

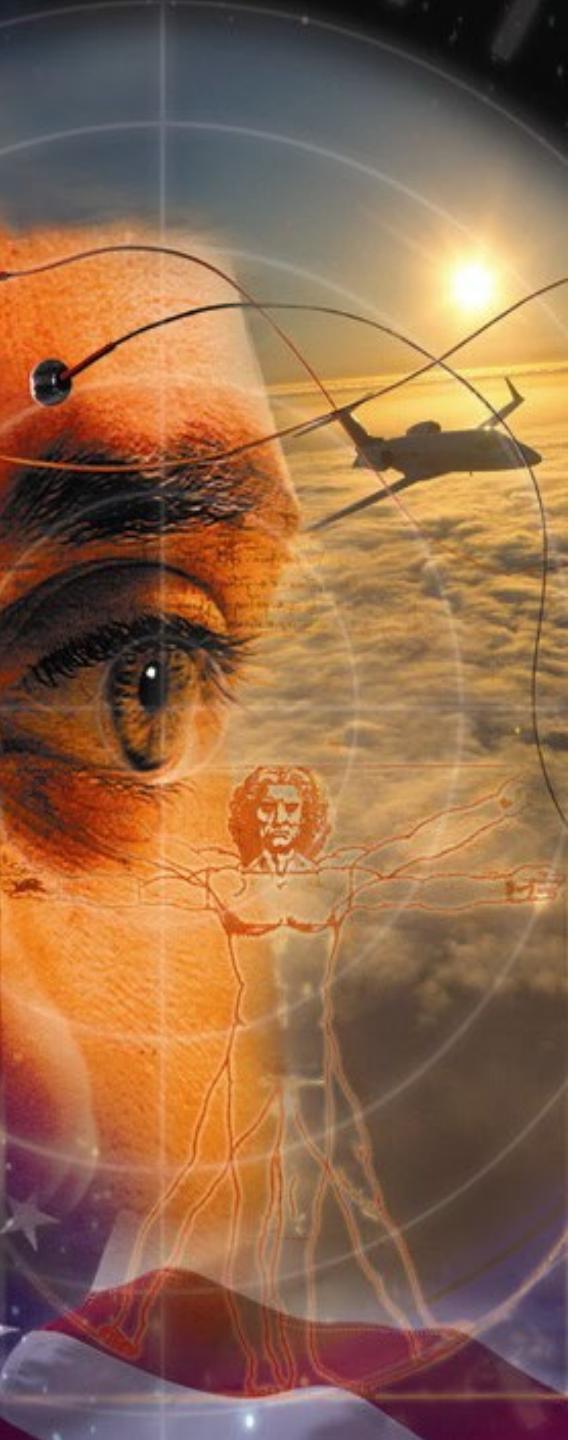
Safety Management International Collaboration Group (SM ICG) Industry Day

The Key to Safety



Robert W. Agostino

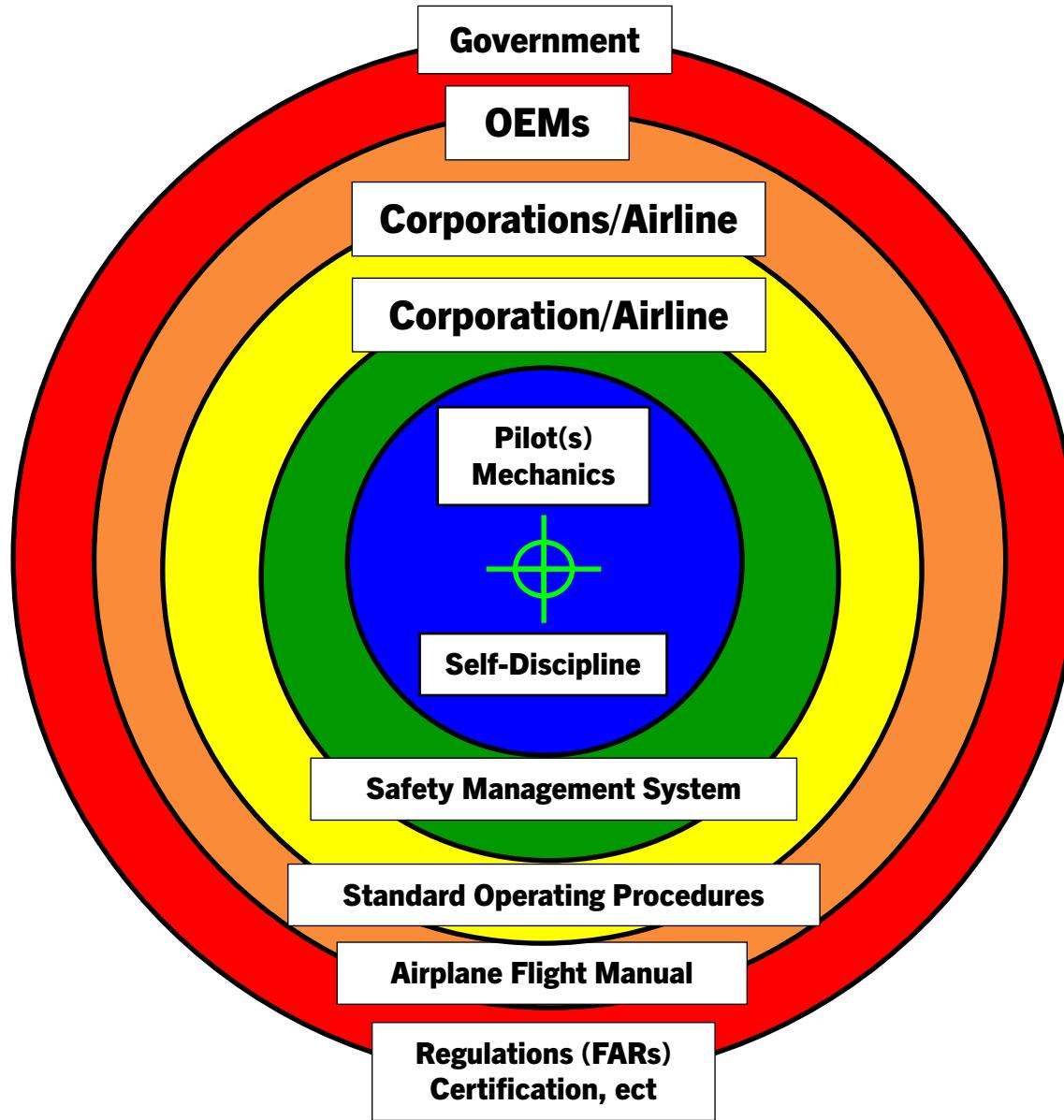
May 2024

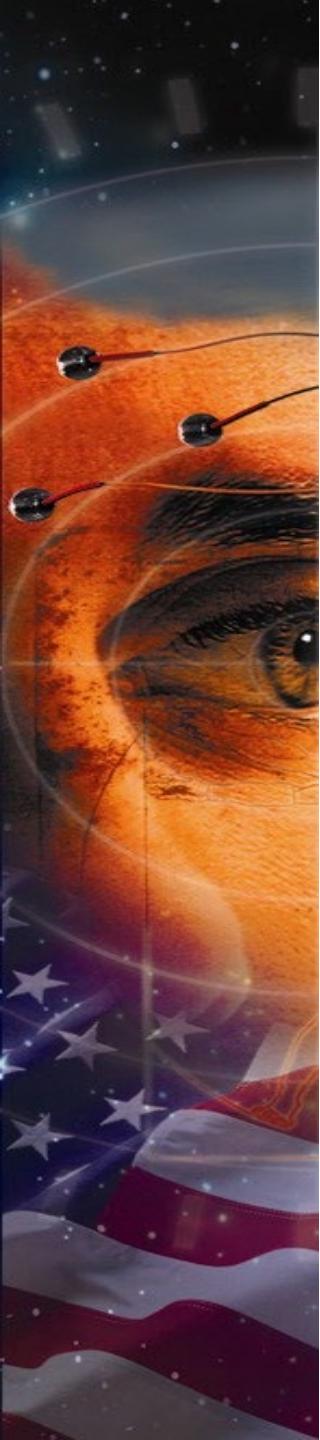


What is safety?

Safety is a resultant.

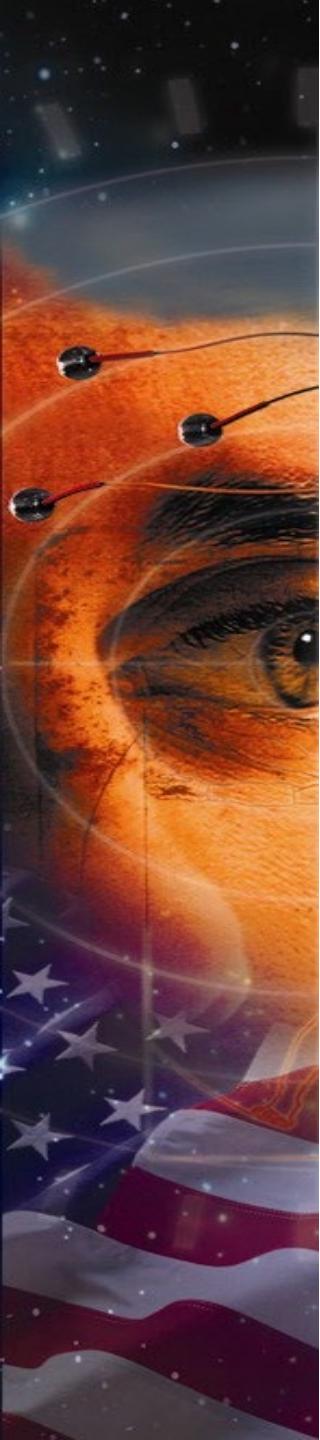
Safety Protection Model





A Truism

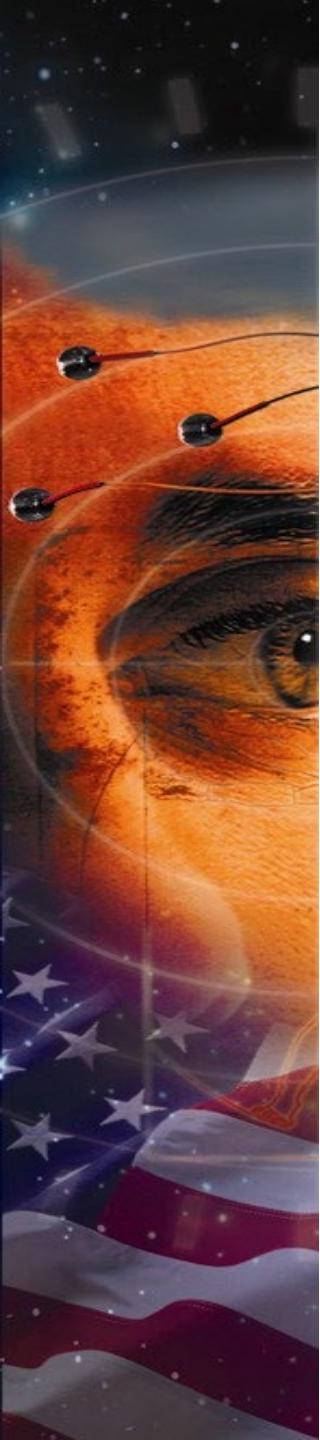
- **No one thing “causes” accidents**
- **Confluence of multiple events, task demands, actions taken or not taken, and environmental factors**



Two Fallacies About Human Error

Myth: Experts who make errors performing a familiar task reveal lack of skill, vigilance, or conscientiousness.

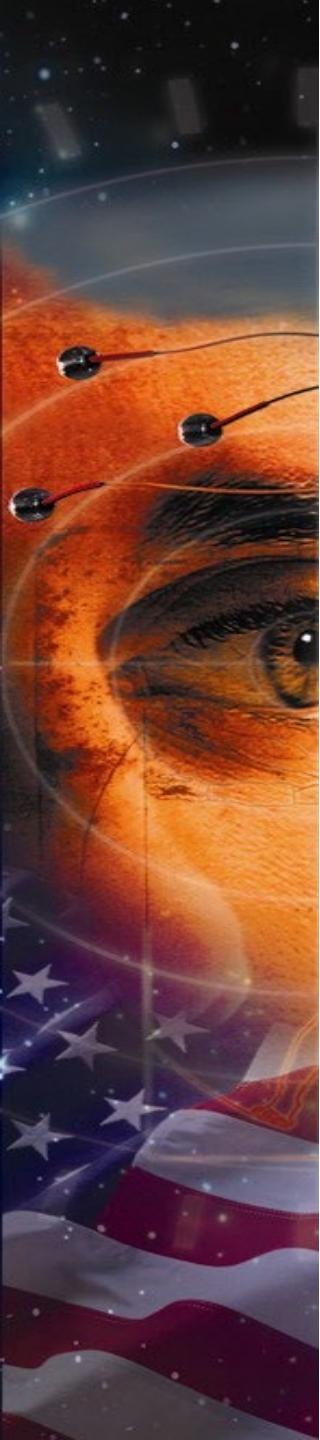
Fact: Skill, vigilance, and conscientiousness are essential, but not sufficient to prevent error.



Two Fallacies About Human Error (con't)

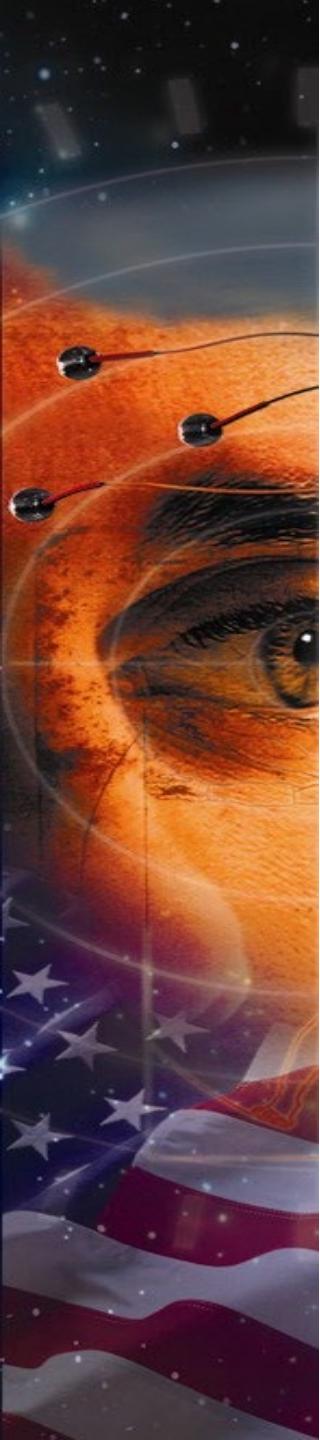
Myth: If experts can normally perform a task without difficulty, they should always be able to perform that task correctly.

Fact: Experts periodically make errors as consequence of subtle variations in task demands, information available, and cognitive processing.



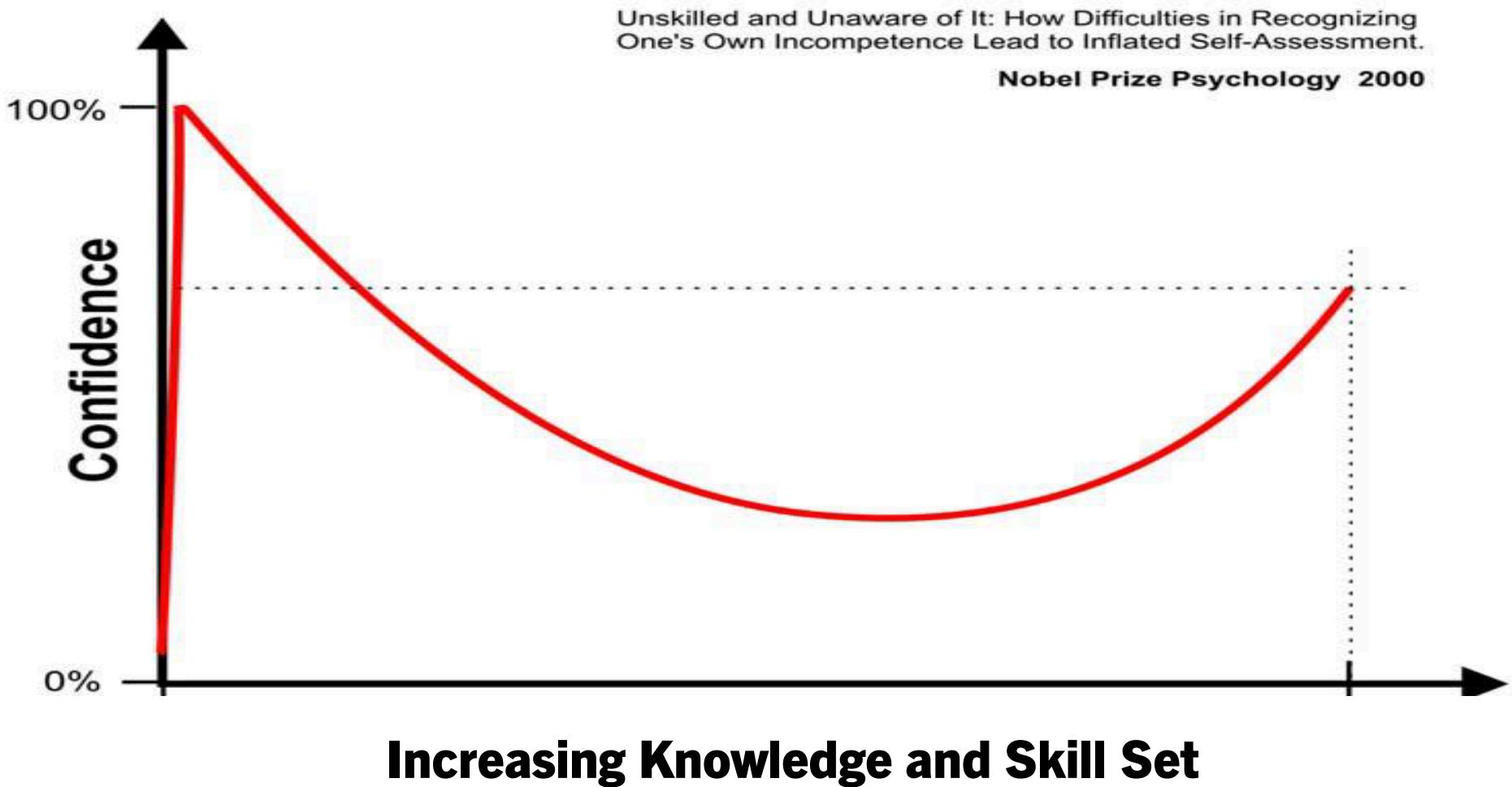
Six Overlapping Clusters of Error Situations

- 1) Inadvertent slips and oversights while performing highly practiced tasks under normal conditions**
- 2) Inadvertent slips and oversights while performing highly practiced tasks under challenging conditions**
- 3) Inadequate execution of non-normal procedures under challenging conditions**
- 4) Inadequate response to rare situations for which pilots are not trained**
- 5) Judgment in ambiguous situations**
- 6) Deviation from explicit guidance or SOP**



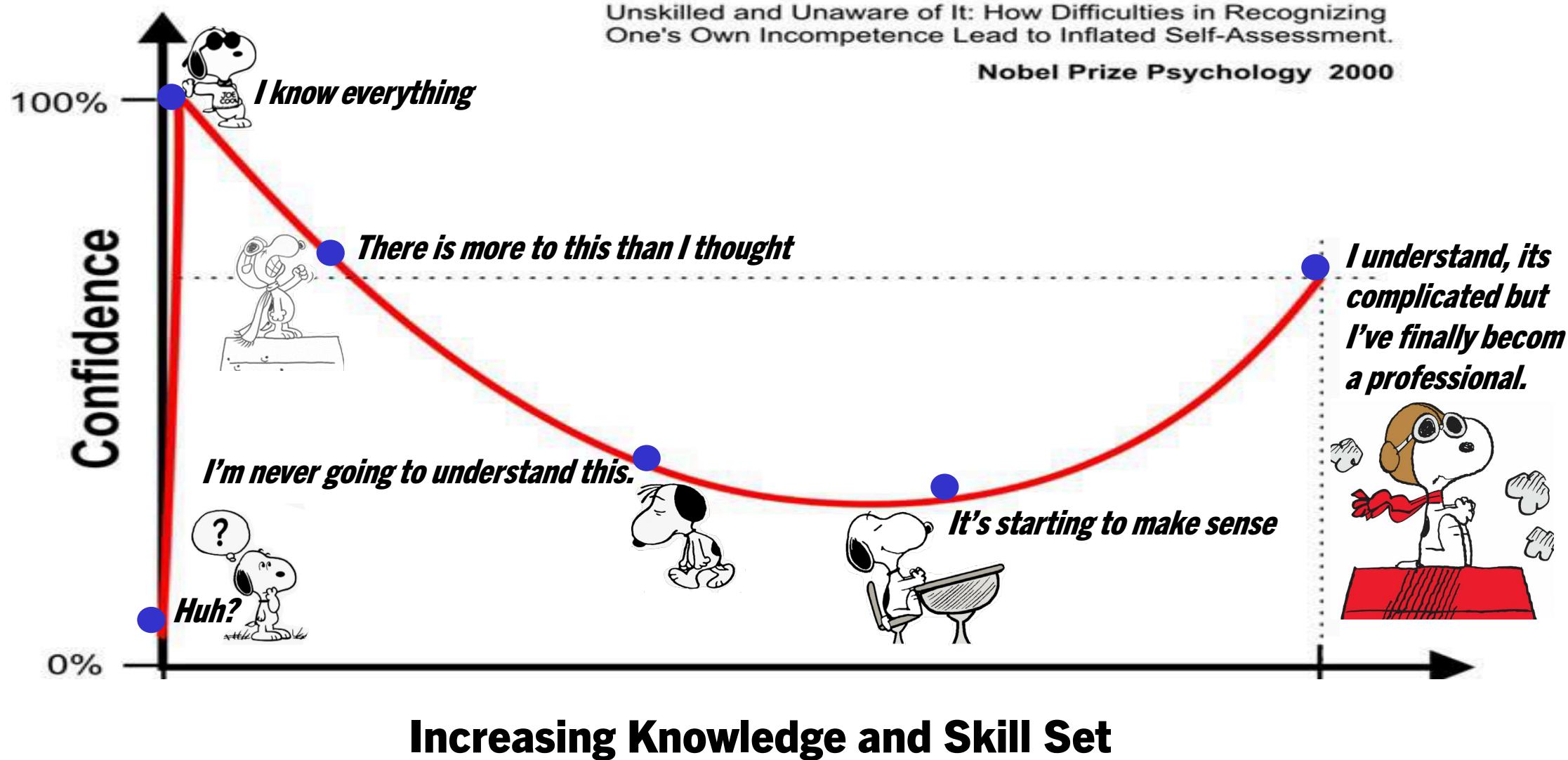
A very common cognitive bias where lesser skilled individuals suffer from **illusion of superiority**, mistakenly assessing their ability to be much higher than is accurate.

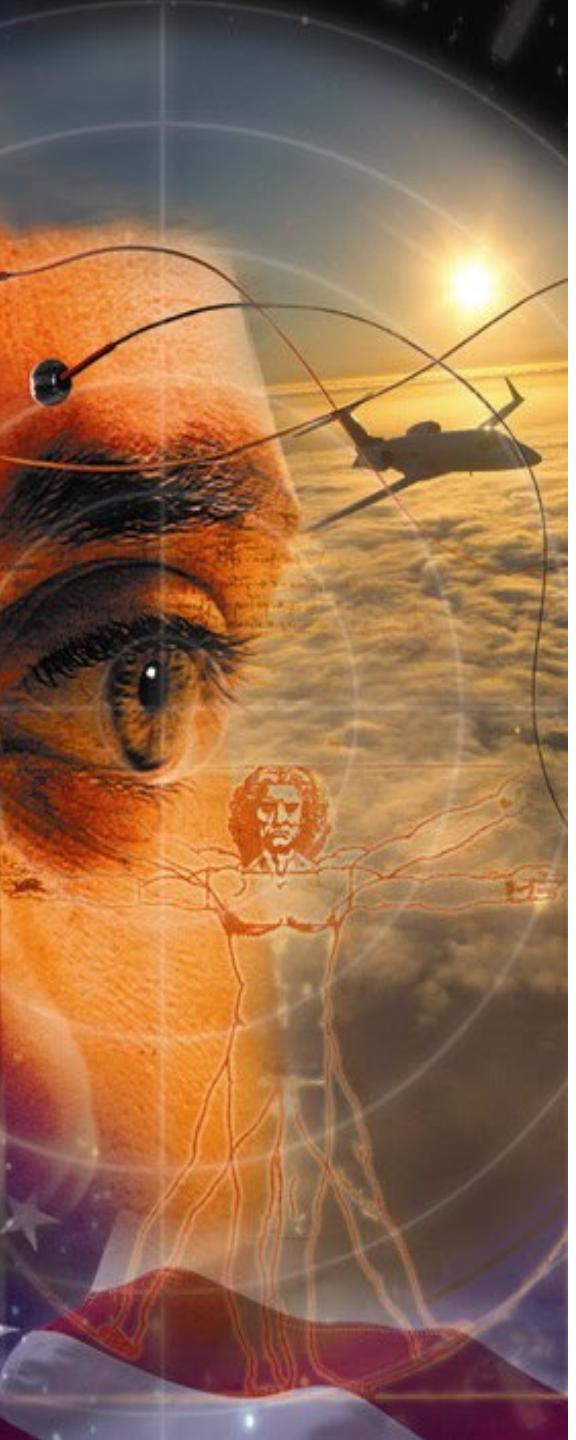
Dunning-Kruger Effect



A very common cognitive bias where lesser skilled individuals suffer from **illusion of superiority**, mistakenly assessing their ability to be much higher than is accurate.

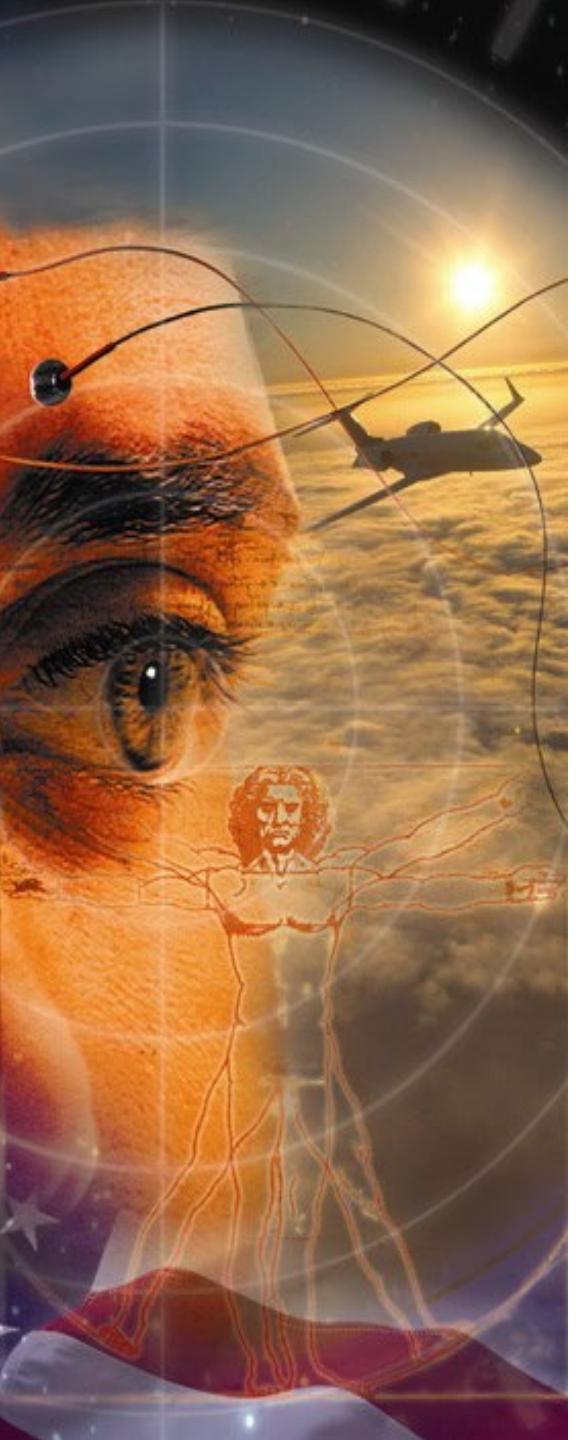
Dunning-Kruger Effect





“I don’t believe in **Safety...
I believe in **COMPETENCE**.”**

**(Scott Crossfield,
First Pilot to fly the X-15)**



All missions have risk, and in fact the mission may fail.. BUT
“the mission will not fail because of me”

(Capt, Gene Cernan,
Commander Apollo 17)