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Summary of Results for the KPU Study Registry

Exploring precall using arousing images and utilising a memory practice task on-line.

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This summary reflects the results of the analyses as understood on September 9, 2016. See the associated registration document for information about the study plans and procedures.

Results

Ninety-four participants were each exposed to 28 images, creating a total of 2632 trials. Of these there were 51 (1.9%) 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. This included 7 instances of accepting 'motorbike' for 'motorcycle', 8 instances of accepting 'cockroaches' for 'cockroach', 18 instances of accepting 'lightening' for 'lightning', 1 instance of accepting 'lighting' for 'lightning, 1 instance of accepting 'jaguer' for 'jaguar', 10 instances of accepting 'windsurfer' for 'windsurfers' and 6 instances of accepting 'skydiver' for 'skydivers'. There were also 14 (0.5%) intrusions which did not refer to any of the images seen but were invariably semantically related (e.g., cheetah and leopard in place of jaguar) and were excluded from the analysis.

A repeated measures t test was conducted on recall scores comparing level of recall of images that were *repeated* with those that were *not-repeated*. A 2-tailed test was used to allow for the possibility that post-recall repetition of the images *could* impair precall performance (see, Ritchie et al., 2012). This showed that the level of mean recall for *repeated* images did not differ from images *not-repeated* (respective means: 7.28 vs. 7.38), $t(93)=0.374$, $p=0.710$, 95% CI (-0.604, 0.413), $d=0.05$. The precall score for positive and negatively valenced images along with their respective baseline can be seen in Table 1.

Table 1. The precall score for positive and negatively valenced images along with their respective baseline can be seen in

Positive Valenced				Negative Valenced				Total			
Precall		Baseline		Precall		Baseline		Precall		Baseline	
Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
3.27	1.56	3.43	1.34	4.01	1.37	3.94	1.37	7.28	2.08	7.38	2.02

Of the 94 participants that took part 35 (37.2%) reported in the post study questionnaire that they were either distracted or switched to another application (e.g., to check emails, facebook) during the study. When the main analysis was re-run, restricting the sample to those that did not report any such distractions or switching there was still no difference in the level of mean recall for *repeated* images compared to images *not-repeated* (respective means: 7.0 vs. 7.18), t(58)=0.574, p=0.568, 95% CI (-0.836, 0.463), *d*=0.08.

To examine possible links between participant belief in paranormal events correlations were conducted between participant's precall scores and their scores on the RPBS, see Table 2. None of these correlations were significant (all ps>0.3).

Table 2. To examine possible links between participant belief in paranormal events correlations were conducted between participant's precall scores and their scores on the RPBS, see Table 3. None of these correlations were significant.

	Traditional Religious Belief	**PSI**	**Witchcraft**	**Superstition**	**Spiritualism**	**Extra Life Form**	**Precognition**
Precall score	-.009 (.931)	.032 (.759)	.106 (.309)	-.053 (.611)	-.068 (.515)	-.016 (.882)	-.016 (.880)

Post Recall Practise

The pattern of post recall performance was examined using a repeated measures analysis of variance (ANOVA) with single factor of *Time* containing 4 levels (*time1, time2, time3* and *time4*). The assumption of sphericity was not met, Mauchly's W(5)=0.816, p,0.01, hence the Greenhouse-Geiser correction was used when interpreting the ANOVA. This showed a main effect of *Time* F(2.67,248.9)=16.201, p<0.001, Mse=2.36, η^2=0.148. Pairwise comparisons using a Bonferroni correction to control for inflated Type I errors showed a significant increase in mean recall from *time1* to *time2* (respective means: 10.56 and 11.54) p<0.001, 95% CI(-1.473, -0.484), *d*=0.5. There was no further change in mean recall from *time2* to *time4* (all ps>0.5), see Table 3.

Table 3. Mean recall over the four post-recall practice phases.

Time1		Time2		Time3		Time4	
Mean	SD	Mean	SD	Mean	SD	Mean	SD
10.56	2.02	11.54	1.80	11.80	1.99	11.86	1.95

Discussion

The results show no evidence for any *precall* effect when using both positive and negative arousing images. Nevertheless, the post recall practise phases do show an initial increase in recall accuracy but this plateaus after the second practise session suggesting that two post recall practise phases may be sufficient to establish a robust memory with continued practise having little or no effect.