

# Exertions of Cabin Crew of Malaysian Based Airlines

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**Abstract-** Cabin crews provide first hand services to passengers during flights and they are vital to ensure the comfort of passengers. The functionalities of cabin crews varies and some of these tasks require substantial amount of physical fitness. This paper denoted the physical exertions of cabin crews through Rated Perceived Exertions where the tasks of cabin crews were measured in terms of the exertions produced by the crews.

## I. INTRODUCTION

The airline industry is competitive where airlines compete with each other to provide the best services. The frontlines of airlines are the cabin crews which serve the passengers throughout the flights. According to Okabe, top notch services by cabin crews are necessary in order for airlines to outdo each other and emotional baggage of cabin crews affect their performances [1]. Hence it is necessary to ensure cabin crews are well prepared mentally and physically. This is where the measurement of physical exertions of cabin crews is important so that cabin crews can be well prepared in actuating physically demanding chores.

Rated Perceived Exertion (RPE) is usually employed to gauge the intensity of the work or physical activity actuated by individuals. It is a simplistic measuring tool where the individuals would rate their exertions based upon a scale where the scale normally has values from 1 till 10. The value 1 represents very low exertion while the value 10 represents very high exertion. According to Morishita and et al, there is a defined relationship between the exertions produced by individuals and the values of RPE and this somehow validated the usage of RPE [2].

It is always imperative to assess the health situation of employees in the aviation industry as safety is the most prominent factor in aviation. Harridon had measured the health status of academicians in the aviation industry as these academicians are trainers that trained students to be future maintenance engineers and others and it is vital that these students receive knowledge and training in a proper way [3]. Academicians that are not physically fit would somehow deliver training in a non-proper way which would be detrimental to the students and safety. Actuating RPE measurements among cabin crews is also imperative in order to ensure they are physically capable to actuate their functionalities.

## II. LITERATURE REVIEW

Cabin crews are highly trained to perform their tasks during flights. They are also trained to actuate life saving and had gone through numerous training such as Dangerous Goods Training, Grooming Training, Social Interaction Training, and others. Larrea and et al argued that the competency of cabin crews would be alleviated if they participated in more social practice during their training programme [4]. It is clearly shown that airlines would engage in several methods or approaches in order to gain edges in their services.

It is also vital to measure the productivity of cabin crews during the flights and RPE in some sense would give a slight picture on the productivity level of the cabin crews. Those who are always exerting high level of physical exertions upon simplistic physical tasks are likely to be uneasy toward those chores and thus affecting their productivities. Harridon had actuated the assessment of productivities of workers in aviation and this similar method could be utilized along with the RPE approach [5].

Rated Perceived Exertion (RPE) is a formidable tool used by practitioners to gauge the exertions produced by individuals. Eston indicated that RPE is suitable to be utilized to measure the intensity procreated by individuals and RPE is also driven by the past experiences of the individuals [6]. Also, according to Abonie and et al, RPE is a subjective mean to quantify an individual's exertion level and it is used widely for monitoring of physical activities as well [7].

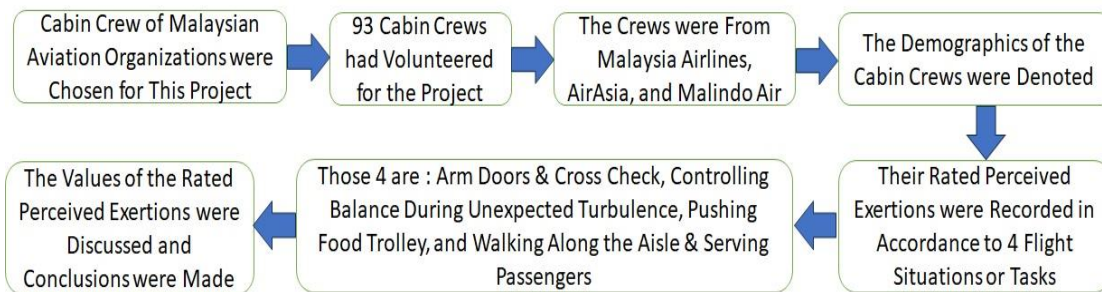
Exertions produced by individuals depend upon various factors. The environment or surrounding plays an important role in the level of exertion produce by individuals. Another factor is the attire worn by the individual. Different types of attires with different level of elasticity or comfort would beget different exertions from individuals. Harridon had measured and analyzed the uniform of cabin crews of an airline and the results are significant with regards to the effective operations of the airline [8]. RPE is also useful so that airlines could alter the working conditions or the training programme in order for the cabin crews to exert optimum physical exertions during flights.

The working conditions of cabin crews also played a significant role in the productivities of the cabin crew. During flights, the air quality of the fuselage or cabin affects the functionalities of cabin crews. Zubair and et al mentioned that there were cases where cabin crews felt nauseated and fatigued and these are probably due to the air quality of the airplane [9]. With this information, there is also a possibility that the physical exertions produced by cabin crews, in lieu with their tasks, were altered by these symptoms acquired by them and thus it's imperative to measure their RPE in order to give better insights upon this phenomenon.

Cabin crews are essential to the flight operations of airlines. According to Wen and et al, cabin crews faced environments that are dynamically changing and this led to several complications related to their chores during flights [10]. It is hence essential to gauge the performances of the cabin crews during flights and some degree or form of measurement could be applied and RPE could be a tool that is appropriate to measure the productivity of the cabin crews.

### III. METHODOLOGY

The methodology of the project is shown in Figure 1.



**Figure 1. The Methodology to Gain Exertion Values**

The cabin crews from airlines originated from Malaysia were chosen to be the subject of this project. Ninety-three cabin crews volunteered for this project and they were from 3 airlines which were Malaysia Airlines, AirAsia, and Malindo Air. The attributes and demographics of these cabin crews were recorded and delineated. Four situations or work functionalities were parlayed to these cabin crews and their responses, in accordance to the scale of RPE, were denoted. The four situations were : Arm Doors & Cross Check, Controlling Balance during Unexpected Turbulence, Pushing Food Trolley , and Walking Along the Aisle & Serving Passengers. The recorded values of RPE were then discussed and several postulations were made and concluded. It is noted that the RPE scale is from 1 till 10 where 1 denotes a very low exertion while 10 denotes a very high exertion.

### IV. RESULTS

The demographics of the volunteers of this project are shown in Table 1 and the results of the RPE are shown in Figures 2 till 5.

**Table 1. The Demographics of the Cabin Crew**

Age Range	17 - 20	21 - 30	31 - 40	41 and above	
Percentage of Volunteers	27.2%	64.1%	3.3%	5.4%	
Gender	Male	Female			
Percentage of Volunteers	67.4%	32.6%			

Organization	Malaysia Airlines	AirAsia	Malindo Air		
Frequency of Exercise	Once a Week	2 - 3 Times per Week	3 - 4 Times per Week	Everyday	None
Percentage of Volunteers	30.4%	28.3%	26.1%	8.7%	6.5%

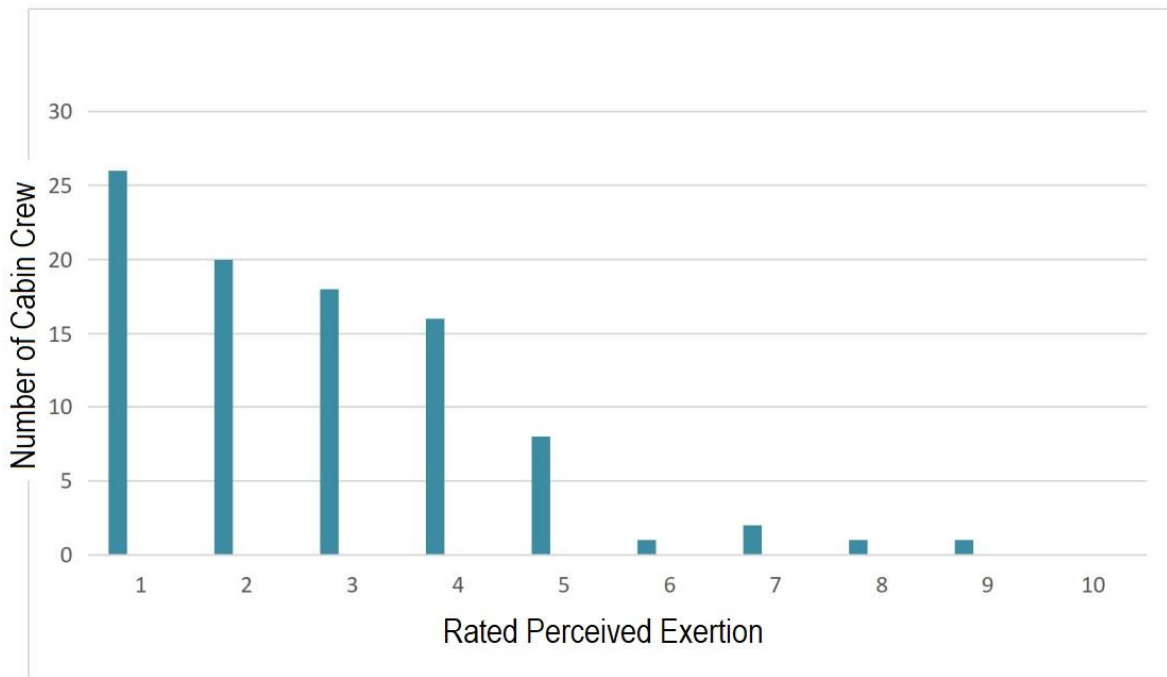


Figure 2. Arm Doors and Cross Check

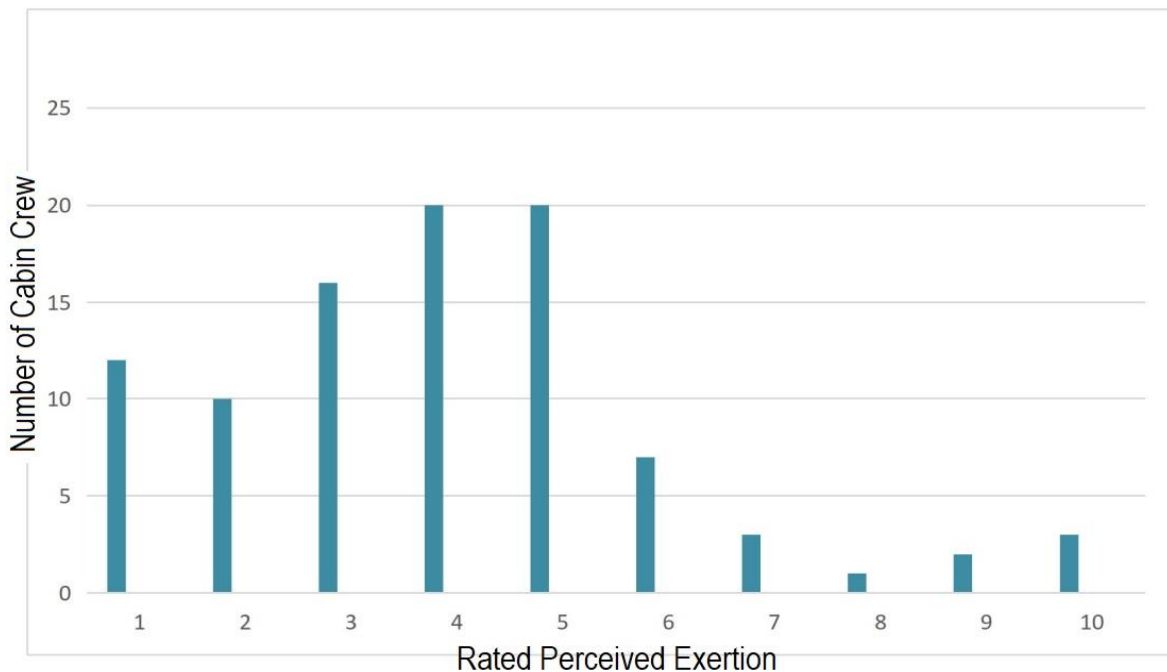


Figure 3. Controlling Balance During Unexpected Turbulence

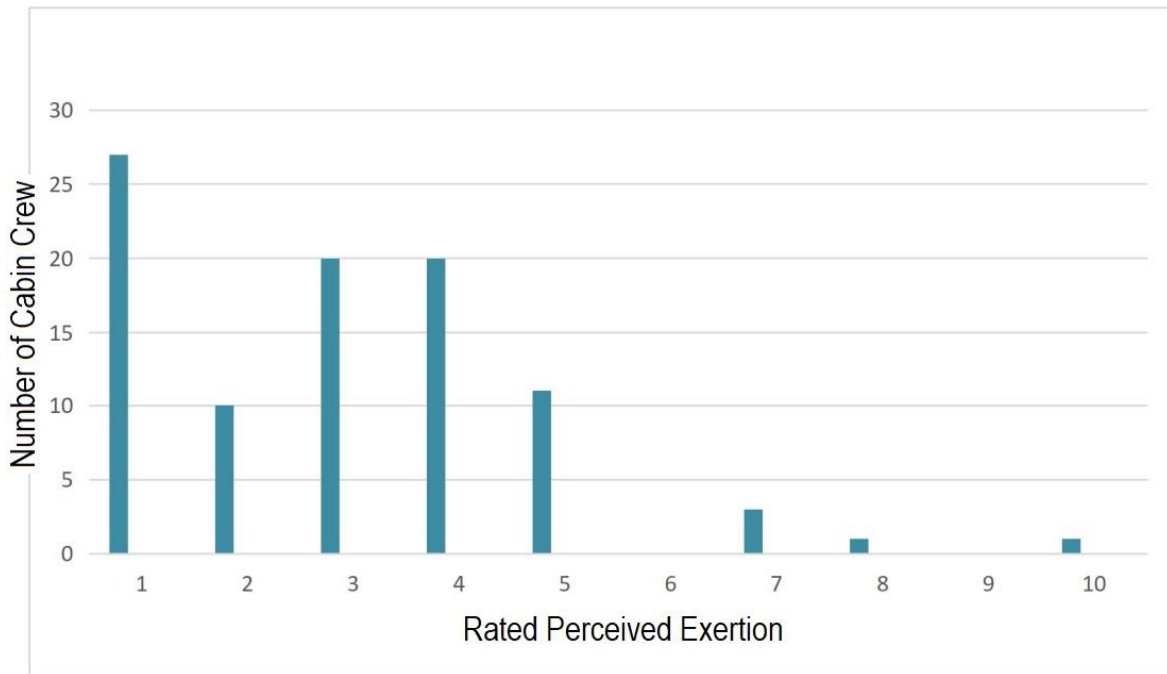


Figure 4. Pushing Food Trolley

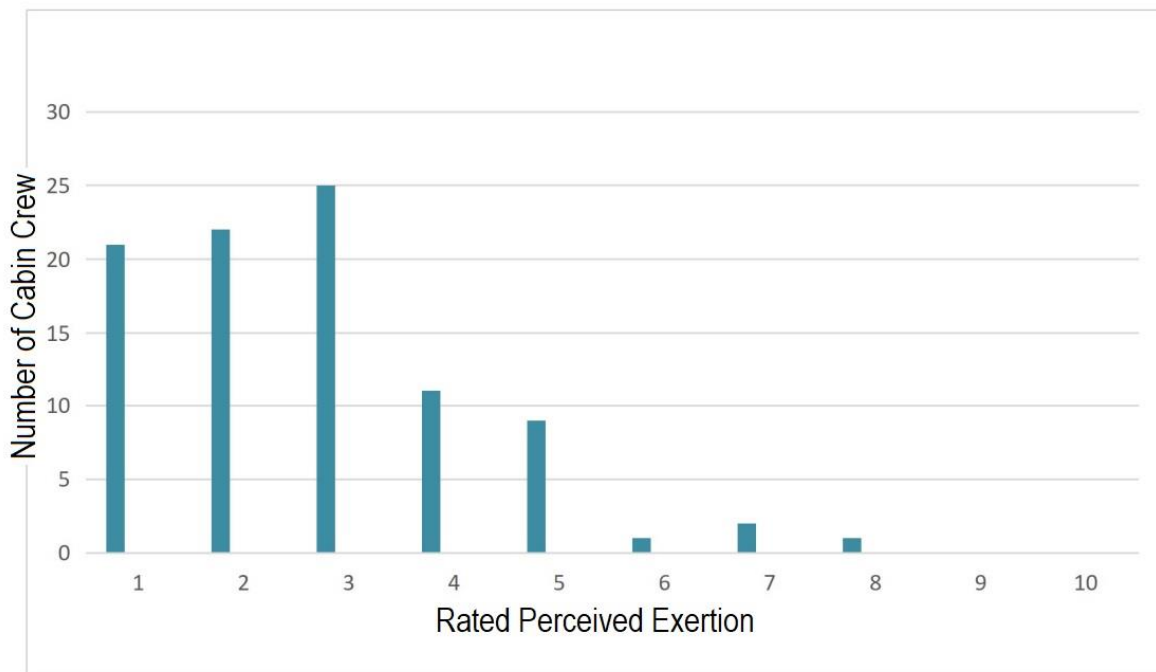


Figure 5. Walking Along the Aisle and Serving Passengers

## V. DISCUSSION

A majority of the respondents is from the age group 21 years old till 30 years old and 28.3% of the respondents regularly exercise two or three times per week. For the situation “Arm Doors and Cross Check”, a majority of the respondents felt the task is easy where RPE values of 1 till 5 were primarily chosen. This shows that the cabin crews, a majority of them, were physically fit to perform this functionality. However, there were instances where the RPE values of 6 till 9 were chosen for this situation and this is worrisome as cabin crews should be proficient in their physical fitness in order to perform this task well and this task is often performed during each

flight. Grout and Leggat stated that the health of cabin crews is important and should be taken seriously in order for them to perform well during flights [11].

For the situation “Pushing Food Trolley”, a majority of the cabin crew had chosen RPE values of 1 till 5 and a minority had chosen RPE values of 7, 8, and 10. Even though this is favourable to the airlines, it is still alarming as the value 10 was also chosen. A situation which is deemed difficult or arduous to be performed would plausibly begets errors where the errors would be procreated by the individuals that were not comfortable with the situation. Harridon had studied human errors in aviation and errors led to aviation mishaps which are catastrophic and involved the lost of lives [12]. Within this context, it is imperative for cabin crews to be physically fit for the sake of reducing or mitigating errors.

For the situation “Controlling Balance During Unexpected Turbulence”, there were cabin crews that felt this situation is difficult to comprehend and had to utilize more exertion to maintain their balance. This is something to be pondered and solutions are required. It is perhaps doable to advise cabin crews to actuate Balance Training where there exists a training equipment called Bosu Ball that could be utilized often in order to increase the dexterity (in relation to balance) of the cabin crews.

The situation “Walking Along the Aisle and Serving Passengers” was considered easy by most respondents but there were respondents which considered this situation to be hard where the values of 6, 7, and 8 were chosen by respondents to represent their physical exertions. We have to be cautious of this and several physical fitness programmes should be implemented by the airlines to alleviate the level of the physical fitness of the cabin crews. According to Rengasamy, inactive lifestyle contributed to the downward spiral of the physical fitness level of individuals and this may also lead to diseases and ailments [13]. Hence it is imperative to maintain or increase the physical fitness level of cabin crews so that they would be effective in their chores and functionalities.

## VI. CONCLUSIONS

The RPE values of cabin crews of three airlines were delineated and discussed. Most of the cabin crews are physically fit and are able to perform their functionalities well and in an efficient manner. However, the denoted and recorded RPE values also showed that some cabin crews were in need of proper physical fitness training in order for them to be at ease to perform the designated chores during flights. It is proposed that airlines do take the necessary measures to alleviate the level of physical fitness of the cabin crews so that their performances in serving the passengers are optimum and within the satisfactory standard.

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