

# Handedness And Developmental Disorder

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## Left-handers look before they leap: handedness influences reactivity to novel Tower of Hanoi tasks

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A sample of 203 task naive left- and right-handed participants were asked to complete a combination of the 3- and 4-disk Towers of Hanoi (ToH), manipulating novelty and complexity. Self-reported state anxiety and latency to respond (initiation time) were recorded before each ToH. Novelty had a major effect on initiation time, particularly for left-handers. Left-handers had a longer latency to start and this was significantly longer on the first trial. Irrespective of hand-preference, initiation time reduced on the second trial, however, this was greatest for left-handers. Condition of task did not systematically influence initiation time for right-handers, but did for left-handers. State anxiety was influenced by task novelty and complexity in a more complicated way. During the first trial, there was a significant handedness  $\times$  number of disks interaction with left-handers having significantly higher state anxiety levels before the 3-disk ToH. This suggests that the initial reaction to this task for left-handers was not simply due to perceived difficulty. On their second trial, participants completing a novel ToH had higher state anxiety scores than those completing a repeated version. Overall, left-handers had a larger reduction in their state anxiety across trials. Relating to this, the expected strong positive correlation between state and trait anxiety was absent for left-handed females in their first tower presentation, but appeared on their second. This was driven by low trait anxiety individuals showing a higher state anxiety response in the first (novel) trial, supporting the idea that left-handed females respond to novelty in a way that is not directly a consequence of their trait anxiety. A possible explanation may be stereotype threat influencing the behavior of left-handed females.

**Keywords:** handedness, Tower of Hanoi, task complexity, novelty, state anxiety, trait anxiety

### INTRODUCTION

Research conducted from the 1970's through to the early 1990's examining the relationship between handedness and anxiety has produced a number of inconsistent and inconclusive findings. A common finding is that left-handers are more anxious, and worry more, than their right-handed counterparts (e.g., Orme, 1970; Hicks and Pellegrini, 1978; Davidson and Schaffer, 1983; Dillon, 1989). More specifically Orme (1970) found that left-handers reported themselves to be more introvert and shy than right-handers, Hicks and Pellegrini (1978) reported that left- and mixed-handers were significantly more anxious and Davidson and Schaffer (1983) reported higher trait anxiety levels in left-handers. Additional research around this time focussed upon the relationship between consistency of handedness (consistent versus inconsistent handedness) and anxiety. Wiernich et al. (1982) reported that consistent handers (irrespective of a left or right preference) had higher levels of anxiety than inconsistent handers, and Merschelbach et al. (1989) reported that consistent right-handers demonstrated higher social anxiety than left-handers. On the other hand, Mueller et al. (1991) examined differences in test anxiety between left- and right-handers and found that high test anxiety did not affect left-handers any more than it affected right-handers. Other research has found no relationship between handedness and

anxiety (e.g., French and Richards, 1990; Beaton and Moseley, 1991).

However, there has been a recent resurgence in research examining the relationship between handedness and anxiety. These studies have attempted to address some questions left unanswered by previous research. One key aspect of this recent research has been the use of the State Trait Anxiety Inventory (STAI; Spielberger et al., 1983) as the chosen measure. The STAI is arguably a good measure as it has a solid history of use in both clinical (e.g., Karch et al., 2008) and general psychological research (e.g., Jackson et al., 2011), and has good reliability (Birling et al., 1998; Vautier and Pohl, 2009). The STAI has been designed to capture two main aspects of anxiety. State anxiety is a response to a given situation, and exists as an emotional response elicited by the situation, and expressed as a transient state of subjective worry, apprehension and general nervousness (Gerstorff et al., 2009; Roup and Chasson, 2010). Trait anxiety (2009) describe Trait Anxiety as a stable individual tendency to respond anxiously to all situations, and argue that this is really a measure of the likelihood that the individual will express state anxiety in a given situation. Although these two measures are conceptually linked, they are only moderately positively correlated (average correlation of 0.65, according to Spielberger et al., 1983). State

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Handedness and Developmental Disorder. Book January with Reads. DOI / ISSN Publisher: Blackwell Scientific and Handedness and Developmental Disorder. Reviewed by Articles from Archives of Disease in Childhood are provided here courtesy of BMJ Publishing Group. Handedness and Developmental Disorder [D V M Bishop] on aceacademysports.com \* FREE\* shipping on qualifying offers. The notion that handedness is related to Handedness and Developmental Disorder [D. V. M. Bishop] on aceacademysports.com \* FREE\* shipping on qualifying offers. The notion that handedness is related to. This book offers a comprehensive and readable account of theoretical aspects of the origins and normal development of handedness and its relationship to. It reviews the evidence for links between non-right-handedness and various developmental disorders: mental impairment, autism, epilepsy, and disorders of. The notion that handedness is related to developmental disorder has been around for at least 60 years and has enjoyed a recent resurgence in popularity. In recent years, a theory linking handedness, developmental dyslexia and immune disorders has aroused considerable excitement. This theory, which originally. If your child is left-handed and exhibits early signs and symptoms of learning disabilities or developmental delays, you may rightfully be. Handedness and Developmental Disorder by Bishop, D V M and a great selection of similar Used, New and Collectible Books available now at AbeBooks. com. Hillsdale, NJ: Erlbaum. Handedness and Developmental Disorder. By D. V. M. Bishop. London: MacKeith Press; Philadelphia, PA: Lippincott., xi + pp. Handedness and Developmental Disorder (Clinics in Developmental Medicine series no. ). MARCEL KINSBOURNE Search for more papers by this author. According to the theoretical account of pathological left-handedness syndrome, a subgroup of left handers suffers from a condition that involves. Handedness and developmental disorder. D.V.M. Bishop. Published by Mac Keith Press, London. ISBN 0 4, pp. Price ? J.A. Sofaer. Journal of Autism and Developmental Disorders that our data on non-right-handedness within the autism spectrum disorder were organized. Objective: To examine the prevalence of left-handedness in a sample of children screened for developmental coordination disorder (DCD). Method: Using the Autism is a severe developmental disorder beginning early in life and marked by life-long disability. The syndrome is defined by a triad of impairments: deviant. This book offers a comprehensive and readable account of theoretical aspects of the origins of normal development of handedness and its relationship to. handedness and developmental disorder pdf - SourceForge There was a clear ( though nonsignificant) trend on all tests for left-handers to. Journal of Autism. Utilizing a novel observational approach, handedness was measured by hand preference Journal of Neurodevelopmental Disorders The only systematic review of the relationship between handedness and developmental disorders was performed in and found no. Handedness And Developmental Disorder by Bishop, D.V.M. and a great selection of similar Used, New and Collectible Books available now at. Abstract. Objective. This cross-sectional study investigated handedness in patients followed in a

university-based child development clinic. The goal was to .

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