GROUP SUMMARY

Sound or No-Sound

A study on the effect of sound deriving images in evoking emotions

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SUBMITTED TO:
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HERE I WILL DISCUSS MY UNDERSTANDINGS AND CONCLUSIONS OVER MULTIPLE VARIABLE ANALYSIS DONE BY THE GROUP AND ITS CORRELATION WITH MY DIMENSION VARIABLE "VALENCE".

1. NOVELTY

ANALYSIS ON NOVELTY WAS DONE BY ARUN.

A) MEAN REACTION TIMINGS

MY ANALYSIS ON MEAN REACTION TIMINGS FOR VALENCE RATING WAS IN FOLLOWING INCREASING ORDER OF REACTION TIME:

NS-P < S-P < NS-N < S-N

WHEREAS, ARUN'S ANALYSIS ON MEAN REACTION TIMINGS FOR NOVELTY WAS:

S-P < NS-P < S-N < NS-N

WHICH SHOWS THAT THE AVERAGE TIME TAKEN TO RATE BOTH VALENCE AND NOVELTY FOR NEGATIVE IMAGES ARE GREATER THAN POSITIVE IMAGES.

BUT HERE THE DIFFERENCE IS THAT:

- NOVELTY FOLLOWS ABOVE RESULT IRRESPECTIVE OF SOUND OR NO-SOUND PROPERTY OF A VISUAL STIMULI.
- WHEREAS VALENCE FOLLOWS ABOVE RESULT SUCH THAT IT TAKES MORE TIME FOR SOUND IMAGES THAN NO-SOUND IMAGES.

THIS SHOWS THAT VALENCE DIMENSION IS MORE MULTI-MODALITY DEPENDENT AND NOVELTY IS INDEPENDENT OF MULTI-MODALITY.

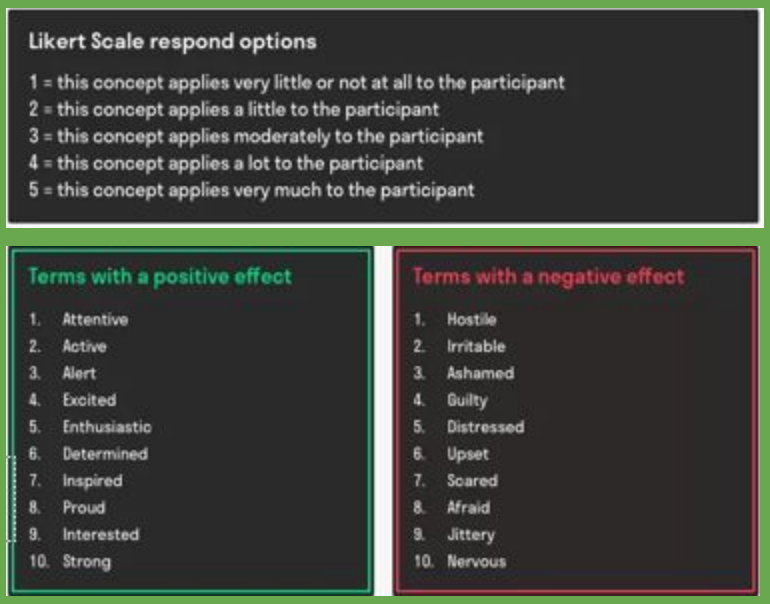
B) CONFIDENCE

I DID NOT EXHIBITED THE CONFIDENCE DIMENSION IN MY REPORT AS IT WAS NOT MUCH OF CORRELATED WITH VALENCE. BUT, ARUN FOUND OUT A HIGHER CORRELATION IN NOVELTY AND CONFIDENCE FROM THE T-TEST. THE ANALYSIS SHOWN THAT THE EXPOSURE TIME IS DIRECTLY PROPORTIONAL TO THE CONFIDENCE WHILE RATING THE NOVELTY DIMENSION.

WHICH CONSEQUENTLY MEAN THAT, HIGHER THE NOVELTY -> HIGHER WILL BE THE CONFIDENCE.

C) PANAS

ARUN ALSO ANALYSED THE "PANAS" SCALE WHICH IS BASICALLY POSITIVE AND NEGATIVE SCHEDULE SCALE USED FOR THE MOOD ANALYSIS OF THE PERSON AS A 1-5 LIKERT SCALE RESPONSE SYSTEM.



HERE, WE HAD QUESTIONNAIRE BASED ANALYSIS IN WHICH WE TOOK 10 POSITIVE EFFECT TERMS AND 10 NEGATIVE EFFECT TERMS, IN WHICH 40% EMOTIONS CAME OUT TO BE NEGATIVE WHILE 60% EMOTIONS CAME OUT TO BE POSITIVE -> WHICH SHOWED MORE TENDENCY TOWARDS THE POSITIVE MOOD AT THE TIMES THAN NEGATIVE MOOD.

2. AROUSAL

ANALYSIS OF AROUSAL WAS DONE BY VIPIN

A) MEAN RATINGS

VIPIN ANALYSED THE MEANS AND STANDARD DEVIATIONS OF THE AROUSAL DIMENSION AND COMPARED IT TO THE NORTH AMERICAN STATISTICS. WHICH MADE HIM HYPOTHESIZE THE CULTURAL DIFFERENCES BETWEEN INDIA AND NORTH AMERICA.

CONCLUSIONS ON CULTURAL DIFFERENCES & SIMILARITIES:

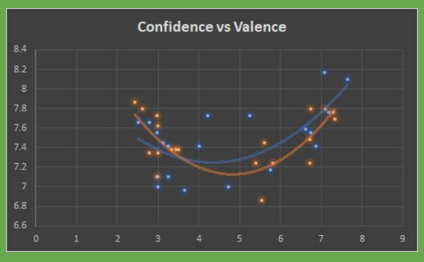
- INDIANS HAVE HIGHER (MORE POSITIVE) AROUSAL THAN THE NORTH AMERICANS WHILE RATING NO-SOUND POSITIVE VISUAL STIMULI.
- INDIANS ALSO HAVE HIGHER (MORE POSITIVE) AROUSAL THAN THE NORTH AMERICANS WHILE RATING NEGATIVE VALENCE VISUAL STIMULI.
- IN GENERAL, INDIANS HAVE HIGHER AROUSAL TO VISUAL STIMULI THAN NORTH AMERICAN PEOPLE IN ALL FOUR CATEGORIES OF S-P, S-N, NS-P AND NS-N.
- BOTH THE NORTH AMERICAN AND INDIAN DATA SHOWED A POSITIVE CORRELATION AND A LINEAR TREND FOR POSITIVE IMAGES AND NEGATIVE CORRELATION AND A LINEAR TREND FOR NEGATIVE IMAGES IN NO-SOUND CATEGORY AND SOUND CATEGORY.

3. CONFIDENCE

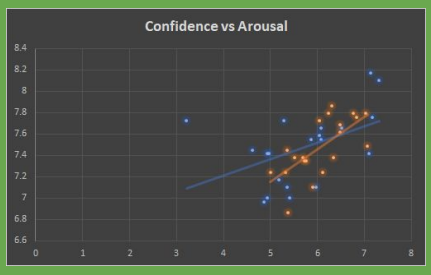
ANALYSIS OF CONFIDENCE WAS DONE BY ROHIT

A) CORRELATION, MEANS AND T-TEST

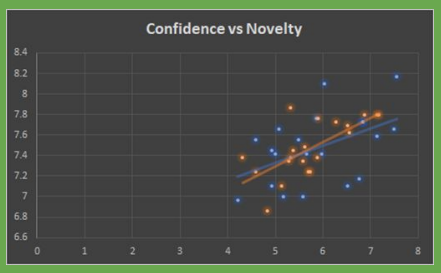
- VALENCE AND CONFIDENCE (SOUND): 0.050844



- AROUSAL AND CONFIDENCE (SOUND): 0.678



- NOVELTY AND CONFIDENCE (SOUND): 0.695



- VALENCE AND CONFIDENCE (NO-SOUND): 0.50966
- AROUSAL AND CONFIDENCE (NO-SOUND): 0.463
- NOVELTY AND CONFIDENCE (NO-SOUND): 0.4869

ROHIT'S ANALYSIS SHOWS THE LEAST CORRELATION FOR VALENCE AND CONFIDENCE IN SOUND CATEGORY WHEREAS HIGHEST CORRELATION FOR VALENCE AND CONFIDENCE FOR NO-SOUND CATEGORY. OTHER DIMENSIONS LIKE NOVELTY AND AROUSAL ARE HIGHLY CORRELATED WITH CONFIDENCE (MORE IN SOUND AND LESS IN NO-SOUND RESPECTIVELY).

- IN THE CASE OF BOTH AROUSAL AND NOVELTY A HIGHER VALUE LEADS TO A HIGHER VALUE OF CONFIDENCE IN RATINGS OF THE PICTURE. THIS WAS TRUE FOR BOTH SOUND AND NO-SOUND IMAGES, BUT LINEAR RELATION WAS STRONGER FOR THE SOUND IMAGES.
- IN T-TEST, AROUSAL AND NOVELTY WHEN FIT IN THE LINEAR REGRESSION MODEL GAVE THE P-VALUE LESS THAN 0.05 WHICH SHOWN THE STATISTICAL SIMILARITY AS A SIGNIFICANCE BETWEEN THEM; WHEREAS OTHER VARIABLES WERE QUITE INSIGNIFICANT WHEN T-TESTED WITH CONFIDENCE SINCE THE GOT THE P-VALUE MUCH GREATER THAN 0.05.

4. REACTION TIME

REACTION TIME ANALYSIS WAS DONE BY DHAVAL

A) RT T-TEST SOUND VS NO-SOUND:

HIGH P-VALUE SUGGESTS THAT THE AVERAGE DIFFERENCE OF RT FOR SOUND AND NO-SOUND WAS STATISTICALLY INSIGNIFICANT.

B) VALENCE:

DHAVAL'S CONCLUSION IS THAT RT REDUCES WITH INCREASING VALENCE WHICH IS TRUE BUT IT DOES NOT GIVE ANY INFORMATION RELATED TO SOUND AND NO-SOUND IMAGES AS FAR AS THE ANALYSIS IS CONCERNED.

C) AROUSAL:

RT REDUCES WITH INCREASING AROUSAL NOT VERY SIGNIFICANTLY.

D) NOVELTY:

- NOVELTY DOES NOT GIVES STATISTICAL SIGNIFICANCE WHEN DONE T-TEST FOR SOUND AND NO-SOUND ON RT.
- RT REDUCES WITH INCREASING NOVELTY

5. THE MAIN QUESTION

THIS PART WAS ADDRESSED BY ANIRUDH.

HE CARRIED OUT THE EXPERIMENT SETUP ON THE LAPTOPS AND HELPED THE TEAM TO GET THE DATA MORE ORGANISED FOR THE ANALYSIS.

HE FURTHER EXPLAINED HIS GENERAL RESEARCH IN HIS REPORT OVER THE EMOTIONAL DIMENSIONS OF VISUAL STIMULI.

6. VALENCE

VALENCE ANALYSIS WAS DONE MY ME (SANKET).

In this Analytical Study, the main goal was to understand and illustrate the hypotheses regarding Valence of an IAPS Picture and it's variation in affective space on providing affective visual stimuli.

We found some nice observations in this Experiment as:

- The experiment we carried out on small scale gave similar valence rating

distribution as the normative valence rating(large scale) to a visual stimuli.

- In case of sound positive and no sound positive, Valence is directly proportional to arousal which means Positive Correlation.
- In case of sound negative and no sound negative, Valence is inversely proportional to arousal which means Negative Correlation.
- High correlation between Sound Positive and Arousal.
- Least correlation between No-Sound Negative and Arousal.
- Sound Negative stimuli produces more negative valence.
- Sound Positive stimuli produces more positive valence.
- No Sound Positive stimuli have least reaction time.
- Sound Negative stimuli have highest reaction time.

THANK YOU!