
Subject: Not positive definite correlation matrix
Posted by [kptanalgo](#) on Tue, 14 Jun 2022 07:32:53 GMT
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Hi!

In the Nepal Further Analysis of their 2006 DHS, technical note #3 indicates removing problematic variables from the PCR because the correlation matrix turns out to be "not positive definite". May we get some guidance as to how said problematic variables are identified?

Thank you in advance.

Klaren

Reference: <https://dhsprogram.com/pubs/pdf/FA53/FA53.pdf>

Subject: Re: Not positive definite correlation matrix
Posted by [Janet-DHS](#) on Wed, 15 Jun 2022 13:01:30 GMT
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Following is a response from DHS Research & Data Analysis Director, Tom Pullum:

"Not positive definite" means that a matrix cannot be inverted because the components are too highly correlated with one another. It's equivalent to "multi-collinearity". When this happens during the construction of the wealth index with principal components analysis, I believe it is basically a judgment call how to reduce the number of variables. I don't believe there is any formal guidance on what to keep and what to drop--and I don't think it would make much difference, because multi-collinearity just means that the variables are duplicating each other.
