The Influence of Individual Characteristics and Workload on Productivity Through Burnout in Aviation Security at Sultan Babullah Airport, Ternate, in 2024

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Individual characteristics, Workload, Productivity, Burnout, Aviation Security

ABSTRACT:
This study aims to analyze the influence of Individual Characteristics (Age, Gender, Education, Marital Status) and Workload on Productivity through Burnout among Aviation Security personnel at Sultan Babullah Airport, Ternate.
The research employs a descriptive analytical method with a cross-sectional design. The study was conducted at Sultan Babullah Airport, North Maluku Province, in August 2024. Sampling was performed on the entire population, consisting of 72 Aviation Security personnel. Data collection was carried out using research instruments in the form of pre-prepared questionnaires. Data analysis was conducted using IBM SPSS version 27 and IBM AMOS version 23.
The results showed a significant and positive direct effect (positive correlation) between age and productivity through burnout among Aviation Security personnel at Sultan Babullah Airport, Ternate, in 2024, with a path coefficient of 0.073 (positive) and a p-value of 0.035. A significant but negative direct effect (inverse correlation) was found between marital status and productivity through burnout, with a path coefficient of -0.057 (negative) and a p-value of 0.039. A significant but negative direct effect (inverse correlation) was also observed between workload and productivity through burnout, with a path coefficient of -0.076 and a p-value of 0.041, which is less than the predetermined significance level of $\alpha = 0.05$. No significant direct effect and inverse correlation were found between gender and productivity through burnout, with a path coefficient of -0.016 (negative) and a p-value of 0.204. Similarly, no significant direct effect and inverse correlation were found between education and productivity through burnout, with a path coefficient of -0.021 and a p-value of 0.210, which is greater than the predetermined significance level of $\alpha = 0.05$.

INTRODUCTION

In recent years, the aviation industry has experienced rapid development, accompanied by increasing competition among airlines striving to enhance quality

and creativity to achieve their goals. The key to success lies in high-quality human resources (HR), serving as the primary driver in accomplishing organizational objectives. Therefore, effective HR management becomes a critical element in realizing these goals (Saraswati L.A and Kusuma, 2022). Human resources are the most vital asset within an organization, as employees contribute their ideas, efforts, time, and energy to the company. Employees' presence is highly valuable due to their diverse thoughts, emotions, and individual characteristics. Consequently, organizations must enhance efficiency and productivity to foster an environment that maximizes employees' skills and abilities (Daud et al., 2021).

Individual characteristics within an organization significantly influence each employee's performance. Every worker brings unique traits and contributions, leading to varying impacts on organizational performance. Therefore, companies establish specific criteria to select employees that align with their needs (Sopiah, 2008). Individual characteristics encompass dimensions such as initiative, task completion abilities, and adaptability to changes in the work environment. Additionally, workload plays a critical role in determining employee performance in achieving organizational goals. Workload refers to the amount of work assigned to an employee within a specific timeframe (Wefald et al., 2008).

According to Mangkuprawiranegara (2003), workload can be classified into three conditions: standard workload, excessive workload (overcapacity), and light workload (under capacity). Research by Admaja (2018) indicates that high workloads are associated with an increased risk of burnout among employees, which can disrupt productivity. Misaligned workloads may lower performance and cause stress. Thus, organizations must account for workload impacts to ensure they remain within employees' physical and mental capacities (Limnata and Silaswara, Manuaba 2022). Burnout can lead to decreased motivation, fatigue, and reduced work quality, ultimately affecting employee productivity. Excessive stress-induced burnout may significantly diminish performance (National Safety Council, 2004). Burnout may reduce job focus, increase absenteeism, and raise the likelihood of illness or health disorders (Gorji, 2011; Rehman and Saquib, 2015).

Excessive workloads in certain sectors, such as Aviation Security officers at airports, can lead to stress and burnout. Research by Rahayu P.E. and Kurniawan H. (2022) shows a significant relationship between workload and burnout among Aviation Security officers at Sultan Babullah Airport, which may impact their productivity. Aviation Security officers bear the critical responsibility of maintaining aviation security and safety, often encountering stressors such as unruly passenger behavior and high workloads (Wari A.S and Widajati N., 2022).

Sultan Babullah Airport in Ternate serves as an essential aviation hub in Indonesia, functioning not only as an economic gateway but also as a critical transportation center for regional and national economies. This pivotal role underscores the importance of robust airport security management. Aviation Security officers at this airport are tasked with ensuring aviation safety and security through responsibilities such as passenger and crew screening and facility

inspections every three hours (Wahyudono, 2023).

The primary role of Aviation Security is to ensure safety for passengers and personnel at the airport. Equipped with specialized licenses and training, these officers handle various security threats. However, the high-pressure nature of their job often leads to stress, which may affect their performance. High workloads and frequent interactions with external stressors make these officers more susceptible to burnout, consequently impacting their productivity.

This study aims to analyze the influence of individual characteristics (age, gender, education, marital status) and workload on productivity through burnout among Aviation Security officers at Sultan Babullah Airport, Ternate, in 2024. The primary objectives are to evaluate the influence of individual characteristics and workload on work productivity and to examine burnout as a mediating factor in these relationships. Additionally, the study seeks to assess factors that can enhance employee productivity in the aviation sector, particularly in the Aviation Security unit, by considering individual characteristics and effective workload management.

This study proposes several hypotheses regarding the influence of various factors on burnout and productivity among Aviation Security officers at Sultan Babullah Airport in 2024. Hypotheses one through five test the direct impact of demographic and work condition factors on burnout, including age, gender, education, marital status, and workload. Hypothesis six posits a direct influence of burnout on productivity. Hypotheses seven through ten examine the direct impact of demographic and work condition factors on productivity, while hypothesis eleven investigates the direct influence of workload on workload. Finally, hypotheses twelve through sixteen test the indirect effects of these factors on productivity through burnout as an intervening variable.

The research employs a descriptive analytical method with a cross-sectional study design to explore the relationships between variables. The study focuses on the influence of individual characteristics and workload on productivity among Aviation Security officers at Sultan Babullah Airport, with burnout as an intervening variable. The study is set to be conducted at Sultan Babullah Airport in North Maluku Province over approximately one month, including research permissions. The population comprises all 72 officers in the Aviation Security Unit, who also constitute the research sample. Data analysis is conducted using IBM SPSS version 27 and IBM SPSS AMOS version 23.

RESULTS

Table 1. Frequency Distribution of Age, Gender, Educational Status, Marital Status, Mental Workload, Productivity, and Burnout of Respondents

Age	Frequency	Percentage (%)
< 35 Years	32	44.4
≥ 35 Years	40	55.6
Total	72	100.0
Gender	**Frequency**	**Percentage (%)**

Male	56	77.8
Female	16	22.2
Total	72	100.0
Gender	**Frequency**	**Percentage (%)**
D1 – S1 (Diploma-Bachelor's)	29	40.3
SD – SMA (Elementary-High School)	43	59.7
Total	72	100.0
Marital Status	**Frequency**	**Percentage (%)**
Married	59	81.9
Unmarried	13	18.1
Total	72	100.0
Mental Workload	**Frequency**	**Percentage (%)**
Light	45	62.5
Heavy	27	37.5
Total	72	100.0
Productivity	**Frequency**	**Percentage (%)**
Productive	48	66.7
Not Productive	24	33.3
Total	72	100.0
Burnout	**Frequency**	**Percentage (%)**
Not Experiencing Burnout	44	61.1
Experiencing Burnout	28	38.9
Total	72	100.0

Based on Table 1, the distribution of respondents by age shows that the older age group dominates, with 40 respondents (55.6%), while the younger age group consists of only 32 respondents (44.4%). The majority of respondents are male, amounting to 56 individuals (77.8%), while 16 individuals (22.2%) are female. A total of 43 respondents (59.7%) have a maximum education level of high school, while 29 respondents (40.3%) have a maximum education level of a bachelor's degree. Most respondents are married, totaling 59 individuals (81.9%), while 13 respondents (18.1%) are unmarried. In terms of workload, 45 respondents (62.5%) experience a light workload, whereas 27 respondents (37.5%) report a heavy workload. Regarding productivity levels, 48 respondents (66.7%) are productive, while 24 respondents (33.3%) are not productive. The majority of respondents do not experience burnout, with 44 individuals (61.1%), whereas 28 respondents (38.9%) report experiencing burnout.

Table 2. Direct Effects of Exogenous Variables on Endogenous Variables

Path			Estimate (β)	S.E.	C.R.	P values	Conclusion
X1	--->	Y	-5,260	1,456	-3,613	,000	Negative, significant
X2	--->	Y	-4,570	1,638	-2,790	,005	Negative, significant
X3	--->	Y	5,544	1,386	4,000	,000	Positive, significant
X4	--->	Y	-1,660	1,850	-,897	,370	Negative, notsignificant
X5	--->	Y	-,530	,189	-2,807	,005	Negative, significant
Z	--->	Y	-,149	,067	-2,228	,026	Negative, significant
X1	--->	Z	-7,264	2,444	-2,973	,003	Negative, significant
X2	--->	Z	1,857	2,907	,639	,523	Positive, not significant
X3	--->	Z	2,078	2,455	,846	,397	Positive, not significant
X4	--->	Z	7,360	3,175	2,318	,020	Positive, significant
X5	--->	Z	1,018	,314	3,245	,001	Positive, significant

In Table 2, the results of the path analysis (Path Analysis) using AMOS show that among the variables with a direct positive (aligned) and significant effect are the Education variable (X3) on Productivity (Y) with a p-value of 0.000, the Marital Status variable on Burnout with a p-value of 0.02, and the Workload variable on Burnout with a p-value of 0.001, which are smaller than $\alpha = 0.05$. Meanwhile, variables with a direct negative (inverse) and significant effect include the Age variable (X1), Gender (X2), Marital Status (X4), Workload (X5), and Burnout (Z) variables on the Productivity variable (Y), as well as the Age variable (X1) on the Burnout variable (Z). These have p-values smaller than or less than the determined significance level of $\alpha = 0.05$.

Table 3. Indirect Effects of Exogenous Variables on Endogenous Variables Through Intervening Variables

Indirect Effect			Path Coefficient	P-value
Age	→ Burnout →	Productivity	0.073	0.035
Gender	→ Burnout →	Productivity	-0.016	0.204
Education	→ Burnout →	Productivity	-0.021	0.210
Marital Status	→ Burnout →	Productivity	-0.057	0.039
Workload	→ Burnout →	Productivity	-0.076	0.041

Table 3. The relationship between exogenous variables and endogenous variables through the intervening variable shows that: indirectly, variables that have a significant indirect effect on productivity through burnout are Age (positive effect), Marital Status (negative effect), and Workload (negative effect). Meanwhile, Gender and Education do not have a significant effect on productivity through burnout.

DISCUSSION

Direct Influence of Age on Productivity

Work productivity refers to the comparison of quality and quantity of work outcomes within a specific time frame to achieve effective and efficient performance. Age plays a significant role in productivity, exhibiting a complex relationship. In young adulthood (20–35 years), individuals tend to have high energy, creativity, and maximum adaptability. Between the ages of 35–50 years, productivity peaks, combining energy and experience. Meanwhile, in the age range of 50–65 years, productivity shifts focus towards quality, depth of knowledge, and strategic approaches. Factors such as physical and mental health, motivation, opportunities for development, and work environment also influence productivity. Although older age is often associated with declining productivity, accumulated experience and skills over a lifetime can enhance expertise, allowing productivity to remain high, especially in fields requiring experience and deep knowledge.

Based on research conducted at Sultan Babullah Airport, Ternate, findings indicate a significant negative relationship between age and the work productivity of Aviation Security officers, despite some older respondents remaining productive. Declines in productivity with advancing age are often linked to physical deterioration, such as reduced strength and slower adaptation to new technologies. Previous studies also support these findings, indicating that younger individuals tend to be more productive in physical tasks, while senior workers excel in knowledge-based tasks. Nevertheless, experience, crystallized intelligence, and adaptive capabilities can mitigate the negative effects of age on productivity. Thus,

these factors are not solely influenced by age but are also shaped by individual experience, health, and motivation.

Direct Influence of Gender on Productivity

Gender influences work productivity through interrelated social, biological, and psychological factors. Biologically, differences in hormones, brain structure, and physical characteristics between men and women can affect energy levels, concentration, and the types of jobs they can perform. Socially and culturally, gender role stereotypes, access to education opportunities, and workplace discrimination also play a role. Psychologically, intrinsic motivation, leadership styles, and problem-solving strategies differ between men and women. While men generally tend to be more productive in physical work, women excel in tasks requiring precision, collaboration, and emotional sensitivity. Research conducted at Sultan Babullah Airport in Ternate shows that men exhibit higher productivity levels, while women tend to be more efficient in non-physical tasks.

Several studies suggest that productivity differences between men and women are not absolute. Research from the Transportation Security Administration (TSA) and the European Aviation Safety Agency (EASA) reveals that factors such as training, competence, education, and experience are more critical determinants of productivity than gender. While gender differences exist, men are more frequently involved in physically demanding work, whereas women focus more on tasks requiring precision and collaborative skills. Despite higher male workforce participation, particularly in physical jobs, women's participation in economic and political fields continues to increase, contributing to greater equality in job opportunities and economic contributions, as reflected in the Gender Development Index (GDI).

Direct Influence of Education on Productivity

Economic development in a region or country heavily depends on the interplay of various factors such as human resources, natural resources, capital, and technology. High-quality human resources are a key driver as they significantly contribute to national productivity. Conversely, low-quality labor can be an economic burden due to limited skills and productivity. Education plays a critical role in improving human resource quality, as it enhances workers' skills and mindsets. Unfortunately, despite Indonesia's large labor force, the majority have low levels of education, leading to limited skills and productivity. Furthermore, the growth in the labor force is not always matched by adequate job creation, making employment a central issue in economic development.

Higher education has been shown to positively impact work productivity. Research at Sultan Babullah Airport in Ternate indicates that aviation security personnel with higher education levels possess better skills and knowledge to complete their tasks and make wiser decisions. These findings support the theory

that education enhances productivity by enriching knowledge, technical skills, and analytical abilities. In addition to formal education, employee training and development are vital for boosting productivity. Proper training programs can enhance employees' work efficiency, while development initiatives equip them with the necessary skills to face technological challenges and industry competition. Therefore, increasing education levels and continuous training programs are essential for improving workforce productivity, ultimately supporting economic progress.

Direct Influence of Workload on Productivity

Workload refers to the number of tasks or activities that a worker must complete within a specific timeframe, which can be assessed from two main dimensions: quantitative and qualitative. Quantitative workload includes the number of tasks, working hours, and job volume, whereas qualitative workload encompasses difficulty levels, task complexity, and the skills required to complete the work. Excessive workloads, whether quantitative or qualitative, can affect work productivity, with the optimal point being a balanced workload. Conversely, extremely low or high workloads can reduce individual productivity. According to the Yerkes-Dodson law, optimal productivity is achieved under moderate stress or workload, while extreme workloads can lead to decreased work quality and mental health issues. Therefore, effective workload management is crucial to maintain maximum productivity.

Research at Sultan Babullah Airport in Ternate shows a significant relationship between workload and the productivity of aviation security personnel. Findings reveal that personnel with lighter workloads tend to be more productive, although some with heavier workloads also exhibit good productivity. This indicates that optimal workload management can enhance productivity, even though heavier workloads do not always directly lead to decreased productivity. Other studies also reveal that imbalanced workloads can negatively impact work quality and workers' mental health. Companies should regularly measure and manage workloads while providing employee training and development to create a supportive work environment. Effective time management strategies, proportional task distribution, and skill development can help optimize productivity and employee well-being.

Direct Influence of Burnout on Productivity

Research at Sultan Babullah Airport in Ternate indicates that although most aviation security personnel experiencing burnout (28 out of 72 respondents) show reduced productivity, some remain productive despite experiencing burnout. This suggests that internal factors such as motivation, teamwork, and mutual support among colleagues can mitigate the negative impact of burnout on productivity. However, overall, burnout negatively correlates with productivity, particularly

through psychological aspects such as reduced concentration and intrinsic motivation, as well as physiological aspects including physical and mental fatigue.

Previous studies, such as a meta-analysis published in the Journal of Occupational Health Psychology (2019), reveal that burnout has a significant negative correlation with productivity. Productivity declines caused by burnout range from 25% to 60%, depending on the intensity of burnout. This decline is also associated with increased work errors, reduced output quality, and slower task completion.

The importance of stress management and organizational support is increasingly evident. To reduce the impact of burnout on productivity, effective stress management programs should be implemented, including psychological support, improved working conditions, reduced excessive working hours, and fostering a healthy and supportive workplace culture. Through this approach, an optimal balance between workload and employees' mental and physical well-being can be achieved, ultimately enhancing overall work productivity.

Direct Influence of Age on Burnout

Burnout presents varying manifestations and impacts across different age groups. Understanding these differences is crucial for developing more effective prevention strategies, considering the unique characteristics of each age group. Psychologically, older workers generally have better emotional regulation, enabling them to manage stress and work pressure more efficiently and demonstrating greater mental resilience. In contrast, younger workers often have idealistic expectations that do not align with workplace realities, potentially triggering burnout. Additionally, senior workers are more realistic when setting targets, whereas younger workers are more likely to experience stress due to the gap between their expectations and reality.

Social and professional aspects also play a significant role in the relationship between age and burnout. Senior workers typically have stronger social networks and find it easier to seek help when facing difficulties. They are also more adept at managing various responsibilities, while younger workers often encounter role conflicts and challenges in balancing their careers and personal lives. Longer work experience allows senior employees to better understand organizational dynamics, develop more efficient work strategies, and feel more confident in addressing workplace challenges. Generationally, work values and priorities differ between younger and senior workers; younger generations prioritize work-life balance, while older generations tend to focus more on job stability. Furthermore, younger workers adapt more quickly to technology, whereas senior workers may struggle with digital adaptation, potentially increasing stress.

In the workplace context, the influence of age on burnout also varies depending on the type of job. Certain professions, especially those involving physical and mental challenges, impose different demands on various age groups.

Therefore, organizations need to develop policies that support workers of all ages, such as cross-generational mentoring programs and policies that address the needs of specific age groups. Individually, it is essential to develop age-appropriate coping strategies, maintain continuous learning, and ensure physical and mental health. Organizations should also design age-based burnout prevention programs and foster an inclusive and supportive work environment. Preventive approaches, including stress management training, sustainable career development programs, and continuous mental health support systems, are highly significant.

Research also shows a negative correlation between age and burnout levels, with younger workers being more prone to burnout compared to older workers. Studies by Maslach et al. (2001), Schaufeli et al. (2019), and others reveal that younger employees, particularly those under 30 years old, exhibit higher levels of burnout. Contributing factors include a lack of work experience, poor stress management, and unrealistic expectations. Conversely, senior workers tend to possess greater experience and superior stress-coping abilities, making them more emotionally and professionally stable. Studies by Ahola et al. (2021) and Brewer & Shapard (2020) also found that as age and experience increase, the risk of burnout decreases. Therefore, appropriate support and mentoring programs are essential to prevent burnout among younger workers and help them navigate career challenges effectively.

Direct Influence of Marital Status on Burnout

Maslach and Leiter (1997) state that married individuals generally benefit from better social support, which plays a vital role in reducing stress and preventing burnout. Emotional support from a spouse, such as open communication and empathy, helps manage work stress, enhance psychological resilience, and reduce emotional exhaustion. Conversely, unhappy and conflict-laden marriages can exacerbate burnout by adding psychological burdens and diminishing coping abilities. Maslach and Jackson (1981) also note that household conflicts can interact with work-related stress, creating a negative cycle that worsens burnout.

The division of roles and responsibilities within a marriage also affects workload management. Couples who share household responsibilities equitably tend to experience lower stress levels. Conversely, role imbalances, such as dual burdens, can increase burnout risk. The stage of the marital life cycle also has an impact, with younger couples with small children facing higher stress levels, whereas long-married couples possess more mature coping mechanisms. External factors, such as social and economic contexts, further influence burnout management (Schaufeli & Bakker, 2004).

Research conducted on Aviation Security personnel at Sultan Babullah Airport in Ternate indicates that marital status significantly influences burnout. Of the 72 respondents, 69.2% of unmarried personnel experienced burnout. The analysis revealed a significant positive relationship between marital status and

burnout, where unmarried personnel are more prone to burnout due to a lack of social support and a platform to share concerns (Maslach & Jackson, 1984). Strong spousal support within a marriage has proven crucial in reducing work stress and preventing burnout.

Direct Influence of Workload on Burnout

Maslach and Leiter (1997) define workload as the amount of demand that must be fulfilled within a given period. They emphasize that the imbalance between job demands and available resources is a primary factor triggering burnout. Workload can include task volume, time pressure, work quality, and the complexity of professional activities, while burnout encompasses physical and emotional exhaustion, reduced motivation, and depersonalization.

Physiologically, sustained heavy workloads increase cortisol levels (stress hormone), potentially weakening the immune system and causing chronic fatigue. Research on Aviation Security personnel at Sultan Babullah Airport shows that 70.4% of those with heavy workloads experience burnout. The analysis indicates a significant relationship between workload and burnout, with a beta coefficient of 1.018 and a p-value of 0.001. This demonstrates that high workloads contribute to burnout, driven by monotonous routines and high demands that do not always align with field conditions.

This research aligns with findings by Maslach and Leiter (2008), who report a positive correlation between excessive workload and burnout, with excessive workloads contributing to 45% of the variation in burnout levels, particularly emotional exhaustion. Other studies by Bakker et al. (2005) and Schaufeli and Bakker (2004) confirm the positive link between excessive workload and burnout. Reducing workload has been shown to lower burnout levels by up to 30%, highlighting the importance of effective workload management. For Aviation Security personnel, time management, open communication, self-care practices, and comprehensive organizational support are critical to preventing burnout. A systematic and sustainable approach is necessary to balance job demands and individual capacity.

Indirect Influence of Age on Productivity Through Burnout

Schaufeli and Enzmann (1998) explain that age influences burnout levels through greater work experience, more mature coping strategies, realistic work expectations, and better mental resilience among older workers. Meanwhile, Maslach and Leiter (1997) reveal that burnout can reduce productivity through decreased physical and mental energy, diminished motivation, reduced concentration, and increased work errors. Burnout also serves as a mediator between age and productivity, with younger workers being more prone to burnout, while older workers with lower burnout levels demonstrate higher productivity.

Research conducted on Aviation Security personnel at Sultan Babullah Airport in Ternate found that 50% of younger personnel experienced burnout, although most remained productive. Path analysis revealed that younger age was positively associated with productivity but also with higher susceptibility to burnout. Younger personnel typically have good physical stamina and high enthusiasm but lack sufficient knowledge of energy and stress management, making them more vulnerable to burnout.

Other studies, such as those conducted by Harvard University (2019) and the European Journal of Work and Organizational Psychology (2020), indicate that individuals aged 35–45 face the highest risk of burnout, which significantly contributes to reduced productivity. This productivity decline becomes even more pronounced in the 45–55 age group, with reductions ranging from 25% to 32% due to burnout.

To maintain productivity and avoid burnout, various strategies can be employed. Mental management techniques, such as mindfulness and meditation, can help maintain emotional balance. Task rotation and skill development through continuous training can alleviate job monotony. Furthermore, health management through regular check-ups and psychological counseling is essential for personnel well-being. Organizational support, such as open communication, recognition, and additional skill training, strengthens employee morale. Personal strategies, including time management and maintaining work-life balance, also play a crucial role in sustaining productivity and preventing burnout.

Indirect Influence of Gender on Productivity Through Burnout

Maslach and Jackson (1981) and Schaufeli and Enzmann (1998) argue that women are more prone to burnout than men, influenced by psychological differences and varying coping mechanisms. Burnout can reduce work productivity by decreasing physical and mental energy, motivation, and concentration. According to Leiter and Maslach (2008), social factors and workplace structures play a more significant role in influencing burnout than gender alone. Burnout is often observed in social service professions, such as nursing, medicine, and teaching, where emotional involvement in the welfare of others is high (Caputo, 1991; Cherniss, 1980). Maslach and Leiter (2008) describe burnout as emotional exhaustion due to prolonged workplace stress, which negatively affects organizational commitment and work productivity.

Research involving 72 Aviation Security personnel at Sultan Babullah Airport in Ternate revealed that men were more productive (76.8%) and less likely to experience burnout (64.3%). Path analysis showed that gender did not significantly influence productivity through burnout, with a path coefficient of -0.016 and a p-value of 0.204, which is greater than 0.05. Psychologically, men tend to be more rational and less expressive of emotions, while women are more emotionally expressive and often face dual roles as mothers and wives.

Other studies, such as those by Kusumaningrum et al. (2016), indicate no significant differences between gender, workload, and burnout. However, research by Widyastuti and Sunaryo (2018) and Panjaitan and Situmorang (2020) found that women are more vulnerable to burnout, particularly due to the dual roles they undertake, which can impact their productivity.

Indirect Influence of Education on Productivity Through Burnout

Education plays a crucial role in individual development and productivity. According to Notoatmojo (as cited in Ariwibowo, 2013), education is a process of developing an individual's abilities and attitudes within society, influenced by the social environment. Todaro (as cited in Widyastuti, 2012) also highlights that education is essential for developing countries to adapt to modern technology and support sustainable development. Individuals with higher education levels tend to possess better mindsets, attitudes, and behaviors, as well as greater job-related advantages. The relationship between education level and productivity is complex, particularly with regard to burnout. Maslach and Leiter (2008) assert that higher education can reduce the risk of burnout, as individuals with advanced education have better knowledge and coping skills, ultimately improving productivity. Similarly, Schaufeli et al. (2009) confirm that education enhances workplace adaptability and reduces susceptibility to burnout, which negatively correlates with productivity. Additionally, Bakker and Demerouti (2007) suggest that education builds psychological resilience and decreases the likelihood of burnout.

Research conducted on Aviation Security personnel at Sultan Babullah Airport in Ternate revealed that although the majority of respondents held a high school diploma, the highest productivity levels and lowest burnout rates were found among respondents with a bachelor's degree. Path analysis indicated no significant influence of education level on productivity through burnout, with a path coefficient of -0.021 and a p-value of 0.210. This suggests that beyond formal education, non-formal training also plays a vital role in enhancing productivity and mitigating burnout. However, these findings contradict the research by Setiawan and Indrawati (2017), which demonstrated that higher education levels are associated with lower burnout risks due to better coping strategies. Similarly, Wirawan and Sudarma (2019) found that higher education negatively correlates with burnout and positively impacts productivity.

Education significantly contributes to productivity improvement by enhancing skills and competencies, enabling individuals to work more efficiently, and improving adaptability to changes. However, individuals with higher education levels are paradoxically at a greater risk of experiencing burnout due to heightened pressures to achieve optimal performance and elevated expectations. The occurrence of burnout among highly educated individuals can be understood as a result of imbalances between efforts and rewards, excessive workloads, and value conflicts between personal expectations and workplace realities (Handayani, 2020).

To prevent burnout, several strategies can be implemented, such as effective time management, the development of coping skills, workload restrictions, and psychological support. Education can also help reduce burnout risks by increasing awareness of mental health, problem-solving skills, and the importance of work-life balance.

Indirect Influence of Marital Status on Productivity Through Burnout

According to Maslach and Jackson (1981), marital status affects the psychological resilience of individuals, with spousal support playing a critical role in reducing burnout risk and enhancing work productivity. Schaufeli and Bakker (2004) assert that marriage provides emotional stability and reduces vulnerability to stress, thereby contributing to productivity. Similarly, Leiter and Maslach (2005) emphasize that spousal support acts as an effective coping mechanism to mitigate the intensity of burnout and sustain productivity.

Among Aviation Security (Avsec) personnel, being married provides emotional stability through spousal support, better communication, and improved stress management capabilities. Married personnel tend to be more structured in time management, have clear priorities, and work more efficiently. Additionally, they feel a heightened sense of economic responsibility and professional commitment, motivating them to perform better. The family support they receive plays a pivotal role in reducing stress and replenishing energy levels. Research on Aviation Security personnel at Sultan Babullah Airport in Ternate revealed that married personnel were more productive and less likely to experience burnout. Among 72 respondents, 59 were married, with 43 individuals (72.9%) being productive and 40 individuals (80%) showing no signs of burnout. Meanwhile, unmarried personnel were more prone to burnout and lower productivity. Path analysis showed a significant indirect influence of marital status on productivity through burnout, with a path coefficient of -0.057 and a p-value of 0.039. These findings align with Kurniawati and Sumaryati (2016), who found that spousal support reduces work stress and enhances productivity. Similarly, Pratiwi and Sulistyarini (2018) concluded that marriage reduces burnout risk and increases productivity.

Indirect Influence of Workload on Productivity Through Burnout

Maslach and Leiter (2008) explain that excessive workload can increase burnout risk, which in turn lowers motivation and productivity. Schaufeli et al. (2009) also highlight that high workloads are positively correlated with burnout, as excessive tasks lead to fatigue and reduced performance. Similarly, Bakker and Demerouti (2007) state that workload triggers stress and emotional exhaustion, potentially decreasing productivity.

Manuaba (2000) identifies that workload is influenced by external factors (e.g., physical tasks, work conditions, training, and responsibilities) and internal

factors (e.g., physical condition, health, and motivation). Excessive workload can lead to quantitative overload (too many tasks) and qualitative overload (tasks that are too difficult), both of which are likely to induce burnout. Chernis (1980) links large workloads to prolonged emotional stress, resulting in burnout. External factors, such as poor and monotonous work conditions, and internal factors, such as age and self-esteem, also contribute to burnout (Baron & Greenberg, 1993). Research conducted on Aviation Security personnel at Sultan Babullah Airport with 72 respondents found that personnel with lighter workloads were more productive and less likely to experience burnout. Among 35 respondents with lighter workloads, 80% did not experience burnout, while 70.4% of the 19 respondents with heavier workloads experienced burnout. Path analysis showed a significant negative influence of workload on productivity through burnout, with a path coefficient of -0.076 and a p-value of 0.040.

This study aligns with the findings of Susanto and Budiono (2018), who observed that high workloads increase burnout and reduce productivity. Kurniawan et al. (2019) similarly reported a positive correlation between workload and burnout and a decline in productivity effectiveness. Dewi and Sudarma (2020) emphasize the importance of proper workload management to prevent burnout and its impact on productivity. To mitigate burnout, Baron and Greenberg (1990) recommend stress reduction, social support, and the development of new hobbies. Narkevis et al. (1993) suggest measures such as job redesign, career development programs, and performance management to prevent burnout and maintain productivity.

CONCLUSION

Based on the results of the study on the influence of individual characteristics and workload on productivity through burnout among Avsec personnel at Sultan Babullah Airport Ternate in 2024, it can be concluded that: First, age has a significant and direct impact on productivity through burnout, where younger personnel tend to be more productive but are at risk of experiencing burnout, while older personnel are more productive without experiencing burnout due to their experience and maturity in decision-making. Second, gender does not significantly affect productivity through burnout, with male personnel tending to be more productive and less likely to experience burnout, whereas more female personnel tend to be less productive and experience burnout. Third, education does not significantly affect productivity through burnout, as although Aviation Security personnel are required to undergo non-formal education in the form of training and mentoring to obtain licenses before performing their duties, this does not directly affect productivity through burnout. Fourth, marital status significantly but inversely affects productivity through burnout, where married personnel are more productive and less likely to experience burnout, while unmarried personnel tend to experience more burnout, which impacts their productivity negatively. Lastly, workload significantly but inversely affects productivity through burnout, where

personnel with lighter workloads tend to be more productive and less likely to experience burnout, while those with heavier workloads are more likely to experience burnout and be less productive at work.

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