THEOREM 3: *Suppose random assignment holds and define*

$$\omega_i \coloneqq \sum_{j=1}^{J} \lambda_j \big(p_j - p\big)\big[D_i(j) - \bar{D}_i\big],$$

and

$$\gamma_{ij} \coloneqq \gamma_{ij}(0)\big[1 - D_i(j)\big] + \gamma_{ij}(1) D_i(j),$$

where

$$p \coloneqq \sum_{j=1}^{J} \lambda_j p_j.$$