**Interpreting the effect of treatment with AI support instead of significance tests – or how does it affect the quality of hand disinfection if the subject knows that s/he is being monitored?)**

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Keywords: hand-in-scan, similarity analysis, observation, observability, objectivity

# Abstract

The results of classical significance tests regarding the quality of hand disinfection are fundamentally limited: for example, the group that knew that the quality of its hand disinfection was being monitored achieved significantly better hand disinfection in the aggregate outcome measure. However, if, in relation to 125 subjects, 68 of whom were certainly not aware that the quality of their hand disinfection was being measured, and 57 subjects were forced to face the fact that a hand-in-scan measurement would immediately follow this before their own hand disinfection action, much more data is available than the aggregated result per subject, where the aggregated result is the minimum of the independent partial results of “Left palm coverage (%)”, “Right palm coverage (%)”, “Left hand back coverage (%)”, “Right hand back coverage (%)”, then the following questions can also be asked and answered – which are also suitable for a kind of group psychological profiling of all subjects, or of the positions specifically examined (doctors, assistants) appear, and the failure to process them is clearly interpreted as a loss of information:

* Can all subjects be equally ideal hand sanitizers?
* How routinely attentive can doctors/assistants be considered?
* What is the profile of doctors/assistants by shifts?

The essence of anti-discriminatory modelling: using several attributes (x1,x2,x3,x4,x5), or e.g. the variable doctor(0;1) itself, we search for those step function parameters in the framework of online optimization that may be able to point out that as the result of each subject's error structure, we do not have the mathematical right to examine the significance of the possible aggregated average results of the turns, because this aggregation hides the details available in the background. In a sense, the situation is similar to the interpretation problems of Simpson's paradox. The results of production function-based analyses indicate that the available x1-x2-x3-x4-x5 data set is not suitable for classical regression-type classification (cf. e.g. doctor/non-doctor). The COCO MCM (exploratory modelling framework) is capable of exploring a kind of complex IF/THEN rule systems (decision trees), the hermeneutics of which is also complex.

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