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A Look at Risk Attitude: Flight Students Compared to Non-Flight Students

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A Look at Risk Attitude: Flight Students Compared to Non-Flight Students

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NTAS 2020

Purpose & Research Question

Analyze the difference in risk attitude between flight students and non-flight students in a collegiate Part 141 flight training program

Is there a difference in risk attitude between flight students and non-flight students?

Risk in Aviation Safety

- Potential negative consequences posed by a threat
- Threat-Risk-Action Loop (Orasanu, Fischer, & Davison, 2002)
- Aviation safety is about mitigating risk

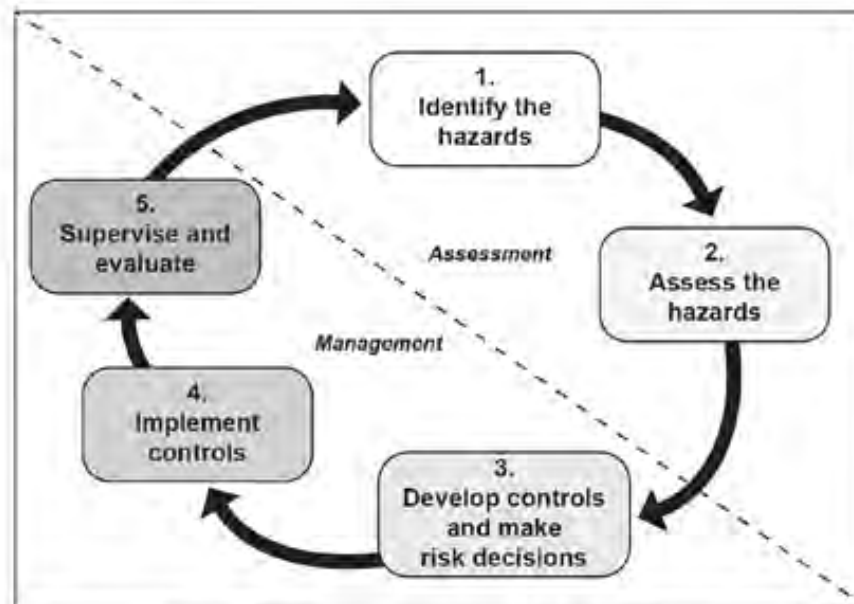


Figure 1-2. Assessment steps and management steps

Methods

IRB

An IRB exemption (19-156) was received.

Participants

Participants sampled from two groups: flight students in core aeronautics courses of a collegiate flight program in the southeastern U.S., and non-flight students in STEM courses

Scale

Participants completed the shortened Domain-specific Risk-attitude Scale, or DOSPERT scale (Blais & Weber (2006), administered using a Google form.

Statistics

Descriptive statistics were conducted in Excel; an independent t-test was conducted in R-Studio.

DOSPERT Scale

- Domain Specific Risk Taking scale for adult populations
- Scored on a 1-7 scale from Not At All Risky (1) to Extremely Risky (7).
- 5 Domains of everyday life:
 - Ethical, financial, health/safety, recreational, social
- Analyzes an individual's perception of risk

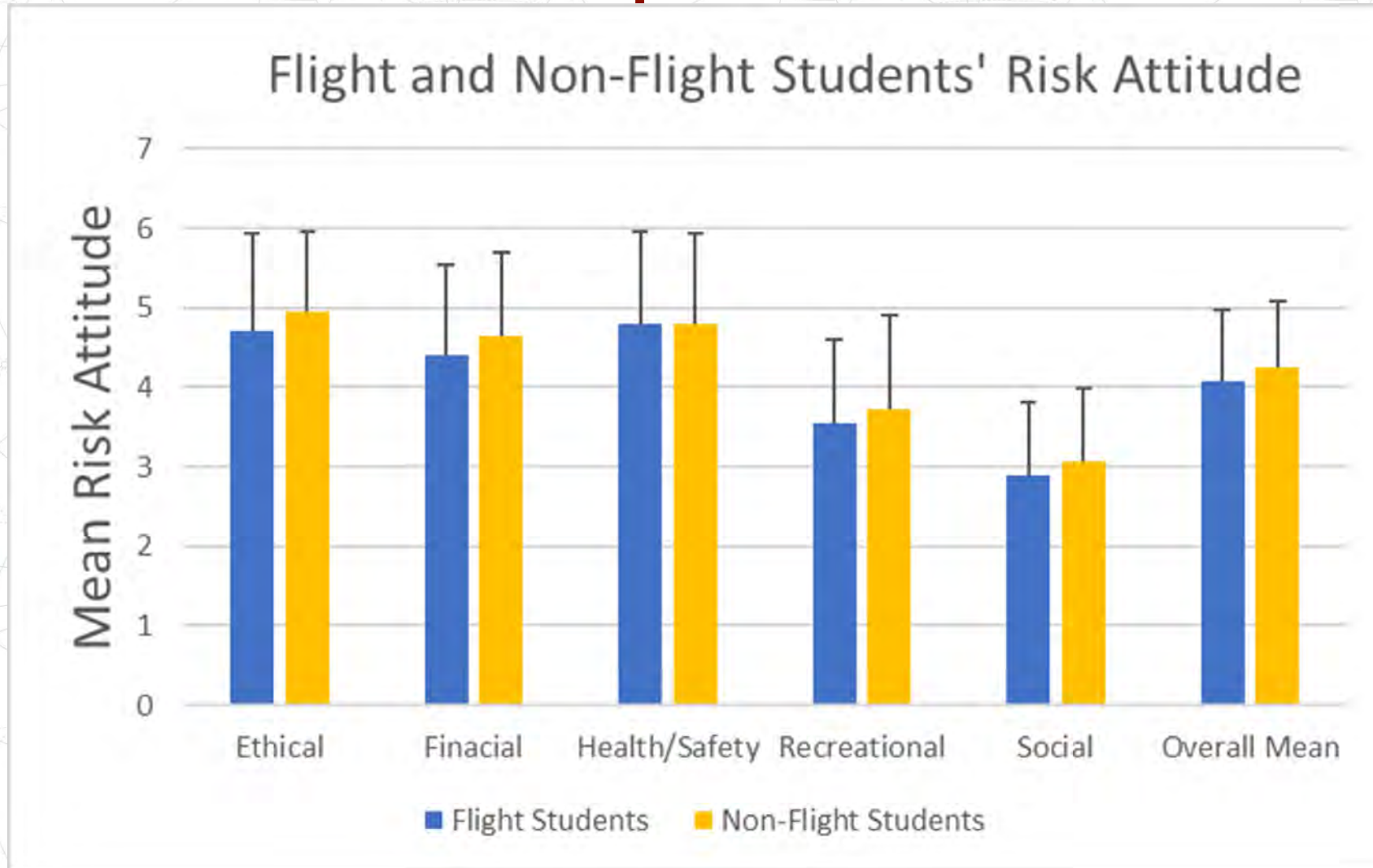
(Blais & Weber, 2006)

- Everyday risk propensity could translate to aviation risk

Results: Participants

- Response rate was 57%
- N=203
 - 102 Flight students; 101 Non-flight students
- 154 Male; 47 Female
- Average age= 19.6 years
- Flight Student Certificates
 - 58 Student Pilots
 - 27 Private Pilots
 - 6 Private Pilots with Instrument Rating
 - 11 Other/Prefer not to answer

Results: Descriptive Statistics



Results

- Cronbach's alpha was .92, indicating high internal reliability.
- The independent t-test showed that there was no significant difference in risk attitudes between flight and non-flight students, $t(203) = 1.36$, $df = 200.5$, and $p = 0.18$.

Discussion

- Findings were contrary to our hypothesis: there was no difference in risk perception between flight and non-flight students.
 - The survey was sampled student pilots early in flight training
 - Response rate 57%: more risk averse students attend class and participate

Future Research

- Administer DOSPERT scale to veteran pilots and their non-aviation peers.
- Administer DOSPERT scale to those students who skipped class to determine if there were differences between those who did not participate.
- Student pilot risk attitude should be studied over time to determine how this develops with experience and knowledge.

References

Orasanu, J., Fischer, U., & Davison, J. (2002) Risk Perception: A Critical Element of Aviation Safety. In *15th Triennial World Congress* (p. 49-58) Barcelona, Spain: IFAC.

Blais, A.-R., & Weber, E. U. (2006). A Domain-Specific Risk-Taking Scale for Adult Populations from Judgment and Decision Making. *Judgment and Decision Making*, 1(1), 33–47.

Thank you.

Are there any questions?