig.=0,000)
<b>Pay Satisfaction (X<sub>2</sub>) and Internal Locus of Control (Z)</b>					$\beta=0,999^{**}$ (t=2,120; sig.=0,039)	$\beta=-4,115^{**}$ (t=-4,851; sig.=0,000)
<b>R<sup>2</sup></b>	0,910	0,955	0,966	0,938	0,959	0,983
<b>F</b>	564,943 <sup>**</sup>	1182,263 <sup>**</sup>	789,965 <sup>**</sup>	270,367 <sup>**</sup>	424,101 <sup>**</sup>	605,823 <sup>**</sup>
<b>Sig. F</b>	0,000	0,000	0,000	0,000	0,000	0,000

Source: Primary data processed

<sup>\*\*</sup> Significant at alpha 0.05 level.

Hierarchical Regression Analysis results give the output of Coefficients Beta and t value. If hierarchy regression analysis results are incorporated into the research model, it can be shown as a diagram as follows:



Picture 3.2: Empirical Model of Research Results (Model 6)

Based on hierarchical regression calculation which listed on table 3.2, then the result give that sense:

- Influence work stress on performance  
 $H_1 =$  There is a negative influence and significant job stress on the performance of ATC officers branch Surabaya.  
 $H_0 \neq$  There is no a negative influence and significant job stress on the performance of ATC officers branch Surabaya.
- Influence pay satisfaction on performance  
 $H_2 =$  There is a positive influence and significant pay satisfaction on the performance of ATC officers branch Surabaya.  
 $H_0 \neq$  There is no a positive influence and significant pay satisfaction on the performance of ATC officers branch Surabaya.
- Influence work stress and pay satisfaction on performance  
 $H_3 =$  There is an influence by work stress and pay satisfaction on performance of ATC officers branch Surabaya.  
 $H_0 \neq$  There is no an influence by work stress and pay satisfaction on performance of ATC officers branch Surabaya.
- Influence interaction internal locus of control and work stress on performance

H<sub>4</sub> = There is an effect of interaction internal locus of control and work stress on performance of ATC officers branch Surabaya.

H<sub>0</sub> ≠ There is no an effect of interaction internal locus of control and work stress on performance of ATC officers branch Surabaya.

- Influence interaction internal locus of control and pay satisfaction on performance

H<sub>5</sub> = There is an effect of interaction internal locus of control and pay satisfaction on performance of ATC officers branch Surabaya.

H<sub>0</sub> ≠ There is no an effect of interaction internal locus of control and pay satisfaction on performance of ATC officers branch Surabaya.

- Influence interaction internal locus of control and work stress, and internal locus of control and pay satisfaction on performance

H<sub>6</sub> = There is an effect of interaction internal locus of control and work stress, and interaction of internal locus of control and pay satisfaction on ATC officers unit Surabaya's performance.

H<sub>0</sub> ≠ There is no an effect of interaction internal locus of control and work stress, and interaction of internal locus of control and pay satisfaction on ATC officers unit Surabaya's performance.

#### **4. DISCUSSION**

- a. Influence work stress on performance

Based on the calculation results, obtained significant value  $0.050 > 0.000$  with negative regression coefficient. Indicates that job stress has a negative and significant effect on performance. In previous research journals, entitled the stress level of the air traffic guides by Widodo et al (2015) found that there is a relationship between job stress and the performance of the air traffic control officer unit Jakarta. Which means that any increase in work stress experienced by the officer, then there will be a decrease in performance. In this study also found a similar thing that is a significant influence between work stress on performance. This indicates that when officers experience an increase in job stress, it can directly affect the performance quality of ATC officers unit Surabaya. However, ATC officers continue to perform their work in accordance with applicable SOP standards and strive to minimize any error during the flight process.

- b. Influence pay satisfaction on performance

Based on the calculation result, obtained significant value  $0.050 > 0.000$  with positive regression coefficient. Indicates that pay satisfaction or the satisfaction on salary has positive influence and significant on performance. Pay satisfaction is a one's feeling caused by result that match what is expected. Especially for employees, appropriate compensation with their hope can give the motivation and can increase employee performance. This is also



in accordance with the research journal Suprana (2012) which find that pay satisfaction has positive influence on employee performance.

c. Influence work stress and pay satisfaction on performance

Based on the calculation result, obtained significant value  $0.050 > 0.000$  for work stress with negative regression coefficient, indicates that work stress has negative influence and significant. And pay satisfaction has positive value and significance  $0.050 > 0.000$  signifies that pay satisfaction has positive influence and significant on performance. In this research found that work stress and pay satisfaction can influence directly on performance by together.

d. Influence interaction of internal locus of control and work stress on performance

Based on the calculation result, obtained significant value  $0.050 > 0.000$  with negative regression coefficient, indicates that internal locus of control has interaction on work stress. In research journal Rahardjo and Dewi (2016) locus of control's variabel can strengthen the influence of work stress on performance. This indicates when the employees experienced increased levels of work stress, will weaken on the officers which has personality of internal locus of control, so as not to degrade the performance quality of ATC officers unit Surabaya.

e. Influence interaction of internal locus of control and pay satisfaction on performance

Based on the calculation result, obtained significant value  $0.050 > 0.039$  with positive regression coefficient, indicates that internal locus of control has interaction on pay satisfaction. this is in accordance with the research journal Wuryaningsih and Kuswanti (2013) that internal locus of control is a way of seeing that good or bad results can be obtained from actions according to self-capacity (controlled) or internal factors. So the individual who has Internal Locus of Control is more easily satisfied with the results he obtained, because the person with internal locus of control feel what he got is based on the efforts that have been done. At ATC officials, the growing sense of satisfaction over the salary earned is also reinforced by the existence of a personality variable who believes that success which earned on the basis of the hard work they have done.

f. Influence interaction of internal locus of control and work stress on performance, and influence interaction internal locus of control and pay satisfaction on performance.

Based on the calculation result, obtained significant value  $0.050 > 0.000$  for interaction between internal locus of control and work stress, indicates that there is interaction internal locus of control and work stress. And also there is interaction between internal locus of control and pay satisfaction because significant value  $0.050 > 0.000$ . in this research found that internal locus of control and work stress, and internal locus of control and pay satisfaction can influence the performance's variable by together.

## CONCLUSION

Based on the results of the analysis that has been done, it can be concluded that there is a significant relationship between job stress on performance. This indicates that the stress experienced by ATC officers directly affects the quality of performance. However, ATC officers continue to perform their work in accordance with applicable SOP standards and strive to minimize any error during the flight process. The same is true of pay satisfaction relationships on performance. Satisfaction of salary received by ATC unit Surabaya officer have a significant effect to performance. Indicates that satisfaction over the perceived salary, affects performance. Internal Locus of Control is a personality variable that in this study serves as a moderation that can weaken or strengthen the relationship between job stress and pay satisfaction on performance. In this study found that the personality variable of internal locus of control, based on the calculation results weaken the relationship between job stress on the performance of ATC officers. In addition, internal locus of control can also strengthen the relationship between pay satisfaction to performance.

## REFERENCES

- Godeanu, A.M. 2012. The Antecedents of Satisfaction with Pay in Teams: Do Performance-Based Compensation and Autonomy Keep Team-Members Satisfied, *Eastern Journal of European Studies*. 3 (1): 145-168.
- Goswami, T.G. 2015. Job Stress and Its Effect on Employee Performance in Banking Sector, *Indian Journal of Commerce & Management Studies*. 6 (2): 51-56.
- Hasibuan, M.S.P. 2005. *Manajemen Sumber Daya Manusia*, Revised Edition. Jakarta: Bumi Aksara.
- Hermawan, A. 2009. *Penelitian Bisnis*. Jakarta: PT. Grasindo.
- Hsinkuang, C., Hueryren, Y., & Yuling, C. 2010. The Moderating Effect of Locus of Control on Customer Orientation and Job Performance of Salespeople, *The Business Review, Cambridge*. 16 (2): 142-148.
- Ivancevich, Konopaske, & Matteson. 2006. *Perilaku dan Manajemen Organisasi*. (Translated by Gina Gania). Jakarta: Penerbit Erlangga.
- Judge, T.A., & Welbourne, T.M. 1993. Dimensionality of the Pay Satisfaction Questionnaire: A Confirmatory Factor Analytic Investigation, *Center for Advanced Human Resource Studies*. (Online), (<http://digitalcommouns.ilr.cornell.edu/cahrswp/264>), accessed Oct. 20, 2017.

- Rahardjo, K.S., & Dewi, I.G.A.M. 2016. Pengaruh Stres Kerja Pada Kinerja Karyawan Dengan Locus of Control Sebagai Variabel Pemoderasi, *Jurnal Manajemen, Strategi Bisnis dan Kewirausahaan*. 10 (2): 117-127.
- Robbins, S.P. 2006. Perilaku Organisasi. Terjemahan Benyamin Molan. Jakarta: Penerbit PT. Indeks, Kelompok Gramedia.
- Robbins, S.P., & Judge, T.A. 2012. *Perilaku Organisasi*, 12<sup>th</sup> Eds. (Translated by Diana Angelica, Ria Cahyani, & Abdul Rosyid). Jakarta: Salemba Empat.
- Saputra, K.A.K. 2012. Pengaruh Locus of Control Terhadap Kinerja dan Kepuasan Kerja Internal Auditor Dengan Kultur Lokal Tri Hita Karana Sebagai Variabel Moderasi, *Jurnal Akutansi Multiparadigma*. 3 (1): 86-100.
- Suprana, R. 2012. Analisis Pengaruh Kepuasan Kompensasi Dan Komitmen Organisasional Terhadap Kinerja Karyawan, (Online), (<http://eprints.undip.ac.id/SUPRANA>), accessed Oct. 24, 2017.
- Widodo, E.S., Fahmi, R., & Pantaryanto, N. 2015. Tingkat Stres Petugas Pemandu Lalu Lintas Penerbangan, *Jurnal Manajemen Bisnis Transportasi Dan Logistik*. 2 (1): 64-81.
- Wirawan. 2009. *Evaluasi Kinerja Sumber Daya Manusia Teori Aplikasi dan Penelitian*. Jakarta: Salemba Empat.
- Wuryaningsih, D.L., & Kuswati, R. 2013. Analisis Pengaruh Locus of Control Pada Kinerja Karyawan, *Proceeding Seminar Nasional dan Call For Papers Sancall 2013*, (Online), (<https://publikasiilmiah.ums.ac.id/bitstream/handle/11617/3818/25.%20Wuryaningsih%20dan%20Rini.pdf?sequence=1>), accessed Oct. 23, 2017.
- Zafar, Q., Ali, A., Hameed, T., Ilyas, T., & Younas, H.I. 2015. The Influence of Job Stress on Employees Performance in Pakistan, *American Journal of Social Science Research*. 1 (4): 221-225.