

Miketa Arvaniti, graduate student  
Postgraduate Program in Basic and  
Applied Cognitive Science,  
Department of MITHE,  
University of Athens, Greece  
miketa.arvaniti@gmail.com

COST MC Chair Dr Argiro Vatakis  
COST Action TD0904

Time in Mental Activity (TIMELY)

Athens, March 2012

Dear Dr Vatakis,

I am writing to you to report the results of my short term visit to the School of Social Sciences, department of Psychology, in Brunel University, which was funded by TIMELY (Reference code: COST-STSM-ECOST-STSM-TD0904-040312-015225).

During my STSM in Dr Sagiv's Synaesthesia Research Laboratory, I've recruited several participants for my research project concerning multisensory integration of synesthetic stimuli in synesthetes and non-synesthetes. The research project aims to investigate multisensory temporal integration in synesthesia and explore whether or not there are commonalities in the sensory experiences of synesthetes and non-synesthetes. The inquiry of whether or not synesthetes are better integrators than non-synesthetes has recently been posed but is as yet unanswered. In the proposed research, we aim to investigate this issue by examining the strength of multisensory binding (i.e., unity effect) using an orthogonal temporal task. Specifically, we used stimuli that are based on synesthetic combinations (e.g., grapheme to colour) and on crossmodal correspondences (e.g., high-pitch to light colours). Presentation of these stimuli in congruent or incongruent format will allow us to examine whether congruent stimuli lead to a stronger unity effect (i.e., higher binding) than incongruent ones in synesthetes and non-synesthetes and, thus, whether synesthetes experience enhanced crossmodal integration than non-synesthetes.

Being in Brunel University, I've managed to recruit 8 non-synesthetes, which consist the control group and 3 participants from the experimental group of grapheme-colour synesthetes. In the Synaesthesia Research Laboratory, I've installed all the software needed for the experiment and provided detailed instructions for the experiment in another member of the lab in order to test more

synesthetes during the weeks following my visit. I've also visited University College of London, in collaboration with Mr Emmanouil Konstantinidis, in order to test 8 more control subjects.

The research project also aims to study the possible sensory processing links between synesthetes and non-synesthetes. Synesthetic associations are idiosyncratic, certain associations however occur with high frequency among synesthetes. We aim to examine whether untrained and trained non-synesthetes exhibit enhanced multisensory integration when presented with this type of synesthetic associations than with random ones. This investigation will provide psychophysical evidence of the possible common sensory processing mechanisms in synesthetes and non-synesthetes. I recruited five english speaking participants whose mother tongue uses the Roman alphabet, so far. Recruitment of non-synesthetes will be continued in Athens.

I would like to express my sincere gratitude to TIMELY for supporting this project, I feel honored and I acknowledge that without this funding none of these ideas would have been implemented.

Yours sincerely,  
Miketa Arvaniti