Pre-flight Safety Briefings, mood and information retention

Morteza Tehrani

PhD Candidate

University of Southern Queensland

2017

Pre-flight Safety Briefings, Mood and Information Retention

Air traffic today

Pre-flight Safety Briefings, Mood and Information Retention

Real-time events, fatal and non-fatal injuries:

Pre-flight Safety Briefings, Mood and Information Retention

According to IATA in 2011:

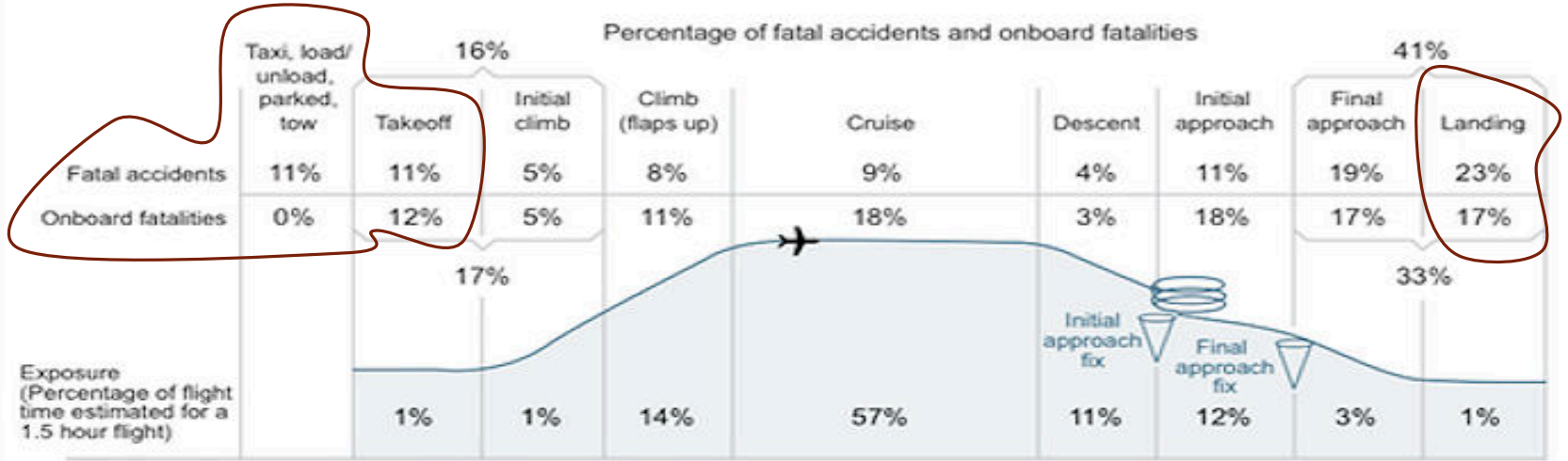
44 air crash

1028 Casualties

769 killed (75%)

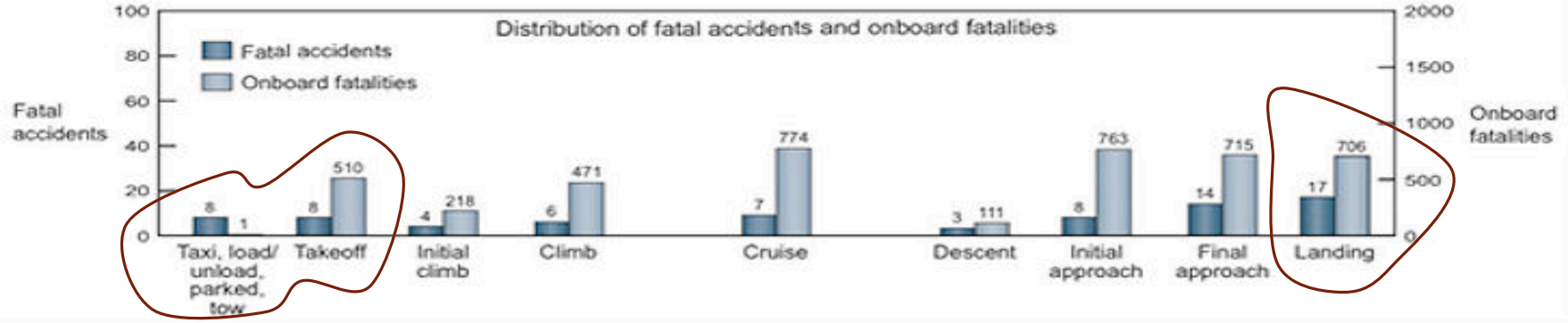
Fatal Accidents and Onboard Fatalities by Phase of Flight

Worldwide Commercial Jet Fleet – 2003 Through 2012



	Taxi, load/ unload, parked, tow	Takeoff	Initial climb	Climb (flaps up)	Cruise	Descent	Initial approach	Final approach	Landing
Fatal accidents	11%	11%	5%	8%	9%	4%	11%	19%	23%
Onboard fatalities	0%	12%	5%	11%	18%	3%	18%	17%	17%
Exposure (Percentage of flight time estimated for a 1.5 hour flight)		1%	1%	14%	57%	11%	12%	3%	1%

Note: Percentages may not sum precisely due to numerical rounding.



The Boeing Company

Pre-flight Safety Briefings, Mood and Information Retention

Passenger survivability will have a major importance in coming years.

- **90 percent of accidents deemed to be survivable**
- **600 of 1500 who die each year could have technically survived (ETSC, 1996)**

- The **safety regulatory** framework surrounding these operations is correspondingly complex.

- Aviation regulators are increasingly focusing on passenger survivability to enable a **safe and expeditious evacuation** of an aircraft during an emergency.

Pre-flight Safety Briefings, Mood and Information Retention

Airline Pre-flight safety briefing obligation and;

Regulation - 90 sec requirement

But how realistic is this practice?

Pre-flight Safety Briefings, Mood and Information Retention

The 90 sec rule does NOT consider:

- passenger behaviour
- The carriage of infants,
- Crew behaviour,
- Passenger management,
- Passengers' fitness, memory and
- How fatigue affects performance.

Pre-flight Safety Briefings, Mood and Information Retention

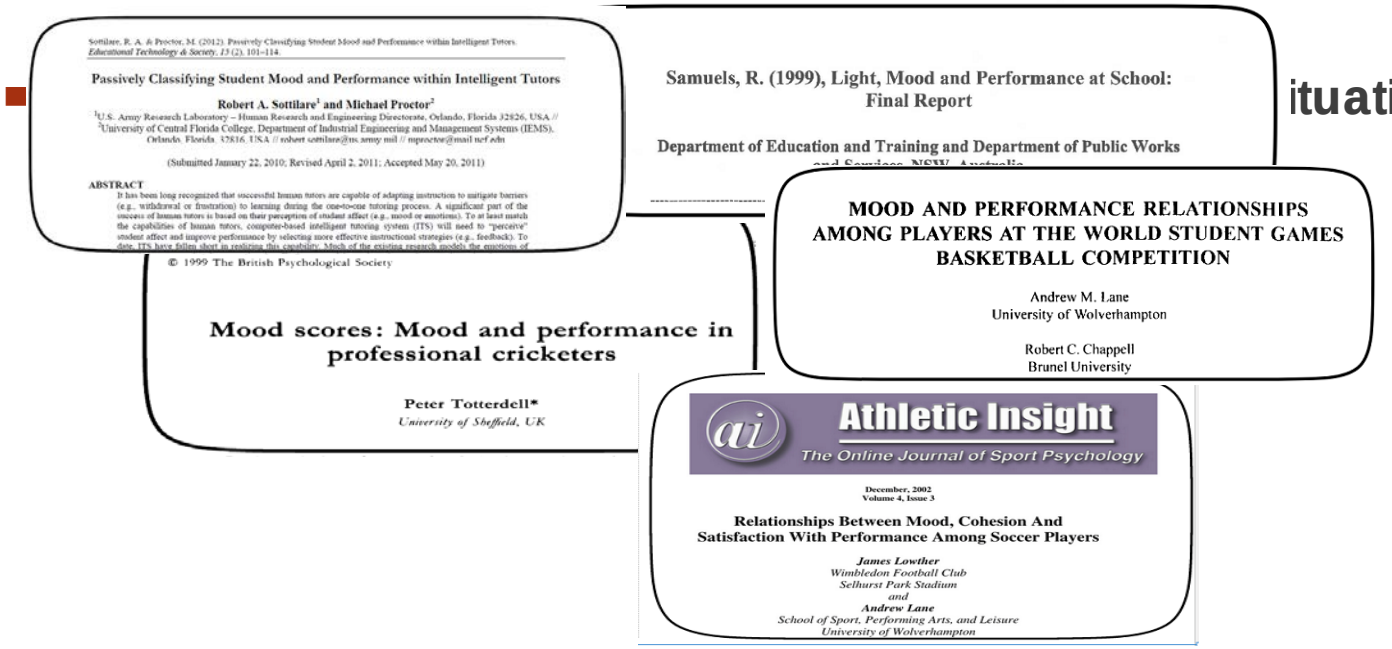
It is widely known …, a large number of passengers continue to ignore those vital information (FSF, 2000).

Pre-flight Safety Briefings, Mood and Information Retention

The Effect of Mood on Performance During Emergencies

Pre-flight Safety Briefings, Mood and Information Retention

- Mood and performance relationship during <u>normal</u> situations
- ituations?



Pre-flight Safety Briefings, Mood and Information Retention

Experiment 1:

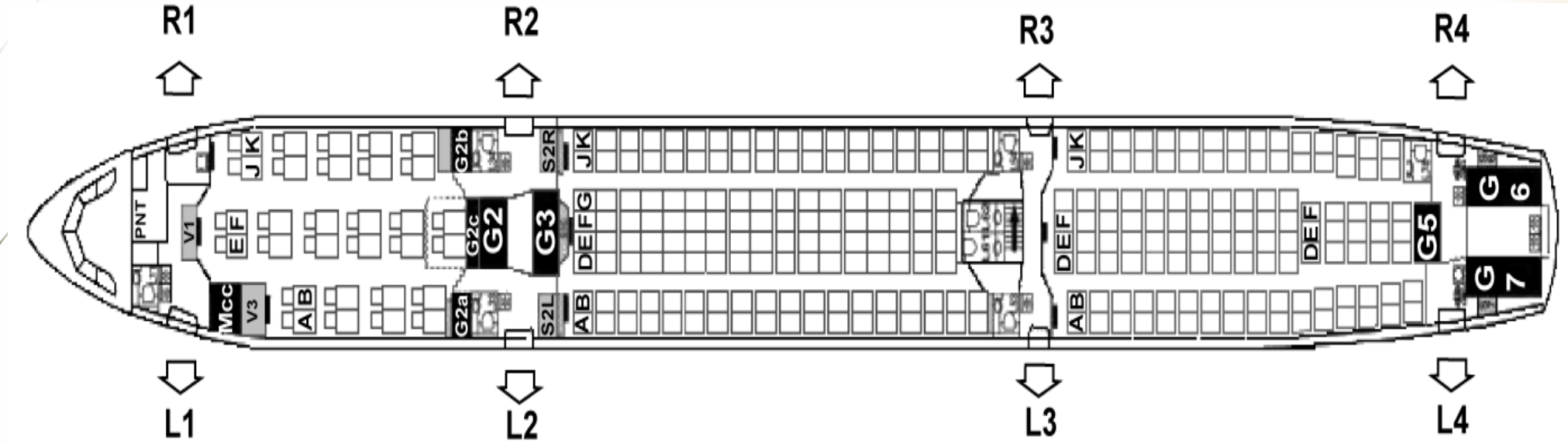
1. **effect of mood on passengers' performance during emergencies.**

How was experiment conducted?

Pre-flight Safety Briefings, Mood and Information Retention

US Airways Flight 1549, January 15, 2009, 155 people, 100 Injuries, 5 serious

Pre-flight Safety Briefings, Mood and Information Retention



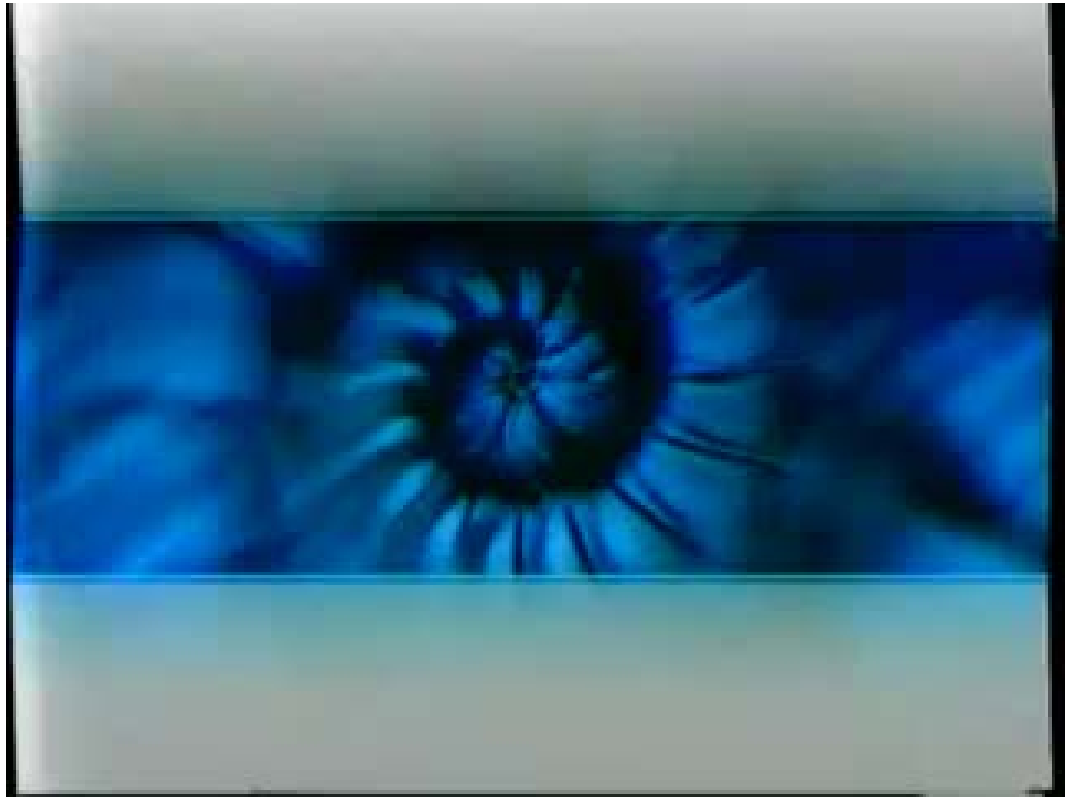
Pre-flight Safety Briefings, Mood and Information Retention

Pre-flight Safety Briefings, Mood and Information Retention

Pre-flight Safety Briefings, Mood and Information Retention

Pre-flight Safety Briefings, Mood and Information Retention

Pre-flight Safety Briefings, Mood and Information Retention



Pre-flight Safety Briefings, Mood and Information Retention

- Experiment 1 Results:
  1. effect of mood on passengers' performance during emergencies.
  - Results;
    I. Errors
    II. Time

Pre-flight Safety Briefing, Mood and Information Retention

Research Summary

The effect of mood on performance in a non-normal situation: unscheduled aircraft evacuation.

Presented by Brett Molesworth

Original Article

The Effect of Mood on Performance in a Nonnormal Situation

Unscheduled Aircraft Evacuation

Morteza Tehrani and Brett R. C. Molesworth

University of New South Wales, School of Aviation, Sydney, NSW, Australia

Abstract: The effect of mood on performance in everyday situations is widely studied and the results commonly reveal a mood-congruence relationship. However, little is known about the effect of mood on performance in nonnormal situations such as those experienced during an unscheduled event. This study investigated whether induced mood (positive or negative) influenced performance during an unscheduled aircraft evacuation. Forty-five participants (15 female), with an average age of 21.90 (*SD* = 3.96) years, were randomly exposed to either positive or negative mood facilitation. Following this, all participants watched the same preflight safety video, and then had to conduct an unscheduled evacuation following a simulated water ditching. Participants exposed to a positive mood manipulator were found to commit fewer errors during the evacuation exercise and completed the evacuation in less than half of the time taken by participants who were exposed to a negative mood manipulator. In safety-critical environments such as aviation, these results highlight the advantages of creating an atmosphere or environment that induces positive moods.

Keywords: mood, performance, nonnormal situation, aviation, cabin safety

The effect of mood on performance is well documented. Pleasant/positive moods such as happiness or elation have been shown to improve intellectual performance (i.e., verbal and quantitative ability; Albarracin & Hart, 2011), task interest (Hirt, Melton, McDonald, & Harackiewicz, 1996), self-perceived creativity (Montgomery, Hodges, & Kaufman, 2004), teamwork (Barsade, 2002), decision-making (Barsade & Gibson, 2007), and life meaningfulness (King, Hicks, Krull, & Del Gaiso, 2006). Within teams, pleasant moods (i.e., happy) have been shown to improve communication skills such as anticipatory communication patterns and detail of verbal responses (Pfaff, 2012). Happy people are also less sensitive to threats within their work environment, less defensive or cautious with their colleagues, and are more optimistic and confident (Cropanzano & Wright, 2001). By contrast, unpleasant/negative moods such as sadness or sorrow have been shown to adversely affect: decision-making in terms of quantity of food eaten (Tice, Bratslavsky, & Baumeister, 2001); affective states, information processing, and task performance (Friedman, Forster, & Denzle, 2007); success and motivation of female rowers (Raglin, Morgan, & Luchsinger, 1990); and team processes, including team performance (Jordan, Lawrence, & Troth, 2006). However, the relationship between mood and performance is not always in a mood-congruence direction. For example, Lount (2010) found that while a pleasant mood helped improve trust between group members, it harmed trust in intergroup interactions. These results are consistent with intergroup diversity behavior in the presence of mass panic. Moreover, Drury and colleagues (2009) propose that in the presence of a crowd and a panic situation, individuals offset the risk of death and injury from helping their own group members by reducing cooperative behavior. This in turn increases competition for an emergency escape (Drury et al., 2009). Forgas (1991) also found that a negative mood such as dysphoria motivated individuals to perform, and facilitated in self-servicing interpersonal choices as well as improved the memory for specific events.

Mood and emotions are closely linked. Emotions are defined as an affective state (i.e., feeling) that is orientated toward a specific event such as a gift or award and are experienced for a short period of time (i.e., ranging from seconds to hours; Newton, 2013). Mood similarly is defined as an affective state (i.e., feeling); however, this state lasts for an extended period of time, often counted in days, and is attributable to circumstances, such as pressure at work, as opposed to a single object or event (Russell, 2003). Examples of positive affective states are joy,

Pre-flight Safety Briefing, Mood and Information Retention

Experiment 2:

Could the pre-flight safety briefing be used to manipulate passengers' mood?

Pre-flight Safety Briefing, Mood and Information Retention

Pre-flight Safety Briefings, Mood and Information Retention

Pre-flight Safety Briefings, Mood and Information Retention

Pre-flight Safety Briefings, Mood and Information Retention

Pre-flight Safety Briefings, Mood and Information Retention

Could the pre-flight safety briefing be used to manipulate passengers' mood?

Results;

I. **Indeed**
II. **Trade-off!**

Pre-flight Safety Briefings, Mood and Information Retention

Pre-flight Safety Briefings, Mood and Information Retention

Final Study - Are there other strategies to capture passengers' attention?

To find another way to motivate passengers to focus on the pre-flight safety brief and at the same time influence their memory.

This is in process and the results will be published subsequently.

Questions?