



BIRMINGHAM CITY
University

***Attitudes towards the use of Mg alloys
(or how it is possible to combine psychology and
Mg research)***

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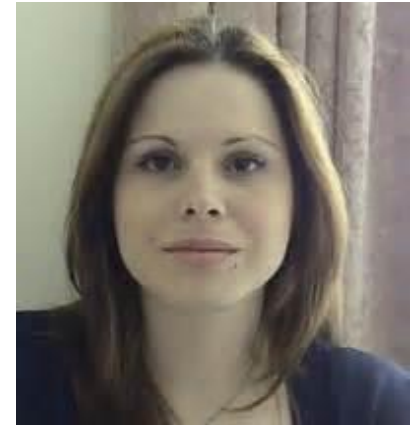
Dr Panagiotis (Panos) Rentzelas

Panos is a Senior Lecturer in Social Psychology with extensive research in the areas of culture, attitudes and motivation.



Dr Eirini Mavritsaki

Eirini is a Reader of Cognitive Psychology with extensive research in the area of Cognitive Psychology and Computational Neuroscience.



We would like to thanks Ms Stephanie Chua for her help on data collection

Psychology and Mg

Is this possible?

Are we going to create the psychological profile of Mg alloys?



YES/
NO

We will try to employ an empirical programme in order to understand engineer's and non-experts explicit and implicit attitudes of the use of Mg alloys.

Attitudes

“a general and enduring positive or negative feeling about some person, object or issue”

(Petty & Cacioppo, 1996, p.7)



Measuring Attitudes

Likert scale

“I believe walking is a good form of exercise”:

Strongly disagree 1 slightly disagree 2 neither agree nor disagree 3 slightly agree 4 strongly agree 5

“Walking is the least effective form of exercise”:

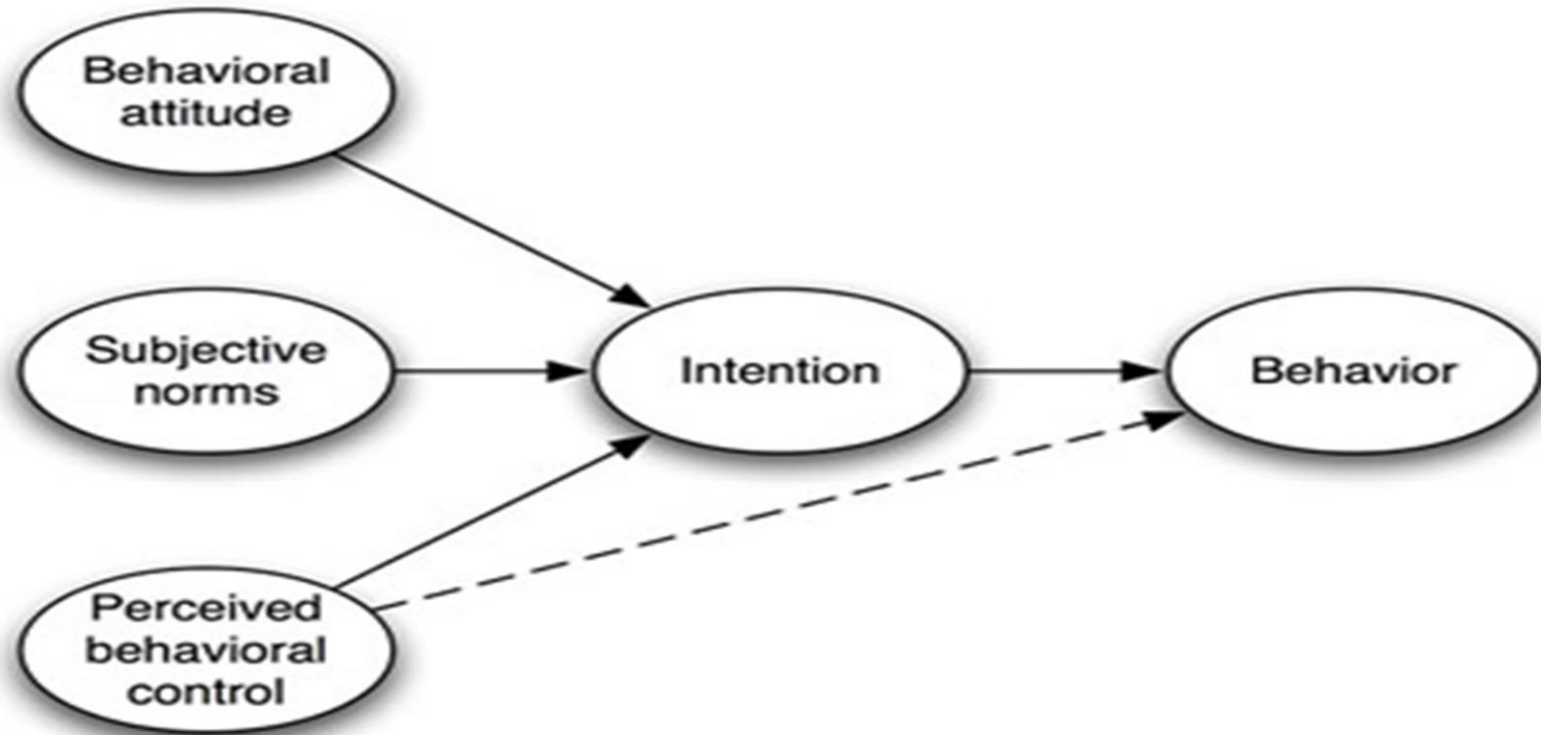
Strongly disagree 1 slightly disagree 2 neither agree nor disagree 3 slightly agree 4 strongly agree 5

Semantic differential scale

“I believe that walking is...”:

good --- bad favourable --- unfavourable pleasant --- unpleasant negative --- positive

Theory of Planned Behaviour



The present study

Methodology

Cross-sectional study on engineers.

Measurements of :

Attitudes

Behaviour

Need for Cognition

Affinity for Technology

Tolerance of Ambiguity



Results

- N=20
- Very positive attitudes towards magnesium.
But we need more data for mediations effects.

Results expected

- According to previous research we expect that:
 - Participants scoring high on:
 - Need for cognition
 - Affinity to Technology
 - Tolerance of Ambiguity
 - Positive attitudes towards magnesium will predict the use of magnesium alloys in industry sectors

Results

"As an engineer I try not to have an 'attitude' towards any material I would hope I would select a material on its mechanical properties and not some bias for a 'favoured' material. It is for designers who have a particular design/aesthetic need to have attitudes towards materials."



Implicit Attitudes

Responding to an attitude object

Time taken to make evaluation (Fazio *et al.*, 1986)
Implicit Association Test (Greenwald, McGhee and Schwartz, 1998)

Reaction time test that measures the strengths of automatic associations between concepts in memory.

Measuring attitudes: physiological responses

- 'Lie detector'
 - Not very accurate at detecting lies – but good for identifying pattern variance in responding.
- Galvanic skin conductance
 - Validated assessment tool – quite accurate
- Heart rate/BP
 - Frequently used – quite accurate accurate
- Pupil dilation
 - Less frequently used – but mostly quite accurate

Thank you



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