

Premature sampling is a modification of random walk theories that is plausible and sufficient to explain an important failure of the sequential probability ratio test (SPRT) model of choice reaction time. This paper establishes a mathematical framework for random walks with premature sampling. It makes four specific points: (1) Wald's Identity and the small steps assumption fail to make the problem tractable in its fullest generality; (2) Laming's (1968) derivation of the important result that premature sampling leads to quicker errors in the SPRT model is flawed by a tenuous approximation; (3) expressions for response probabilities and mean latencies are derived for the general model on the assumption that premature sampling is not sufficient, by itself, to trigger a response, although it does influence the process; but (4) under that assumption, the SPRT model does indeed imply that, conditioned on a response, mean response time for errors is quicker than mean response times for corrects.