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## Original article

# Mental health, social skills, and associated factors of flight attendants in a commercial airline in Thailand

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**Background:** Mounting evidence has shown that most flight attendants have an average mental health and mental health problems such as stress, fatigue, and sleep problems. However, there were limited studies concerning their social skills and associated factors. This study identified the flight attendants' mental health, associated factors with the mental health of flight attendants in Thai Airways International Public Company Limited.

**Objective:** To explore the mental health, social skills, and associated factors of flight attendants in Thai Airways International Public Company Limited.

**Methods:** A cross-sectional descriptive study was performed with the participation of 408 flight attendants of Thai Airways International Public Company Limited. The questionnaires were composed of: 1) demographic data form; 2) General Health Questionnaire-30 (GHQ-30) Thai version; 3) Work Happiness Questionnaire; 4) Social Skill Questionnaire; 5) Social Support Questionnaire; and, 6) 1-Year Life Stress Event Questionnaire. The association between the flight attendants' mental health and the associated factors were analyzed by Chi-square test. The logistic regression was used to identify the predictors of the flight attendants' normal mental health.

**Results:** Most flight attendants (76.2%) had normal mental health. The average score of mental health was  $2.5 \pm 3.4$ . Most of them (46.8%) had moderate-to-high level of social skills. Factors associated with normal mental health were age of 40 years and lower, very low-to-low low social skills, moderate-to-high level of work happiness, high tangible social support, and mild 1-year life stress events. The predictors of flight attendants' normal mental health was age of 40 years and lower, and high tangible social support.

**Conclusion:** Most flight attendants of Thai Airways International Company Limited had normal mental health and moderate-to-high level of social skills. Age of 40 years and lower, and high tangible social support were highly associated with normal mental health of their flight attendants.

**Keywords:** Mental health, social skills, work happiness, flight attendants.

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The World Health Organization<sup>(1)</sup> has defined mental health as an ability of a person to form relationships with other people and the ability to survive or do something constructive in changing social and physical environments. From the survey of The National Statistical Office of Thailand<sup>(2)</sup> found that between 25 - 59 years of age, 63.7% of the people have normal mental health, with 21.0% higher than the general public and 15.3% lower than the general

population. The result from the survey of the Department of Mental Health, Ministry of Public Health also found that 1.5 million of Thai people suffered from depression, 62.0% of them were in working age (25 - 59 years). Besides, the survey of Khon Kaen Rajanagarindra Psychiatric Hospital found that<sup>(3)</sup> Thai people committed suicide every 2 hours, 60.0 - 70.0% of the victims was caused by their relationship problems.

Social skills are the abilities to build up relationships and live with other people by communicating through various methods, both verbal and body language. People must be able to play their roles and know how to relate with others, as well as to be able to control their emotions and behaviors appropriately. On the contrary, lacking of social skills negatively

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affected the person's adaptive ability, and resulted in interpersonal problems. Social skills also play an important role in people's workplace, and result in happiness in workplace and the person's good mental health.

Flight attendant is a profession that requires high social skills due to the main duty to take care of the passengers' safety throughout the flight. It also needs to take care and provide in-flight passengers' services to travel comfortably to ensure the passengers' satisfaction with services, and happiness throughout the flight. Therefore, social skills in the career of flight attendants are essential both in communicating with others and adapting to various situations. The social skills in their profession are also needed to relate with their colleagues and supervisors during the flights.

From the study of Boonpanich P.<sup>(4)</sup> it was found that 16.8% of Thai Airways' flight attendants had mild level of anxiety, 14.3% had mild level of stress, while 60.8% had a moderate of fatigue. The associated factors of flight attendants' mental health involved the symptoms of depression, fatigue, and insomnia. Puangsorn P.<sup>(5)</sup> found that 52.3% of flight attendants had average level of mental health, while 25.6% had above average level of mental health, and 22.1% had lower than average level of mental health. Most of them (83.7%) used adaptive coping or problem-solving skills. The associated factors of poor mental health included work dissatisfaction, use of affect-regulating defenses, and problems with their colleagues and supervisors.

As a result, most previous studies of flight attendants' mental health concerned on their general mental health, sleep problems, and fatigue; however, there were limited studies concerning their social skills related to the mental health of flight attendants. Thus, this study purposes were to study the flight attendants' mental health specifically on social skills and related factors of flight attendants of Thai Airways International Public Company Limited. The results can be used as mental health prevention and promotion measures to develop social skills that will enable them to work effectively and happily at work, and result in the flight attendants' well-being and quality of life.

## Materials and methods

The study has been approved by the Institutional Review Board of the Faculty of Medicine, Chulalongkorn University (IRB no. 271/63).

A cross-sectional descriptive study was performed by the recruitment of 408 flight attendants of Thai Airways Public Company Limited. The inclusion criteria were: Thai flight attendants who were willing to participate in the study. They were informed about the purpose of the study, and they gave written informed consent during the data collection period on July- November 2020.

All subjects provided their information by following self-reported questionnaires: 1) Demographic data form; 2) General Health Questionnaire-30 (GHQ-30) Thai version; 3) Work Happiness Questionnaire; 4) Social Skill Questionnaire; 5) Social Support Questionnaire; and, 6) 1-Year Life Stress Event Questionnaire.

General Health Questionnaire-30 (GHQ-30) Thai version<sup>(6)</sup> was developed by Tana Nilchaikovit using the theory of Goldberg. The instrument was used to evaluate the mental health of flight attendants through 30 items with the range score of 0 - 30 which has cut-off points of 4 (GHQ-score 0-0-1-1). The interpretation of the score was divided into 2 levels including: 1) normal mental health (lower than 4 points); and, 2) abnormal mental health (4 or over). The instrument had good reliability showing by Cronbach's alpha coefficient of 0.84

Work Happiness Questionnaire was developed by Mongkhonpan N, *et al.*<sup>(7)</sup>, it was the instrument used for assessment of employees' work happiness based on Frederick Herzberg's theory. The instrument contains of 23 items which divided to 5 levels: 1) very low (1.00 - 1.50); 2) low (1.51 - 2.50); 3) moderate (2.51 - 3.50); 4) high (3.51 - 4.50); and, 5) very high (4.51 - 5.00). The work happiness was evaluated in 11 domains: 1) achievement; 2) recognition; 3) the work itself; 4) responsibility; 5) possibility growth; 6) salary; 7) interpersonal relationship superiors; 8) interpersonal relationship subordinate; 9) company policy and administration; 10) working conditions; and, 11) job security. The instrument had good reliability showing by Cronbach's alpha coefficient of 0.85.

Social Skill Questionnaire was developed by Klomkleang D.<sup>(8)</sup> It was composed of 66 items from the original version of Riggio RE. It is the comprehensive, self-report measure of 6 social/communication skills, reflecting both nonverbal and verbal sending ability, receiving or decoding ability, and control or regulation of communication. The six social/communication skills are: 1) Emotional Expressivity (EE), skill in sending/encoding nonverbal and emotional

message and nonverbal expression of attitudes, dominance, and interpersonal orientation; 2) Emotional Sensitivity (ES), skills in receiving and interpreting the nonverbal message as well as attentiveness to nonverbal cues; 3) Emotional Control (EC), the ability to regulate emotional and nonverbal displays of behaviors; 4) Social Expressivity (SE), skills in verbal expression and ability to engage others in social interaction; 5) Social Sensitivity (SS) is the ability to accurately decode/interpret others' verbal communications, as well as knowledge of and sensitivity to norm governing appropriate social behavior; and, 6) Social Control (SC), skills in social role-playing and social self-presentation. The total score ranges from 0 to 132 and cut of score into 5 levels may be used with 0 - 58 = very low social skills; 59 - 71 = low social skills; 72 - 86 = moderate social skills; 87 - 100 = high social skills; 101 - 132 = very high social skills. Score between 0 - 71 indicate social skills deficits while score between 72 - 132 indicate no social skills deficits. The scale has adequate internal consistency reliability (Cronbach alpha = 0.98).

Social Support Questionnaire<sup>(9)</sup> was used to determine social support level which was developed by Lueboonthavatchai O. and Lueboonthavatchai P. based on Schaefer's concept. The measurement composed of 3 dimensions of social support which were namely: 1) Emotional support (7 items with the Cronbach alpha coefficient equal to 0.91); 2) Informational support (4 items with the Cronbach alpha coefficient equal to 0.88); and, 3) Tangible support (5 items with the Cronbach alpha coefficient equal to 0.87). The score's interpretation was divided into 3 levels including: 1) Low means an individual with lower score than the mean-standard deviation (SD); 2) Moderate means an individual with the scores in between the mean  $\pm$  SD; and, 3) High means an individual with the scores higher than the mean  $\pm$  SD. The internal consistency - Cronbach's alpha of the instrument was 0.93.

1-Year Life Stress Event Questionnaire<sup>(10)</sup>, developed and adapted from Holmes and Rahe's Social Readjustment Rating Scale, was used for identifying stressful life events that a person experienced in the past one year. This life event inventory showed good validity and reliability in a Thai socio-cultural context (Cronbach alpha coefficient = 0.68). This instrument had developed to adjust with flight attendants of Thai Airways International Public Company Limited. It is composed of 30-item checklists of 1-year life events in five stress

areas: 1) health-related (6 items); 2) family-related (5 items); 3) financial (6 items); 4) occupational (8 items); and, 5) social (5 items). Each item contains its own weighted score indicating the severity of life event. The summary of the scores in each stress area and in overall were categorized in to three levels of stress severity (mild, moderate, and severe stress) by mean and standard deviation.

### **Statistical analysis**

The data analysis was performed by using the SPSS Statistics Program 22.0. The demographic characteristics of the flight attendants were presented by using the proportion and percentage with mean and standard deviation (SD). Chi-square and Fisher's exact test were used to analyze the association between the flight attendant's mental health and associated factors. The binary logistics regression was used to identify the predictor of normal mental health of flight attendants. A  $P < 0.05$  was considered as statistically significant.

### **Results**

There were 408 subjects in the present study. Most of them were female (69.9%) in the age range of 31 - 40 years (61.8%). About 64.7% were single. Most of them (79.2%) had a Bachelor's Degree. Nearly half of them (45.6%) had an income of 10,000 - 20,000 baht per month; 34.8% had adequate saving and affordable financial status. Most of them did not have any health problems (68.9%), and any history of mental problems (94.6%). Additionally, most subjects (63.2%) had length of work employment from 5 - 10 years, which mostly had position in Air Hostess in Economy Class (45.3%). More than half did not have any flight hours (86.6%) and any flights during the past one-month (86.8%) due to the occurring of coronavirus (COVID-19) pandemic in the study period; 13.0% reported that they experienced the in-flight risk during COVID-19 pandemic; 6.6% reported that they had severe sleep problems. The demographic characteristics of the subjects in this study are shown in Table 1.

It was found that the average score of mental health of the flight attendants were  $2.5 \pm 3.4$ . Most of flight attendants reported that they had high social skills (30.6%), were in moderate level of work happiness (68.4%), had mild stress in 1-years life stress event, and had moderate overall social support and in each social support dimension (emotional, informational, tangible) (71.1%) in Tables 2 and 3.

**Table 1.** Demographic characteristics of flight attendants in Thai Airways Public Company Limited.

Demographic characteristics	N	Percentage
<b>Gender</b>		
Female	285	69.9
Male	123	30.1
<b>Age (years)</b>		
≤30	98	24.0
31–40	252	61.8
41–50	39	9.6
51–60	19	4.6
Mean ± SD = 34.8 ± 6.0, Min = 26, Max = 54		
<b>Marital status</b>		
Single	264	64.7
Couple	136	33.3
Widowed	4	1.0
Divorced	4	1.0
<b>Educational level</b>		
High school	1	0.2
Undergraduate	323	79.2
Postgraduate	84	20.6
<b>Average income (THB/month)</b>		
≤ 10,000	49	12.0
10,001 - 20,000	186	45.6
20,001 - 30,000	44	10.8
30,001 - 40,000	43	10.5
40,001 - 50,000	53	13.0
Over 50,001	33	8.1
Median (Mode) = 20,000 (25,750) Min = 2,500, Max = 110,000		
<b>Financial sufficiency</b>		
Adequate and able to save	142	34.8
Adequate but not be able to save	87	21.3
No adequate but able to save	59	14.5
No adequate and no save	120	29.4
<b>History of mental disorders</b>		
No	386	94.6
Yes	22	5.4
<b>Length of work employment (years)</b>		
0–1	1	0.2
> 1–5	24	5.9
> 5–10	258	63.2
Over 10	125	30.7
<b>Working position</b>		
Air Hostess (Economy class)	185	45.3
Air Steward (Economy class)	79	19.4
Air Hostess (Business class)	68	16.6
Air Steward (Business class)	34	8.3
Air Hostess (First class)	22	5.4
Air Steward (First class)	10	2.5
Air Purser/In-flight manager	10	2.5
<b>Flight hours (hours per month)</b>		
0	354	86.7
1–10	44	10.8
11 and above	10	2.5
Mean ± SD = 1.1 ± 3.1, Min = 0, Max = 15		

**Table 1.** (Con) Demographic characteristics of flight attendants in Thai Airways Public Company Limited.

Demographic characteristics	N	Percentage
<b>Number of flights in the past 1 month</b>		
0	354	86.7
1	54	13.3
2 - 5	0	0.0
Mean $\pm$ SD = 0.1 $\pm$ 0.3, Min = 0, Max = 1		
<b>Risk of flight</b>		
No	355	87.0
Yes	53	13.0
<b>Severe sleep problems</b>		
No	381	93.4
Yes	27	6.6

**Table 2.** Mental health, social skills, work happiness, and 1-year life stress events of flight attendants in Thai Airways Public Company Limited (n = 408).

Demographic characteristics	N (408)	Percentage
<b>Mental health</b>		
Normal (0 - 3)	311	76.2
Abnormal (4 - 30)	97	23.8
Mean $\pm$ SD = 2.5 $\pm$ 3.4, Min = 0, Max = 27		
<b>Social skills</b>		
Very low (0 - 58)	100	24.5
Low (59 - 71)	21	5.1
Moderate (72 - 86)	66	16.2
High (87 - 100)	125	30.6
Very high (101 - 132)	96	23.6
Mean $\pm$ SD = 78.8 $\pm$ 27.6, Min = 10, Max = 127		
<b>Work happiness</b>		
Very low (1.00 - 1.50)	0	0
Low (1.51 - 2.50)	10	2.5
Moderate (2.51 - 3.50)	279	68.4
High (3.51 - 4.50)	119	29.1
Very high (4.51 - 5.00)	0	0
Mean $\pm$ SD = 3.3 $\pm$ 0.5, Min = 2.0, Max = 4.0		
<b>1-year life stress events</b>		
Mild (0 - 25.17)	329	80.6
Moderate (25.18 - 50.34)	69	16.9
Severe (50.35 - 75.52)	10	2.5
Mean $\pm$ SD = 13.9 $\pm$ 14.7, Min = 0, Max = 75.5		

**Table 3.** Social support of flight attendants in Thai Airways Public Company Limited (n = 408).

Social support	High		Moderate		Low	
	N	%	N	%	N	%
Overall social support						
Mean $\pm$ SD = 61.2 $\pm$ 10.0, Min = 23, Max = 80	54	13.2	290	71.1	64	15.7
Emotional support						
Mean $\pm$ SD = 28.0 $\pm$ 4.7, Min = 9, Max = 35	56	13.7	299	73.3	53	13.0
Informational support						
Mean $\pm$ SD = 14.8 $\pm$ 2.8, Min = 7, Max = 20	56	13.7	315	77.2	37	9.1
Tangible support						
Mean $\pm$ SD = 18.3 $\pm$ 3.9, Min = 5, Max = 25	60	14.7	294	72.1	54	13.2

The associated factors with normal mental health of flight attendants included age 40 years and lower ( $P < 0.05$ ), social skills ( $P < 0.05$ ), and high tangible social support ( $P < 0.05$ ) (Table 4).

The result from binary logistic regression showed that the remaining predictors of mental health and associated factors were age of 40 years and lower, and high tangible social support ( $P < 0.05$ ) (Table 5).

**Table 4.** Association between mental health and factors of flight attendants in Thai Airways Public Company Limited.

Factors	Mental health				$\chi^2$	P - value
	Normal		Abnormal			
	N	%	N	%		
<b>Age (years)</b>						
≤40	275	78.6	75	21.4	7.477	0.006*
>41	36	62.1	22	37.9		
<b>Gender</b>					2.503	0.114
Female	211	74.0	74	26.0		
Male	100	81.3	23	18.7		
<b>Marital status</b>					1.325	0.250
Couple	99	72.8	37	27.2		
Others	212	77.9	60	22.1		
<b>Educational level</b>					0.088	0.767
Bachelor's Degree and higher	63	75.0	21	25.0		
Secondary school and lower	248	76.5	76	23.5		
<b>Income (THB/month)</b>					0.194	0.660
>20,000	130	75.1	43	24.9		
≤20,000	181	77.0	54	23.0		
<b>Length of work employment (years)</b>					3.375	0.066
≤10	223	78.8	60	21.2		
>10	88	70.4	37	29.6		
<b>Working position</b>					0.184	0.668
Economy class	203	76.9	61	23.1		
Business class/first class/air purser/in-flight manager	108	75.0	36	25.0		
<b>Social skills</b>					4.983	0.026*
Very low to low	101	83.5	20	16.5		
Moderate to very high	210	73.2	77	26.8		
<b>Work happiness</b>					1.833	0.176
Very low to moderate	215	69.1	74	30.9		
High to very high	96	76.3	23	23.7		
<b>Social support</b>						
<b>Overall social support</b>					0.069	0.793
High	45	77.6	13	22.4		
Low to moderate	266	76.0	84	24.0		
<b>Emotional support</b>					0.611	0.434
High	45	80.4	11	19.6		
Low to moderate	266	75.6	86	24.4		
<b>Informational support</b>					0.611	0.434
High	45	80.4	11	19.6		
Low to moderate	266	75.6	86	24.4		
<b>Tangible support</b>					5.691	0.017*
High	53	88.3	7	11.7		
Low to moderate	258	74.1	90	25.9		
<b>1-year life stress events</b>					0.426	0.514
Moderate to severe	58	73.4	21	26.6		
Mild	253	76.9	76	23.1		

\* $P < 0.05$

**Table 5.** The predictors of flight attendants' good mental health by using logistic regression.

Factors	$\beta$	S.E. ( $\beta$ )	P-value	Adjusted odds ratio (OR)	95% CI of adjusted OR	
					Lower	Upper
Age $\leq$ 40 years	0.641	0.309	0.038*	1.898	1.037	3.475
High tangible social support	0.868	0.424	0.041*	2.382	1.037	5.470
Moderate-to-very high level of social skills	-0.462	0.287	0.107	0.630	0.359	1.105

\* $P < 0.05$

### Discussion

From this study, it was found that most of the flight attendants of Thai Airways International Public Company Limited (76.2%) had normal mental health, while 23.8% had abnormal mental health. Most of them had moderate level of social skills. The result of this study was consistent with previous studies. For instance, the study of Buathong N.<sup>(11)</sup> found that most flight attendants (81.2%) had normal mental health, while 18.8% had mental health problems. The study of Boonpanich P.<sup>(4)</sup> found that some flight attendants had mild level of depression (16.3%), mild level of anxiety (16.8%), and mild stress level (14.3%) while had fatigue in moderate level (60.8%). In addition, the study of Puangson P.<sup>(5)</sup> showed that the majority of flight attendants (52.3%) had the same mental health status as the general, followed by 25.6% with higher mental health, and 22.1% had lower mental health condition than normal people.

The factors associated with normal mental health of flight attendants of Thai Airways International Public Company Limited were age of 40 years and lower, very low-to-low level social skills, moderate-to-high level of work happiness, high tangible social support, and mild 1-year life stress events. This finding of the study was similar to the previous study of Boonpanich P.<sup>(4)</sup> that it found most of the flight attendants at age of 40 years and lower were single and had less responsibility to their family. It was maybe because of an older age that it is relevant to the increased of roles in both rankings and duties of the flight such as acting chief in business class services which required higher responsibilities to the passengers and subordinates as well as their roles in the family. This results in high stress and pressure. Likewise, the study of U-klin P.<sup>(12)</sup> found that the factors of flight attendants' fatigue was age, position, and marital status. Besides, it had common findings that flight attendants age over 40 had high responsibilities in both work and family, and these

could affect mental health of the flight attendants. Also, most of flight attendants were in moderate level of work happiness. This clearly showed and supported by the study of Boonkao A.<sup>(13)</sup> which said that the quality of working life and working environment of flight attendants are correlated with mental health. This showed that the flight attendants' work happiness associated with mental health.

Moreover, it was found that high social support was associated with normal mental health, consistent with most of previous studies. From the study of Lueboonthavatchai P.<sup>(9)</sup> strong social support, good family relationship or high family functioning are positive person's resources and protective factors of mental health problems during experienced important life crisis by buffering the impact of stress on a person's life. Tangible social support is the domain of support in terms of welfare, high income, job security, and well-being. It enhances a good quality of life and person's well-being. From a previous study, when a person has high social support and has a good quality of life, one will have feelings of safety and security. Besides, from this study, mild level of 1-year life stress events was associated with normal mental health, concordance with the previous study of Lueboonthavatchai P.<sup>(14)</sup>, and that of Awirutworakul T.<sup>(15)</sup> which found that people who experienced high stress in their life are more likely to develop the onset of major depression. As a consequence, this study showed low level of stress, this could be a reason that the flight attendants were in age of 40 and lower had high support from family, be able to interact with others, and be able to adjust to all situations which had same direction from the study of Lueboonthavatchai P.<sup>(9)</sup> that an ability to adjust in various situations and high social support will help person to reduce impact of stress events.

According to the result of association of social skills to mental health in this study, very low-to-low social skills were associated with normal mental



health. It was different from findings of most studies showing that social skills are related to mental health in the same direction. For example, in the study of Klomkleang D.<sup>(8)</sup>, it was found that social skills are essential skills for human in adapting person for living with societies. On the contrary, lacking of social skills results in person's inability to form a rewarding relationship and leads to the relationship problems. However, in this study, the flight attendants with very low-to-low social skills were found to have normal mental health. It was because social skills were composed of the skills for, building a relationship, communicating, interacting, and meeting with other people. Those are the essential skills for flight attendants which they must interact with passengers, colleagues and supervisors. This study occurred during the spreading of COVID-19, the pandemic devastated the civil aviation industry, this directly impacted on civil aviation operation. Therefore, flight attendants with high social skills when facing the difficulties in not gathering or interacting with other people may lead to high stress and pressure. As a result, it may cause the mental health problems. This is consistent with the study from Tulane University<sup>(16)</sup> that the lack of meeting with people and social isolation causes a reduction in interaction with other people. This way, a person's social skills are not being exercised and executed, will eventually result in high stress and pressure, and may lead to anxiety and depression to a person. For this reason, the difficulties of flight attendants during the COVID-19 pandemic may cause the flight attendants' mental health problems.

Regarding to the predictors of the flight attendants' normal mental health, the age 40 years and lower with high tangible social support were both the remaining predictors of normal mental health. Although the social skills seem to be associated with mental health. However, other factors, i.e., the age of 40 years and lower and high tangible social support, were more important than social skills in predicting their normal mental health. This may due to the fact that the stability of work sufficiency and tangible social support (incomes, welfares, and well-being), are more important to their mental health. Besides, the age of 40 years and lower also was the predictors of normal mental health because of the flight attendants with the age of 40 years and lower had less expectations and responsibilities on their work and had no high obligations in their families. Especially during the COVID-19 pandemic, the civil

aviation industry was adversely impacted, so the flight attendants were vulnerable on their working securities, salaries, and incomes. According to Abraham Maslow's Hierarchy of Needs<sup>(17)</sup>, the five human needs: physiological needs, safety and security needs, love and belonging needs, esteem needs, and self-actualization needs, indicate the individual's behaviors. Once people have met the basic physiological needs, they require the second-level needs in Maslow's theory, which are the safety and security needs. People need to feel secure, and to be protected from physical and psychological harms. In the aspect of work, they need the job security and the prevention of work loss and their unemployment.

From this study, it showed that the age, social skills, and tangible social supports were very important with flight attendants' mental health. Thus, the airline companies should focus to enhance mental health of flight attendants by promoting social skills as well as promoting coping or problem-solving skills to solve the problems especially when in crises. Moreover, this study showed that the flight attendants should be provided their job securities, incomes, welfares, and their well-being which directly affect their qualities of life and better mental health.

This study was collected data from the flight attendants of Thai Airways International Company Limited, the interpretation and application of the findings may need to consider the characteristics and sociodemographic of these subjects. Additionally, this was a descriptive study which only showed the associated factors of the flight attendants' mental health, so it could not indicate the causes of their mental health. Also, this study was performed in COVID-19 pandemic timing which can affect the mental health and the associated factors of the flight attendants in that period.

## Conclusion

In the present study, most flight attendants of Thai Airways International Company Limited had normal mental health, moderate-to-high social skills, and high tangible social support. The factors associated with their normal mental health were age of 40 years and lower, very low-to-low level social skills, moderate-to-high level of work happiness, high tangible social support, and mild 1-year life stress events. The predictors of normal mental health of flight attendants were age 40 years and lower and high tangible social support.

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### Conflict of interest

The authors, hereby, declare no conflict of interest.

### References

1. World Health Organization (WHO); mental health, [Internet] .2019 (cited 2020 Jan 5). Available from: <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>
2. National Statistical Office reported state of social status, culture and mental health. 2018 [cited 2021 Apr 10]. Available from: <http://www.nso.go.th/sites/2014/Pages/News/2561/N21-09-61-1.aspx>
3. Suicide Thailand, Khon kaen Rajanagarindra Psychiatric Hospital [Internet]. 2017 (cited 2020 Jan 8). Available from: <https://suicide.dmh.go.th/>
4. Boonpanich P. Mental health status and fatigue among flight attendants in Thai Airways International Public Company Limited [thesis]. Bangkok: Chulalongkorn University; 2017.
5. Puangsorn P. Mental health and defense mechanism among flight attendants in Thai Airways International Public Company Limited [thesis]. Bangkok: Chulalongkorn University; 2016.
6. Department of Mental Health; general health screening test program 2002, [Internet]. 2002 [cited 2020 Mar 10]. Available from: <https://www.dmh.go.th/test/download/files/ghq.pdf>
7. Mongkhonpan N, Ngamthipwatthana T, Phattharayuttawat S, Manusirivithaya V. The happiness at work of tertiary hospital staffs. *J Prapokkiao Hosp Clin Med Educat Center* 2017;34: 87-99.
8. Pankanok R. Social skills of youth aged 18 - 24 years who play online game at internet café in Bangkok metropolis [thesis]. Bangkok: Chulalongkorn University; 2011.
9. Lueboonthavatchai P. Prevalence and psychosocial factors of anxiety and depression in breast cancer patients. *J Med Assoc Thai* 2007;90:2164-74.
10. Nakarapanich S. Life events and adaptation during pregnancy of women with and without obstetric complication in King Chulalongkorn Memorial Hospital [thesis]. Bangkok: Chulalongkorn University; 2531.
11. Buathong N. Quaility of sleep and mental health among cabin attendants in Thai Airways International Public Company Limited [thesis]. Bangkok: Chulalongkorn University; 2003.
12. Uklin P. The associated factors of mental fatigue of flight attendants of Thai Airways International Public Company Limited [thesis]. Bangkok: Kasetsart University; 2005.
13. Boonkao A. Factors relating to stress at work of flight attendants. *J Pacific Institute Management Science* 2015;1:31-40.
14. Lueboonthavatchai P. Role of stress areas, stress severity, and stressful life events on the onset of depressive disorder: a case-control study. *J Med Assoc Thai* 2009;92:1240-9.
15. Awirutworakul T, Lotrakul M. Stressful life events before the onset of major depressive disorder and panic disorder. *J Psychiatr Assoc Thailand* 2011;56: 277- 86.
16. Tulane University, Understanding the effects of social isolation on mental health [Internet]. 2020 (cited 2021 April 20) Available from: <https://publichealth.tulane.edu/blog/effects-of-social-isolation-on-mental-health/>
17. Verywell-mind; The 5 Levels of Maslow's Hierarchy of Needs [Internet]. 2021 (cited 2021 April 10) Available from: <https://www.verywellmind.com/what-is-maslows-hierarchy-of-needs-4136760>