Line Bisection Performance Correlates with Anxiety in a Non-Clinical Sample

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INTRODUCTION

➢ The approach-withdrawal theory of affect proposes that approach motivations are associated with right hemisphere, and withdrawal motivations associated with left hemisphere, activity in cortical frontal areas.

➢ The line bisection task (LBT) is predictive of lateralized differences in hemispheric activity in precisely those areas- cortical frontal areas- known to be involved in these motivational states (Nash, McGregor, & Inzlicht, 2010)

➢ LBT performance is correlated with anxiety in a clinical population of patients with Generalized Anxiety Disorder (He et al., 2010).

➢ That performance on simple line LBT is predictive of lateralized differences in hemispheric activity in precisely those areas known to be involved in lateralized emotional processes, suggests the possibility that LBT may be predictive of emotional state in non-clinical samples.

➢ Hypotheses: Similar to the clinical population, LBT performance will be predictive of anxiety in a non-clinical sample. Specifically, larger left side bias (increased right hemisphere activity) will be associated with increased anxiety.

METHOD

➢ Participants, Materials, & Procedure: As part of a larger protocol, 35 men and 103 women, after signing a consent form, completed LBT and the BMIS.

RESULTS

➢ In men (n=35) a significant positive correlation between LBT performance and the Anxiety subscale (Jittery plus Nervous) of the BMIS (r(33)=.34, p=.05) indicated increasing leftward bias (right hemisphere activity) with increasing feelings of anxiety. See Fig. 1.

➢ No relationship between LBT and anxiety was found in women.

DISCUSSION (cont.)

➢ Future research could examine LBT performance and other subscales of the BMIS in non-clinical samples.

➢ It is not clear why the association between LBT performance and anxiety did not occur in women. One possibility may be related to findings that women are more variable in their lateralization of cerebral functions, being more likely to have functions bilaterally represented. Such variability and bilateral representation could obscure relationships between hemispheric activity and affect/motivational state. Future research could examine gender differences in LBT and motivational orientation by assessing lateralization of cortical functions first as a function of gender.

➢ The present results suggest that LBT may hold promise for aiding assessment in pre-diagnostic populations, particularly in men, and for conditions in which there is an anxiety-related component.

REFERENCES


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