



Federal Aviation  
Administration

*Passenger Safety Awareness  
Reprise 2007:  
Still Ignorant After All  
These Years*

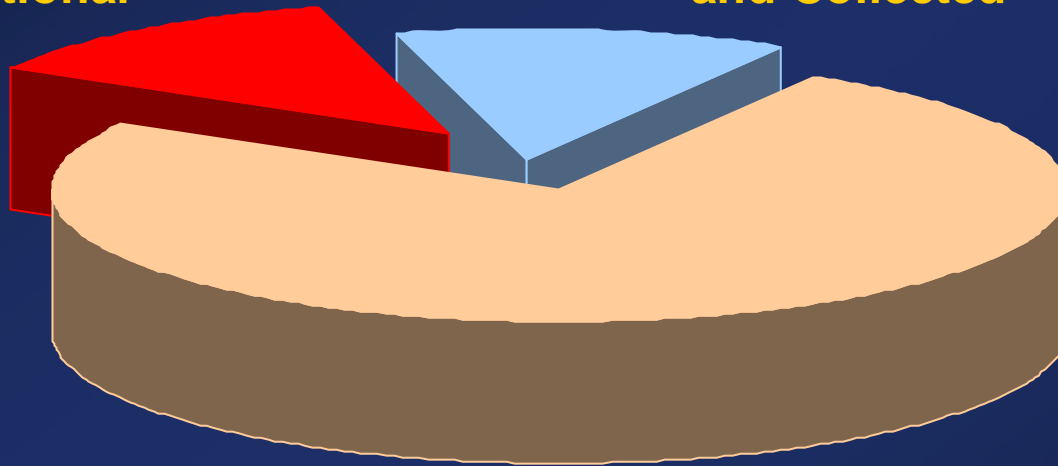
Cynthia L. Corbett, M.A.  
G. A. McLean, Ph.D.  
Civil Aerospace Medical Institute  
Oklahoma City, OK



# *Human Behavior in Emergencies*

**10-15%**  
**Uncontrolled**  
**and Irrational**

**10-15%**  
**Calm, Cool**  
**and Collected**



**75%**  
**Stunned and**  
**Bewildered**

John Leach  
Survival Psychologist  
University of Lancaster, UK

# *Safety Quest*

- What safety information is available?
  - Cosper and McLean (2004). Availability of passenger safety information for improved survival in aircraft accidents
- How “Safety Aware” are passengers?
  - Johnson, D.A. (1979)
  - National Transportation Safety Board (2000)
  - Corbett and McLean (2004)
- How can “Safety Awareness” be improved?
  - Comprehensibility of briefing cards
  - Effective presentation media

# *Emergency Evacuation of Commercial Airplanes Safety Study*

- **NTSB (2000)**
- **“a large percentage of passengers continue to ignore preflight safety briefings” and do not read safety briefing cards**
- **Recommended further research regarding the presentation of safety information to passengers**

*Johnson, D.A. (1979). An Investigation of Factors Affecting Aircraft Passenger Attention to Safety Information Presentations*

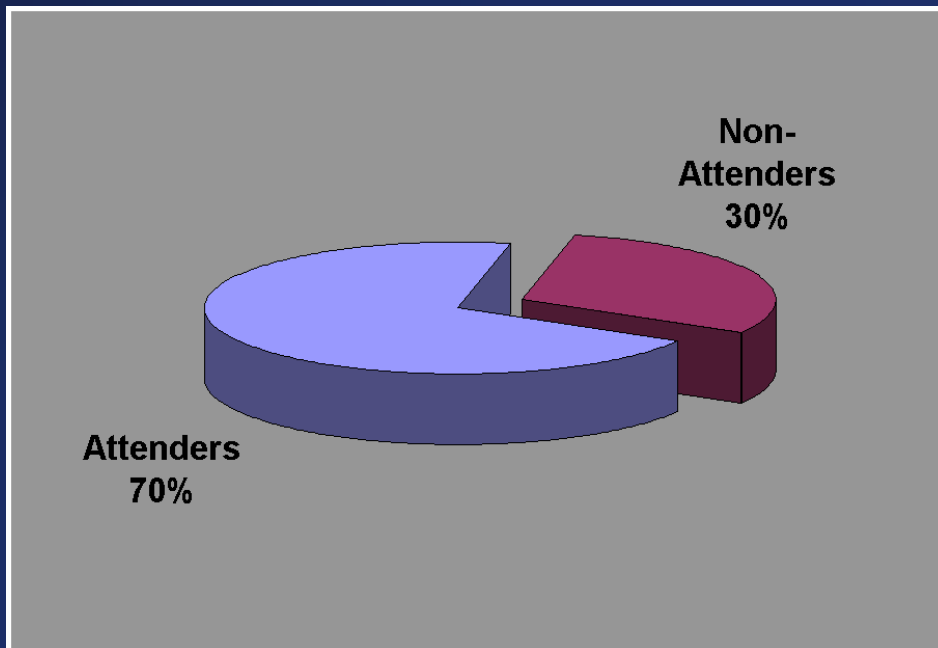
- Determine what differences there are between passengers who normally attend to safety presentations and those who seldom or never attend
- Compared attitudes and safety awareness of attenders and non-attenders

## → Procedure

- 255 respondents interviewed
- Flown at least twice in previous 2 years
- 43 Questions

## → Results

- Non-attenders more likely to be educated younger men with more flight experience than attenders.
- About half of non-attenders, and majority of attenders would pay more attention to safety presentations if fellow passengers paid attention.



# *Corbett and McLean (2004). Passenger Safety Awareness: Still Ignorant After All These Years*

## → Phase 1

- April 2000 through June 2000 (Pre-9/11)
- 313 participants flown at least twice in previous 2 years
  - 162 Males, 151 Females
  - Age 18 to 65 years (Mean 37.2)

## → Phase 2

- November 2002 through August 2003 (Post-9/11)
- 80 participants flown at least twice in previous 2 years
  - 33 Males, 47 Females
  - Age 18 to 69 years (Mean 36.1)

# *Corbett and McLean (2007). Passenger Safety Awareness Reprise: Still Ignorant After All These Years*

## → Phase 3

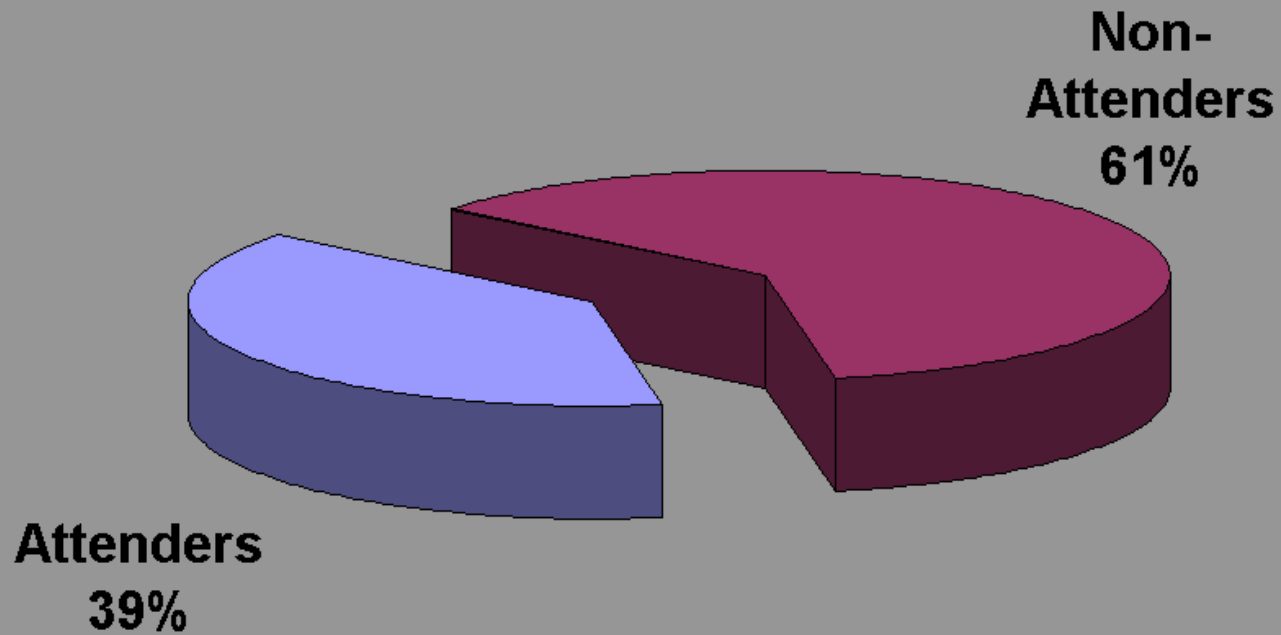
- July 2004 through February 2006 (Later)
- 442 participants flown at least twice in previous 2 years
  - 240 Males, 202 Females
  - Age 18 to 81 years (Mean 39.5)



# *Safety Awareness Questionnaire*

- 39 questions
- Designed to gauge respondents' attention to, and knowledge about, preflight safety briefings and safety briefing cards
- Answered on 5-point scale
  - Never-Occasionally-Quite a Bit-Very Often-Always
  - Strongly Disagree-Disagree-Undecided-Agree-Strongly Agree

# *Phase 1 Results*



# *Best Predictors of Attending and Non-Attending*

→ *Passenger Conformity – Briefing Card*

→ *Oral Briefing Adequacy*

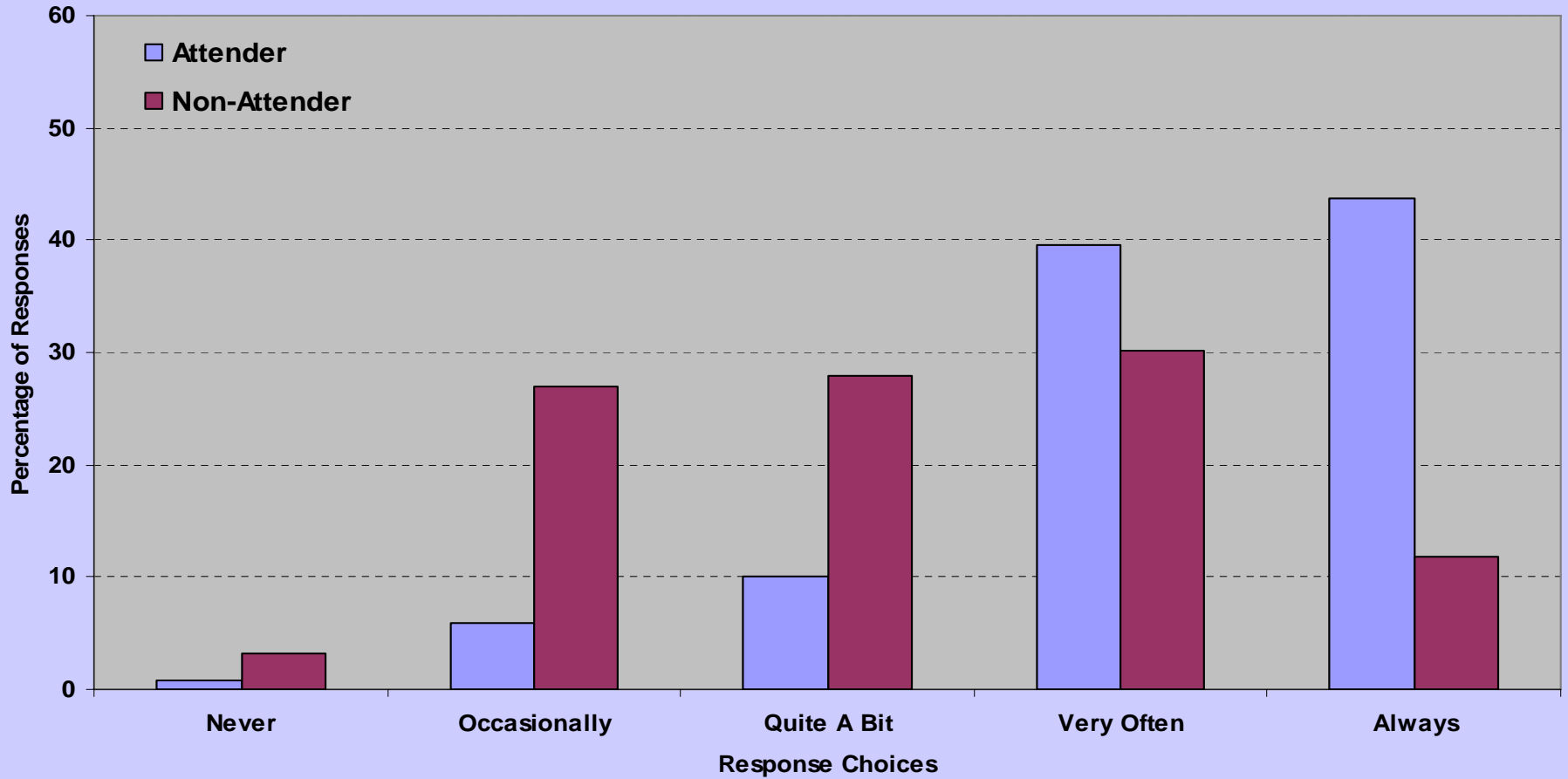
→ *Message Standardization and Simplicity*

→ *Age*

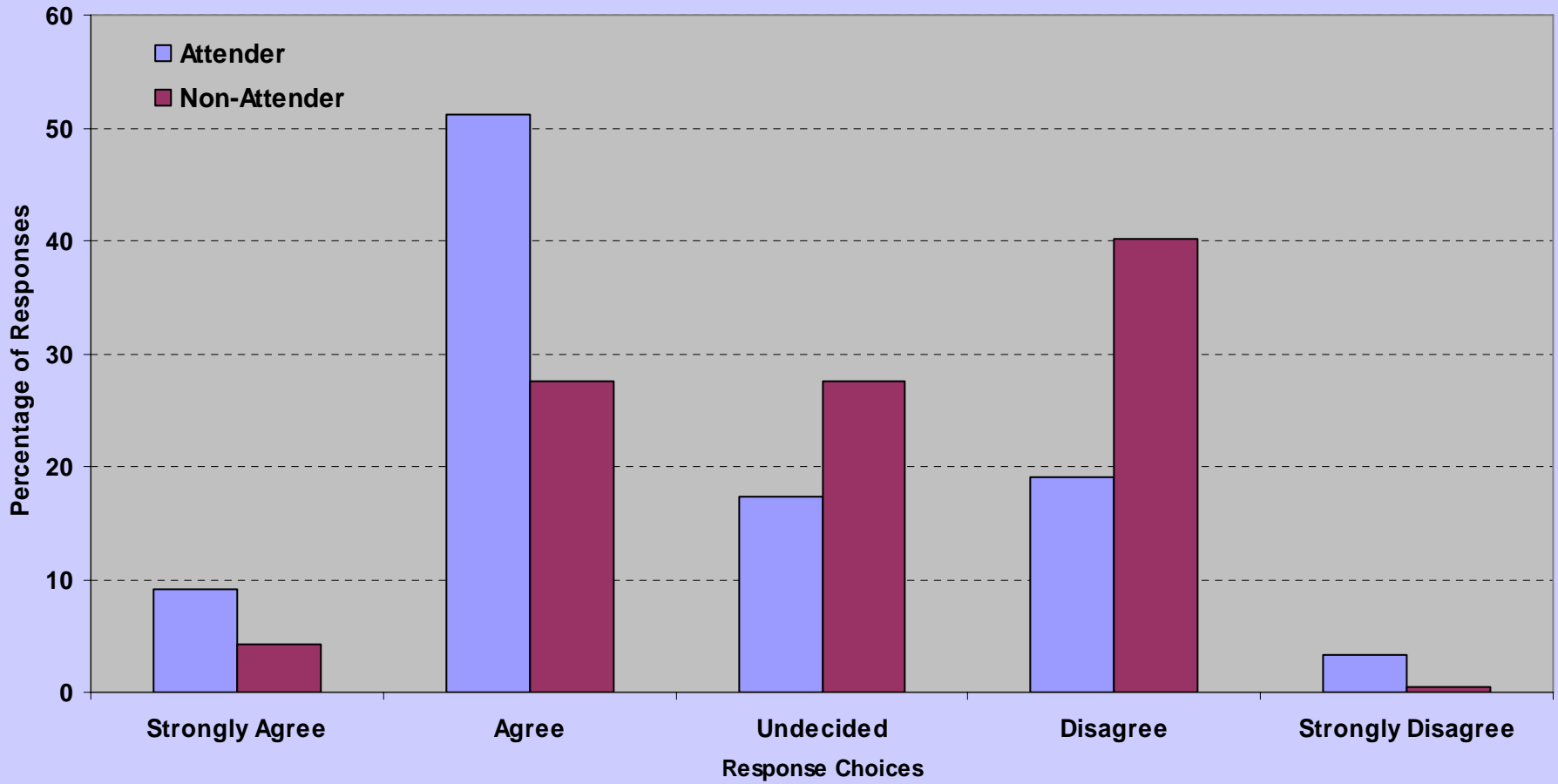
→ *Experienced traveler image*

$\chi^2(3) = 93.56, p < .001$

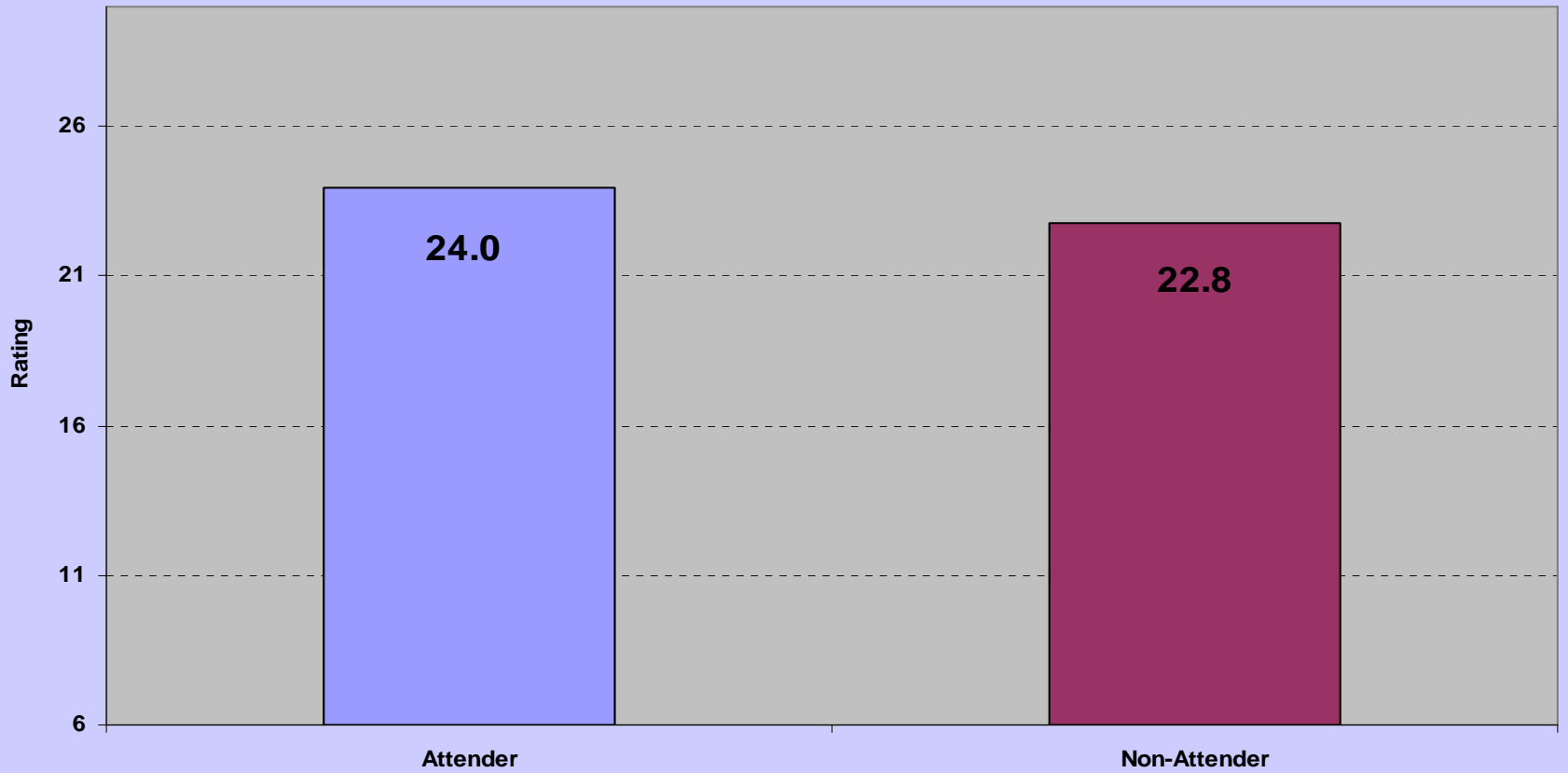
*Passenger Conformity*  
Passenger would read the briefing card if s/he noticed  
more people reading the cards.



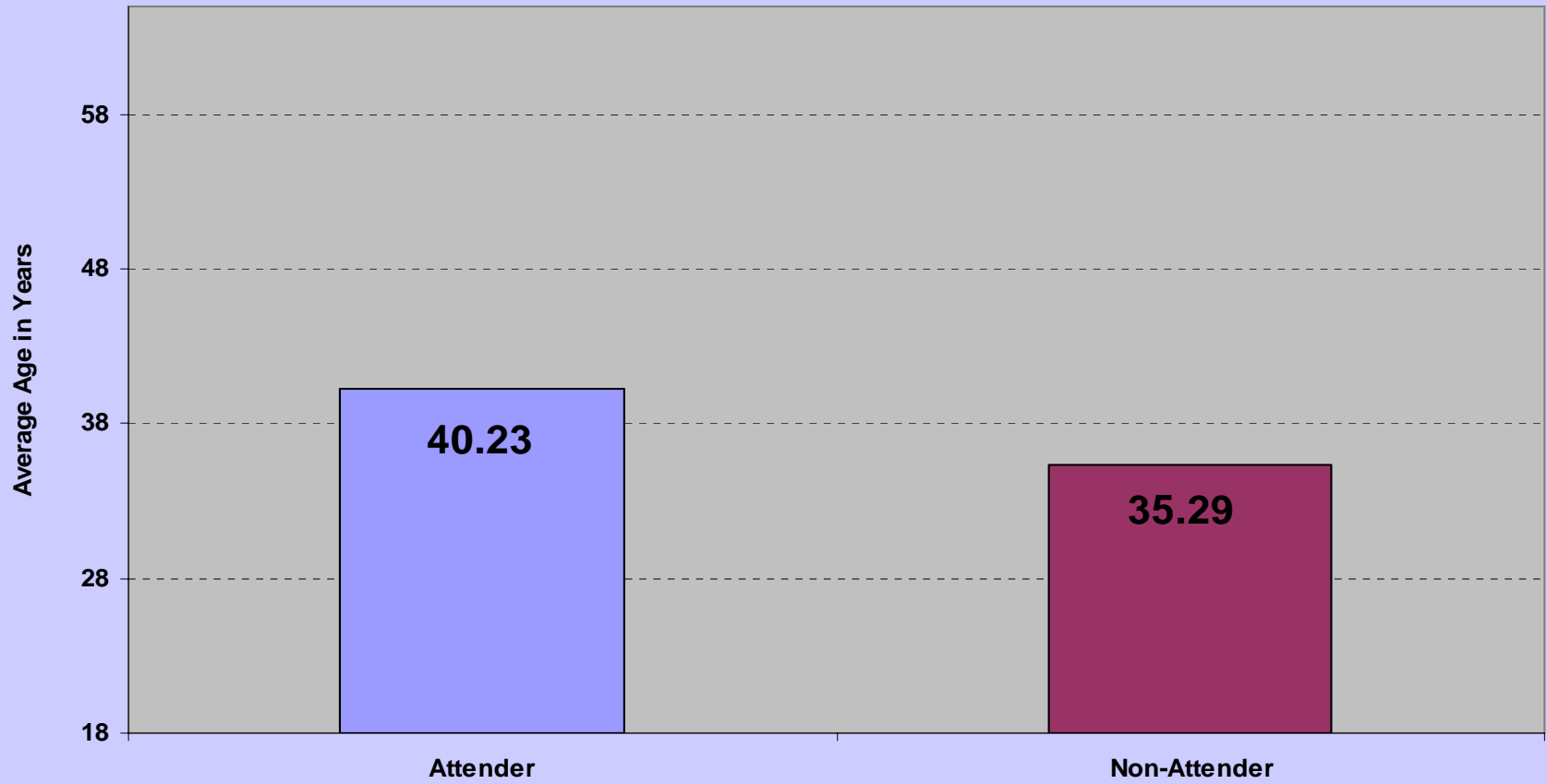
*Oral Briefing Adequacy*  
Oral briefing is inadequate and reading the briefing card is necessary.



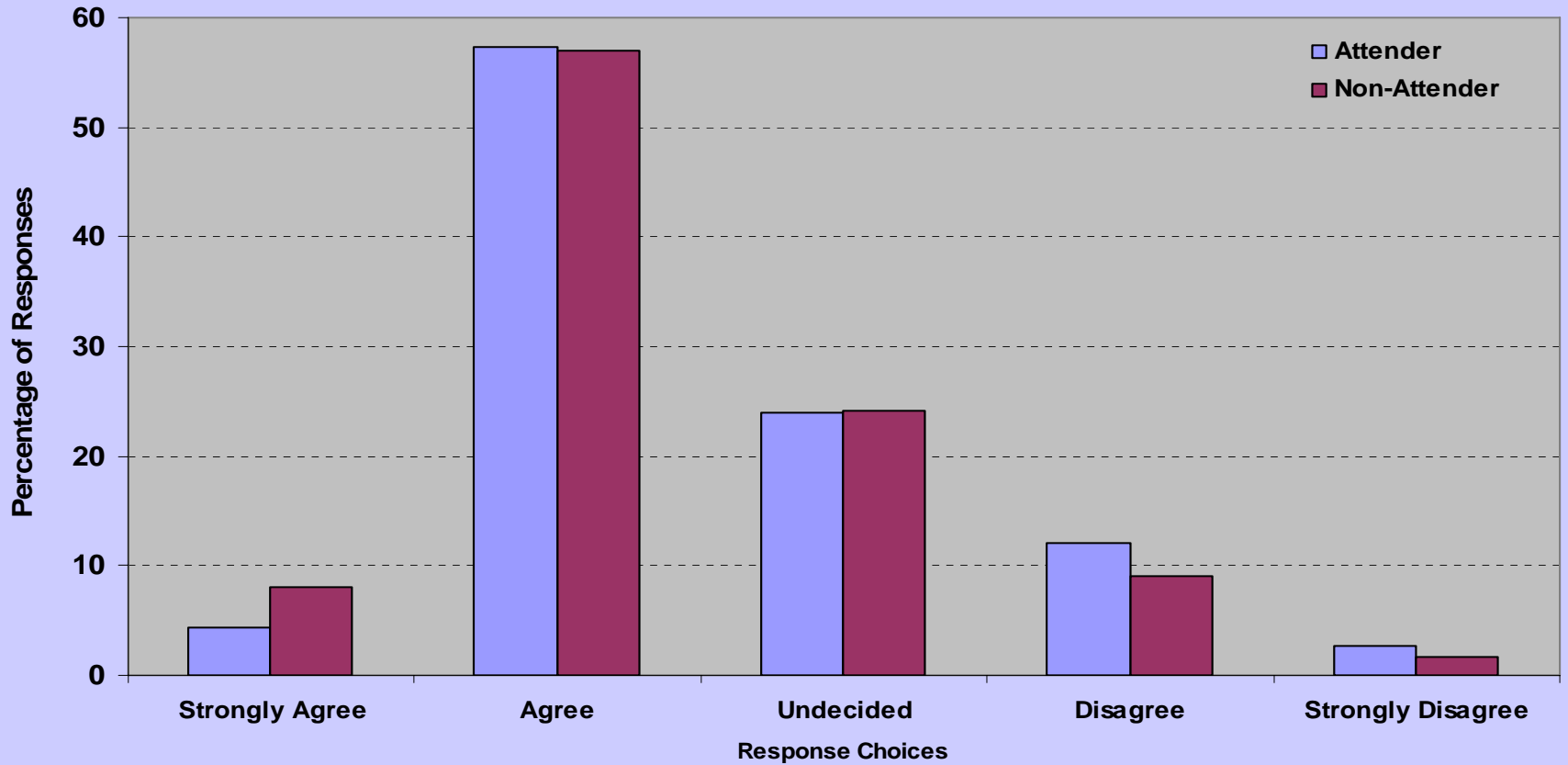
### *Message Standardization and Simplicity*



### *Participant Age*



***Experienced Traveler Image***  
**Most people prefer to be thought of as experienced  
travelers rather than someone on their first flight.**

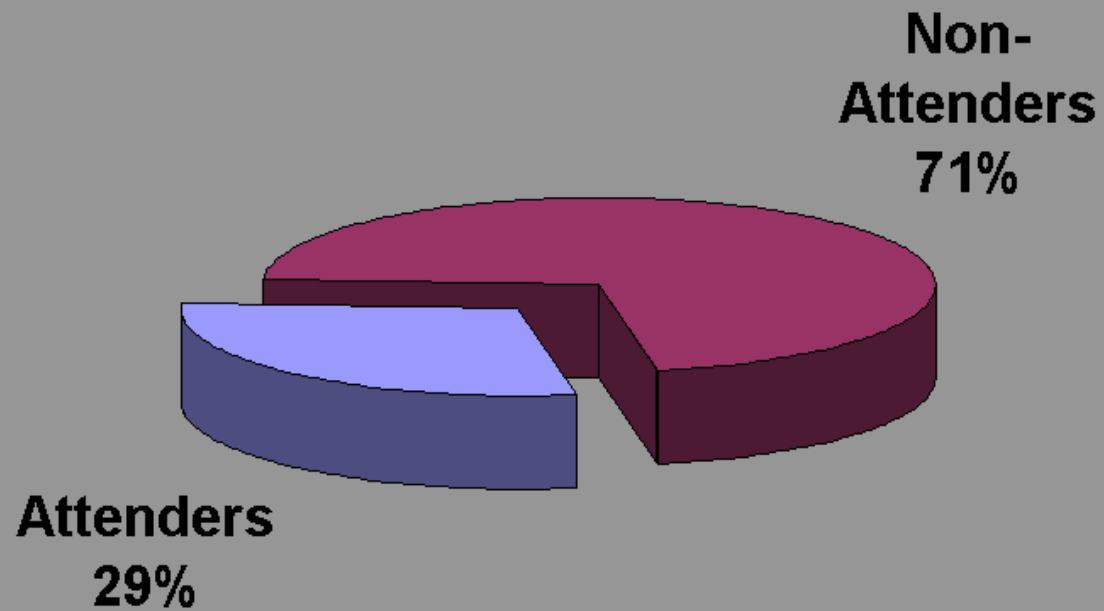




# *“Knowledge-based” responses*

- ➔ 66% could not correctly identify specific topics covered in preflight oral briefing
- ➔ 96% could not identify topics illustrated on briefing cards
- ➔ 65% non-attenders, 58% attenders did not know to don oxygen mask first, then assist others
- ➔ Less than 50% reported that there would be 2 minutes or less time available to get out of plane once a fire started
- ➔ Only 7% stated passengers could remain conscious for 10 seconds or less following rapid decompression at very high altitude

# *Phase 2 Results*

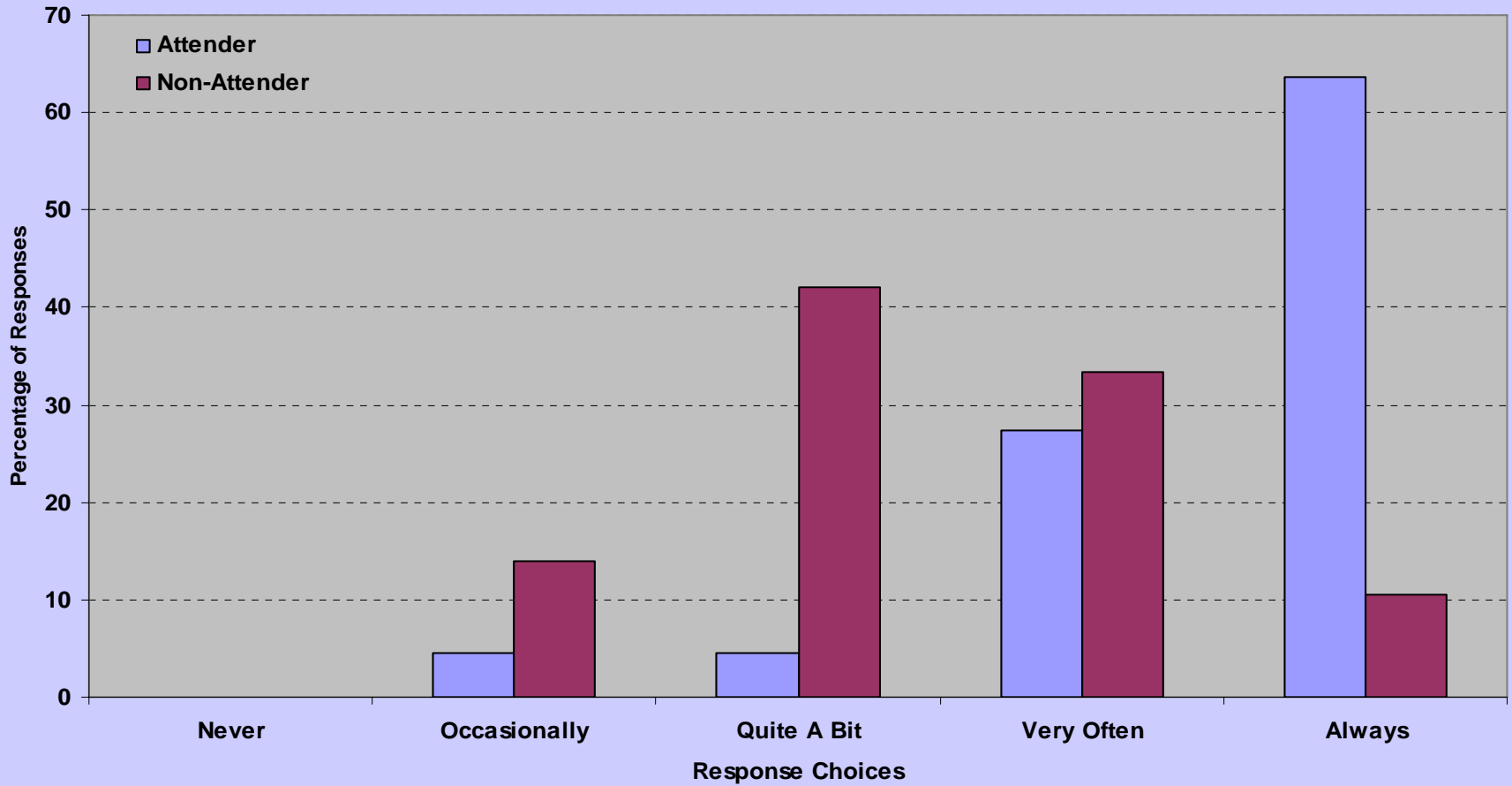


# *Best Predictors of Attending and Non-Attending*

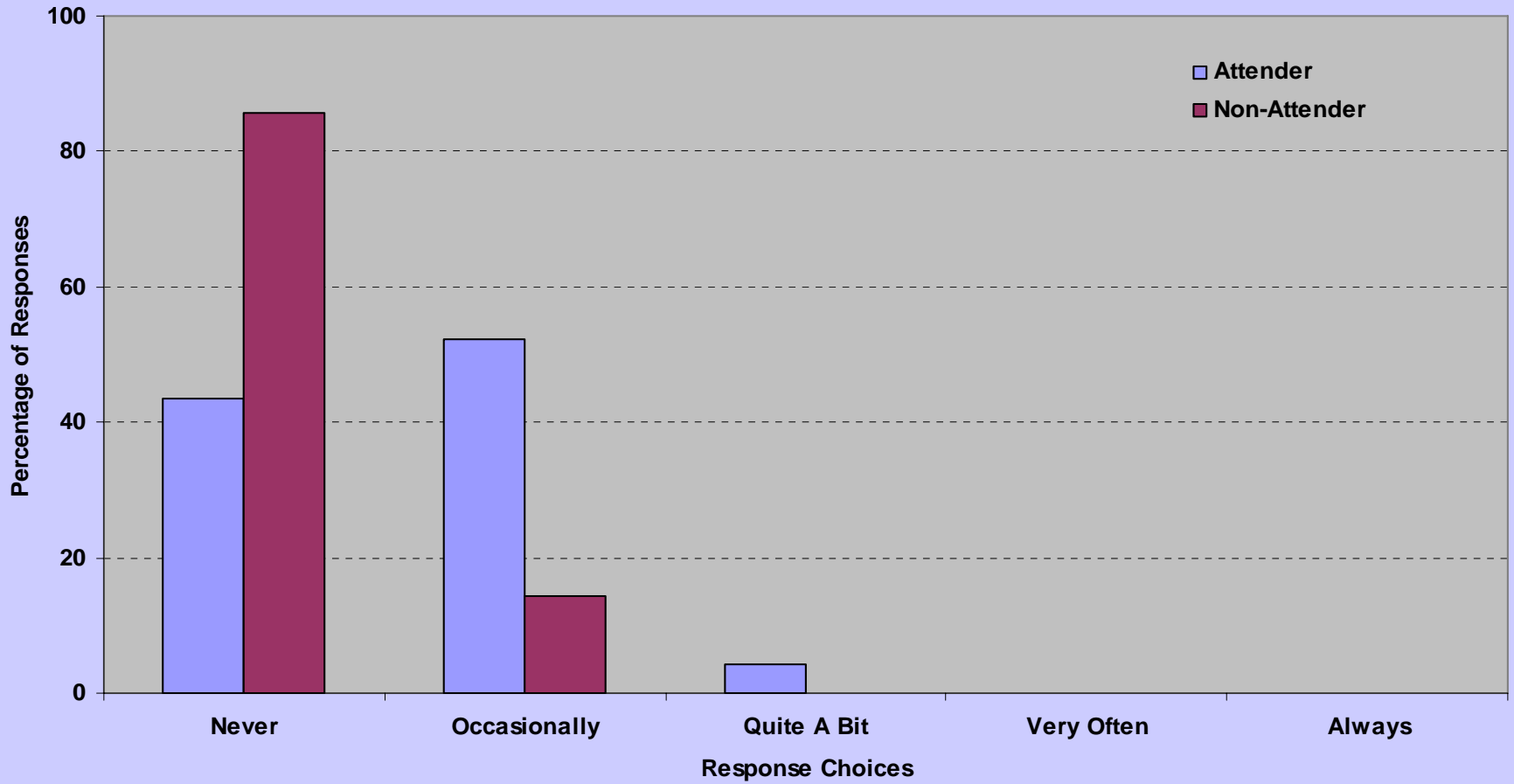
- *Passenger Conformity – Oral Briefing*
- *Fear Arousal of the Briefing Card Message*

$$\chi^2(4) = 26.76, p < .001$$

*Passenger Conformity*  
Passenger would listen to the oral briefing if s/he noticed  
more people listening.



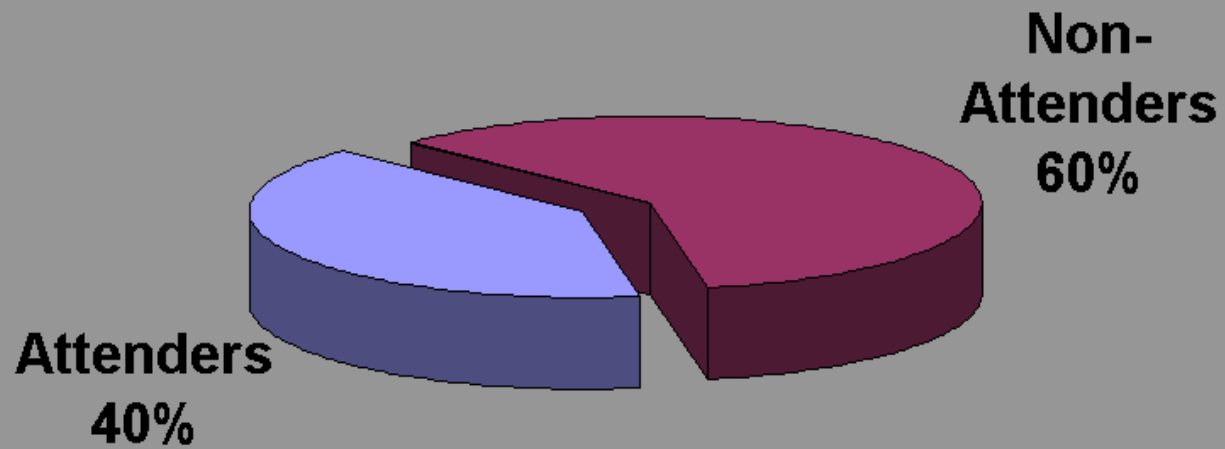
***Fear Arousal of the Briefing Card Message***  
The passenger felt nervous when looking at or thinking about the briefing card.



# *“Knowledge-based” responses*

- ➔ 71% non-attenders, 74% attenders *could not* identify topics covered in oral briefing
- ➔ 92% could not identify topics illustrated on briefing cards
- ➔ 78% non-attenders, 87% attenders knew that passenger should don the oxygen mask first, then assist others
- ➔ Only 2 participants, non-attenders, stated that passengers could remain conscious for 10 seconds or less following sudden decompression at very high altitude
- ➔ Less than 30% reported that there would be 2 minutes or less for people to get out of a plane once a fire started

# *Phase 3 Results*



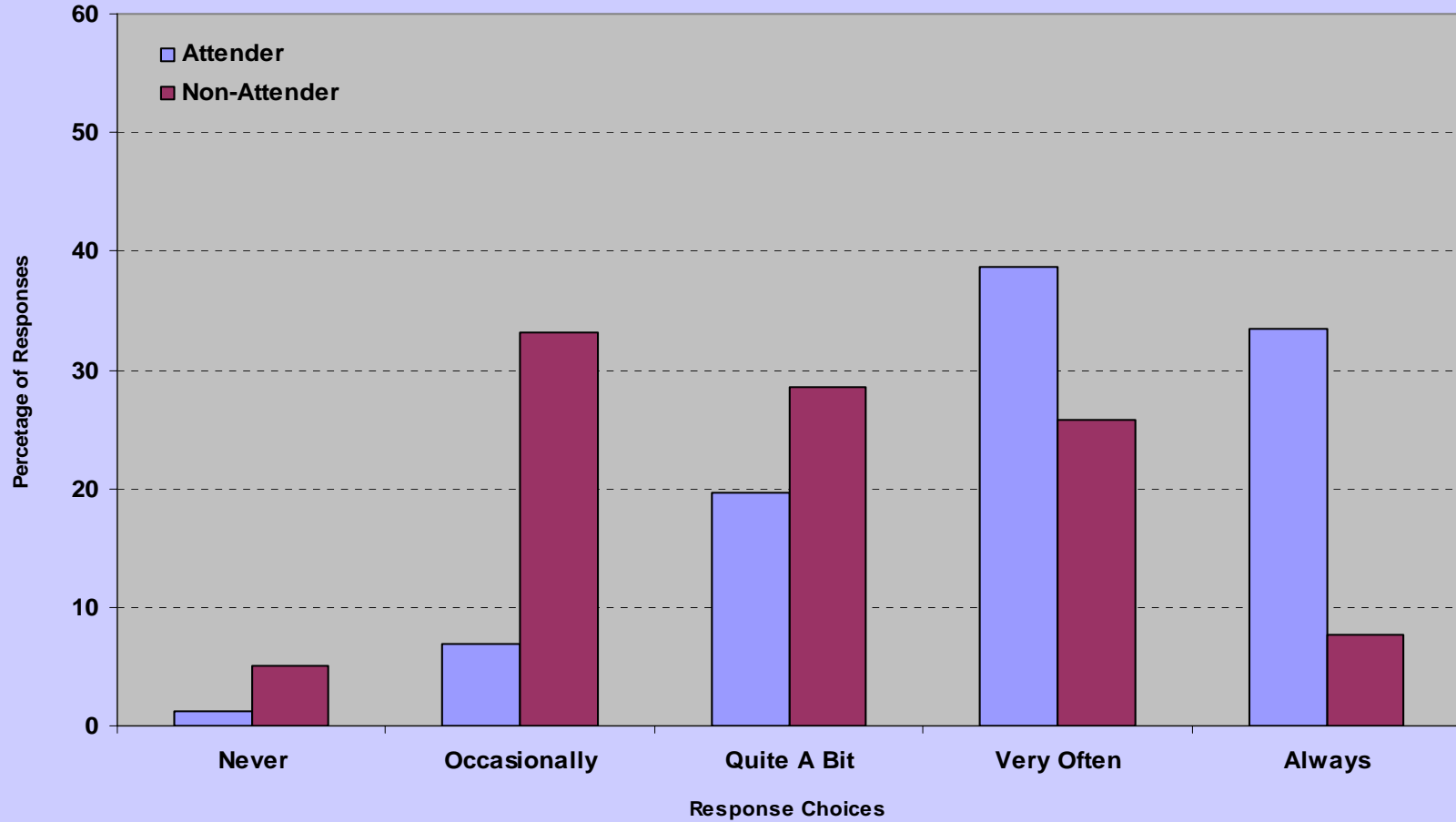
# *Best Predictors of Attending and Non-Attending*

- Passenger conformity – Briefing Cards
- Oral briefing adequacy
- Education
- Age
- Safety Info Knowledge
- Fear Arousal
- Passenger Self Protection
- Fearfulness

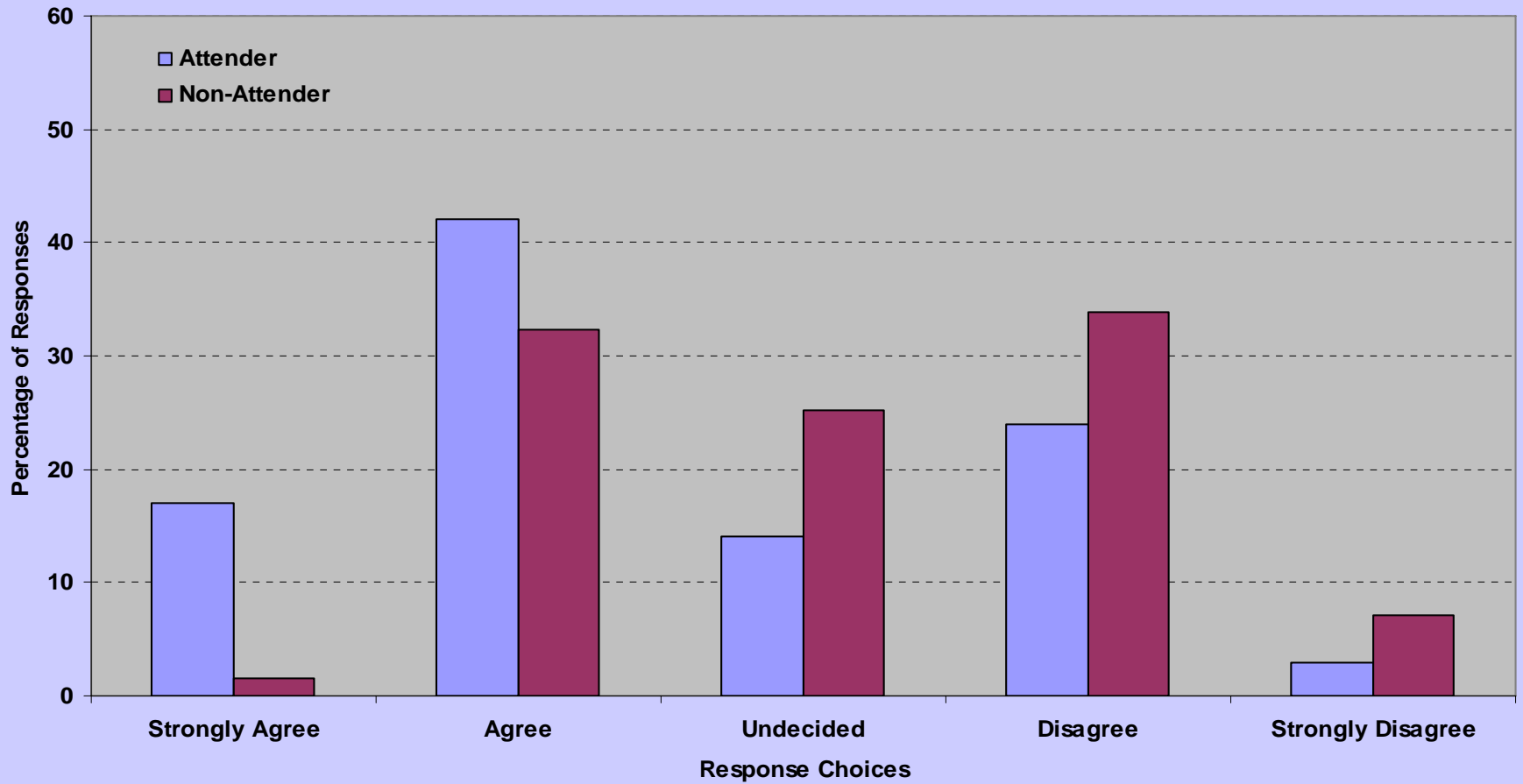
$$\chi^2(4) = 157.29, p < .001$$



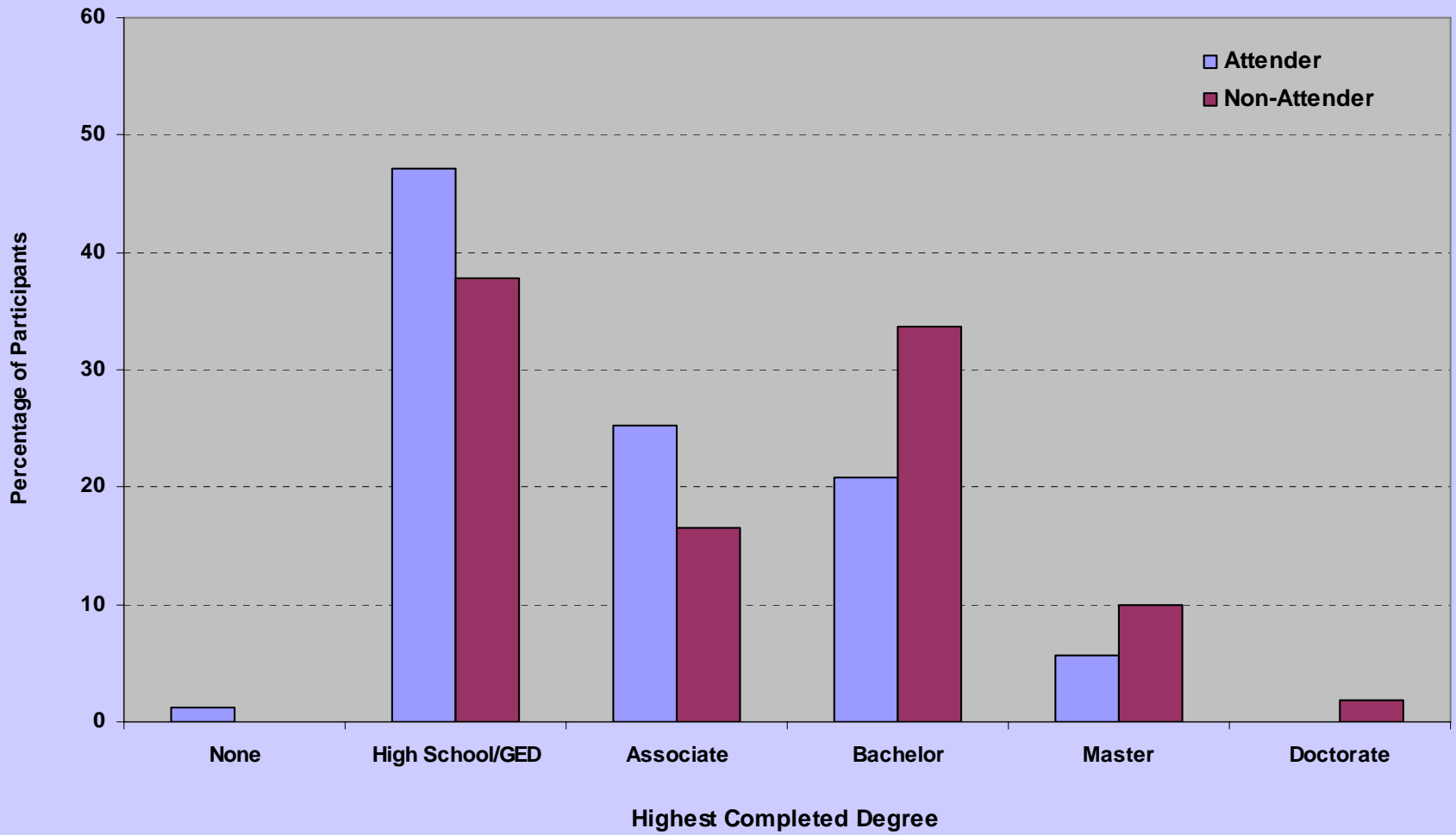
***Passenger Conformity***  
**Passenger would read the briefing card if s/he noticed more people reading the cards.**



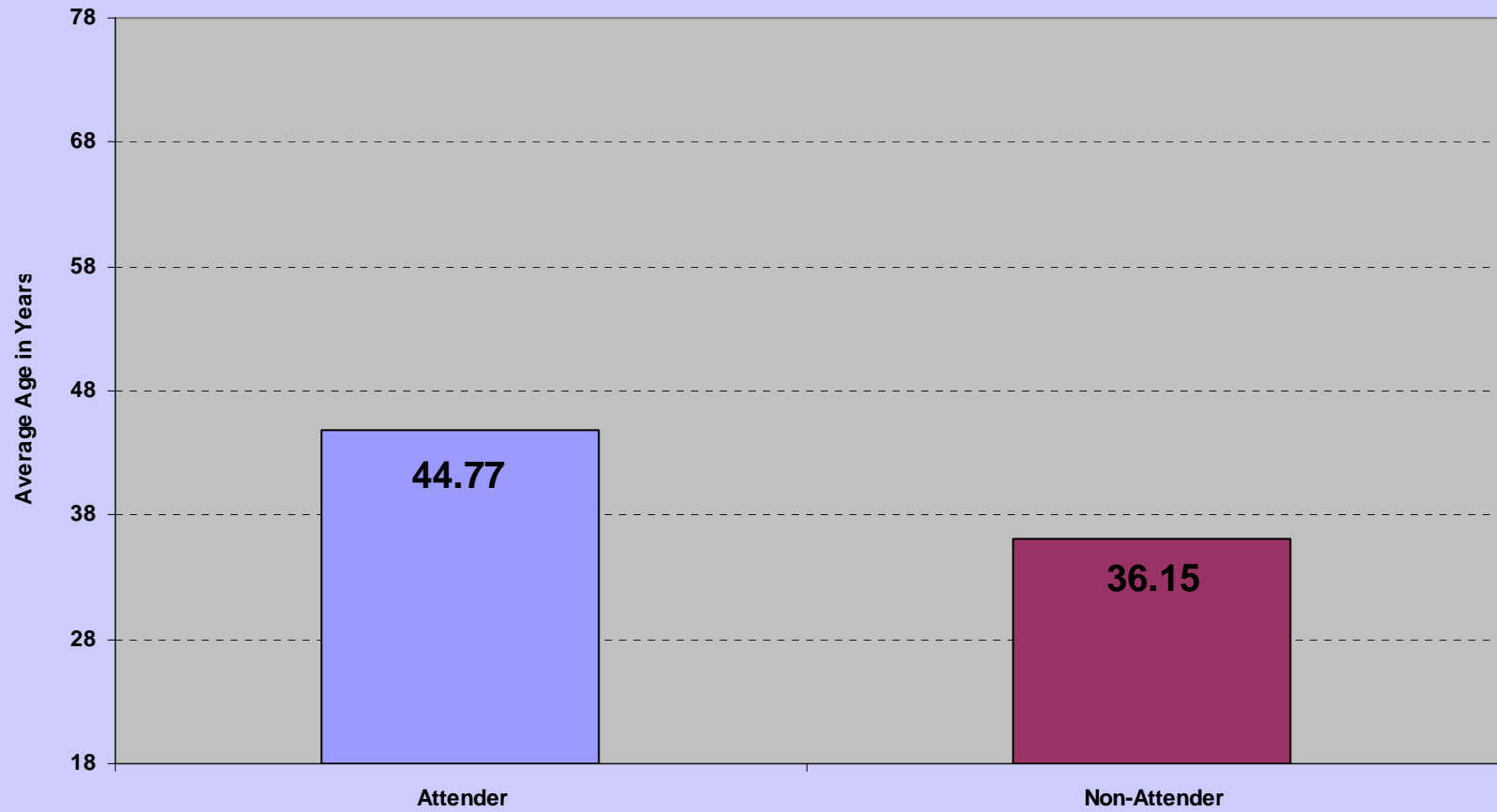
**Oral Briefing Adequacy**  
**Oral briefing is inadequate and reading the briefing card is necessary.**



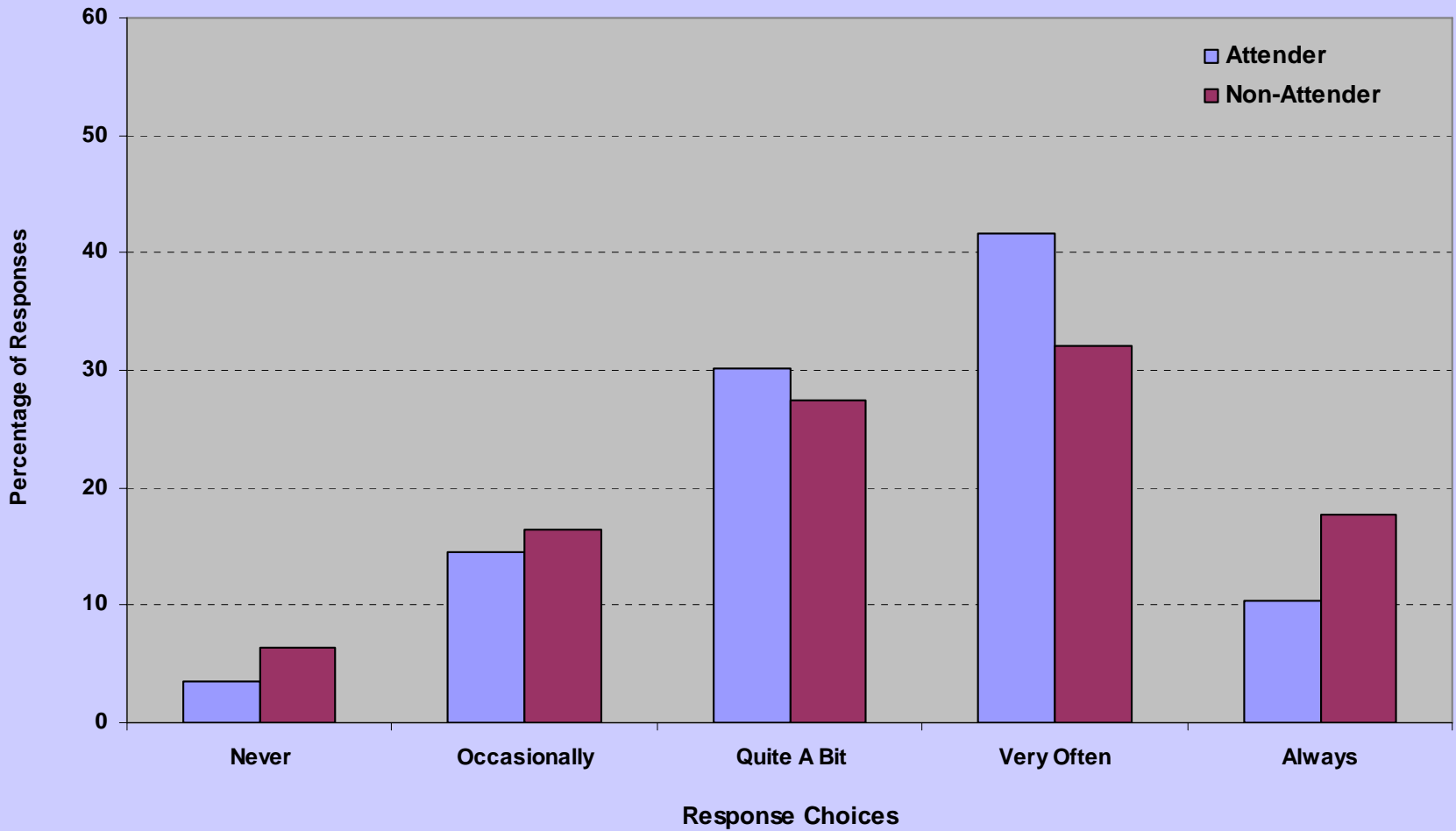
### *Participant Education Level*



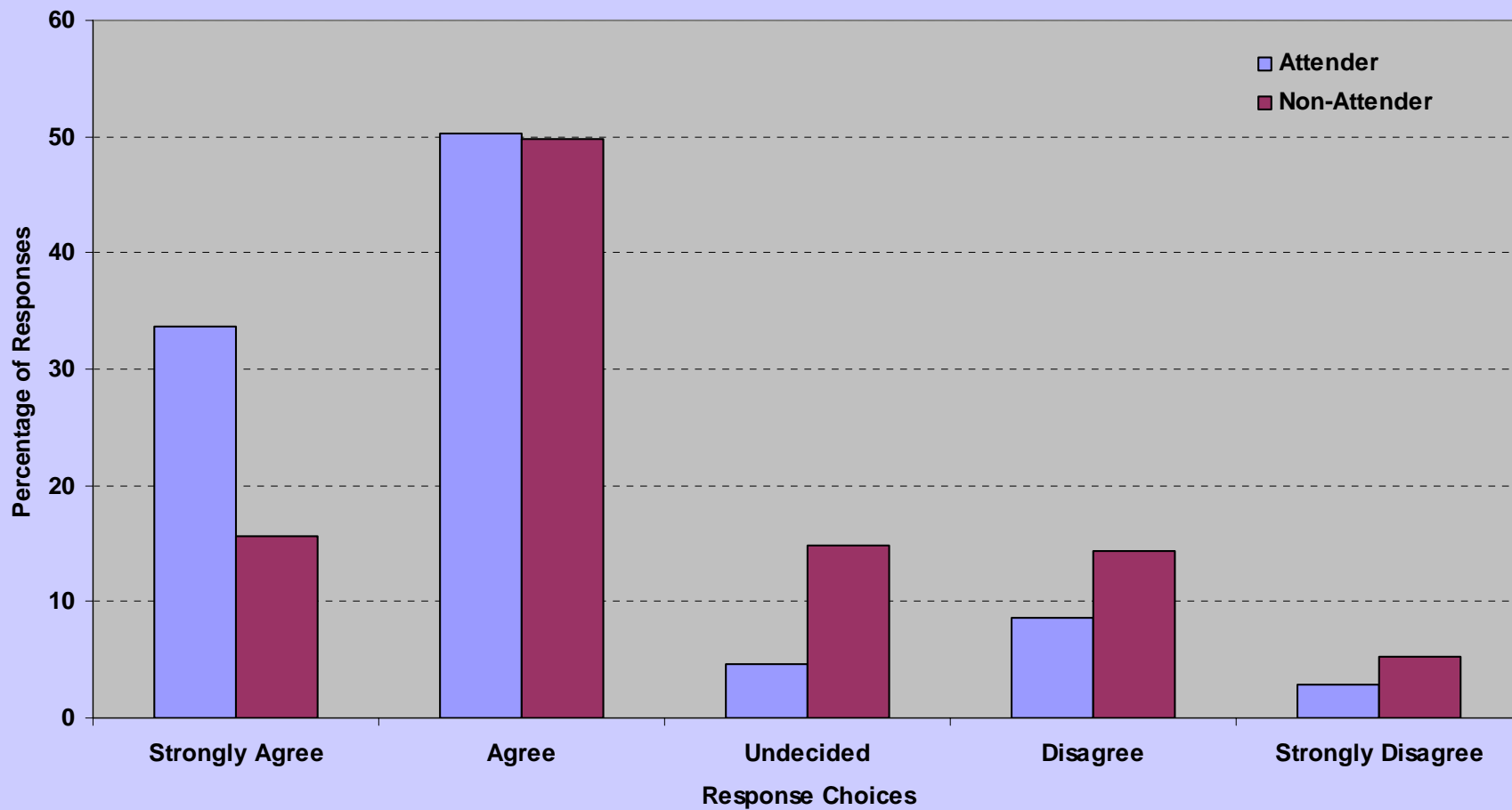
### *Participant Age*



**Safety Information Knowledge**  
Passenger felt sure s/he knew information on briefing card,  
even before boarding the aircraft.

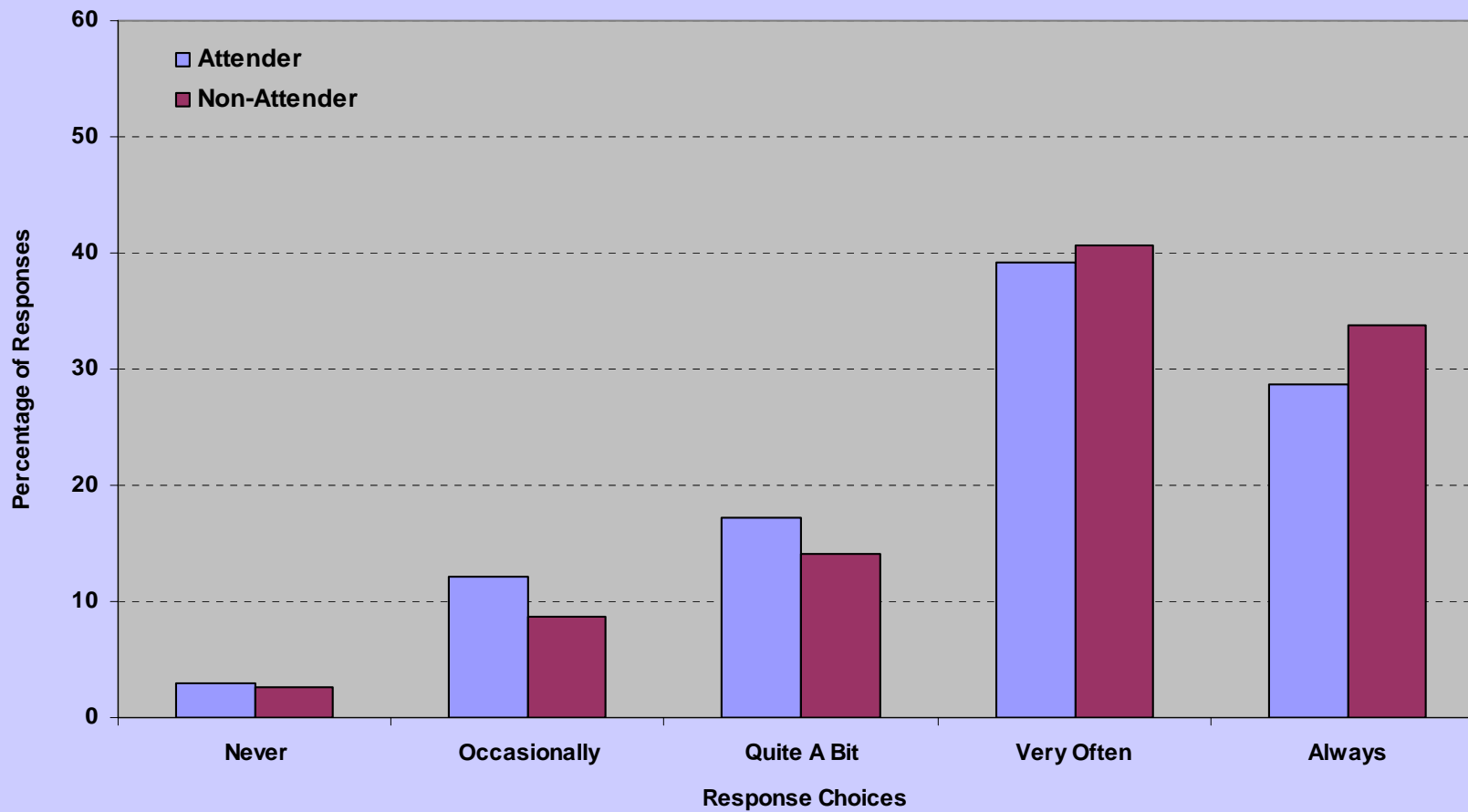


*Passenger Self-Protection*  
Passengers can do something to protect themselves  
after an emergency occurs.



### *Fearfulness*

People who are fearful of flying pay attention to the preflight oral briefing and study the briefing cards.



# *Knowledge-based Responses*

- 58% non-attenders, 54% attenders *could not* identify topics covered in oral briefing
- 95% could not identify topics illustrated on briefing cards
- 77% knew that passenger should don the oxygen mask first, then assist others
- Only 30% reported that there would be 2 minutes or less for people to get out of a plane once a fire started
- Only 5% non-attenders, 8% attenders stated that passengers could remain conscious for 10 seconds or less following sudden decompression at very high altitude



# *Conclusion*

- ➔ **Considerable reduction from 70% of attenders in 1979 to 40% (or less) could have adverse effects on passenger survival rates in future aircraft accidents.**
- ➔ **Responses from pre- and post-9/11 and later samples suggest changing motivation for attenders.**
- ➔ **Atenders are not internalizing the information to which they are attending.**
- ➔ **There is a need for increased efforts to improve passenger attention to safety presentations.**
  - **Including information not generally included in the presentations made on board the airplane**