ATTENTION DURING IN-FLIGHT SAFETY VIDEO

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OVERVIEW

- Introduction
- Background
- Aim
- Method
- Results
- Discussion
- Conclusion


INTRODUCTION

- The Aviation industry as a whole is concerned with safety.

- Safety is an adherence to rules, regulations and standard operating procedures.

- On-board passenger safety procedures are very crucial.

- In-flight safety videos play an important role in passenger safety.

- Airlines are starting to vary the way they deliver their in-flight safety announcement.

- Airlines use humor, celebrities, dance, music, animation

- Effectiveness of these methods in engaging passengers remains unknown
AIM

The main aim of the present research was to investigate the effectiveness of three different pre-flight safety videos in order to determine their effectiveness in terms of:

- Attention to the information present
- Recall of the information presented in terms of key safety messages.
BACKGROUND

- In the Aviation Industry different airlines use different type of safety videos to educate on-board passengers on safety.

- Safety communication affects passengers’ survivability of evacuations (CASA, 2004).

- Reasons for inattention to in-flight safety briefing
  - Passenger had seen the safety briefing previously,
  - Passenger overconfidence,
  - Passenger physical structure and seating location,
  - Anxiety of flying,
  - Technical problems of passenger video or passenger address system

According to a survey conducted by the U.S. National Transportation Safety Board (NTSB) after 18 aircraft evacuations, they found that,

- 52% watched full or 75% of the video
- 48% watched 50%, 20% or none of the video
Incorporating Humour in Advertising

- Advertisers incorporate some form of humour appeals between 14% to 45% of all television advertisements (Madden & Weinberger, 1982).

- Humour has a significant relationship with persons’ attention, comprehension and persuasion.
  - E.g.- It is estimated that, up to 20% of humour in all commercial spots (Kelly & Solomon, 1975).
Humour and Attention

- Humour has a positive effect on television advertisement attention
  - 1,000 pre-tested advertisements
  
  (Stewart and Furse, 1986)

- Humorous advertisements out-performs non-humorous advertisements on attention measures
  - Initial attention,
  - Sustained attention,
  - Projected attention and
  - Overall attention.

  (Speck, 1987)

- A study conducted by Chan (2011)
  - 254 university students
  - Five television commercials
  - Results revealed that humour gathers the attention while disrupts message processing
Celebrities can be used to attract public attention.

20% of TV commercials use celebrity endorsement (Sam, 1996)

Public is inherently attracted to a familiar face and voice

Advantages of celebrity endorsement
  - Impact
  - Memorability and
  - Positive influence on persuasion

Airlines also use celebrities in their safety videos in order to capture passengers’ attention as an alternate method.
Celebrity endorsement is one of the most powerful tools in advertising
  • Can promote a product by influencing the image and identification of the celebrity.
  • Make the advertisement more interesting, attractive, and lively as well as attention getting. (Ohanian, 1991; Kamins, 1990).

Key factors to consider
  • Celebrity should be popular and easy to recognise by the audience
  • The messages delivered by the celebrity must be believable and the celebrities must be seen as congruent by the consumers.
  • The endorsing star should be attractive, believable, trustworthy and likable (Jones, 1999)
METHOD

Participants
- 41 participants
- Recruited from UNSW
- Average age of 22.2 (SD = 4.36) years
- All participants were reimbursed for their time

Materials
- Demographics questionnaire (i.e. age and gender)
- Flight history and behaviour questionnaire
- Pre-flight safety video A (American Airlines - non humorous);
- Pre-flight safety video B (Qantas - use of celebrity);
- Pre-flight safety video C (Air New Zealand - humorous);
- A recall test form (employed after video session),
- Five random videos including Bigbang theory, commercial airline advertisements, and a short movie
METHOD

Equipment
- Eye tracker (Smarteye 3 camera system)
- Laptop (Connected to eye tracker)
- Desktop
- 27 inches wide screen monitor with a separate audio system

Experimental design
- Between subjects design
METHOD

Simulator Scenario
METHOD

Procedure

- 3 groups
- Equal number of participants were allocated randomly
- Information sheet and consent form was given
- Participants were required to watch 5 random videos and a safety video (Target video)
- Eye movement of all participants were recorded using an eye tracker
- At the end of the video session - short questionnaire and the demographics form was provided.
- The research took no longer than 1 hour (For each participant).
# Method

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Airlines (No-Humour) + 5 videos</td>
<td>Qantas (Celebrity) + 5 videos</td>
<td>Air New Zealand (Humour) + 5 videos</td>
</tr>
<tr>
<td>14 Participants</td>
<td>12 Participants</td>
<td>15 Participants</td>
</tr>
</tbody>
</table>

![Video Timeline](image.png)
RESULTS

- **Independent variable:**
  - Type of in-flight safety video
    - American Airlines (No-Humour)
    - Qantas (Celebrity)
    - Air New Zealand (Humour)

- **Dependent variable:**
  - Total observation time
  - Time to first look away
  - Number of times looked away as the between groups factor
  - Recall of information (Memory)
Total Observation Time

- Analysed with a one-way analysis of variance (ANOVA).
- Alpha set at .05, $F(2, 38) = 1.512, p = .233, \eta_p^2 = .074$
- Result were **not statistically significant**

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- No Humour</td>
<td>14</td>
<td>99.83</td>
<td>.15</td>
</tr>
<tr>
<td>2 - Celebrity</td>
<td>12</td>
<td>99.74</td>
<td>.28</td>
</tr>
<tr>
<td>3 – Humorous</td>
<td>15</td>
<td>99.81</td>
<td>.10</td>
</tr>
</tbody>
</table>
**First Look Away**

- Time to first look away represented as a percentage of video duration for the three groups.
- Analysed with a one-way analysis of variance (ANOVA).
- Alpha set at .05, $F(2, 38) = .632, p = .537, \eta_p^2 = .032$.
- Result were **not statistically significant**.

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<th>Mean</th>
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<tbody>
<tr>
<td>1- No Humour</td>
<td>14</td>
<td>43.56</td>
<td>32.18</td>
</tr>
<tr>
<td>2 - Celebrity</td>
<td>12</td>
<td>46.83</td>
<td>37.13</td>
</tr>
<tr>
<td>3 – Humorous</td>
<td>15</td>
<td>57.52</td>
<td>35.61</td>
</tr>
</tbody>
</table>
NUMBER OF TIMES LOOKED AWAY

- Analysed with a one-way analysis of variance (ANOVA).
- Alpha set at .05, $F(2, 38) = 3.455, p = .042, \eta_p^2 = .154$
- Result were statistically significant.
- Significant difference was between the celebrity video (group 2) and the humorous video (group 3; $M_{\text{Diff}} = 2.15, p = .019$).

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<tr>
<td>1- No Humour</td>
<td>14</td>
<td>2.93</td>
<td>2.13</td>
</tr>
<tr>
<td>2 - Celebrity</td>
<td>12</td>
<td>3.42</td>
<td>3.32</td>
</tr>
<tr>
<td>3 – Humorous</td>
<td>15</td>
<td>1.27</td>
<td>1.03</td>
</tr>
</tbody>
</table>
INFORMATION RECALL

- Number of key safety messages recalled for the three groups
- Analysed with a one-way analysis of variance (ANOVA).
- Alpha set at .05, $F(2, 38) = 6.13, p = .005, \eta_p^2 = .244$
- Results were **statistically significant**
  - Between the humorous video (group 3) and the no humour video (group 1; $M_{Diff} = 10.73, p = .008$)
  - Between the humorous video (group 3) and the celebrity video (group 2; $M_{Diff} = 12.51, p = .003$)

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<td>7.01</td>
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<tr>
<td>3 – Humorous</td>
<td>15</td>
<td>57.25</td>
<td>9.62</td>
</tr>
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</table>
Prior flight experience

- Prior exposure to another airline’s safety briefings may have impacted on participants’ recall of key safety information in the present study.
- Correlational analyses was performed between prior flight experience and safety information recall.
- **Failed to reveal a relationship**
  - Between number of flights in the last year and safety information recall, $r(41) = .040$, $p = .802$, and
  - Between number of flights in the last five years and safety information recall, $r(41) = .025$, $p = .878$
ATTPNION ON AIRCRAFT

- The reasons why participants elected not to attend to the pre-flight safety briefing on their last flight

- Other reasons include reading books and magazines
Neither age or sex was related to the participants decision to attend to the pre-flight safety briefing on their last flight.

- Pearson’s product moment correlation, $r(41) = -.028$, $p = .862$
- Two-way chi-square, $x^2(1, N = 41) = .360$, $p = .548$, Cramer’s $V = .09$
**Discussion**

- **Summary of major results**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Statistically significant</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total observation time</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>First time to look away</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>Number of times looked away</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>Recall of information</td>
<td>YES</td>
<td></td>
</tr>
</tbody>
</table>

- Between Air NZ (Humours) and Qantas (Celebrity)
- Between Air NZ (Humour) and Qantas (Celebrity)
- Between Air NZ (Humour) and American Airlines (No-Humour)
DISCUSSION

<table>
<thead>
<tr>
<th>Category</th>
<th>First time to look away</th>
<th>Total observation time</th>
</tr>
</thead>
<tbody>
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DISCUSSION

Reasons for results
- Research environment
- One participant at a time
- The use of eye tracker

Efforts were put towards to provide real on-board conditions.
- Use of magazines and posters to distract them in order to minimise the errors that may occur due to difference between actual and research environment
This data was for only those participants who had not seen these videos prior.

The use of humour in a pre-flight safety video is more effective in maintaining participants attention.
DISCUSSION

- Safety video which is with humorous content was identified to be the most effective safety video with regards to participants’ ability of recalling the safety information.

- Results were not consistent with the results found by Molesworth (2014), Examining the Effectiveness of Pre-Flight Cabin Safety Announcements in Commercial Aviation.
  - Celebrity video (Qantas) performed well.
DISCUSSION

- Key safety messages recalled by participants

<table>
<thead>
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<th>Air NZ (Humour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>46.5%</td>
<td>44.7%</td>
<td>57.3%</td>
</tr>
</tbody>
</table>

**ONLY AROUND 50%**

- Safety briefings are effective in capturing passengers’ attention, they are not effective in terms of retention of safety messages and recall
DISCUSSION

- Overall humorous safety video (Air NZ) performed well in terms of information recall.

- The video incorporated celebrity (Qantas)
  - Void of any humour
  - Celebrity only appears at the beginning and at the end of the safety video

- May be more effective if the celebrity delivers all the safety messages throughout the video.
  - Passengers are inherently attracted to a familiar face and voice
DISCUSSION

- The video with no-humour (American Airlines) performed worst compared to humorous safety video (Air NZ)
  - Too many messages are delivered in a shorter period of time
  - Continual transition between presenters for each safety message

<table>
<thead>
<tr>
<th>Type of Video</th>
<th>Duration</th>
<th>Total key messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air NZ (Humour)</td>
<td>212 sec</td>
<td>34</td>
</tr>
<tr>
<td>American Airlines (No-humour)</td>
<td>196 sec</td>
<td>41</td>
</tr>
</tbody>
</table>
DISCUSSION

- Males, in particular young males were less likely to attend to the pre-flight safety briefing (Johnson, 1979)

- A study on Public Attitudes, Perceptions and Behaviours towards Cabin Safety Communications found that, males pay significantly less attention to in-flight safety videos compared to females (ATSB, 2006)

- The results of the present research found no relationship between age or sex with attention to such safety material
DISCUSSION

- Reasons why passengers elected not to attended to in-flight safety video.
  - Repetitive nature of material cited as a leading factor,
  - Familiarity with content,
  - Found the information boring.

- largely reflect with the reasons identified by Fennell and Muir (1992)

- These results support organisations that attempt to deliver this mandated information in a manner that is interesting and/or entertaining
LIMITATION AND FUTURE RESEARCH

- Employed an eye tracker to observe and measure participants’ eye movements
  - provided an obvious clue as to purpose of the research

- **Hawthorne Effect** - Improve or modify an aspect of their behaviour in response to the fact of change in their environment.

- Participants in the present research completed the study individually
  - How participants’ behaviour may have been altered in the presence of others remains unknown.
LIMITATION AND FUTURE RESEARCH

Future research should be directed towards
- Examining alternate methods to the pre-flight safety briefing
- Methods to improve retention and recall rate.

Attention should be directed towards fostering methods to improve this retention and recall rate.
CONCLUSION

- The use of **humour** in pre-flights safety briefing videos
  - Is an effective method of maintaining individuals’ attention throughout the video.
  - Found to be positively related to the recall of key safety messages contained within the videos.
CONCLUSION

Leading reasons why so many passengers fail to attended to in-flight safety video

- The repetitive nature of the material presented in pre-flight safety videos,
- Familiarity with content, and
- Lack of interest in the information

Retention of information presented in pre-flight safety briefing videos is not highly significant

- The aviation industry needs to consider alternate methods of conveying safety critical information to passengers.
THANK YOU

https://www.youtube.com/watch?v=eHooBjxmoXQ
QUESTIONS?