"Home Environment for Protection" index:

Measuring the ability of Young Lives households to comply with prevailing recommendations for household protection from Coronavirus[1]

With no vaccination currently available to slow the spread of COVID-19, much importance has been placed on measures which promote the physical separation (distancing) of individuals or households from each other, plus frequent handwashing with soap.[2] Many countries have imposed mandatory lockdown (shelter-in-place) conditions requiring individuals to remain at home for all but essential activities. However, the capacity to comply with such measures depends to a large extent on the characteristics of the home and its ability to provide protection for sustained periods of time.

The "Home Environment for Protection index for dwelling attributes" (HEP) index , created by Brown et al. (2020) is intended to measure how effectively an individual's home provides protection from the coronavirus and limits the need to travel outdoors. The Young Lives index is based on the HEP, modified slightly to take into account data availability and local context, following feedback from our country teams. A complete version of the Young Lives HEP index will be calculated from the second COVID-19 phone survey (currently underway). However, a more basic version of the index is used in analysing information from the first COVID-19 phone survey, using previously collected information from Round 5 and including four of the six conditions considered in the original index.

The Brown et al. HEP index

The original HEP index for dwelling attributes (Brown et al., 2020), required the following six conditions for a home to comply with recommendations for protection against the virus.[3]

1. The household has at least one of the following: internet, a phone, TV, or radio.
2. No more than two people per sleeping room (for social distancing within the household).
3. The household has a toilet and does not have to share it with other households.
4. The dwelling has walls and a ceiling, implying it can be adequately closed off.
5. The household has a water source in the dwelling or the yard (limiting travel outdoors).
6. The household has a place for handwashing with soap.

The HEP index shows the percent of a given population achieving a (stipulated) minimum number of conditions. E.g., the HEP index for full compliance reports the % of who fulfil all six conditions.

The Young Lives basic HEP index (Basic YL-HEP)

The basic version of the YL-HEP index uses information from Round 5. This version only includes four of the six conditions listed above.[4] The analogous four conditions are as follows:

1. The household has at least one of the following: laptop/computer, working television, working radio
2. No more than two people per room (not including kitchen, bathroom, passage, garage, warehouse, rooms with non-permanent separations)
3. The household has a flush toilet or a private pit latrine

[1] Note prepared by Douglas Scott with Marta Favara and Catherine Porter. Latest version 24th July, 2020.
[2] https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public
[3] It should be noted that the first condition relates to the ability to receive information on health guideline and announcements, as opposed to protection directly.
[4] The information on these two omitted conditions (4 and 6) was either not recorded in Round 5 or was not recorded in a way that was suitable for generating the required information.

4. The household has piped water into the dwelling/yard/plot

The listed conditions are used to generate a household-specific index value, as opposed to the proportion of the sample used in Brown et al. (2020). To do this, we calculate the index value for each household as the % of conditions fulfilled. For example, this implies possible index values of 0, 0.25, 0.5, 0.75 and 1.

Considering the Basic YL-HEP, the likelihood of a home possessing the required characteristics for protection is shown to decline with household wealth status (as measured by the Young Lives wealth index – Round 5).[5]

Table 1: Correlation between Basic YL-HEP and YL Wealth Index

	Correlation HEP and Wealth index	Mean HEP value Wealth tercile 1	Mean HEP value Wealth tercile 2	Mean HEP value Wealth tercile 3
Ethiopia	0.53	0.33	0.46	0.62
India	0.66	0.40	0.58	0.78
Peru	0.41	0.82	0.90	0.96
Vietnam	0.74	0.58	0.78	0.91

Notes: Column 1 reports Pearson's Correlation Coefficient. Both indices derived from Round 5 data.

The Young Lives complete HEP index (Complete YL-HEP)

The complete version of the Young Lives HEP index, based on information to be obtained during the second COVID-19 phone survey, will be closer to the original Brown et al. index. In this case the following conditions will be included:

1. The household has at least one of: Access to the internet at home through computer, working television, working radio, working smartphone
2. No more than two people per room (not including kitchen, bathroom, passage, garage, warehouse, rooms with non-permanent separations)
3. The household has a private toilet within the dwelling/yard/plot
4. The dwelling has complete walls and a roof
5. The household has a private water source within the dwelling/yard/plot
6. The household always has access to soap/sanitiser when needed

It is expected that the complete index will display the same relationship between wealth status and the capacity of the home to provide protection, again implying that poorer individuals will be less able to follow recommendations intended to avoid the spread of COVID-19.

References

Briones, K. (2017). 'How many rooms are there in your house?' Constructing the Young Lives wealth index. Young Lives Technical Note 43.

Brown, C.S., Ravallion, M. and Van de Walle, D. (2020) Can the World's Poor Protect Themselves from the New Coronavirus? NBER Working Paper No. 27200, May 2020.

[5] The Young Lives Wealth index comprises information on household ownership of consumer durables, its housing quality and access to services, and is calculated on a scale of 0 to 1. It has been collected in every round of the YL Survey. For more details please see Briones (2017).