

Oral presentation

Open Access

Balance dysfunction in childhood anxiety: findings and theoretical approach

M Mintz*

Address: Professor, Department of Psychology, Tel Aviv University, Israel

* Corresponding author

from International Society on Brain and Behaviour: 1st International Congress on Brain and Behaviour
Hyatt Regency Hotel, Thessaloniki, Greece, 20–23 November, 2003

Published: 23 December 2003

Received: 1 November 2003

Annals of General Hospital Psychiatry 2003, **2**(Suppl 1):S53

This article is available from: <http://www.general-hospital-psychiatry.com/content/2/S1/S53>

Comorbidity of balance and anxiety disorders was frequently reported in adult subjects. We tested the presence of such comorbidity in children. Children with diagnosis of generalized anxiety disorder reported a high incidence of dizziness and vertigo, experienced elevated sensitivity to balance challenging situations during neurological testing, and performed poorly on balance-challenging physical exercises, relative to control children. Similarly, children referred to child development clinic due to balance disturbances reported increased anxiety level on fear surveys, relative to controls. These findings support the presence of balance-anxiety comorbidity in children. Although there is some agreement that the two disorders are causally related, there is no consensus concerning the direction of the causality. We reason for primacy of the of the balance disorder, predicting that treatment of balance may ameliorate the associated anxiety. A sample of children with demonstrated balance-anxiety comorbidity participated in structured occupational therapy balance treatment program based on the sensory-motor integration protocols. After 12 treatment sessions, improvement in balance performance correlated with major alleviation of anxiety, as tested by self-report and parent-report scales. We ground these findings in the extended version of the 'two-factor theory of learning'. This theory predicts that confrontation with balance challenging events first invokes a stage of fear conditioning followed by a stage of adaptive motor-conditioning. A third stage follows when the acquired motor responses provide a reliable solution for balance threatening events and consequently promote extinction of the fear-responses. The clinical implications are that children with normal acquisition of fear responses but with poorly acquired motor-balance responses are prone to retain the conditioned anxieties,

i.e., they do not reach a third stage of learning. Intensive balance treatment seems to advance these children to the third stage of fear extinction.