

# Trainees' Perceptions of Logger Training: The Effect of Course Demographic Variation on Survey Outcomes

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# Regione Piemonte



- The leader in Italian forest operator training
- 329 courses from 2007 to 2015
- 4935 participants
- 2500 unique individuals
- 420 achieving full qualification
- 8 M € investment



# Training Courses

Course	Topics	Duration	Outcome
F1	Introduction the chainsaw safety	4 hrs theory, 12 hrs practice	Prerequisite
F2	Safe use of chainsaw in processing operations	4 hrs theory, 20 hrs practice	Prerequisite
F3	Safe use of chainsaw in felling and processing operations	8 hrs theory, 32 hrs practice	Qualification
F4	Safe use of chainsaw in felling and processing operations: Advanced level	4 hrs theory, 36 hrs practice	Qualification
F5	Work and safe application of equipment in forest operations	4 hrs theory, 20 hrs practice	Qualification
F6	Work safety and health, injury prevention, emergency management, and environmental and forestry rules	16 hrs theory	Qualification

# Evaluating Training (Kilpatrick)

Typology	Training type	Audience
Reaction (feel about training)	SFI qualification, Safety	Loggers (managers)
Learning (measure of gains/changes)	Job skills, safety	Forest workers, loggers, students
Training behavior (observation of trained behavior)	Job skills	Loggers (managers)
Job behavior (observation of trained behavior)	Job skills	Loggers, logging workers
Results (outcomes)	SFI qualification, Safety	Loggers (managers)

# Training and Evaluation Data

Organization	F1/F2	F3	F4	F5	F6
Higher ed. (%)	40	29	40	43	46
Age (yr)	41.8	41.7	41.1	40.8	41.4
Age spread (Q3-Q1)	17.3	15.8	15.9	15.1	15.0
Logging manager (%)	59	63	67	66	60
Operator (%)	9	23	69	55	80
Province match (%)	5	0	70	77	66
Number of courses	36	118	31	39	28
Number of registrants	541	1823	593	749	545
Full demographic data (%)	79	74	67	70	69

- Men 96-99%
- Logging employees 20-24%

# Grouping Evaluation Items

Level	Amenities	Content	Outcomes	Teaching	Usefulness
F1	5.7 (1)	5.5 (1)	4.8 (1)	5.6 (3)	5.2 (1)
F2	5.5 (4)	5.6 (1)	5.5 (2)	5.7 (5)	5.6 (2)
F3	5.5 (5)	5.6 (2)	5.5 (2)	5.6 (8)	5.5 (2)
F4	5.4 (3)	5.5 (2)	5.5 (2)	5.6 (9)	5.5 (1)
F5	5.6 (3)	5.6 (1)	5.5 (3)	5.8 (8)	5.6 (2)
F6	5.8 (2)	5.4 (1)	5.2 (2)	5.7 (7)	5.4 (1)

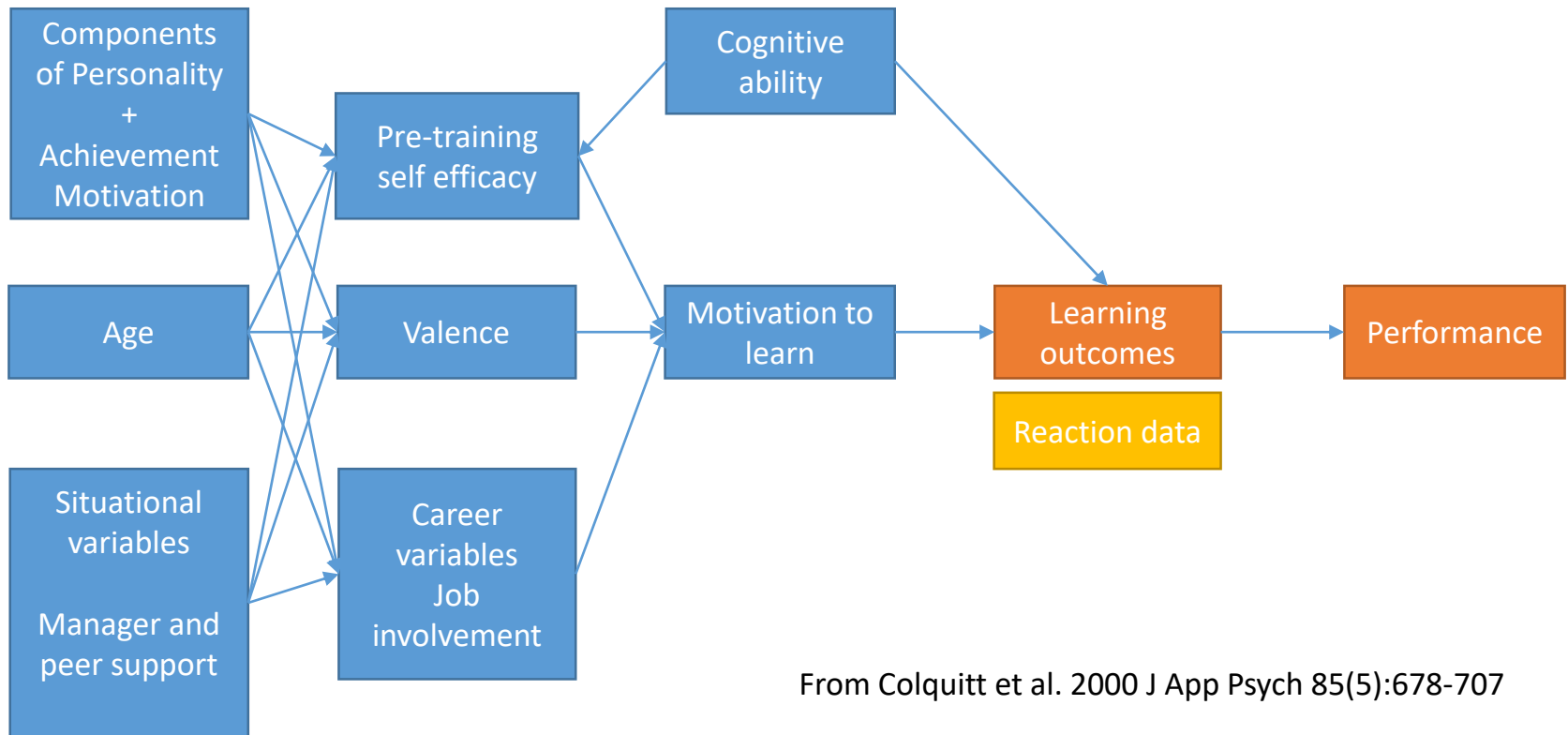
Average score (1 to 6 scale)

Average number of items per survey ( )

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# Model of Training Motivation/Transfer



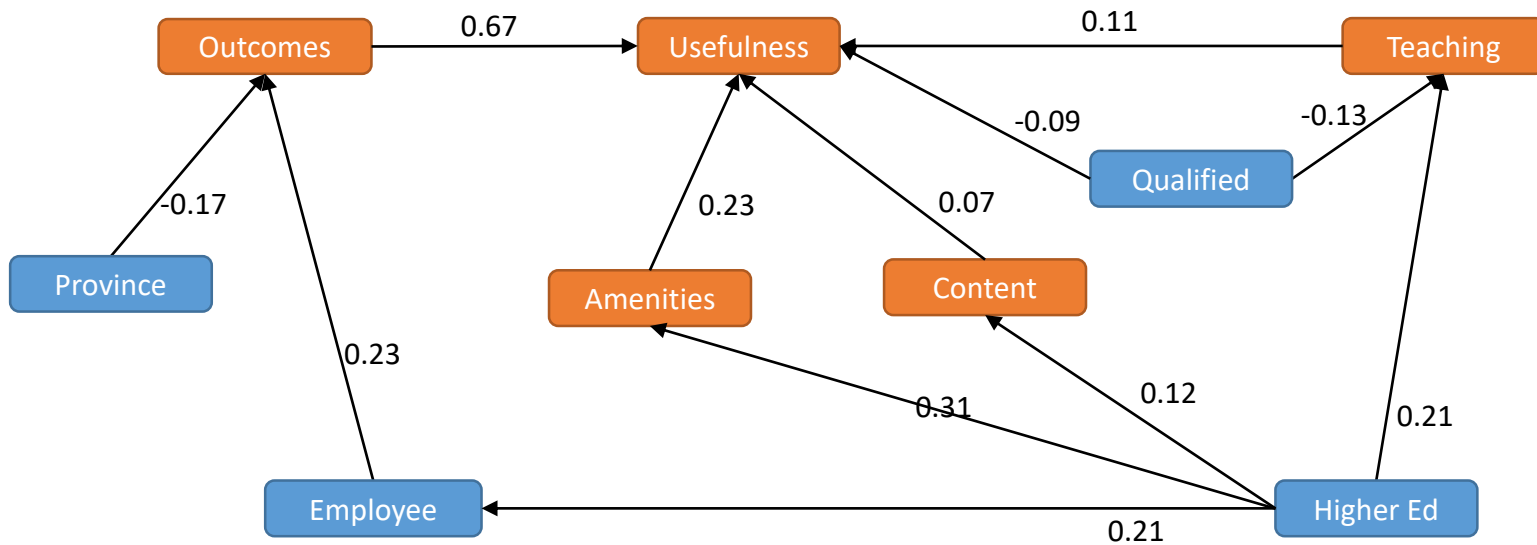
From Colquitt et al. 2000 J App Psych 85(5):678-707



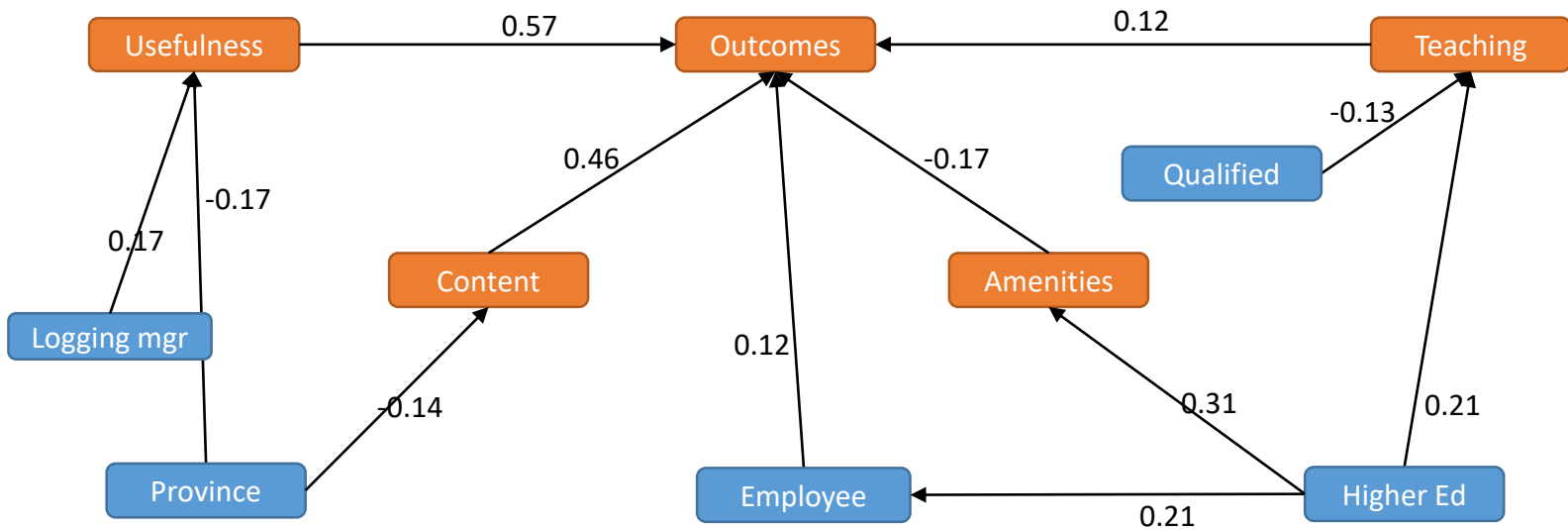
# Outcomes vs Usefulness

- Outcome – Did the participant receive what he/she expected
  - Participants understanding about what the course offered (concrete)
- Usefulness – Did the participant find an aspect of the course useful in a professional sense.
  - More related to personal development (aspirational)
- Certainly there is overlap
  - If a participant already knew the material/had the skills and received a qualification
    - Outcomes (qualification) might be rated higher than usefulness

# Path analysis - Usefulness



# Path analysis - Outcomes



# Evaluation components

- As expected usefulness and outcome are strongly link
- Usefulness has a stronger relationship to Amenities, Outcomes to Content
  - Amenity: Setting, attention to detail, learning environment
  - Content: Participants value of, or appreciation for, the subjects
- Emphasis on amenities might be seen as obstacles to outcomes
- Minor role of teaching
  - All instructors were good or at least the similar
  - Among the 5 factors teaching had the highest mean and the lowest variance

# Attributes

- Qualified operators: negative toward teaching and usefulness
  - Focused on outcomes
- Employees also more focused on outcomes
- Higher education related to increased value for training components
- Logging managers more focused on usefulness
- Participants that live in the same province as the course were slightly more critical about content, outcomes and usefulness, (F1-F3 versus F4-F6)
- Limited influence of age

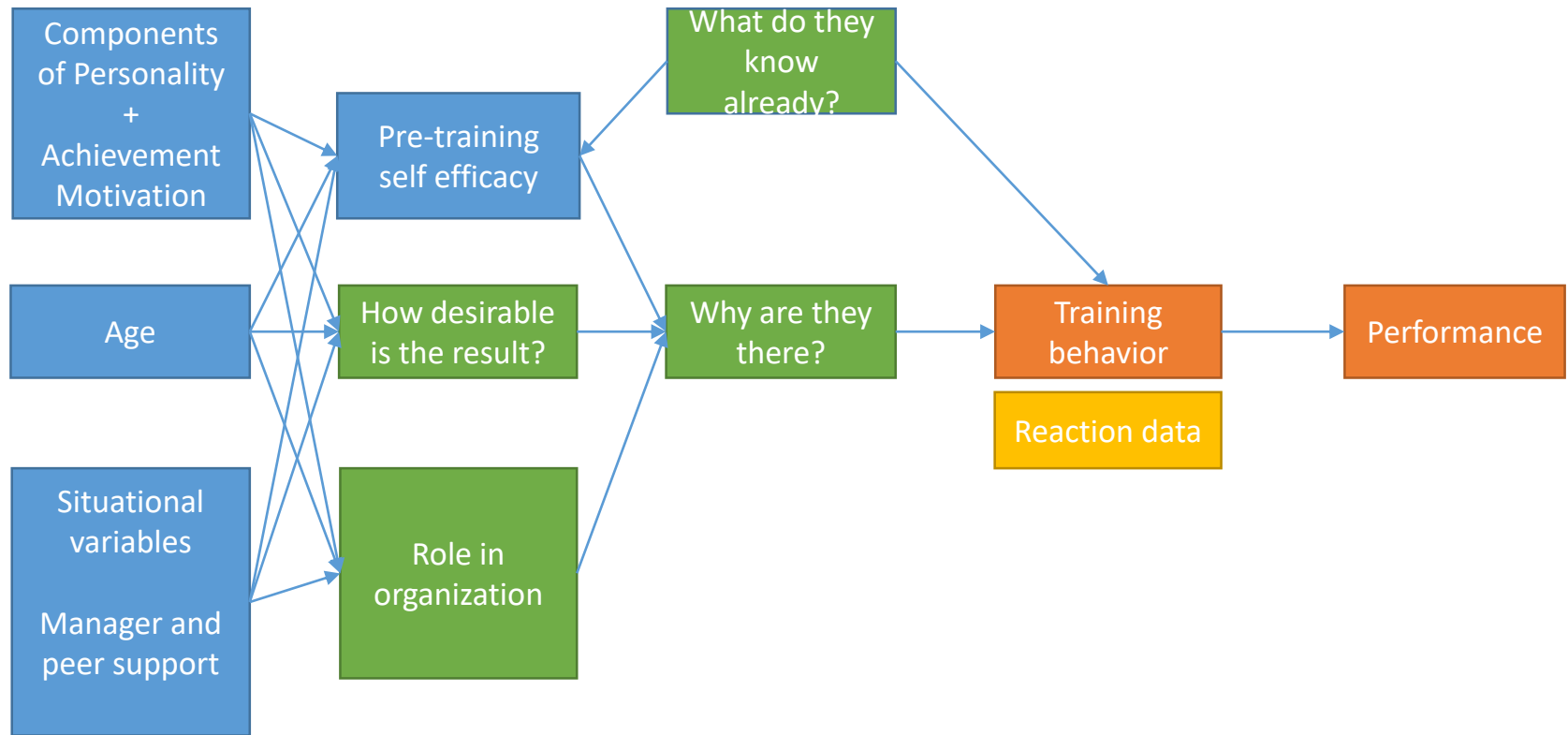
# Model context

- Valence – potential outcomes are desirable
  - Importance of outcomes and content
  - Motivation – probably minimal range in motivational differences among participants
- Cognitive differences – may influence how participants relate the components to the result (outcome or usefulness)
- Job involvement
  - Logging managers more concentrated on usefulness
  - Qualified loggers and employees more focused on outcomes

# Evaluations are used to:

- Confirm that programs are pleasing the customers
  - Happy with the outcome (qualification).
  - Happy with the experience.
  - Value the result.
- Determine what program components are important in customer satisfaction
- Provide evidence that knowledge, skills, abilities are being gained, retained, and applied in job settings

# Developing better training data



From Colquitt et al. 2000 J App Psych 85(5):678-707



# Summary

- Massive training effort by Region Piemonte
- Unique study for the sheer number of evaluations
- Ideally specialists should have been consulted when developing the feedback forms
- Nevertheless, much useful information for improvement
- New 5-year program just starting
- We are supporting RP w/ improved design for new survey