Dutch auction Ethics Variation

Variations to the current project are highlighted in ***bold and italic***

1. Protocol Status
2. Protocol personnel
3. Funding
4. Other variations

*Summary of proposed variation(s).*

*Using plain English and point form, provide a brief description of the proposed variation(s). Where appropriate, present in terms of from the existing protocol to the new protocol.*

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| The original project aimed to examine speeded decision making in a group setting. We intend to keep the same aim but broaden the scope by (i) adding a simple behavioural measure of cognitive load (DRT; detailed below) and add a newly developed computerized task (‘Paddle game’, detailed below) to examine collaboration within a group setting.  Participants will now, in addition to the competitive interaction, be required to complete the ‘Paddle Game’ in small collaborative groups (2-3 participants in a game).  The ‘Paddle Game’ is an additional task introduced to examine the effects of cognitive load (via the DRT – see below) on individual and group performance in collaborative team and competitive teams (2-3 Participants per game). The ‘Paddle game’ is a computer based task with two components. The primary task requires participants to control the lateral movement of two paddles along the bottom of the screen to rebound varying numbers of balls around the screen, similar to the arcade games ‘Pong’ or ‘Breaker’. Participants have a fixed time   * Addition of **cognitive load** in **collaborative** settings as a project aim and amendment to number of proposed tasks :   + “The aim of this project is to examine speeded decision-making ***and*** ***cognitive load*** in ***group setting***.”   + “In another condition they will play against other participants (up to 10 Ps but most likely not more than 3-4 Ps in a game) ***or in collaboration with other participants***, with the aim of providing a correct response before their counterparts ***or producing an optimal result collaboratively”***   + At present, we devised ***three*** computer games that require a speed-accuracy trade-off (described in detail in the Method section of the application).   Research Methods and Techniques   * Addition of a 3rd task, the ‘paddle game’ is used to examine the effects of cognitive load on performance in collaborative settings:   + ***3. ‘The paddle game’ is a computer based task, with two components. The primary component of the task is highly similar to the arcade-style games ‘Pong’ and ‘Breaker’, and requires participants to control the lateral movement of two paddles along the bottom of the screen to stop balls from passing them. The number of balls with which participants are required to interact varies over the course of the block. Participants have a fixed time to successfully rebound as many balls as they can, whilst minimizing misses. Participants concurrently complete the secondary component, the Detection Response Task (DRT). The DRT requires participants to respond quickly and accurately to a brief non-invasive stimulus that could be visual, auditory, or vibrotactile. Participant’s trade-off between accuracy and performance between the primary and secondary components of the task. The task has three conditions: individual, where each participant controls both paddles, and need not collaborate with other group members; and two collaborative, where participants control one paddle in the presence of and with other participants. The collaborative conditions are further differentiated by participants being allocated with either (i) a player-specific set of balls or (ii) a non-specific set of balls with which both players must interact.***   Participant Numbers: Increase to account for additional task   * 48 to 96 participants   Project Details   * Background to project: minor deletions in first paragraph to allow addition of background on **collaborative** decision making to the end of the final paragraph.   + “Studies of economic decision making often focus on choices while underplaying temporal aspects. ***During a Dutch auction bidders observe an item for a limited, fixed amount of time, making it a useful context to examine temporal aspects of decision making. Items begin at a maximum price and reduce over time. If first to bid, bidders secure their purchase of items for the price specified at that time. The longer a bidder waits the lower the price however they risk losing the item to another bidder. Bidders therefore balance potentially lower prices against the risk of waiting too long and losing the item to another.***”   + “… competition has on the setting of decision thresholds. ***Collaborative performance is even less understood. The ‘paddle game’ is designed to assess cognitive load during speed-accuracy trade-off tasks when individuals share task goals rather than compete.***” * Aims/Hypotheses/questions: addition of **collaborative workload** and additional task   + This study aims to examine the effect competition ***and cognitive workload during collaboration*** ***has*** on speeded decision making. * Research Design: details around the independent and dependent variables of the additional task.   + “We currently plan ***three*** experiments…”   + “… average time between decisions). ***The major independent variable for the ‘paddle game’ is also Social Context but also includes three levels of cognitive workload (number of balls: low, medium, high). The dependent variables will be the ratio of hits to misses for each player, response time to the DRT and number of lapses (no response to stimuli).*** * Potential value and significance of the project: additional significance of examining effects of collaboration   + “… and other economic decision making. ***A greater understanding of the effect of cognitive load upon collaborative performance has far reaching significance to many real-world roles performed collaboratively (e.g. security screening, piloting aircraft etc.).”*** * Experience of researchers: Addition of Mr Murray Bennett’s experience   + Mr Murray Bennett is an RHD student in the School of Psychology. He will program the ‘paddle game’ task and analyse data as part of his thesis.   Participants   * What is required of participants: addition of paddle game requirements.   + “Participants will then be randomly assigned to either the ‘four-box game’, ‘Dutch auction game’ ***or assigned to the ‘paddle game’.***   + “will be seated at a computer installed with either the ‘four box game’, the Dutch auction game ***or the paddle game, and will be asked to use a keyboard with pre-defined response keys or a joystick controller for the paddle game***”   + “***The paddle game requires participants to control the horizontal movement of on-screen paddles to deflect balls, stopping them from passing them. Trials run for a fixed time and are randomly allocated a low, medium or high number of balls. This is completed over 3 conditions; one in isolation, two in collaboration where players must interact with either separate or shared ball sets. The DRT component requires participants to respond to a light stimulus on screen or to a short, non-intrusive vibrotactile stimulus (no greater than the vibration of a mobile phone) placed on the participants shoulder.***   Analysis and Reporting   * Detail how the results of the research will be reported/disseminated, including appropriate provision of results to participants:   + “***Results from the collaborative task will be reported in Murray Bennett’s PhD thesis. We also plan to report the findings in national and international conferences and as a peer reviewed article.”*** |

4.1 Reasons for variation

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| The primary purpose behind the variation is to include an additional task that extends upon and complements the original competitive decision-making scope of the project. Where we initially focused on competitive decision making, the additional task is designed to (i) examine task performance in a ***collaborative*** environment and (ii) further assess the complex influence of Social Context on task performance, which will help to inform results acquired from the initial competitive decision making tasks.  Following the additional task, further participant recruitment is required. The proposed number of new participants follows the same reasoning stated in the initial proposal i.e. based off similar previous research conducted by CI Eidels.  The new task will also form the beginning of Mr Murray Bennett’s thesis examining how shared task goals influence core cognitive mechanisms, such as mental workload and decision making, at the individual and group level. |

4.2 Ethical Considerations

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| There are no further ethical considerations brought on by the proposed changes that extend beyond the current scope of the project. |