Empirical Study of How Personality, Team Processes and Task Characteristics Relate to Satisfaction and Software Quality

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Overview

- Experimental Setting
- Aim of the Study
- How is this measured?
- Results
- Threads of Validity
- Conclusion
Experimental setting

• 35 Teams of three undergraduate students
• Students of the Data Structures and Algorithms course at a Spanish university
• Semester project, to design a distributed library management system
• Students had to use Extreme Programming to solve the task (XP)
• Quasi experimental setting
Aim of the study

Getting a analysis of the relationship between:

- Personality
- Team process
- Task characteristics
- Product quality
- Satisfaction
Measure of personality

- NEO FFI Test
- 60 questions
- Five personality factors
  - Neuroticism
  - Extroversion
  - Openness to experience
  - Agreeableness
  - Conscientiousness
Measure of team process

- 13 item questionnaire
- Questions to determine about cohesion, social conflict and task conflict

Measure of task characteristics

- Interdependency and autonomy was measured
- 12 item questionnaire
Measurement of satisfaction

- Questions about satisfaction in general and team satisfaction
- Satisfaction was used as response variable in the regression analysis.
Measure of software quality

- Software quality was measured manual by a professor.
- Code and project documents were analysed.
- Grade was calculated according to:
  - Modularization
  - Testability
  - Functionality
  - Reusability
  - Style
## Results

<table>
<thead>
<tr>
<th></th>
<th>Neuroticism</th>
<th>Extroversion</th>
<th>Openness</th>
<th>Agreeableness</th>
<th>Conscientiousness</th>
<th>Autonomy</th>
<th>Interdependence</th>
<th>Satisfaction</th>
<th>Conflict</th>
<th>Cohesion</th>
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</thead>
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## Results

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<th>Interdependency</th>
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Threads to validity

- Process conformance
- Knowledge of XP
- Different software projects
- Academic setting
- Only 35 Teams
- Small project (90-130 function points)
- Jung test subjects with little experience
Conclusion

- High satisfaction correlates with agreeableness and conscientiousness
- Satisfaction and cohesion drops when task conflicts appear
- Significant correlation between extroversion and software quality