

Human Performance (M6X00915) – Applications of Signal Detection Seminar

Setting response criterion: optimality in SDT for real-life scenarios:

1. A radiologist in the local hospital has been sent the x-ray scans of two patients. One has been referred to the hospital because they have been displaying symptoms of illness. The other is a healthy patient who has come in for a check-up on a pin that was inserted five years ago after experiencing a fall and required some bones to be fixed back in to place. Interpreting the images is hard and it takes a lot of training. Even an experienced radiologist will find the task difficult at times as there is always some uncertainty as to whether there is something there or not.
 - What are the four possible outcomes of the decision based on SDT?
 - Explain, with reference to response criterion, how SDT can be used to interpret the radiologist's decision to diagnose the two patients with a tumour.
 - What are the potential issues with the possible response criterion outcomes and how does this impact SDTs applicability in explaining human performance?
 - Provide examples of the possible internal and external noise faced by the radiologist.
 - Explain how signal probability and payoffs may influence the decision.