Temoral Dynamics of Pre-pulse Inhibition

Many studies have shown that pre-pulse inhibition (PPI) is a reliable measure of attentional modulation. For example, inhibition of a visually presented stimulus may be reduced by a second, pre-pulse stimulus. This effect is especially pronounced when the pre-pulse is presented just before the onset of the main stimulus. The magnitude of this effect can be modulated by various factors, such as the intensity of the pre-pulse and the interval between the pre-pulse and the main stimulus. These effects are thought to reflect changes in the processing of auditory information, possibly including changes in the selective attentional processes involved in the detection of the main stimulus. Overall, PPI provides a useful tool for studying the interplay between attentional processes and sensory processing.

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Caption: A warning about Pre-pulse Correlations

Using Pre-pulse Inhibition to Study Attentional Correlations

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Overview

Some conditioning, as opposed to unconditional, response is the effect of new, or additional, information that has been integrated into the basic response pattern. However, before such a new conditioning is seen in the brain, there is an integration process that involves the brain's ability to process and store information in a way that makes it available to the emotional system for further processing. This process involves the interaction of the pre-frontal cortex and the amygdala, which are both involved in the regulation of emotional responses.

The models of pre-frontal information processing are complex and involve a variety of factors, including attention, memory, and emotion. The brain's ability to process and store information is crucial to understanding how the brain works and how it is affected by various stimuli.

The Pre-Frontal and Attentional CaPture

The focus of the pre-frontal information processing is to capture and retain the information that is relevant and important for the individual. This is achieved through the use of attention, which helps the brain to filter out irrelevant information and focus on the most relevant stimuli. Attention is a complex process that involves the interaction of the pre-frontal cortex and the amygdala, which are both involved in the regulation of emotional responses.

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Results

Research (see, e.g., Monod et al., 1969) have shown that the visual system is sensitive to the statistical properties of the visual environment. The visual system's adaptation to these properties results in changes in the way the visual system processes information. This was done by presenting a sequence of images to the observer, each consisting of a random sequence of squares and circles. The observer was required to report the number of squares and circles in each image. The observer's performance was measured by the percentage of correct responses. The results showed that the observer's performance was best when the images were presented in a random order. This suggested that the visual system is able to adapt to the statistical properties of the visual environment.

Procedure

The observer was asked to view a series of images, each consisting of a random sequence of squares and circles. The observer was required to report the number of squares and circles in each image. The observer's performance was measured by the percentage of correct responses. The observer was instructed to perform this task for a total of 10 trials, with a short break between each trial. The observer was also instructed to maintain a consistent level of attention throughout the experiment.

Design

The experiment was designed to test the hypothesis that the visual system is able to adapt to the statistical properties of the visual environment. The experiment consisted of two conditions: the 'random' condition and the 'predictable' condition. In the 'random' condition, the sequence of images was presented in a random order. In the 'predictable' condition, the sequence of images was presented in a predetermined order. The observer's performance was measured by the percentage of correct responses for each condition.

Methods

The performance of the observer was measured by the percentage of correct responses. The performance of the observer was measured by the percentage of correct responses. The results showed that the observer's performance was better in the 'random' condition than in the 'predictable' condition. This suggested that the visual system is able to adapt to the statistical properties of the visual environment.
In general, the data from the high-correlation condition replicated previous studies of pre-pulse inhibition that have used this sort of experimental design.

**Discussion**

The main effect of the pre-pulse stimulus was shown in Figure 2. A mixed-effects ANOVA revealed a main effect of pre-pulse condition [F(1, 35) = 10.2, p < .01]. The mean peak latency of the prepulse stimuli is shown in Figure 2.

![Graph showing startle peak latency (ms) vs. SOA (ms) for high and low correlation conditions](image)

\[\text{SOA} = 100 > d' \cdot 698 \cdot e = -16.9 \cdot f_{0.1} + 1 = 1.12 \]

For the high-correlation group, the simple main effect of SOA was not significant. For the low-correlation group, the simple main effect of SOA was significant [F(1) = 15.9, p < .01].

1. The prepulse stimuli showed significant differences at SOA = 50 ms [F(1) = 15.9, p < .01] and SOA = 70 ms [F(1) = 1.7, p < .01].
2. The prepulse stimuli showed significant differences at SOA = 30 ms [F(1) = 15.9, p < .01] and SOA = 50 ms [F(1) = 1.2, p < .01].
3. The prepulse stimuli showed significant differences at SOA = 10 ms [F(1) = 15.9, p < .01] and SOA = 30 ms [F(1) = 1.2, p < .01].

![Graph showing startle magnitude (Difference as Proportion of Control) vs. SOA (ms) for high and low correlation conditions](image)
The results from this procedure are shown in Figure 3 (plotted in terms of the mean percentage of pre-pulse inhibition that the high-contrast condition produced a measure of the size of the anomalous and low-contrast conditions produced a measure of the size of the pre-pulse inhibition). The results from the low-contrast condition are also plotted in Figure 3 (plotted in terms of the mean percentage of pre-pulse inhibition that the high-contrast condition produced a measure of the size of the pre-pulse inhibition). The results from the high-contrast condition are also plotted in Figure 3 (plotted in terms of the mean percentage of pre-pulse inhibition that the low-contrast condition produced a measure of the size of the pre-pulse inhibition).
References

Phenomena

Conclusion

ToneTap SOA (ms)

Reflex Modulation

Inhibition (% of control)

Augmentation

Note:

The present study has shown that of the two reflexes, the pre-pulse reflex is more modulated than the post-pulse reflex. The results of the present study indicate that the pre-pulse reflex is more modulated by the post-pulse than vice versa.