Establish Security Psychology

～ How to Educate and Training for End users ～

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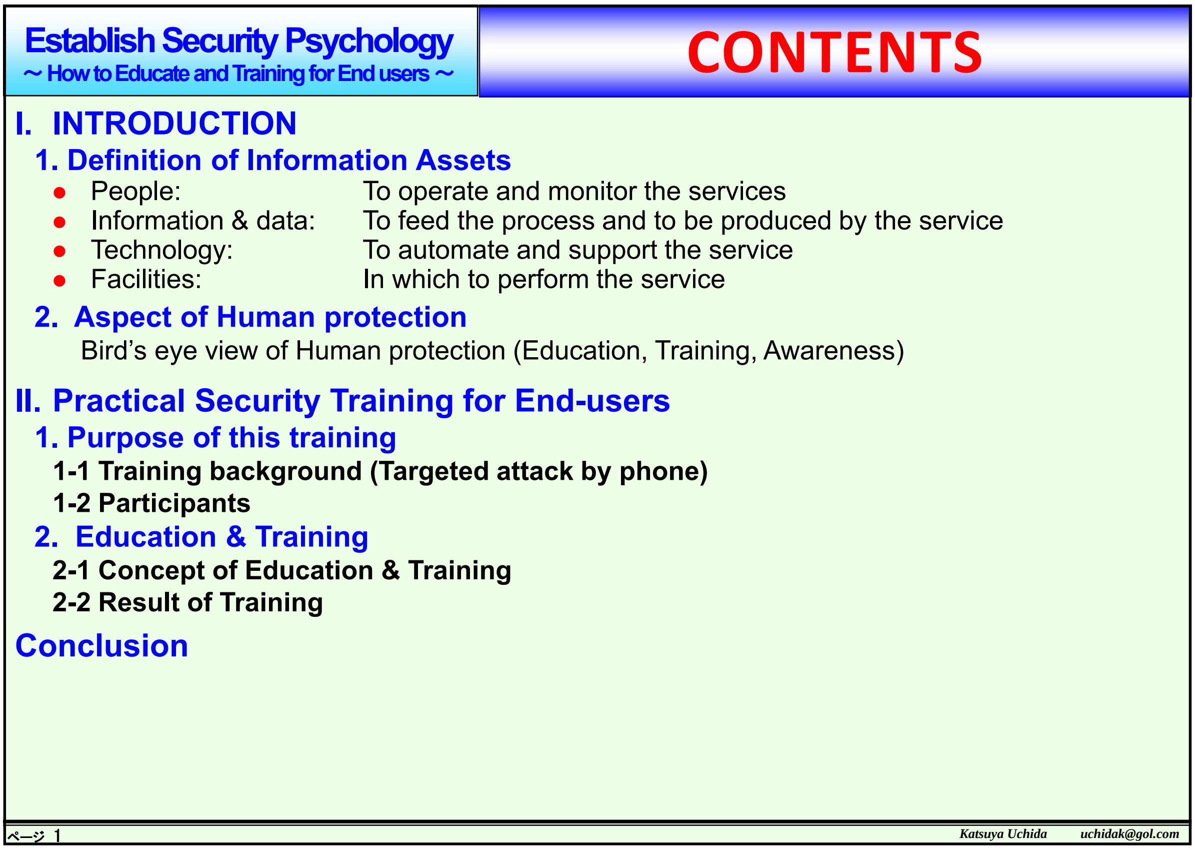

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● People:	To operate and monitor the services
● Information & data:	To feed the process and to be produced by the service
● Technology:	To automate and support the service
● Facilities:	In which to perform the service

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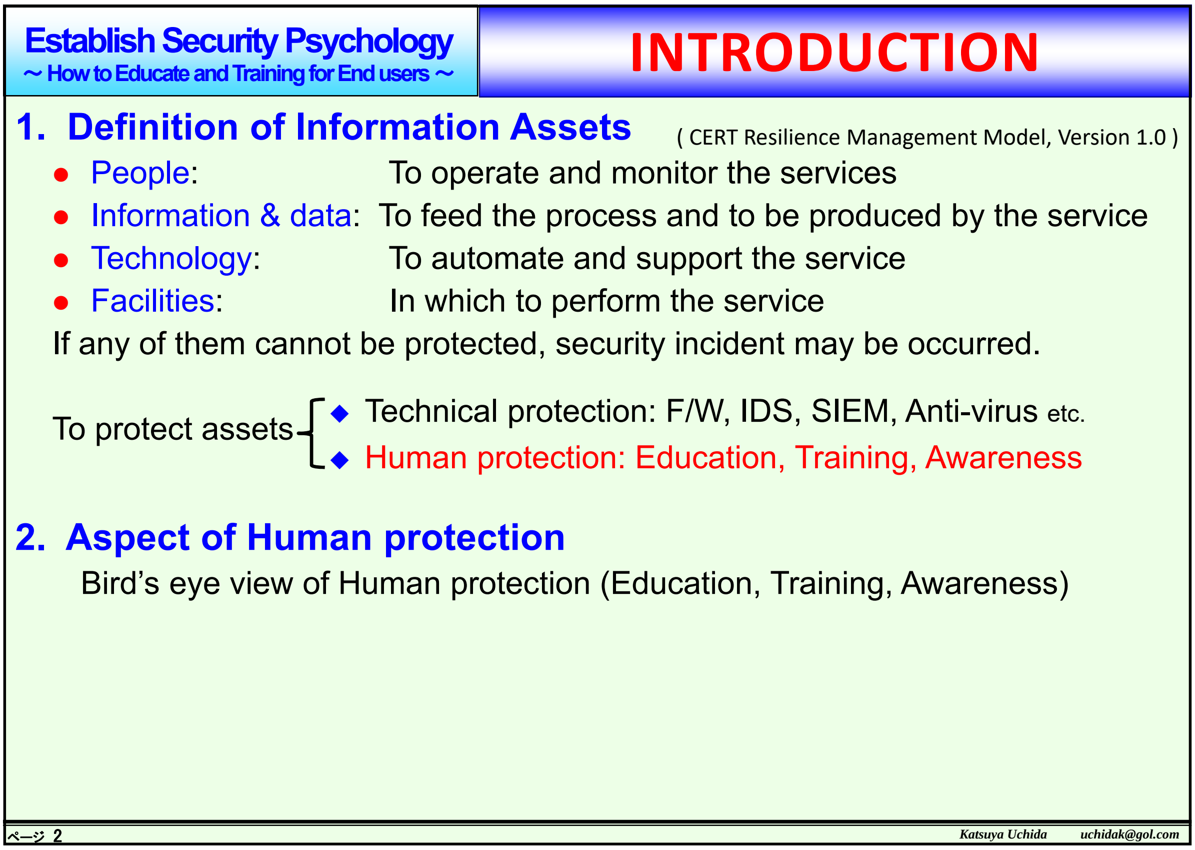

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INTRODUCTION

1. Definition of Information Assets

(CERT Resilience Management Model, Version 1.0)

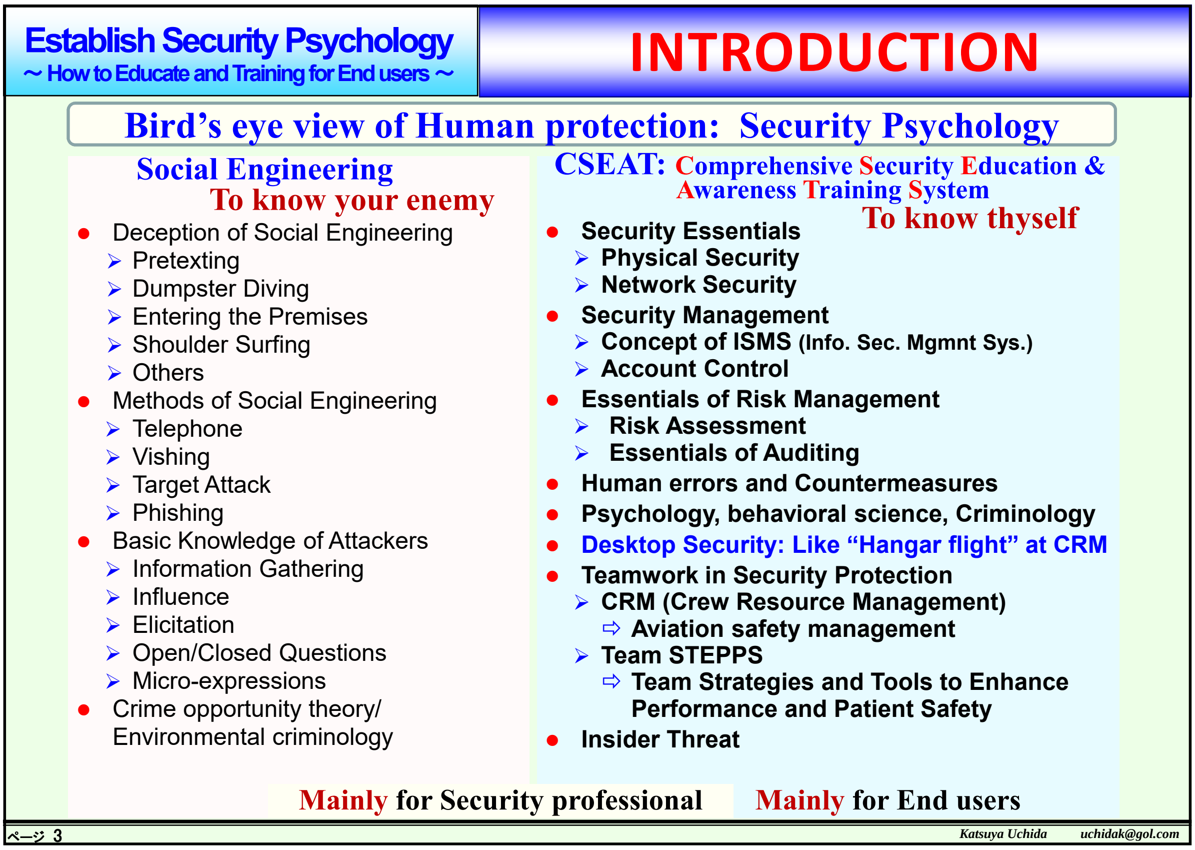
- People: To operate and monitor the services
- Information & data: To feed the process and to be produced by the service
- Technology: To automate and support the service
- Facilities: In which to perform the service

If any of them cannot be protected, security incident may be occurred.

To protect assets
- ◆ Technical protection: F/W, IDS, SIEM, Anti-virus etc.
- ◆ Human protection: Education, Training, Awareness

2. Aspect of Human protection

Bird's eye view of Human protection (Education, Training, Awareness)



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INTRODUCTION

Bird's eye view of Human protection: Security Psychology

Social Engineering

To know your enemy

- Deception of Social Engineering
  - ➢ Pretexting
  - ➢ Dumpster Diving
  - ➢ Entering the Premises
  - ➢ Shoulder Surfing
  - ➢ Others
- Methods of Social Engineering
  - ➢ Telephone
  - ➢ Vishing
  - ➢ Target Attack
  - ➢ Phishing
- Basic Knowledge of Attackers
  - ➢ Information Gathering
  - ➢ Influence
  - ➢ Elicitation
  - ➢ Open/Closed Questions
  - ➢ Micro-expressions
- Crime opportunity theory/ Environmental criminology

Mainly for Security professional

CSEAT: Comprehensive Security Education & Awareness Training System

To know thyself

- **Security Essentials**
  - ➢ **Physical Security**
  - ➢ **Network Security**
- **Security Management**
  - ➢ **Concept of ISMS (Info. Sec. Mgmnt Sys.)**
  - ➢ **Account Control**
- **Essentials of Risk Management**
  - ➢ **Risk Assessment**
  - ➢ **Essentials of Auditing**
- **Human errors and Countermeasures**
- **Psychology, behavioral science, Criminology**
- **Desktop Security: Like "Hangar flight" at CRM**
- **Teamwork in Security Protection**
  - ➢ **CRM (Crew Resource Management)**
    - ⇨ **Aviation safety management**
  - ➢ **Team STEPPS**
    - ⇨ **Team Strategies and Tools to Enhance Performance and Patient Safety**
- **Insider Threat**

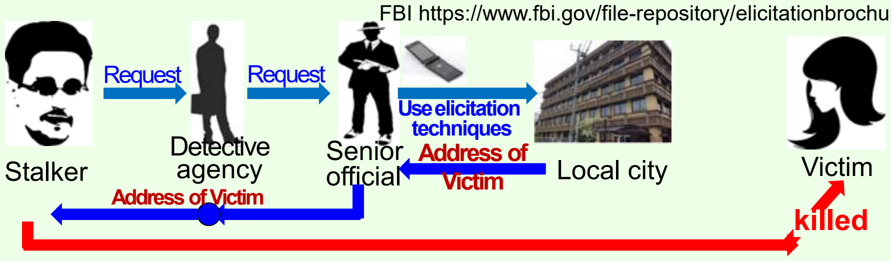
Mainly for End users

1. Purpose of this training

1-1 Training background (Targeted attack by phone)

- Private information about a woman who was stalked and killed by her former boyfriend a year ago is thought to have been leaked by the local government in Japan.
- Senior official of the firm is suspected of obtaining her address from the local government within hours of receiving the request and giving it to the detective agency.
- It seems that the senior official used the elicitation technique which is technique used to discreetly gather information

FBI https://www.fbi.gov/file-repository/elicitationbrochure.pdf/view



1-2 Participants of 3-hour training

- 37 staff of other local government
  ★ Citizen service group ★ Systems dept. etc.

2. Education & Training

2-1 Concept of Education & Training

- Due to the local government request, education and training will be determined 3 hours.
- Shortage of time;
  - ➢ Group work and discussions in subgroups will be replaced by watching a video.
  - ➢ Show typical figures below, teach participants not to make a simple mistake.
    - ◆ Fig. 1: No parking ・・・・・・ Show similar figures & learn the right selection method
    - ◆ Fig. 2: Illusion of Fraser・・・Experience is important
    - ◆ Fig. 3: Muller-Lyer illusion・・Need to confirmation

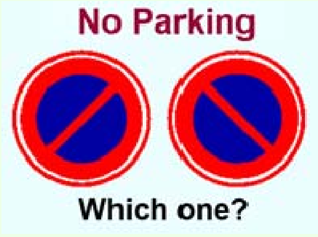


Fig. 1: No Parking Sign

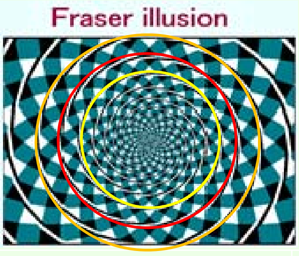


Figure 2: Illusion of Fraser

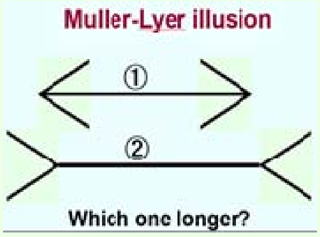


Figure 3: Mueller-Leier illusion

2. Education & Training

2-1 Concept of Education & Training

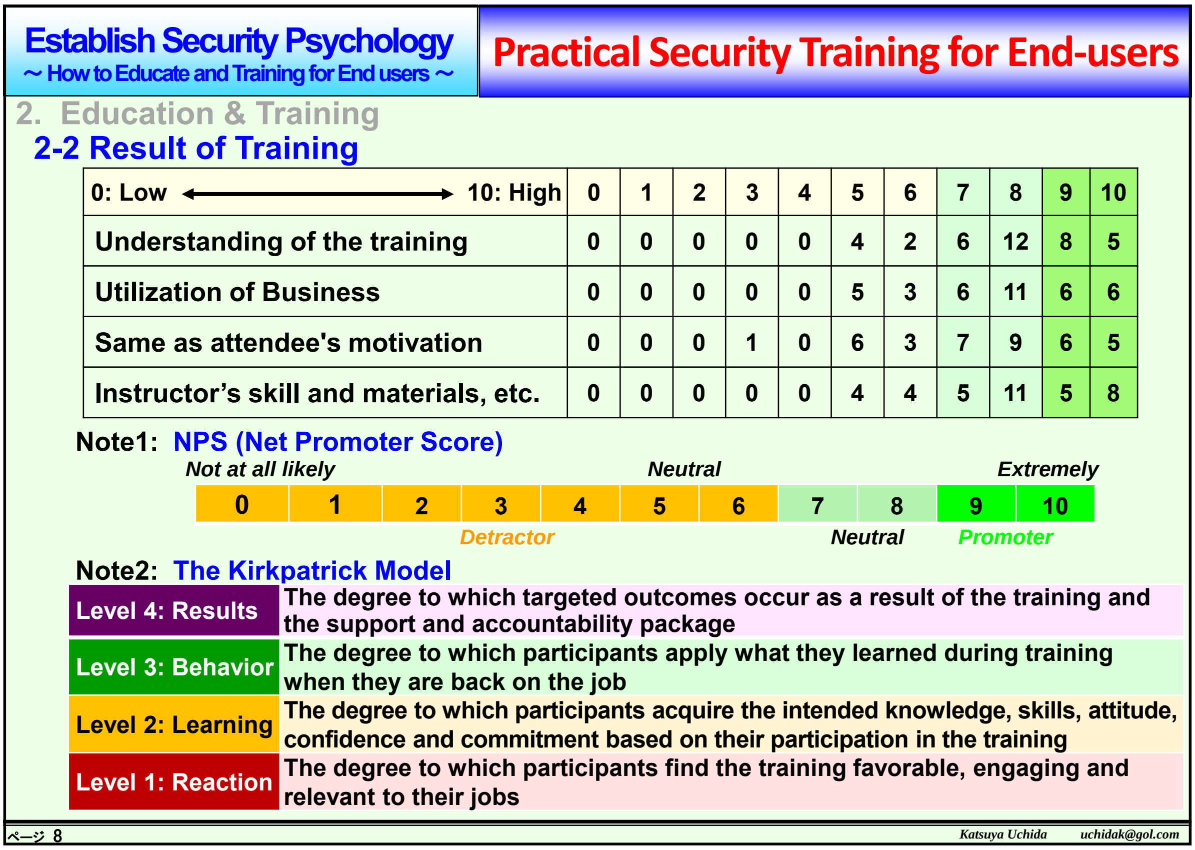
- Related topics of the Incident
  - Details of information leaks from the local government are not disclosed. Since the training is for local government staff, the contents of the incident were described briefly.
  - The information security issues of the local government, especially the security management was explained
- Elicitation Techniques (One of the most important social engineering)
  - This Elicitation techniques seemed to be used at this incident and were explained in detail. FBI: https://www.fbi.gov/file-repository/elicitation-brochure.pdf
- Teamwork training
  - Overview of human error & Countermeasures in other fields:
    - Aviation: CRM (Crew Resource Management)
    - Medical: Team STEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety)
  - Human Error: an organization problem, not an individual problem.
  - Inattentional Blindness: a psychological lack of attention that is not associated with any vision defects or deficits.
    Use the invisible gorilla's video to make participants understand the meaning of inattentiveness blindness.

2. Education & Training

2-2 Result of Training

- Training Satisfaction
  - Very useful………………………… 57% (21 people)
  - Somewhat helpful………………… 43% (16 people)
  - Not very useful /Not useful at all: 0%
- Some comments for training
  - How to deal with the importance of organizational strength and organization?
  - It was an opportunity to think about the problem of the current information informing method
  - I reaffirmed the importance of business analysis
  - It was a good opportunity to reaffirm the stalker incident
  - It was a good opportunity to think human error from many points
  - I got the mental attitude to protect personal information
  - The way of thinking, the checking method etc were helpful
  - The point of view of thinking about creating a structure according to workers was helpful
- Would you recommend this training to others?

1 : Low	2	3	4	5	6 : High	No Answer
1 (3%) 35 (95%)	1 (3%) 34 (92%)	3 (8%) 33 (89%)	7 (19%) 30 (81%)	16 (43%) 23 (62%)	7 (19%) 7 (19%)	2 (5%) (cumulative)



Practical Security Training for End-users

2. Education & Training

2-2 Result of Training

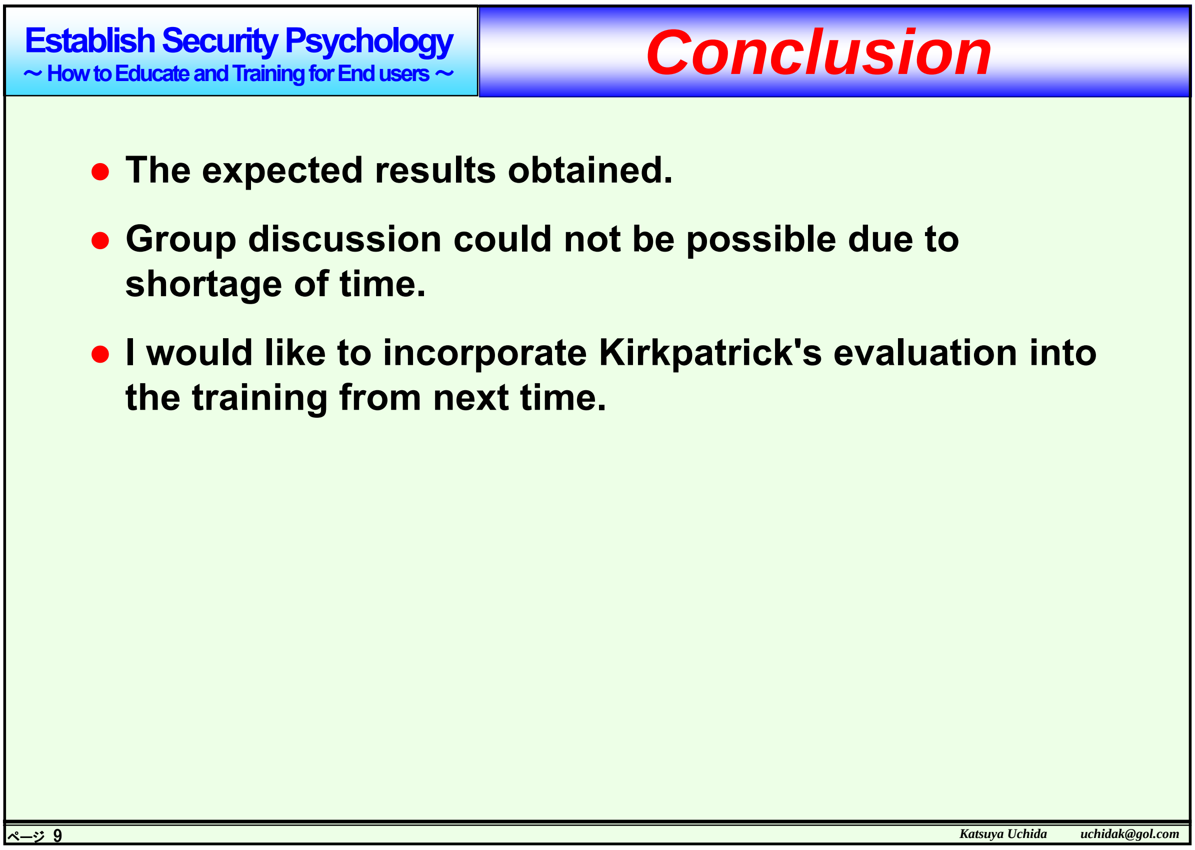
0: Low ⟷ 10: High	0	1	2	3	4	5	6	7	8	9	10
Understanding of the training	0	0	0	0	0	4	2	6	12	8	5
Utilization of Business	0	0	0	0	0	5	3	6	11	6	6
Same as attendee's motivation	0	0	0	1	0	6	3	7	9	6	5
Instructor’s skill and materials, etc.	0	0	0	0	0	4	4	5	11	5	8

Note1: NPS (Net Promoter Score)

Not at all likely					*Neutral*					*Extremely*
0	1	2	3	4	5	6	7	8	9	10
			Detractor					*Neutral*	*Promoter*	

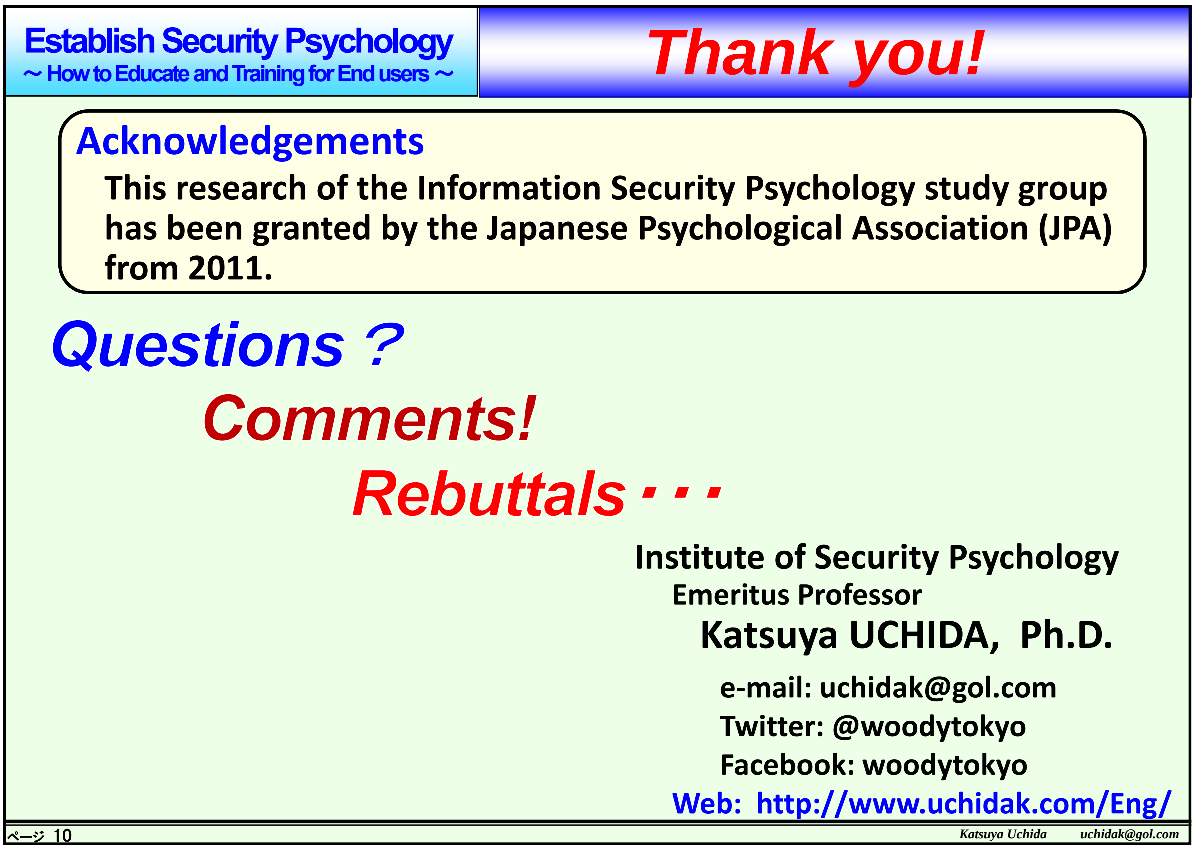
Note2: The Kirkpatrick Model

Level 4: Results	The degree to which targeted outcomes occur as a result of the training and the support and accountability package
Level 3: Behavior	The degree to which participants apply what they learned during training when they are back on the job
Level 2: Learning	The degree to which participants acquire the intended knowledge, skills, attitude, confidence and commitment based on their participation in the training
Level 1: Reaction	The degree to which participants find the training favorable, engaging and relevant to their jobs



Conclusion

- The expected results obtained.
- Group discussion could not be possible due to shortage of time.
- I would like to incorporate Kirkpatrick's evaluation into the training from next time.



Thank you!

Acknowledgements

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Questions ?

Comments!

Rebuttals・・・

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