

Time on task and detection performance in cabin baggage X-ray screening

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Time on task and detection performance

Problem:

- › EU regulation restricts X-ray image inspection to 20 minutes.
- › This can be operationally challenging.

Results:

- › Security officers can maintain their performance up to 60 minutes (in the lab and in the field!).

Solution:

- › The 20-minute rule should be reconsidered.
- › Longer screening durations and/or more flexible break regimes could be considered.



Results on time on task and target prevalence



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Why stop after 20 minutes? Breaks and target prevalence in a 60-minute X-ray baggage screening task

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Highlights

- Screeners maintained their performance over 60 min in a simulated baggage screening task.
- Breaks had no effect on screener performance.
- Screeners working 60 min without breaks reported more distress.
- Detection measure d_a with a slope of approximately 0.6 was more valid than d' .
- Target prevalence caused a criterion shift at the beginning of testing.

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