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## Summary of Results for the KPU Study Registry

Attempting to elicit a precall effect using emotive images and participants with high levels of belief in psi.

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### Results

The Revised Paranormal Belief Scale was coded according to Tobacyk (2004) to create the 7 sub-scales of; *traditional religious belief*; *Psi*; *Witchcraft*; *Superstition*; *Spiritualism*; *Extraordinary Life Forms*, and *Precognition*, and a sum of items score which was used to identify those with high (i.e., >89.1) levels of belief. Precall was measured as the number of images accurately recalled in presentation phase that were later *repeated* in phase 4 compared to those that were *not-repeated*. Given the requirement for participants to type in the name of the image it is possible that a name could be miss-spelt or that a name may only be partially typed due to the time restriction. To deal with this all incorrectly spelled items were viewed by two external judges, blind to the aims of the study, to ascertain whether they sufficiently identified the appropriate image. For partially typed responses a key criterion used was the requirement that there be a greater than 50% level of mapping between the letters and placements of the partially typed input and the name of the image. Only data from participants who are classified as *high-believers* and who completed all phases of the study were included in the main analysis.

### *RPBS Data*

Descriptive data on the seven sub-scales and the sum of items scores of the RPBS are presented in Table 2.

**Table 2.** Showing participants mean and SD scores for each of the seven sub-scales, as well as the sum of items, on the RPBS.

	Traditional religious belief	Psi	Witchcraft	Superstition	Spiritualism	Extra life form	Precognition	Sum of items
<b>Mean</b>	4.89	5.05	4.84	1.71	5.78	4.44	4.65	116.92
<b>SD</b>	1.22	1.06	1.49	1.04	0.93	1.13	1.19	17.03

### *Recall Data*

One hundred and seven participants were each exposed to 20 images, creating a total of 2140 trials. Of these there were 154 (7.2%) trials that required additional consideration by two coders blind to the aims of the study due to spelling and/or grammar issues. The two coders who examined these items agreed 100% on the outcome of 150 (97.4%) of the responses. This included 19 instances of accepting ‘skydiving’ 22 instances of accepting sky diver, 3 instances of accepting skydive, 1 instance of accepting parachuters and 1 instance of accepting skyjumping for ‘skydiving’; 2 instances of accepting hang gliders, 6 instances of accepting hang gliding, 1 instance of accepting hang glinding, 1 instance of hand glider, 1 instance of sky glider, 1 instance of para glider and 5 instances of glider for ‘hang glider’; 1 instance of roller coasters and 1 instance of roll coaster for roller coaster; 5 instances of car accident, 1 instance of accedent, 1 instance of car crash and 1 instance of crash accepted for ‘accident’; 1 instance of fire in house, 1 instance of fire rescue, 3 instances of fireman and 3 instances of fire fighter accepted for fire; 1 instance of war image and 1 instance of warvictims accepted for ‘war’; 1 instance of suicide accepted for ‘suicide’; 1 instance of solders accepted for ‘soldier’; 2 instances of boat sinking, 1 of ship sinking, 3 of shipwreck, 1 of boat and 1 of wreck accepted for ‘ship’; 11 instances of sailor, 1 of yachting, 2 of sail, 1 of saling, and 1 of sailboat accepted for ‘sailing’; 6 instances of skiing, 1 of skyer, 1 of ski jump, and 1 of skier accepted for ‘skier’; 6 instances of hiking, 2 instances of mountain climber, 1 of mountain peak hiker, 1 of hike, 1 of climber and 1 of mountain hiker accepted for ‘hiker’; 1 of spaceman, 2 of astronaut, 1 of astronirt, 1 of austronaut, and 1 of astronaut for ‘astronaut’; 1 of athlete, 2 of gymnist, 1 of gymnastic and 1 of gymnastics accepted for ‘gymnast’; 2 of policeman accepted for ‘police’; 1 of flyer accepted for ‘pilot’; 1 of gunman and 1 of child point gun accepted

for ‘gun’; 1 of toilet, 1 of tiolet, and 1 of disgusting toilet accepted for ‘toilet’. The 4 (2.5%) trials where no agreement was reached were excluded from the analysis. There were also 38 (1.8%) intrusions which did not refer to any of the images seen but were invariably semantically related (e.g., climber, death, snow) and these were also excluded from the analysis.

The precall scores for the positive and negatively valenced images along with their respective baselines can be seen in Table 3.

**Table 3.** Showing mean number of images (with SD) recalled (out of a total of 10) in the *repeated* and the *non-repeated* conditions for the positively and negatively valenced images and for the total combined.

	Positive		Negative		Total	
	Repeated	Not repeated	Repeated	Not repeated	Repeated	Not repeated
Mean	2.42	2.36	3.24	3.10	5.66	5.47
SD	1.16	1.10	1.28	1.27	1.83	1.79

A repeated measures t test (two-tailed) conducted on the recall scores comparing level of recall of images that were *repeated* with those that were *not-repeated* showed that the level of mean recall for *repeated* images did not differ from images *not-repeated* (respective means: 5.66 vs. 5.46),  $t(106)=0.840$ ,  $p=0.403$ , 95% CI (-0.266, 0.659),  $d=0.11$ <sup>1</sup>.

To examine possible links between participant belief in paranormal events correlations were conducted between participant’s total precall scores and their scores on the RPBS. None of these

<sup>1</sup> A query regarding the parametric assumption of ‘normality’ was raised by an external reviewer and in response to this the data were also examined using a non-parametric Wilcoxon signed ranks test. This indicated that level of accuracy for the precall condition,  $Mdn = 6.0$ , did not differ significantly from the baseline condition,  $Mdn = 5.0$ ,  $Z=-0.607$ ,  $p=0.544$ .

correlations were significant (all  $p$ 's > 0.386). Finally, a correlation between level of relaxation and total precall score was also conducted, which showed no clear effect ( $r[107] = -0.146, p = 0.133$ ).

### *Post Recall Practise*

The pattern of post recall performance was examined using a paired t test. This showed that mean recall performance improved from the first (7.76) to the second (8.57) post-precalls/recall practice phase,  $t(106) = 5.267, p < 0.001, 95\% \text{ CI}(-1.112, -0.507), d = 0.57$ .

## **Discussion**

The results showed no evidence of any *precalls* effect when using highly emotive positive and negatively arousing images and selectively sampling from a population with high levels of belief in psi. Hence, the pre-registered confirmatory prediction was not supported. Furthermore, there was no evidence of any relationship between the various levels of belief, overall belief in psi, or level of relaxation and precall performance. Unsurprisingly however, there was some improvement in the post-recall practice phase.