Fragility Index variation in (Li₂O)ₓ(B₂O₃)₁₀₀₋ₓ melts CHARLES SKIPPER, RALPH CHBEIR, CHANDI MOHANTY, PUNIT BOOLCHAND, Univ of Cincinnati — We have measured the fragility index (m) of titled melts as a function of Li₂O content in the 0<x<35% range using Modulated DSC. In this approach, one measures the real and imaginary part of the complex specific heat as a function of modulation frequency (ν), and deduces an activation energy by plotting the log of the enthalpy relaxation time as a function of inverse Temperature obtained at various ν. For pure B₂O₃ glass with a T_g = 308°C, we obtain m = 28 (1). With increasing x, m is found to monotonically increase to 38(1) as x increased to 15%, but then to plateau at a value of m = 42(2) in the range 18%<x<25%. These values in m are significantly lower than those reported earlier¹. In particular, the range of x where we observe a plateau in m, authors of ref. 1 observed a linear increase in the 41<m<62 range. T_g of our glasses are found to be significantly greater than those of ref. 1, suggesting that the lower value of m in our glasses could be a manifestation of the reduced concentration of bonded water. The range of x across which a plateau is observed also happens to coincide where the isostatically rigid Intermediate Phase reported recently².