Health-Promoting Lifestyles of Part 141 Collegiate Aviation Pilots: An Assessment Using the HPLP II

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Abstract

A health-promoting lifestyle is an important determinant of physical and mental health status. Previous studies have indicated that collegiate aviation pilots face unique academic, physical, and mental challenges in practicing a healthy lifestyle. This study investigated the extent collegiate aviation student pilots engage in a health promoting lifestyle. Researchers used the Health-Promoting Lifestyle Profile II (HPLP II) to investigate Part 141 collegiate aviation pilots' health promoting lifestyle/behaviors across six areas: health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations, and stress management. Data on lifestyle practices were collected to understand the extent collegiate aviation student pilots engage in a healthy promoting lifestyle and how it varies by academic level. Findings indicate that Part 141 collegiate aviation pilots practice a moderately healthy lifestyle, with a mean score overall of 2.64 out of 4. Collegiate aviation pilots practiced healthy lifestyles in the categories of physical activity, spiritual growth, interpersonal relations, and stress management. Health responsibility and nutrition were categories in which collegiate aviation pilots scored below the healthy lifestyle threshold, suggesting unhealthy lifestyle in those areas. This study provide invaluable information on the health of collegiate aviation pilots. The findings of this study provide direction for how institutions can better support their students across multiple lifestyle categories.

Introduction & Research Question(s)

There are currently many discussions in the aviation industry about pilots' mental health, fatigue, and stress management. It is important to analyze these same factors in the collegiate flight training setting, which is where many career pilots begin their professional careers.

- What is the overall health promoting lifestyle among Part 141 collegiate aviation pilots?
- What is the health-promoting behaviors in the areas of health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations, and stress management of Part 141 collegiate aviation pilots?
- Is there a difference in health promoting lifestyle among collegiate aviation pilots of different academic levels (Freshman, Sophomore, Junior, Senior)

References

Al-Qahtani, M. F. (2019). Comparison of health-promoting lifestyle behaviours between female students majoring in healthcare and non-healthcare fields in KSA. *Journal of Taibah University Medical Sciences*, *14*(6), 508–514. https://doi.org/10.1016/j.jtumed.2019.10.004

Walker, S. N., Sechrist, K. R., & Pender, N. J. (1995, January 1). *Health promotion model - instruments to measure health promoting lifestyle : Health-promoting lifestyle profile [HPLP II] (adult version)*. Deep Blue Repositories. https://deepblue.lib.umich.edu/handle/2027.42/85349

Methods

- This research utilized a non-experimental survey design to evaluate the health-promoting lifestyles of collegiate aviation pilots. Collegiate aviation pilots from six Part 141 collegiate flight training institutions across the U.S. were sampled using non-random convenience sampling. Data was collected via an online questionnaire distributed between February and April 2024, yielding 198 responses, with 191 valid for analysis.
- The questionnaire included 59 questions divided into two sections: participants' demographics, and lifestyle habits. The HPLP II (Walker et al., 1995) was used to measure the health-promoting lifestyle across six domains: **health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations, and stress management**. The HPLP II consists of 52 questions rated on a 4-point scale: Never (1), Sometimes (2), Often (3), and Routinely (4).

Key Findings

- The mean scores of the HPLP II are classified on a 4-point scale, as low (<2.5), moderate (between 2.5 and 3), or high (>3) levels of health-promoting lifestyle (Al-Qahtani, 2019).

Overall (*M=2.64, SD=0.39*, Moderately Healthy)
- Participants practiced a moderately healthy lifestyle overall. Health responsibility and nutrition are areas of concern limiting participants' health-promoting lifestyle (Figure 1).

Academic Enrollment Level
- A Kruskal-Wallis test was conducted to evaluate if there were differences in the overall health-promoting lifestyle between the four academic levels. Median overall health-promoting lifestyle scores were not statistically significantly different between the different academic levels $H(3)=2.06$, $p=0.56$. There were no significant differences among the health promoting lifestyle medians of Freshman (M = 2.62, SD = 0.27), Sophomore (M = 2.68, SD = 0.51), Junior (M = 2.60, SD = 0.28), and Senior (M = 2.70, SD = 0.38) level collegiate aviation pilots (Figure 2).

Figure 1: Mean Health-Promoting Lifestyle Scores Overall and by Individual Categories

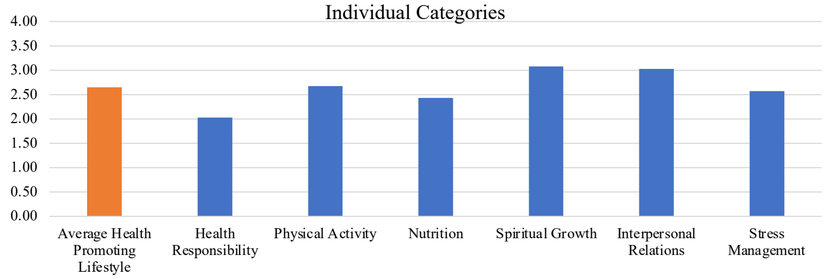
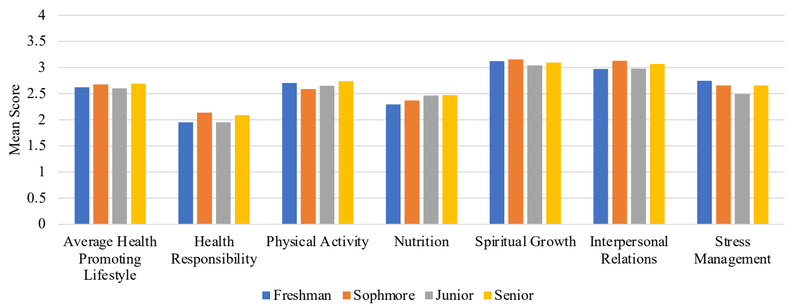


Figure 2: Mean Health-Promoting Lifestyle Scores by Academic Level



Health-Promoting Lifestyle Findings by Category

Health Responsibility *(M=2.03, SD=0.51, Unhealthy)*
- Participants reported moderate level of personal health awareness. Challenges can be identified in participant health education, seeking assistance from health professionals when necessary and questioning unclear health advice.

Physical Activity *(M=2.68, SD=0.61, Moderately Healthy)*
- Participants scored highly on incorporating exercise into daily activities and routine. Challenges were reported in maintaining varied exercise, stretching, and checking pulse rates in exercise.

Nutrition *(M=2.42, SD=0.52, Unhealthy)*
- Participants reported making an effort to make conscious nutritional choices but lacked in fulfilling nutritional needs. However, many reported to not meet daily recommended dietary servings of fruits, vegetables, carbohydrates, and dairy.

Spiritual Growth *(M=3.07, SD=0.51, Healthy)*
- Participants had strong motivation and optimism regarding their academic and career futures.

Interpersonal Relations *(M=3.03, SD=0.50, Healthy)*
- Participants did well in maintaining meaningful relationships, praising others' achievements, and expressing empathy. However, participants often feel uncomfortable discussing personal problems with others and seeking assistance.

Stress Management *(M=2.57, SD=0.39, Moderately Healthy)*
- Participants reported getting sufficient sleep often and making time for relaxation. However, they struggled with consistent practice of daily relaxation/meditation and specific stress control methods.

Discussion & Conclusions

- Institutions can support students by increasing health-related resources, promoting cardiovascular health, offering healthier food options, and ensuring reasonable workloads to improve stress management and overall well-being.
- Similar to other college student groups, collegiate aviation pilots face challenges in maintaining healthy lifestyles, particularly in health responsibility and nutrition.
- This study provides a foundation for future research on collegiate aviation pilot health. Suggested areas for further investigation include demographic trends, health metrics, and the impact of lifestyle on academic/flight performance.