

GALLUP®

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## Worldwide Research

### Methodology and Codebook



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## Methodology Overview

Gallup's World Poll continually surveys residents in more than 150 countries and areas, representing more than 98% of the world's adult population, using randomly selected, nationally representative samples. Gallup typically surveys 1,000 individuals in each country or area, using a standard set of core questions that has been translated into the major languages of the respective country. In some regions, supplemental questions are asked in addition to core questions.

Face-to-face interviews are approximately 1 hour, while telephone interviews are about 30 minutes. In many countries, the survey is conducted once per year, and fieldwork is generally completed in two to four weeks. The Country Dataset Details document displays each country's sample size, month/year of the data collection, mode of interviewing, languages employed, design effect, margin of error and details about sample coverage.

Gallup is entirely responsible for the management, design and control of Gallup's World Poll. For more than 80 years, Gallup has been committed to the principle that accurately collecting and disseminating the opinions and aspirations of people around the globe is vital to understanding our world. Gallup's mission is to provide information in an objective, reliable and scientifically grounded manner. Gallup is not associated with any political orientation, party or advocacy group and does not accept partisan entities as clients. Any individual, institution or governmental agency may access the Gallup World Poll regardless of nationality. The identities of clients and all surveyed respondents remain confidential.

## Preparing for Data Collection

### Question Design

Gallup develops its questions using a global network of research and political scientists<sup>1</sup> who understand key issues concerning question development and construction and data gathering. The organization has developed, tested, piloted and finalized thousands of questions since the World Poll's inception. Gallup retained the best questions for the core World Poll questionnaire and organized them into indexes. Most of the items have a simple dichotomous ("yes or no") response set to minimize cultural differences in response styles and to facilitate cross-cultural comparisons.

The Gallup World Poll measures key indicators such as law and order, food and shelter, job creation, migration, financial life, personal health, civic engagement and evaluative wellbeing that are related to other world development indicators. These indicators assist leaders in understanding the broad context of national interests, and establish specific relationships between indexes and lagging economic outcomes.

Gallup organizes its core group of indicators into the Gallup World Path (see Appendix B). The Path is an organizational conceptualization of seven indexes and should not be construed as a causal model. The individual indexes have many properties of a strong theoretical framework. A more in-depth description of the questions and Gallup indexes is included in the indexes section of this document.

In addition to the World Path indexes, Gallup World Poll questions also measure opinions about national institutions, corruption, youth development, community basics, diversity, optimism, communications and other topics. In many regions of the world, Gallup asks additional questions that are specific to that region or a country.

### Translation

The questionnaire is translated into the major conversational languages of each country. The translation process starts with an English, French or Spanish version, depending on the region. One of two translation methods may be used:

**METHOD 1:** Two independent translations are completed. An independent third party, with some knowledge of survey research methods, adjudicates the differences. A professional translator translates the final version back into the source language.

**METHOD 2:** A translator translates into the target language, and an independent translator back-translates into the source language. An independent third party with knowledge of survey methods reviews and revises the translation as necessary.

Interviewers are instructed to follow the interview script and may not deviate from the translated language.

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<sup>1</sup> The Brookings Institution, World Bank, USAID, United Nations, Daniel Kahneman, Ed Diener, Deepak Chopra, Richard Florida, John Helliwell, Jeffrey Sachs and Arthur Stone were consulted as part of the World Poll project.

## Training and Field Quality Control

Gallup selects vendors based on experience in nationwide survey research studies and conducts in-depth training sessions with local field staff prior to the start of data collection. To assist the fieldwork team with training and to ensure consistency and structure, Gallup provides a standardized training manual. Topics covered in training include:

1. Standards for conducting a quality interview:
  - Closed-ended questions
  - Open-ended questions
  - Read and rotate
  - Skip patterns
  - Probing
2. Random route procedures:
  - Selecting a starting point
  - Household selection and substitution
  - Within household selection
  - Kish grid
  - Tracking sheets

## Sampling and Data Collection Methodology

With some exceptions, all samples are probability based and nationally representative of the resident adult population. The coverage area is the entire country including rural areas, and the sampling frame represents the entire civilian, non-institutionalized, aged 15 and older population. Exceptions include areas where the safety of interviewing staff is threatened, scarcely populated islands in some countries, and areas that interviewers can reach only by foot, animal or small boat.

Gallup uses telephone surveys in Northern America Western Europe, developed Asia, and Gulf Cooperation Council (GCC) countries. (See the Country Dataset Details document for detailed information on each country.) In Central and Eastern Europe, much of Latin America, former Soviet states, nearly all of Asia, the Middle East and Africa, an area frame design is used for face-to-face interviewing.

The typical Gallup World Poll survey includes interviews with at least 1,000 individuals. In some countries, Gallup collects oversamples in major cities or areas of special interest. Additionally, in some large countries, such as China and Russia, sample sizes include at least 2,000 adults. Although rare, in some instances, the sample size falls between 500 and 1,000. See the Country Dataset Details document for detailed information for each country or area.

### Face-to-Face Survey Design

#### First Stage: Stratification and sampling

In countries where face-to-face surveys are conducted, sampling units are stratified by population size and or geography and clustering is achieved through one or more stages of sampling. Where population information is available, sample selection is based on probabilities proportional to population size, otherwise, simple random sampling is used. Samples are drawn independently of any samples drawn for surveys conducted in previous years. The goal is to identify 100 to 125 ultimate clusters (sampling units), consisting of clusters of households.

For face-to-face surveys, Gallup uses three different sampling approaches, depending on the available population information:

##### Method 1:

In countries where Gallup has detailed population information from a recent Census or other reliable source, it uses a stratified single stage or multiple-stage cluster design. Sampling units are selected using probabilities proportional to population size for each sampling stage down to 100 to 125 ultimate clusters, with a fixed number of interviews (eight or 10) completed in each ultimate cluster. If a multiple stage of selection is used, a minimum of 33 Primary Sampling Units (PSUs) are selected.

##### Method 2:

In countries with limited population information (for example, population data available at the state, province or district level), Gallup uses a stratified multiple stage cluster design. PSUs are selected using probabilities proportional to size and units at subsequent stages are selected using simple random sampling. At least 33 PSUs are selected at the first stage of sampling, with 100 to 125 ultimate clusters selected at the last stage of sampling.

##### Method 3:

In countries where only overall population information is available at the strata level (broad geographies/regions or population density) and below that just the name of units down to the lowest administrative unit, Gallup uses a stratified single stage cluster design. PSUs (for example, wards or villages) are selected using simple random sampling. The sample design results in 100 to 125 PSUs/ultimate clusters.



## Second Stage: Household selection

Random route procedures are used to select sampled households. In each ultimate cluster, the supervisor or field manager has pre-selected a starting point/address for the interviewer. Once the interviewer reaches the starting point, he or she will need to follow strict rules to determine the households he or she will need to visit to attempt an interview.

*Definition of a Household:* All interviews will take place at a person's home, which can be anything from a one-room flat to a single house. To be eligible, a household has to have its **own cooking facilities**, which could be anything from a standing stove in the kitchen to a small fire in the courtyard.

*Movement From the Starting Point:* Once at the given starting point, the interviewer will have to place his or her **back** to the (main) entrance of the structure and move to the right (rule: *always go to the right*). Counting **three** households (excluding the starting point), the interviewer will attempt a contact at the third household. This household is the **main** household where the interviewer will make up to three attempts to secure an interview with a household member. Unless an outright refusal occurs, interviewers may make up to three attempts to survey the household.

After visiting this first main household, the interviewer will continue to select the third household to the right, and so on. If the interviewer is not successful in completing an interview at a selected household, it is replaced with another household using the same procedure.

The interviewer should count individual households and not houses, as a house/building can contain numerous individual households. The interviewer will not count unoccupied structures.

Group quarters are generally institutions and other group living arrangements such as rooming houses, dormitories and military barracks. Group quarters are excluded from this survey.

## Third Stage: Respondent selection

After a person in the household, aged 15 or older, has agreed to an interview, the interviewer's next step is to randomly select the respondent within the household. The interviewer lists all household members age 15+ who live in the household. The CAPI (Computer Assisted Personal Interviewing) system then randomly selects the household member to be interviewed. (For countries or areas where paper and pencil interviewing are employed, the Kish grid selection is used.)

If the selected respondent is temporarily unavailable, the interviewer will revisit the household at another time. If the selected respondent refuses to take part in an interview or is unavailable for the remainder of the field period, the household is replaced with another household (following the random route procedure). The interviewer cannot interview any other person of the household. In a few Middle Eastern and Asian countries where cultural restrictions dictate gender matching, respondents are randomly selected among all eligible adults of the matching gender.





## Telephone Survey Design

In countries where interviews are conducted by telephone, Gallup uses random-digit-dialing (RDD) or a nationally representative list of phone numbers. Gallup typically uses a dual sampling frame (landline and mobile telephone). In some countries, the sampling frame is mobile telephone only (for example, Libya and Finland). The split between expected landline and mobile completes in a dual-frame design is based on information Gallup has on landline and mobile use in those countries, either from past surveys or other secondary data. Notable exceptions are Gulf Cooperation Council (GCC) countries, where the use of landline telephones is dwindling.

For respondents contacted by landline telephone, random respondent selection within the household (among eligible respondents aged 15 and older) is performed by:

- asking for the person aged 15 and older who has the next birthday, or
- listing all eligible household members, and random selection of the respondent by the CATI program

Over different days and times of day, interviewers make at least five attempts to reach a person and complete an interview in each household.

## Panel Survey Design

Prior to 2009, U.S. data were collected using the Gallup Panel. The Gallup Panel is a probability-based, nationally representative panel, for which all members are recruited via random-digit-dial methodology. The Gallup World Poll panel survey was conducted over the telephone and took approximately 30 minutes. No incentives were given to panel participants.

## Data Preparation

The dataset goes through a rigorous quality assurance process before it is publicly released. Gallup's directors of survey research in each region of the world review the data for consistency and stability by interviewer and region. If the regional director suspects a problem, it may be necessary to collect new data.

After the regional directors review the data, Gallup scientists perform additional validity reviews. The data are centrally aggregated and cleaned, ensuring correct variable codes and labels are applied. The data are then reviewed in detail for logical consistency and trends over time. Once the data are cleaned, weighted and vetted, the final step is to calculate approximate study design effect and margin of error.

### Data Weighting

Data weighting is used to minimize bias in survey-based estimates, to ensure samples are nationally representative for each country and is intended to be used for generating estimates within a country. The weighting procedure was formulated based on the sample design and performed in multiple stages.

In countries where data are collected face-to-face, first Gallup constructs sampling weights to account for any disproportionality in selection of primary and subsequent levels of sampling within each strata. Sampling weights beginning in 2021 are calculated to account for any disproportionalities in allocation, selection probabilities of PSUs, SSUs and households within the ultimate cluster. Next, within selected households, weighting by household size (number of residents aged 15 and older) is used to adjust for the probability of selecting a single adult in each selected household, as residents in larger households will have a disproportionately lower probability of being selected for the sample. The product of these two steps constitutes the base weight. ***Adjustment to the calculation of sampling weights is a new improvement to the weighting process in 2021 and is being implemented in all face-to-face countries.***

In countries where data are collected via telephone, Gallup constructs a probability weight factor (base weight) to account for selection of telephone numbers from the respective frames and correct for unequal selection probabilities as a result of selecting one adult in landline households and for dual-users coming from both the landline and mobile frame. ***Adjustment to selection probabilities reflecting the relative frame sizes is a new improvement to the weighting process in 2020 and is being implemented in all telephone countries.***

Next, the base weights are post-stratified to adjust for non-response and to match the weighted sample totals to known target population totals obtained from country level census data. Gallup makes non-response adjustments to gender, age, and, where reliable data are available, education or socioeconomic status.

Finally, approximate study design effect and margin of error are calculated (calculations are presented in the Country Dataset Details document). The design effect calculation reflects the influence of data weighting.

## Margin of Error

The maximum margin of error is calculated based on reported proportions for each country-level dataset, assuming a 95% confidence level. The margin of error also includes the approximate design effect for the total country sample.

**Figure 1: Excerpt of Data From Country Dataset Details**

Country	Data Collection Date	Number of Interviews	Design Effect	Margin of Error	Mode of Interview	Languages	Over-sample	Exclusions
New Zealand	Feb 27 – Apr 28, 2017	1,001	1.48	3.8	Landline and Mobile Telephone	English		
Nigeria	Apr 4 – Apr 28, 2017	1,000	1.55	3.9	Face to Face (HH)	English, Hausa, Igbo, Pidgin English, Yoruba		The states of Adamawa, Borno and Yobe were under a state of emergency due to Boko Haram activity and were excluded for safety and security reasons. These states represent 7% of the population.
Pakistan	Mar 20 – May 3, 2017	1,600	1.43	2.9	Face to Face (HH)	Urdu		
Saudi Arabia	Apr 30 – May 24, 2017	1,002	1.54	3.8	Landline and Mobile Telephone	Arabic, English		Includes Saudis, Arab expatriates, and non-Arabs who were able to complete the interview in Arabic or English.

Figure 1 displays the design effect and margin of error for each country dataset. As an example, use the country data for Pakistan collected in 2017. For reported percentages based on the total country dataset (not subset), the margin of error is  $\pm 2.9$  percentage points. This means that if the survey was conducted 100 times using the exact same procedures, the “true value” around a reported percentage of 50% would fall within the range of 47.1% to 52.9% in 95 out of 100 cases.

Because these surveys are a clustered sample design, the margin of error varies by question, and if the data user is making decisions based on the margin of error, he or she should consider inflating the margin of error. Further, in countries where gender-matched interviewing was implemented, the margin of error should be inflated to approximate the effect of non-random procedures during the final stage of sampling.

Other errors that can affect survey validity include measurement error associated with the questionnaire, such as translation issues, and coverage error, where a part of the target population has a zero probability of being selected for the survey. Additionally, because of authoritarian governments in select countries, respondents may be less than forthcoming in their assessments, leading to the potential for inflated scores.

## Changes to World Poll Methodology in 2020 Because of COVID-19

As the scale of the coronavirus pandemic became clear in March 2020, Gallup paused global data collection to thoroughly assess risk and prepare contingency plans for data collection. Gallup prioritizes the health and wellbeing of the communities where we work when making decisions. By May, the continued prevalence of COVID-19 made it clear that there was too much risk of community transmission to conduct face-to-face data collection in 2020 for the World Poll. With the goal of establishing a path for clients to have access to global data during these unprecedented times, Gallup prepared a contingency methodology based entirely on telephone interviewing. In designing the new approach, our key considerations were safety of interviewers and respondents, retaining high levels of representativity, and ensuring high quality of data collection. Countries were selected for inclusion based on client interest, their population size, phone penetration rates, and our local partner's ability to execute Computer Assisted Telephone Interviewing (CATI) aligned with Gallup's quality assurance standards. With more than 100 countries included, the 2020 World Poll represents more than 90% of the global adult population.

As a standard practice, Gallup and our partners comply with all government-issued guidance from local authorities and have taken this guidance into account throughout the interviewing process, including following social distancing measures for telephone interviews.

### Training and Field Quality Control

Gallup selects and retains in-country partners based on their experience in nationwide survey research studies in the mode that is typically appropriate for the country. We also conduct in-depth and often in-person training sessions with local field staff prior to the start of data collection. However, in a limited number of countries, Gallup had to replace or augment the in-country partner who managed data collection for World Poll in prior years. We conducted all training remotely using available technologies such as e-learning and video conferencing. The changes were largely necessary to address lack of telephone data collection experience, technical and infrastructural limitations as well as compressed timelines. To assist the fieldwork team with training and to ensure consistency and structure, Gallup provided a standardized training manual. Topics covered in training included:

1. Standards for conducting a quality interview:
  - Closed-ended questions
  - Open-ended questions
  - Read and rotate
  - Skip patterns
  - Probing
2. Respondent selection and disposition coding
  - Within household selection for those reached on landline and on mobile in countries where telephone coverage is low
  - Contact outcome coding for each telephone attempt
  - Sample release and management
3. Recruitment and retention of interviewers and field quality control
  - Characteristics of a successful interviewer/motivation for retention
  - Requirements for setting up remote data collection
  - Monitoring sample performance and interviewer productivity

## Sampling and Data Collection Methodology

All samples are probability based and nationally representative of the resident adult population. As all eligible landline exchanges and valid mobile service providers are included, coverage area is the entire country including rural areas. The sampling frame represents adults aged 15 and older with access to a phone (either landline or mobile).

### Traditional Telephone Countries

Gallup typically uses dual-frame (landline and mobile telephone) Computer-Assisted Telephone Interviewing (CATI) as a mode of data collection in Northern America Western Europe, developed Asia, and Gulf Cooperation Council (GCC) countries. In some countries, the sampling frame is mobile telephone only (for example, Libya and Finland). The split between expected landline and mobile completes in a dual-frame design is based on the information Gallup has on landline and mobile use in those countries either from past surveys, from other secondary data, as well as the demographic distribution of the final landline/mobile sample in relation to targets. There are a few notable exceptions, including GCC countries. As a result in 2020, the United Arab Emirates is exclusively mobile RDD. There are no other changes to the design, stratification or execution of the telephone samples in traditional telephone countries.

In traditional telephone countries, respondent selection follows the same procedure as in previous years:

- For respondents contacted by landline telephone, random respondent selection is performed within the household (among eligible respondents aged 15 and older), either by asking for the person aged 15 or older who has the next birthday or randomly selecting a respondent from a list of all eligible household members.
- For respondents contacted by mobile telephone, no further selection is performed (other than confirming respondent is at least 15 years of age).

### New Telephone Countries

In countries where interviews are being conducted by telephone for the first time (previously face-to-face countries in Central and Eastern Europe, Latin America, former Soviet states, developing Asia, the Middle East and Africa), Gallup is using one of two methods:

- dual-frame (landline and mobile telephone) RDD, where landline presence and use is 20% or higher based on historical Gallup estimates, or
- mobile telephone RDD in countries with limited to no landline presence (<20%).

To ensure greater transparency and control over the sampling process, RDD samples for all the new telephone countries, except for Israel and Uzbekistan, were purchased from a single source. Stratification of landline frame is by geography and where market share information for mobile service providers is known, the mobile frame is explicitly stratified by the service providers and sample drawn proportional to the market share. In all of the new telephone countries, samples are screened for working status. Sampled landline and mobile phone numbers that are deemed working are replicated separately and released sequentially as appropriate.

In new telephone countries with combined landline/mobile telephone coverage of 80% or higher, these same respondent selection procedures are applied.

- For respondents contacted by landline telephone, random respondent selection is performed within the household (among eligible respondents aged 15 and older), either by asking for the person aged 15 or older who has the next birthday or randomly selecting a respondent from a list of all eligible household members.
- For respondents contacted by mobile telephone, no further selection is performed (other than confirming respondent is at least 15 years of age).

In new telephone countries with low combined landline/mobile telephone coverage (below 80%), random respondent selection within the household (among eligible household members aged 15 and older) is performed, regardless if the respondent was contacted by landline or mobile telephone.

### Scripting and Testing

In traditional telephone countries, local data collection partners continue to program the surveys and Gallup continues to test them for accuracy prior to launch.

In the new telephone countries, to ensure consistency in programming of the surveys, Gallup used one of two methods in each country. Local data collection partners using their own CATI data collection platform prepared their own script and provided Gallup with links to test the program logic and generate synthetic data used to confirm that the questionnaire was programmed correctly. For the remaining countries, Gallup scripted all of the country surveys and tested them in both English and local language before making them available to local data collection partners.

### New Weighting Adjustment in 2020

For all telephone countries (both traditional telephone countries and new telephone countries), a new weighting procedure is being implemented in 2020. See Page 10 “Data Weighting” for a description of the telephone weighting procedure. The change is the additional adjustment by frame size in calculation of the base weight:

- In countries where data are collected via telephone, Gallup constructs a probability weight factor (base weight) to account for selection of telephone numbers from the respective frames and correct for unequal selection probabilities as a result of selecting one adult in landline households and for dual-users coming from both the landline and mobile frame. ***Adjustment to selection probabilities reflecting the relative frame sizes is a new improvement to the weighting process in 2020 and is being implemented in all telephone countries.***

## Changes to World Poll Methodology in 2021 Because of Ongoing Concerns With COVID-19

In many ways the climate for data collection is not very different from what it was in 2020. Several countries are still struggling to get their populations vaccinated and sporadic lockdowns still occur in many parts of the world. Continuing our focus on prioritizing the health and wellbeing of communities, Gallup carefully reviewed the situation in each country and determined which countries were safe to return to in-person data collection with appropriate safety measures in place, which ones to continue with CATI data collection and the ones that would not be included in the 2021 data collection roster. Countries were selected for inclusion based on client interest, their population size, phone penetration rates, COVID presence and our local partner's ability to execute Computer Assisted Telephone Interviewing (CATI) or face-to-face CAPI data collection aligned with Gallup's quality assurance standards. With more than 100 countries included, the 2021 World Poll represents more than 90% of the global adult population.

As a standard practice, Gallup and our partners comply with all government-issued guidance from local authorities and have taken this guidance into account throughout the interviewing process, including following social distancing measures for telephone interviews.

### Training and Field Quality Control

Gallup selects and retains in-country partners based on their experience in nationwide survey research studies in the mode that is typically appropriate for the country. We also conduct in-depth and often in-person training sessions with local field staff prior to the start of data collection. However, in a limited number of countries, Gallup had to replace or augment the in-country partner who managed data collection for World Poll in prior years. Given the continued impact of COVID on travel, we conducted all training remotely using available technologies such as e-learning and video conferencing.

### Sampling and Data Collection Methodology

All samples are probability based and nationally representative of the resident adult population. Data were collected over the telephone using Computer-Assisted Telephone Interviewing (CATI), or face-to-face typically using Computer-Assisted Personal Interviewing (CAPI).

### Traditional Telephone Countries

Gallup typically uses dual-frame (landline and mobile telephone) Computer-Assisted Telephone Interviewing (CATI) as a mode of data collection in Northern America, Western Europe, developed Asia, and Gulf Cooperation Council (GCC) countries. In some countries, the sampling frame is mobile telephone only (for example, Libya and Finland). In 29 traditional telephone countries, respondent selection follows the same procedure as in previous years:

- For respondents contacted by landline telephone, random respondent selection is performed within the household (among eligible respondents aged 15 and older), either by asking for the person aged 15 or older who has the next birthday or randomly selecting a respondent from a list of all eligible household members.
- For respondents contacted by mobile telephone, no further selection is performed (other than confirming respondent is at least 15 years of age).

### New (Interim) Telephone Countries

In 2021 we continued to use telephone data collection in 39 countries that were typically conducted face-to-face (previously face-to-face countries in Central and Eastern Europe, Latin America, former Soviet states, developing Asia, the Middle East and Africa). As in 2020, Gallup is using one of two methods:



- dual-frame (landline and mobile telephone) RDD, where landline presence and use is 20% or higher based on historical Gallup estimates, or
- mobile telephone RDD in countries with limited to no landline presence (<20%).

To ensure greater transparency and control over the sampling process, RDD samples for all the new telephone countries, were purchased from a single source. Stratification of landline frame is by geography and where market share information for mobile service providers is known, the mobile frame is explicitly stratified by the service providers and sample drawn proportional to the market share. In all of the new telephone countries, samples are screened for working status. Sampled landline and mobile phone numbers that are deemed working are replicated separately and released sequentially as appropriate.

In new/interim telephone countries with combined landline/mobile telephone coverage of 80% or higher, these same respondent selection procedures are applied.

- For respondents contacted by landline telephone, random respondent selection is performed within the household (among eligible respondents aged 15 and older), either by asking for the person aged 15 or older who has the next birthday or randomly selecting a respondent from a list of all eligible household members.
- For respondents contacted by mobile telephone, no further selection is performed (other than confirming respondent is at least 15 years of age).
- In China, Gabon and the Philippines an *oldest male/youngest female respondent selection method* was administered in an attempt to minimize gender and age skews over telephone.

In new/interim telephone countries with low combined landline/mobile telephone coverage (below 80%), random respondent selection within the household (among eligible household members aged 15 and older) is performed, regardless of whether the respondent was contacted by landline or mobile telephone.

### Face-to-Face Countries

In 2021, we returned to face-to-face interviewing in 51 countries (vast majority of countries in sub-Saharan Africa, and some countries in Central and Eastern Europe, Latin America, former Soviet states, developing Asia, and the Middle East). In person countries are collected using Computer-Assisted Personal Interviewing (CAPI), except in Afghanistan and Iraq, where due to security reasons, part of the data were collected using PAPI. All interviewers were instructed to follow the guidelines provided by Gallup around safety protocols and social distancing during data collection.

### New Weighting Adjustment in 2021

For all face-to-face countries, an enhanced weighting procedure was implemented in 2021. See Page 10 “Data Weighting” for a description of the weighting procedure. The change is the additional adjustment to account for multiple stages of selection including households in calculation of the base weight:

- In countries where data are collected face-to-face, first Gallup constructs sampling weights to account for any disproportionality in selection of primary and subsequent levels of sampling within each strata. Sampling weights beginning in 2021 are calculated to account for any disproportionalities in allocation, selection probabilities of PSUs, SSUs and households within the ultimate cluster. Next, within selected households, weighting by household size (number of residents aged 15 and older) is used to adjust for the probability of selecting a single adult in each selected household, as residents in larger households will have a disproportionately lower probability of being selected for the sample. The product of these two steps constitutes the base weight.  
***Adjustment to the calculation of sampling weights is a new improvement to the weighting process in 2021 and is being implemented in all face-to-face countries.***

## Education and Income: Creating Worldwide Comparability

The ways that income and education are reported vary by country, making equivalent cross-cultural comparisons difficult. Gallup harmonized education variables and consulted with Gallup Senior Scientist Angus Deaton<sup>2</sup> to create income variables. In doing so, Gallup has created a worldwide dataset with standardized respondent-level education and income data.

### Education

Countries have unique ways of classifying education levels, and these classifications need to be preserved during data collection for weighting purposes. However, to make comparisons across countries by educational attainment, consistent categories also needed to be created. All education descriptions can be placed within three categories: elementary, secondary and tertiary. All responses regarding education are coded into their relevant category for global comparison.

- **Elementary:** Completed elementary education or less (up to eight years of basic education)
- **Secondary:** Completed some secondary education up to three years tertiary education (nine to 15 years of education)
- **Tertiary:** Completed four years of education beyond “high school” and/or received a four-year college degree

### Income

As of December 2016, Gallup has updated all historical income data:

- This revision included reassigning income values for respondents who provided an income range, and imputing values for respondents who do not provide any income. Previously, the data included 1) range midpoints as income values for respondents who provided an income range, and 2) imputed income values for missing data using a regression approach. Gallup has have updated the predictor variables and the method used for imputing missing income is now hot deck imputation.
- For International Dollar estimates, all waves of income data were updated using the latest PPP (Purchasing Power Parity) estimates available (based on the 2011 ICP report), and all years have been estimated to the 2016 U.S. dollar. All years of data are on the same metric and comparable.

### How Gallup Measures Income

To provide household income measurements that are comparable across countries, Gallup asks respondents two questions. The respondent who answers these questions is the one randomly selected from the household in the final stage of sampling. The first question asks respondents about their monthly household income in local currency before taxes. Respondents are instructed to include all income from all wages and salaries in the household, remittances from family members living elsewhere, and all other sources. In Organization for Economic Co-operation and Development member countries, the question sometimes asks about annual rather than monthly income.

If respondents hesitate to answer or have difficulty answering the first question, they are presented with a set of income ranges in their local currency and are asked which group they fall into.

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<sup>2</sup> Thank you to Angus Deaton for his expertise and input during the creation of income variables. Angus Deaton, Ph.D., is a Gallup Senior Scientist and the Dwight D. Eisenhower Professor of International Affairs and Professor of Economics and International Affairs at the Woodrow Wilson School of Public and International Affairs and the Economics Department at Princeton University.

- *What is your total MONTHLY household income in (country), before taxes? Please include income from wages and salaries, remittances from family members living elsewhere, farming, and all other sources.*
- *(If don't know or refused, ask: ) Would you say your total MONTHLY household income is \_\_\_\_\_ ?*

Estimates for respondents answering the second income question are computed using hot deck imputation, but restricting imputing values to the reported range. Estimates for respondents who did not answer either income question are imputed using the same method, with no restriction of range. In this imputation process, each missing value is replaced with an observed value from another unit that has characteristics similar to the missing unit.

Estimates of household income are expressed in both local and International Dollars. Local income is converted to International Dollars using the World Bank's individual consumption PPP conversion factor, making income estimates comparable across all countries. From the two questions Gallup asks, several income variables are created. For further explanation of income variable calculation and imputation procedures, see Appendix C.

Gallup researchers calculate the following income variables:

- Annual Household Income in Local Currency (INCOME\_1)
- Annual Household Income in International Dollars (INCOME\_2)
- Per Capita Annual Income in Local Currency (INCOME\_3)
- Per Capita Annual Income in International Dollars (INCOME\_4)
- Per Capita Income Quintiles (INCOME\_5)
- Reported Versus Imputed Values (INCOME\_7)
- Total Number of People Living in Household (HHSIZE)

## Employment

Gallup has released employment measures, starting with 2009 figures, as part of the World Poll dataset. Gallup collects employment information using identical questions worldwide and standardizes calculations, making equivalent cross-national comparisons possible.

### Gallup's Research and Development of Employment Metrics

In 2009, Gallup began developing and testing a question series that measures key employment metrics as outlined by International Conference of Labour Statisticians' standards. The questionnaire went through several revisions before Gallup implemented a final version. Gallup has collected data on a nightly basis in the U.S. since April 2009, and the data collected in the U.S. are in line with those the Bureau of Labor Statistics (BLS) reported during the same time period. Not only are Gallup's unadjusted numbers highly correlated with BLS numbers, but Gallup's unemployment data are also highly predictive of the official seasonally adjusted figures the BLS reports each month.

### Categories of Employment (EMP\_2010)

Gallup classifies respondents into one of six categories of employment based on a respondent's combination of answers to a series of questions about employment. Respondents worldwide are asked an identical series of questions and classification calculations for each respondent and country-level aggregates are also standardized.

#### Employed Full Time for an Employer

A respondent is considered employed full time for an employer if he or she is employed by an **employer** and if he or she works for this employer for at least 30 hours per week.

#### Employed Full Time for Self

Respondents are considered employed full time for themselves if they are self-employed and if they work for at least 30 hours per week.

#### Employed Part Time, Do Not Want to Work Full Time

Respondents who work either for an employer or themselves and do not work more than 30 hours per week at either job are categorized as employed part time. Additionally, when asked, these respondents indicated that they **do not** want to work more than 30 hours per week.

#### Employed Part Time, Want to Work Full Time

Respondents who work either for an employer or themselves and do not work more than 30 hours per week at either job are categorized as employed part time. Additionally, when asked, these respondents indicated that they **do** want to work more than 30 hours per week.

## **Unemployed**

A respondent is unemployed if he/she reports not being employed in the last seven days, either for an employer or for himself or herself. The respondent must also report actively looking for a job in the past four weeks AND being able to begin work in the last four weeks.

## **Out of the Workforce**

Respondents who are out of the workforce were not employed within the last seven days, either for an employer or for themselves, are not looking for work, AND/OR are not available to start work. Respondents may be full-time students, retired, disabled or homemakers; however, some respondents will not fall into any of these scenarios.

## **Employment Indexes**

In addition to the employment variable, Gallup also calculates four employment indexes: unemployment, underemployment, employed full time for an employer and labor force participation rate. The six-category employment variable categorizes *all* respondents. However, frequencies from EMP\_2010 are not comparable to traditional employment metrics, which are based on the workforce only. The employment indexes rebase the employment data to include only those in the workforce, and a country-level frequency of the employment index is the “rate” for that given measure. For example, the unemployment index can be interpreted as the “unemployment rate.”

### **Unemployment (EMP\_UNEMP)**

The Gallup Unemployment Rate is the percentage of respondents in the workforce who are not employed, who have been actively looking for work within the last four weeks, AND who say they would have been able to begin work in the last four weeks. Gallup’s unemployment measure is comparable to BLS and International Labour Organization unemployment calculations.

### **Underemployment (EMP\_UNDER)**

The Gallup Underemployment Index measures the percentage of respondents in the workforce who are working at desired capacity and those who are working at less than desired capacity. A respondent is “employed” if he or she is employed full time OR if he or she is working part time but does not want to work full time. Respondents are “underemployed” if they are employed part time but want to work full time OR if they are unemployed.

### **Employed Full Time for an Employer (EMP\_FTEMP)**

The Gallup Employed Full Time for an Employer Index measures the percentage of the workforce that is employed full time for an employer. A respondent is classified as employed for an employer if he or she works at least 30 hours per week for an employer.

### **Employed Full Time for an Employer — Percentage of Population (EMP\_FTEMP\_POP)**

This index measures the percentage of the population that is employed full time for an employer. Similar to how EMP\_FTEMP it is calculated based on the respondents who are employed full time for an employer at least 30 hours per week. However, rather than calculating a percentage based on the workforce, this index is calculated based on the total population.

### **Labor Force Participation Rate (EMP\_LFPR)**

The Labor Force Participation Rate Index is a measure of the percentage of the adult population that is part of the workforce. This includes people who are unemployed, as they desire to be active members of the workforce.

### **Total Number of Hours Work Per Week (EMP\_WORK\_HOURS)**

The total number of hours work per week includes hours worked for an employer or self, and categorizes them into five groups: Less than 15 hours per week, 15 to 29 hours per week, 30 to 39 hours per week, 40 to 49 hours per week, 50 or more hours per week. Data for this index are available starting with 2016.

## Overview of Gallup World Poll Indexes

Gallup indexes span multiple political, social and economic topics that make up the interconnected components of the Gallup World Path: Macroeconomics, a behavioral economic model for the well-being of societies. The indexes break down according to the elements of the Gallup World Path.

<b>Law and Order</b>	Law and Order Index
<b>Food and Shelter</b>	Food and Shelter Index
<b>Institutions and Infrastructure</b>	Community Basics Index National Institutions Index Youth Development Index Communications Use Index Communications Access Index Communications Index Corruption Index
<b>Good Jobs</b>	Job Climate Index
<b>Well-Being</b>	Financial Life Index Economic Confidence Index Local Economic Confidence Index Personal Health Index Social Life Index Civic Engagement Index Life Evaluation Index Positive Experience Index Negative Experience Index Daily Experience Index
<b>Brain Gain</b>	Community Attachment Index

The vast amount of data have allowed for the calculation of other indexes, which include the Diversity, and Corruption indexes. Because of government restrictions in some countries, interviewers could not ask select questions. If the missing question is part of an index, it may not have been possible to calculate an index score for that country.

Gallup scientists used Cronbach's alpha on country-level data to evaluate index reliability. For all indexes, this measure is .69 or greater, and for many it exceeds .85. Additionally, scientists correlated indexes at the country level with all Gallup World Poll indexes. Further, Gallup scientists used World Bank, CIA, United Nations and Freedom House measures to validate the indexes against external measures. See Appendix D for descriptions of external measures. The most relevant relationships for each index are detailed. All correlations are significant at the .01 level.



## Law and Order Index

The Law and Order Index measures security levels that respondents report. It incorporates four questions that gauge respondents' sense of personal security. Higher scores on this index indicate that more residents report feeling secure.

### Index Questions

- *In the city or area where you live, do you have confidence in the local police force? (WP112)*
- *Do you feel safe walking alone at night in the city or area where you live? (WP113)*
- *Within the last 12 months, have you had money or property stolen from you or another household member? (WP117)*
- *Within the past 12 months, have you been assaulted or mugged? (WP118)<sup>3</sup>*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedure applies: The four items are coded so that positive (or favorable) answers are scored a "1" and all other answers (including don't know and refused) are assigned a score of "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has scores for two out of four items. A record's final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Law and Order Index has a Cronbach's alpha of .75 when aggregated at the country level.

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<sup>3</sup> This item was added to the index calculation in 2016.

**Law and Order — Relationships With Other Measures**

<b>Gallup World Poll Index Measures</b>	<b>Pearson's r</b>
Community Attachment Index	.615
Community Basics Index	.645
Financial Life Index	.590
Food and Shelter Index	.648
Youth Development Index	.699

<b>External Measures (descriptions in Appendix D)</b>	<b>Pearson's r</b>
Adolescent fertility rate	-.637
GDP per capita, PPP	.577
Health expenditure per capita	.502
Improved sanitation facilities	.618
Intentional homicides	-.593
Internet users	.548
Life expectancy (total years)	.586
Maternal mortality ratio	-.544
Mortality rate, under-5	-.502
Mortality rate, infant	-.511

## Food and Shelter Index

The Food and Shelter Index assesses the ability people have to meet basic needs for food and shelter. Lower scores on this index indicate that more respondents reported struggling to afford food and shelter in the past year, while higher scores indicate fewer respondents reported such struggles.

As would be expected, respondents in wealthier countries are more likely than those in lesser developed nations to report difficulties in affording food and shelter. However, even in the wealthiest countries, some percentage of the population has struggled. The Food and Shelter Index serves as an effective summary measure and indicator of the prevalence of poverty across individuals in a group, country or region.

### Index Questions

- *Have there been times in the past 12 months when you did not have enough money to buy food that you or your family needed? (WP40)*
- *Have there been times in the past 12 months when you did not have enough money to provide adequate shelter or housing for you and your family? (WP43)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedure applies: The two items are recoded so that positive (or favorable) answers are scored a “1” and all other answers (including don’t know and refused) are assigned a score of “0.” If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has valid scores for both questions. A record’s final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Food and Shelter Index has a Cronbach’s alpha of .82 when aggregated at the country level.

**Food and Shelter — Relationships With Other Measures**

<b>Gallup World Poll Index Measures</b>	<b>Pearson's r</b>
Community Attachment Index	.682
Communications Access Index	.786
Communications Use Index	.804
Life Evaluation Index	-.637
Law and Order Index	.648
Personal Health Index	.612
Social Life Index	.627

<b>External Measures (descriptions in Appendix D)</b>	<b>Pearson's r</b>
Adolescent fertility rate	-.745
Adult literacy rate	.611
Age dependency ratio	-.622
GDP per capita, PPP	.694
Health expenditures per capita	.616
Improved sanitation facilities	.796
Improved water source	.697
Internet users	.846
Life expectancy	.832
Maternal mortality ratio	-.708
Mortality rate, under-5	-.759
Mortality rate, infant	-.772
Rural population	-.630
Urban population	.630

## Community Basics Index

The Community Basics Index evaluates everyday life in a community, including environment, housing and infrastructure. Because of the functional nature of the items that make up the index, it is practical to view it as a driver of more abstract constructs such as overall satisfaction with life in a community, or the likelihood that one is to recommend the community as a place to live, or the likelihood one is to leave the community. This approach is apparent in the relationships the index has with other Gallup World Poll indexes such as the Community Attachment Index.

### Index Questions

- *In the city or area where you live, are you satisfied or dissatisfied with the public transportation systems? (WP91)*
- *In the city or area where you live, are you satisfied or dissatisfied with the roads and highways? (WP92)*
- *In your city or area where you live, are you satisfied or dissatisfied with the quality of air? (WP94)*
- *In your city or area where you live, are you satisfied or dissatisfied with the quality of water? (WP95)*
- *In your city or area where you live, are you satisfied or dissatisfied with the availability of good affordable housing? (WP98)*
- *In the city or area where you live, are you satisfied or dissatisfied with the educational system or the schools? (WP93)*
- *In the city or area where you live, are you satisfied or dissatisfied with the availability of quality healthcare? (WP97)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedure applies: The seven items are recoded so that positive answers are scored as a “1” and all other answers (including don’t know and refused) are assigned a score of “0.” If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has valid scores for at least five of the seven items. A record’s final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Community Basics Index has a Cronbach’s alpha of .90 when aggregated at the country level.

## Community Basics — Relationships With Other Measures

Gallup World Poll Index Measures	Pearson's r
Community Attachment Index	.751
Daily Experience Index	.619
Economic Confidence Index	.593
Financial Life Index	.737
Life Evaluation Index	-.609
Law and Order Index	.645
Personal Health Index	.608
Social Life Index	.703
Youth Development Index	.854

External Measures (descriptions in Appendix D)	Pearson's r
GDP per capita, PPP	.581
Improved sanitation facilities	.592
Internet users	.556
Life expectancy	.597
Maternal mortality ratio	-.574
Mortality rate, under-5	-.567
Mortality rate, infant	-.569

## National Institutions Index

The National Institutions Index reflects citizens' confidence in key institutions prominent in a country's leadership: the military, the judicial system, the national government and the honesty of elections.

### Index Questions

- *Do you have confidence in each of the following, or not? How about the military? (WP137)*
- *Do you have confidence in each of the following, or not? How about the judicial system and courts? (WP138)*
- *Do you have confidence in each of the following, or not? How about the national government? (WP139)*
- *Do you have confidence in each of the following, or not? How about the honesty of elections? (WP144)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedure applies: The four items are recoded so that positive answers are scored as a "1" and all other answers (including don't know and refused) are assigned a score of "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has valid scores for at least two of the four items. A record's final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The National Institutions Index has a Cronbach's alpha of .87 when aggregated at the country level.



### National Institutions — Relationships With Other Measures

Gallup World Poll Index Measures	Pearson's r
Corruption Index	-.577
Economic Confidence Index	.655
Job Climate Index	.586
Youth Development Index	.607

External Measures (descriptions in Appendix D)	Pearson's r
Health expenditures	.361
Long-term unemployment	-.378

## Youth Development Index

The Youth Development Index measures a community's focus on the welfare of its children. This index includes general measures of development of youth and respect for youth, along with satisfaction with the educational system.

### Index Questions

- *In the city or area where you live, are you satisfied or dissatisfied with the educational system or the schools? (WP93)*
- *Do you believe that children in (country) are treated with respect and dignity, or not? (WP129)*
- *Do most children in (country) have the opportunity to learn and grow every day, or not? (WP130)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedure applies: The three items are recoded so that positive answers are scored as a "1" and all other answers (including don't know and refused) are assigned a score of "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has valid scores for all items. A record's final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Youth Development Index has a Cronbach's alpha of .83 when aggregated at the country level.

## Youth Development — Relationships With Other Measures

Gallup World Poll Index Measures	Pearson's r
Community Attachment Index	.655
Community Basics Index	.854
Economic Confidence Index	.701
Financial Life Index	.70
Job Climate Index	.562
Law and Order Index	.699
National Institutions Index	.607

External Measures (descriptions in Appendix D)	Pearson's r
Adolescent fertility rate	-.474
GDP per capita, PPP	.556
Health expenditures	.526
Improved sanitation facilities	.455
Improved water source	.448
Internet users	.496
Life expectancy	.456
Maternal mortality	-.428
Mortality rate, under-5	-.426
Mortality rate, infant	-.440

## Communications Access Index<sup>4</sup>

The Communications Access Index measures respondents' access to telephone and internet for personal use.

### Index Questions

- *Do you have a landline telephone in your home that you use to make and receive personal calls? (WP15191)<sup>5</sup>*
- *Do you have a mobile phone that you use to make and receive personal calls? (WP17624)<sup>6</sup>*
- *Do you have access to the internet in any way, whether on a mobile phone, a computer, or some other device? (WP16056)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record, the following procedure applies: The first two questions (landline telephone and mobile phone) are used to determine whether a respondent has a phone and is used to create the phone component of the index. If respondents answer “yes” to either question, they are assigned a score of “1” for the phone component and a “0” if they do not have a phone. For the remaining question, positive answers are scored as a “1” and all other answers (including don't know and refused) are assigned a score of “0.” An individual record has an index calculated if it has valid scores for both components. A record's final index score is the mean of items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Communications Access — Relationships With Other Measures

Gallup World Poll Index Measures	Pearson's r
Communications Use Index	.995
Food and Shelter Index	.786
Life Evaluation Index	-.656
Social Life Index	.613

External Measures (descriptions in Appendix D)	Pearson's r
Adolescent fertility rate	-.785
Age dependency ratio	-.737
Adult literacy rate	.818
GDP per capita, PPP	.749
Improved sanitation facilities	.873
Improved water source	.791
Internet users	.906

<sup>4</sup> This index was calculated beginning in 2015.

<sup>5</sup> Historically this item was worded, “Does your home have a landline telephone?” (WP35) [2006-2013]

<sup>6</sup> Historically this item was worded, “Does your home have a cellular phone?” (WP3119) [2006-2014]

Life expectancy	.846
Maternal mortality ratio	-.784
Mortality rate, under-5	-.842
Mortality rate, infant	-.857
Rural population	-.793
Urban population	.793
Youth literacy rate	.771

## Communications Use Index<sup>7</sup>

The Communications Use Index measures respondents' access to telephone and internet for personal use, and use of the internet in the past seven days. It was created in 2015.

### Index Questions

- *Do you have a landline telephone in your home that you use to make and receive personal calls? (WP15191)<sup>8</sup>*
- *Do you have a mobile phone that you use to make and receive personal calls? (WP17624)<sup>9</sup>*
- *Do you have access to the internet in any way, whether on a mobile phone, a computer, or some other device? (WP16056)*
- *Have you used the internet in the past seven days, whether on a mobile phone, a computer, or some other device? (WP15862)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record, the following procedure applies: The first two questions (landline telephone and mobile phone) are used to determine whether a respondent has a phone and is used to create the phone component of the index. If respondents answer "yes" to either question, they are assigned a score of "1" for the phone component and a "0" if they do not have a phone. For the remaining internet questions, positive answers are scored as a "1" and all other answers (including don't know and refused) are assigned a score of "0." The two internet items are summed to create the internet component of the index. An individual record has an index calculated if it has valid scores for both components. A record's final index score is the mean of the components multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

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<sup>7</sup> This index was calculated beginning in 2015.

<sup>8</sup> Historically this item was worded, "Does your home have a landline telephone?" (WP35) [2006-2013]

<sup>9</sup> Historically this item was worded, "Does your home have a cellular phone?" (WP3119) [2006-2014]

### Communications Use — Relationships With Other Measures

Gallup World Poll Index Measures	Pearson's r
Communications Access	.995
Community Attachment Index	.602
Food and Shelter Index	.804
Life Evaluation Index	-.676
Social Life Index	.625

External Measures (descriptions in Appendix D)	Pearson's r
Adolescent fertility rate	-.783
Age dependency ratio	-.726
Adult literacy rate	.805
GDP per capita, PPP	.781
Improved sanitation facilities	.864
Improved water source	.782
Internet users	.923
Life expectancy	.855
Literacy rate, adult total	.862
Maternal mortality ratio	-.769
Mortality rate, under-5	-.838
Mortality rate, infant	-.856
Rural population	-.806
Urban population	.806
Youth literacy rate	.752



## Communications Index<sup>10</sup>

The Communications Index assesses the degree to which respondents are connected via electronic communications. As would be expected, the index is strongly correlated with other wealth-related measures. Gallup World Poll’s measures of Food and Shelter and life evaluation are significantly correlated with the index. Strong relationships with external measures, such as internet users per 1,000 residents, provide validity to the measure. The Communications Index also correlates with literacy rate, improved water source and age dependency ratio.

### Index Questions

- *Do you have a landline telephone in your home that you use to make and receive personal calls? (WP15191)<sup>11</sup>*
- *Do you have a mobile phone that you use to make and receive personal calls? (WP17624)<sup>12</sup>*
- *Does your home have access to the internet? (WP39)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record, the following procedure applies: The first two questions (landline telephone and mobile phone) are used to determine whether a respondent has a phone and is used to create the phone component of the index. If respondents answer “yes” to either question, they are assigned a score of “1” for the phone component and a “0” if they do not have a phone. For the remaining question, positive answers are scored as a “1” and all other answers (including don’t know and refused) are assigned a score of “0.” An individual record has an index calculated if it has valid scores for both components. A record’s final index score is the mean of items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Communications Index has a Cronbach’s alpha of .92 when aggregated at the country level.

### Communications — Relationships With Other Measures

Gallup Worldwide Research Index Measures	Pearson’s r
Community Attachment Index	.598
Community Basics Index	.552
Food and Shelter Index	.812
Life Evaluation Index	-.661
Social Life Index	.590

External Measures (descriptions in Appendix D)	Pearson’s r
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<sup>10</sup> This index was calculated prior to 2016.

<sup>11</sup> Historically this item was worded, “Does your home have a landline telephone?” (WP35) [2006-2013]

<sup>12</sup> Historically this item was worded, “Does your home have a cellular phone?” (WP3119) [2006-2014]

Adolescent fertility rate	-.793
Age dependency ratio	-.837
Cost of business start-up procedures	-.600
Ease of doing business index	-.777
Improved sanitation facilities	.921
Improved water source	.818
Internet users	.871
Literacy rate, adult total	.862
School enrollment, tertiary	.771
Maternal mortality ratio	-.874
Mortality rate, under-5	-.849
Nurses and midwives	.656

## Corruption Index

The Corruption Index measures perceptions in a community about the level of corruption in business and government. Higher scores on the Corruption Index indicate more residents perceive corruption as widespread.

### Index Questions

- *Is corruption widespread within businesses located in (country), or not? (WP145)*
- *Is corruption widespread throughout the government in (country), or not? (WP146)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedure applies: The two items are recoded so that affirmative (corrupt) answers are scored as a “1” and all other answers (including don’t know and refused) are assigned a score of “0.” If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has valid scores for both items. A record’s final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Corruption Index has a Cronbach’s alpha of .96 when aggregated at the country level.

**Corruption — Relationships With Other Measures**

<b>Gallup World Poll Index Measures</b>	<b>Pearson's r</b>
Economic Confidence Index	-.532
Financial Life Index	-.488
Law and Order Index	-.506
National Institutions Index	-.577
Youth Development Index	-.522

<b>External Measures (descriptions in Appendix D)</b>	<b>Pearson's r</b>
GDP per capita, PPP	-.544
Health expenditure	-.546
Long-term unemployment	.420

## Job Climate Index

The Job Climate Index measures the attitudes about a community's efforts to provide economic opportunities.

### Index Questions

- *Right now, do you think that economic conditions in the city or area where you live, as a whole, are getting better or getting worse? (WP88)*
- *Thinking about the job situation in the city or area where you live today, would you say that it is now a good time or a bad time to find a job? (WP89)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record, the following procedure applies: The two items are recoded so that positive answers are scored as a "1" and all other answers, including don't know and refused, are assigned a score of "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has valid scores for both questions. A record's final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Job Climate Index has a Cronbach's alpha of .85 when aggregated at the country level.

**Job Climate — Relationships With Other Measures**

<b>Gallup World Poll Index Measures</b>	<b>Pearson's r</b>
Community Basics	.524
Economic Confidence Index	.822
Financial Life Index	.727
National Institutions Index	.586
Optimism Index	.893
Youth Development Index	-.562

<b>External Measures (descriptions in Appendix D)</b>	<b>Pearson's r</b>
GINI index	.413
Long-term unemployment	-.535

## Financial Life Index

The Financial Life Index measures respondents' personal economic situations and the economics of the community where they live. The subjective measures of financial life that make up the index are an important complement to traditional macroeconomic indicators such as GDP and unemployment rates, particularly in cases in which these data are difficult to obtain or the quality is suspect.

Even in developed regions where traditional economic indicators are highly reliable, survey data represent complementary measures that can compensate for existing "blind spots." GDP, for instance, is an important measure of rising or falling economic activity in the monetized sector, but an imprecise indicator of how such changes translate to living conditions for the bulk of the country's population. Survey data on satisfaction with living standards, on the other hand, help complete the picture with a bottom-up perspective that accounts for individual-level judgments of welfare. Furthermore, expressions of sentiment often serve as leading indicators of economic conditions. Perhaps the greatest promise of these data is their potential to predict economic progress.

Also enlightening are the relationships that the index shares with other Gallup World Poll indexes. Community Basics, Economic Confidence, Youth Development and Optimism are all strongly related to the Financial Life Index, illustrating the importance of subjective economic circumstances in almost all other facets of everyday life.

### Index Questions

- *Which one of these phrases comes closest to your own feelings about your household's income these days: living comfortably on present income, getting by on present income, finding it difficult on present income, or finding it very difficult on present income? (WP2319)*
- *Are you satisfied or dissatisfied with your standard of living, all the things you can buy and do? (WP30)*
- *Right now, do you feel your standard of living is getting better or getting worse? (WP31)*
- *Right now, do you think that economic conditions in the city or area where you live, as a whole, are getting better or getting worse? (WP88)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record, the following procedure applies: For WP2319, respondents who say they are "living comfortably on present income" are recoded as "1," and all other answers are recoded as a "0." The remaining three items are recoded so that positive answers are scored as a "1" and all other answers (including don't know and refused) are assigned a score of "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has valid scores for WP2319 and valid scores from at least two of the other three index questions. A record's final index score is the average of the mean for responses to WP2319 and the mean of the three other items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Financial Life Index has a Cronbach's alpha of .86 when aggregated at the country level.

## Financial Life — Relationships With Other Measures

Gallup World Poll Index Measures	Pearson's r
Community Attachment	.644
Community Basics Index	.737
Diversity Index	.689
Economic Confidence Index	.747
Job Climate Index	.727
Life Evaluation Index	-.729
Optimism Index	.789
Social Life Index	.621
Youth Development Index	.720

External Measures (descriptions in Appendix D)	Pearson's r
Adolescent fertility rate	-.432
CO2 emissions	.533
GDP per capita, PPP	.612
GINI index	.550
Health expenditures	.582
Improved sanitation facilities	.484
Improved water source	.424
Internet users	.480
Long-term unemployment	-.583
Maternal mortality rate	-.422



## Economic Confidence<sup>13</sup>

Gallup's Economic Confidence Index is based on the combined responses to two questions asking respondents, first, to rate economic conditions in their country today, and second, whether they think economic conditions in their country as a whole are getting better or getting worse. The Index has a theoretical maximum value of +100 and a theoretical minimum value of -100. Values above zero indicate that a respondent has a more positive than a negative view of the economy, values below zero indicate net-negative views and zero indicates that positive and negative views are equal. In the U.S., where Gallup collects and reports the Economic Confidence Index on a daily basis, from October 2000 through October 2011, the Index has correlated at a 0.95 level with the Reuters/University of Michigan Index of Consumer Sentiment and at a 0.82 level with the Conference Board's Consumer Confidence Index®.

### Index Questions

- *Right now, do you think that economic conditions in this country, as a whole, are getting better or getting worse?? (WP148)*
- *How would you rate your economic conditions in this country today – as excellent, good, only fair, or poor? (M30)*

## Local Economic Confidence<sup>14</sup>

Gallup's Local Economic Confidence Index is based on the combined responses to two questions asking respondents, first, to rate economic conditions in their city today, and second, whether they think economic conditions in their city as a whole are getting better or getting worse. The Index has a theoretical maximum value of +100 and a theoretical minimum value of -100. Values above zero indicate that a respondent has a more positive than a negative view of the economy, values below zero indicate net-negative views and zero indicates that positive and negative views are equal.

### Index Questions

- *Right now, do you think that economic conditions in the city or area where you live, as a whole, are getting better or getting worse? (WP88)*
- *How would you rate your economic conditions in this city today – as excellent, good, only fair, or poor? (WP19472)*

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<sup>13</sup> This index was calculated from 2009-2016.

<sup>14</sup> This index was calculated beginning in 2017.

## Personal Health Index

The Personal Health Index measures perceptions of one's own health. Attempts to assess the state of a country's overall health usually involve the accumulation of health-related statistics such as life expectancy, infant mortality, and disease infection rates. Additionally, many government studies in individual countries collect health data via surveys from their own residents. Less numerous are survey projects that collect consistent health-related data from respondents across several countries, and in most cases those multinational efforts focus on Western countries.

Gallup World Poll has now measured self-reported personal health using the same questions and representative sample frames in more than 150 countries and areas. The object of the Personal Health Index is to produce an overview of respondents' perceptions of their own health status.

### Index Questions

- *Do you have any health problems that prevent you from doing any of the things people your age normally can do?(WP23)*
- *Now, please think about yesterday, from the morning until the end of the day. Think about where you were, what you were doing, who you were with, and how you felt. Did you feel well-rested yesterday?(WP60)*
- *Did you experience the following feelings during a lot of the day yesterday? How about physical pain?(WP68)*
- *Did you experience the following feelings during a lot of the day yesterday? How about worry?(WP69)*
- *Did you experience the following feelings during a lot of the day yesterday? How about sadness?(WP70)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedure applies: All items are recoded so that favorable answers are scored as a "1" and all other answers (including don't know and refused) are assigned a score of "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. Respondents must have answered at least three questions for an individual index to be calculated. A record's final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Personal Health Index has a Cronbach's alpha of .77 when aggregated at the country level.

### Personal Health — Relationships With Other Measures

Gallup World Poll Index Measures	Pearson's r
Community Attachment Index	.595
Community Basics Index	.608
Communications Access Index	.510
Communications Use Index	.521
Daily Experience Index	.857

Financial Life Index	.532
Food and Shelter Index	.612
Life Evaluation Index	-.519
Negative Experience Index	-.875
Social Life Index	.689
Youth Development Index	.546

<b>External Measures (descriptions in Appendix D)</b>	<b>Pearson's r</b>
Adult literacy rate	.510
GDP per capita, PPP	.536
Improved sanitation facilities	.531
Internet users	.556
Life expectancy	.533
Maternal mortality rate	-.499
Mortality rate, under-5	-.502
Youth literacy rate	.510

## Social Life Index

The Social Life Index assesses a respondent's social support structure and opportunities to make friends in the city or area where he or she lives.

### Index Questions

- *If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not? (WP27)*
- *In the city or area where you live, are you satisfied or dissatisfied with the opportunities to meet people and make friends? (WP10248)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedure applies: The two items are recoded so that positive answers are scored as a "1" and all other answers (including don't know and refused) are assigned a score of "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has valid scores for both questions. A record's final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Social Life Index has a Cronbach's alpha of .65 when aggregated at the country level.

**Social Life — Relationships With Other Measures**

<b>Gallup World Poll Index Measures</b>	<b>Pearson's r</b>
Community Attachment Index	.682
Community Basics Index	.703
Communications Access Index	.613
Communication Use Index	.625
Daily Experience Index	.717
Diversity Index	.520
Financial Life Index	.621
Food and Shelter Index	.627
Life Evaluation Index	-.710
Personal Health Index	.680
Youth Development Index	.578

<b>External Measures (descriptions in Appendix D)</b>	<b>Pearson's r</b>
Adult literacy rate	.576
GDP per capita, PPP	.552
GINI index	.559
Health expenditures	.514
Improved sanitation facilities	.607
Improved water source	.555
Internet users	.608
Life expectancy at birth	.644
Maternal mortality ratio	-.564
Mortality rate, under-5	-.637
Mortality rate, infant	-.640
Youth literacy rate	.545

## Civic Engagement Index

The Civic Engagement Index assesses respondents' inclination to volunteer their time and assistance to others. It is designed to measure a respondent's commitment to the community where he or she lives.

### Index Questions

- *Have you done any of the following in the past month? How about donated money to a charity? (WP108)*
- *Have you done any of the following in the past month? How about volunteered your time to an organization? (WP109)*
- *Have you done any of the following in the past month? How about helped a stranger or someone you didn't know who needed help? (WP110)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedure applies: The three items are recoded so that positive (or favorable) answers are scored as a "1" and all other answers (including don't know and refused) are assigned a score of "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has scores for at least two items (0 or 1). A record's final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Civic Engagement Index has a Cronbach's alpha of .81 when aggregated at the country level.

**Civic Engagement — Relationships With Other Measures**

<b>Gallup World Poll Index Measures</b>	<b>Pearson's r</b>
Diversity Index	.515
Financial Life Index	.520
Life Evaluation Index	-.459
Optimism Index	.452
Positive Experience Index	.443

<b>External Measures (descriptions in Appendix D)</b>	<b>Pearson's r</b>
GINI index	.382
GDP per capita, PPP	.390
Health expenditures	.417
Long-term unemployment	-.467

## Overview of Life Evaluation and Daily Experience Indexes

The items that make up the Life Evaluation and Daily Experience Indexes reflect a broad view of the well-being concept; they include measures of life satisfaction, optimism, meaning and purpose, domain satisfaction, optimism, and positive and negative affect. Well-being is broken down into four indexes: Life Evaluation, Positive Experience, Negative Experience and Daily Experience.

Nobel laureate Daniel Kahneman and University of Illinois psychology professor Ed Diener have been influential in conceiving the contemporary views of well-being. Hedonic psychology, as defined by Kahneman, Diener, and University of Michigan psychology professor Norbert Schwarz “is the study of what makes experiences and life pleasant or unpleasant. It is concerned with feelings of pleasure and pain, of interest and boredom, of joy and sorrow, and of satisfaction and dissatisfaction. It is also concerned with the whole range of circumstances, from the biological to the societal, that occasion suffering and enjoyment.”<sup>15</sup>

Kahneman makes note of the distinction between “experienced well-being” and “evaluative well-being.” As described by Kahneman, experienced well-being is concerned with momentary affective states and the way people feel about experiences in real-time, while evaluative well-being is the way they remember their experiences after they are over. Evaluative well-being may include individual assessments of life domains such as standard of living, housing, job, marriage, and personal health. On the other hand, experienced well-being seeks to bypass the effects of judgment and memory and capture feeling and emotions as close to the subject’s immediate experience as possible. The Life Evaluation index is rooted in the “remembering self,” while the Positive Experience, Negative Experience and Daily Experience Indexes are based on the “experiencing self.”

Across countries, measures of well-being correlate highly with income, education levels, and reported disease conditions. Individuals who are thriving have fewer disease conditions, fewer sick days, higher incomes, are more highly educated, and have better work environments. Countries with a higher percentage of thriving respondents also report that the area they live is a good place to live for people of different ethnicities, races, and cultures. In comparison to thriving respondents, struggling respondents are much more likely to worry about money on a daily basis, and suffering respondents are less likely to have basic necessities such as food and shelter.

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<sup>15</sup> Kahneman, D., Diener, E., Schwarz, N. (Eds.) (1999). *Well-being: the foundations of hedonic psychology*. New York: Russell Sage Foundation.



## Life Evaluation Index

The Life Evaluation Index measures respondents' perceptions of where they stand now and in the future. Building on the earlier work by Hadley Cantril and the Cantril Self-Anchoring Striving Scale<sup>16</sup>, Gallup measures life satisfaction by asking respondents to place the status of their lives on a "ladder" scale with steps numbered from 0 to 10, where 0 indicates the worst possible life and 10 the best possible life. Individuals who rate their current lives a "7" or higher AND their future an "8" or higher are "thriving." Individuals are "suffering" if they report their current AND future lives as a "4" and lower. All other individuals are "struggling."

### Index Questions

- *Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time? (WP16)*
- *Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. Just your best guess, on which step do you think you will stand in the future, say about five years from now? (WP18)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedures applies. Individuals who rate their current lives a "7" or higher AND their future an "8" or higher are coded as 1, "thriving." Individuals are "suffering" if they report their current AND future lives as a "4" or lower, and are coded as 3. All other individuals are coded as 2 "struggling." A respondent must have answered both questions to have indexes calculated. The final country-level index is a variable that codes respondents into one of three categories of well-being and represents the percentage of respondents in each category. Country-level weights are applied to this calculation.

### Reliability

The Life Evaluation Index has a Cronbach's alpha of .91 when aggregated at the country level.

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<sup>16</sup> Cantril, H. (1965). *The pattern of human concerns*. New Brunswick, NJ: Rutgers University Press.

## Life Evaluation — Relationships With Other Measures

Gallup World Poll Index Measures	Pearson's r
Community Attachment Index	-.625
Community Basics Index	-.609
Communications Access Index	-.656
Communications Use Index	-.676
Daily Experience Index	-.649
Diversity Index	-.650
Financial Life Index	-.729
Food and Shelter Index	-.637
Positive Experience Index	-.663
Social Life Index	-.719

External Measures (descriptions in Appendix D)	Pearson's r
Depth of the food deficit	.570
GDP per capita, PPP	-.638
GINI index	-.754
Health expenditures	-.675
Improved sanitation facilities	-.581
Improved water source	-.551
Internet users	-.660
Life expectancy	-.637
Long-term unemployment	.699
Mortality rate, infant	.554
Rural population	.633
Urban population	-.633

## Positive Experience Index

The Positive Experience Index is a measure of respondents' experienced well-being on the day before the survey. Questions provide a real-time measure of respondents' positive experiences.

### Index Questions

- *Did you feel well-rested yesterday? (WP60)*
- *Were you treated with respect all day yesterday? (WP61)*
- *Did you smile or laugh a lot yesterday? (WP63)*
- *Did you learn or do something interesting yesterday? (WP65)*
- *Did you experience the following feelings during a lot of the day yesterday? How about enjoyment? (WP67)*

### Index Construction

Index scores are calculated at the individual record level. For each individual the following procedure applies: The five items are recoded so that positive answers are scored as a "1" and all other answers (including don't know and refused) are scored as a "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has at least four out of five valid scores (0 or 1). The record's final score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Positive Experience Index has a Cronbach's alpha of .91 when aggregated at the country level.

**Positive Experience — Relationships With Other Measures**

<b>Gallup World Poll Index Measures</b>	<b>Pearson's r</b>
Daily Experience Index	.783
Diversity Index	.587
Financial Life Index	.552
Life Evaluation Index	-.663
Optimism Index	.574
Social Life Index	.610

<b>External Measures (descriptions in Appendix D)</b>	<b>Pearson's r</b>
GDP per capita, PPP	.368
GINI index	.841
Health expenditures	.397
Long-term unemployment	-.518

## Negative Experience Index

The Negative Experience Index is a measure of respondents' experienced well-being on the day before the survey. The index provides a real-time measure of respondents' negative experiences.

### Index Questions

- *Did you experience the following feelings during a lot of the day yesterday? How about physical pain? (WP68)*
- *Did you experience the following feelings during a lot of the day yesterday? How about worry? (WP69)*
- *Did you experience the following feelings during a lot of the day yesterday? How about sadness? (WP70)*
- *Did you experience the following feelings during a lot of the day yesterday? How about stress? (WP71)*
- *Did you experience the following feelings during a lot of the day yesterday? How about anger? (WP74)*

### Index Construction

Index scores are calculated at the individual record level. For each individual the following procedure applies: The five items are recoded so that affirmative answers are scored as a "1" and all other answers (including don't know or refused) are a "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has at least four out of five valid scores (0 or 1). The record's final score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Negative Experience Index has a Cronbach's alpha of .80 when aggregated at the country level.

## Negative Experience — Relationships With Other Measures

Gallup World Poll Index Measures	Pearson's r
Community Attachment Index	-.508
Daily Experience Index	-.792
Food and Shelter Index	-.511
Law and Order Index	-.454
Personal Health Index	-.875
Social Life Index	-.495
Youth Development Index	.480

External Measures (descriptions in Appendix D)	Pearson's r
Adolescent fertility rate	.375
Adult literacy rate	-.418
Age dependency ratio	.370
GDP per capita, PPP	-.402
GINI index	-.431
Improved sanitation facilities	-.422
Internet users	-.460
Life expectancy	-.375
Maternal mortality	.389
Youth literacy rate	-.380

## Daily Experience Index

The Daily Experience Index is a measure of respondents' experienced well-being on the day before the survey. The index provides a real-time, composite measure of respondents' positive and negative experiences.

### Index Questions

- *Did you feel well-rested yesterday? (WP60)*
- *Were you treated with respect all day yesterday? (WP61)*
- *Did you smile or laugh a lot yesterday? (WP63)*
- *Did you learn or do something interesting yesterday? (WP65)*
- *Did you experience the following feelings during a lot of the day yesterday? How about enjoyment? (WP67)*
- *Did you experience the following feelings during a lot of the day yesterday? How about physical pain? (WP68)*
- *Did you experience the following feelings during a lot of the day yesterday? How about worry? (WP69)*
- *Did you experience the following feelings during a lot of the day yesterday? How about sadness? (WP70)*
- *Did you experience the following feelings during a lot of the day yesterday? How about stress? (WP71)*
- *Did you experience the following feelings during a lot of the day yesterday? How about anger? (WP74)*

### Index Construction

Index scores are calculated at the individual record level. For each individual the following procedure applies: The 10 items are recoded so that answers reflecting positive emotion are scored as a "1" and all other answers (including don't know or refused) are a "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has at least 8 out of 10 valid scores (0 or 1). The record's final score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Daily Experience Index has a Cronbach's alpha of .72 when aggregated at the country level.

## Daily Experience — Relationships With Other Measures

Gallup World Poll Index Measures	Pearson's r
Community Attachment Index	.580
Community Basics Index	.619
Economic Confidence Index	.465
Financial Life Index	.580
Food and Shelter Index	.489
Life Evaluation Index	-.640
Optimism Index	.493
Personal Health Index	.857
Social Life Index	.717
Youth Development Index	.570

External Measures (descriptions in Appendix D)	Pearson's r
GDP per capita, PPP	.492
GINI index	.604
Health expenditures	.455
Internet users	.470
Long-term unemployment	-.501



## Community Attachment Index

The Community Attachment Index measures respondents' satisfaction with the city or area where they live and their likelihood to move away or recommend that city or area to a friend.

### Index Questions

- *Are you satisfied or dissatisfied with the city or area where you live? (WP83)*
- *In the next 12 months, are you likely or unlikely to move away from the city or area where you live? (WP85)*
- *Would you recommend the city or area where you live to a friend or associate as a place to live, or not? (WP86)*

### Index Construction

Index scores are calculated at the individual record level. For each individual the following procedure applies: The three items are recoded so that favorable answers are scored as a "1" and all other answers (including don't know or refused) are a "0." If a record has no answer for an item, then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has two valid scores (0 or 1). The record's final score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Community Attachment Index has a Cronbach's alpha of .76 when aggregated at the country level.

**Community Attachment — Relationships With Other Measures**

<b>Gallup World Poll Index Measures</b>	<b>Pearson's r</b>
Community Basics Index	.751
Communications Access Index	.590
Communications Use Index	.602
Daily Experience Index	.580
Financial Life Index	.644
Food and Shelter Index	.682
Life Evaluation Index	-.625
Law and Order Index	.615
Negative Experience Index	-.508
Personal Health Index	.595
Social Life Index	.682
Youth Development Index	.655

<b>External Measures (descriptions in Appendix D)</b>	<b>Pearson's r</b>
Adolescent fertility rate	-.560
Adult literacy rate	.510
GDP per capita, PPP	.590
Health expenditures	.561
Improved sanitation facilities	.680
Improved water source	.587
Internet users	.621
Life expectancy	.684
Mortality rate, under-5	-.590
Mortality rate, infant	-.604

## Diversity Index

The Diversity Index was designed to measure a community's acceptance of people from different racial, ethnic or cultural groups. Relationships with other Gallup World Poll indexes indicate that citizens of countries with higher scores on the Diversity Index are more likely to be considered "thriving" and are more engaged in their communities. Individuals who live in accepting societies also report lower Corruption Index scores and higher Community Basics Index scores.

### Index Questions<sup>17</sup>

- *Is the city or area where you live a good place or not a good place to live for racial and ethnic minorities? (WP103)*
- *Is the city or areas where you live a good place or not a good place to live for gay or lesbian people? (WP105)*
- *Is the city or area where you live a good place or not a good place to live for immigrants from other countries? (WP106)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedure applies: The four items are recoded so that positive answers are scored as a "1" and all other answers (including don't know and refused) are assigned a score of "0." If a record has no answer for an item then that item is not eligible for inclusion in the calculations. An individual record has an index calculated if it has valid scores for at least three items. A record's final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Diversity Index has a Cronbach's alpha of .74 when aggregated at the country level.

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<sup>17</sup> Prior to 2016, a fourth item was used to calculate this index ("Is the city or area where you live a good place or not a good place to live for people with intellectual disabilities?" (WP10250)) An individual record was calculated if it had valid scores for three of the four items.

**Diversity — Relationships With Other Measures**

<b>Gallup World Poll Index Measures</b>	<b>Pearson's r</b>
Community Attachment Index	.489
Community Basics Index	.474
Civic Engagement Index	.515
Financial Life Index	.689
Life Evaluation Index	-.650
Optimism Index	.489
Positive Experience Index	.587
Social Life Index	.520

<b>External Measures (descriptions in Appendix D)</b>	<b>Pearson's r</b>
GDP per capita, PPP	.545
GINI index	.749
Health expenditures	.663
Internet users	.410
Rural population	-.420
Urban population	.420

## Optimism Index

The Optimism Index measures respondents' positive attitudes about the future. Specifically, respondents are asked whether certain aspects of their life are getting better or getting worse. Countries with higher Optimism Index scores report more confidence in national institutions and better youth development. Individual factors such as financial life and personal health are also related to optimism. As would be expected, percentage of the population that rates their lives poorly enough to be considered suffering has a strong negative relationship with the Optimism Index.

### Index Questions

- *Right now, do you feel your standard of living is getting better or getting worse? (WP31)*
- *Right now, do you think that economic conditions in the city or area where you live, as a whole, are getting better or getting worse? (WP88)*
- *Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. Just your best guess, on which step do you think you will stand in the future, say about five years from now? (WP18)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record, the following procedure applies: The first two items are recoded so that favorable answers are scored as a "1" and all other answers (including don't know and refused) are assigned a score of "0." If a record has no answer for an item then that item is not eligible for inclusion in the calculations. The score on the ladder question (ranging from 0 to 10) is divided by 10 and the respondent is assigned a score ranging from 0 to 1. An individual record has an index calculated if it has valid scores for at least two of the three items. A record's final index score is the mean of valid items multiplied by 100. The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Optimism Index has a Cronbach's alpha of .92 when aggregated at the country level.

**Optimism — Relationships With Other Measures**

<b>Gallup World Poll Index Measures</b>	<b>Pearson's r</b>
Community Basics Index	.545
Civic Engagement Index	.452
Daily Experience Index	.493
Diversity Index	.489
Economic Confidence Index	.780
Financial Life Index	.789
Job Climate Index	.893
Life Evaluation Index	-.505
Positive Experience Index	.574
Youth Development Index	.532

<b>External Measures (descriptions in Appendix D)</b>	<b>Pearson's r</b>
GINI index	.569
Long-term unemployment	-.681

## Migrant Acceptance Index

Gallup created the Migrant Acceptance Index to gauge people's acceptance of migrants based on increasing degrees of personal proximity. The index is based on three questions. The minimum score on the index is zero and the maximum score in the index is 9.0. The higher the index score, the more accepting the population is of migrants.

Gallup finds the least-accepting countries are geographically and culturally clustered, many with long histories of conflict with neighboring countries. The most-accepting countries for migrants, on the other hand, are located in disparate parts of the globe. However, a common thread tying many of the most-accepting countries together is their long history as receiving countries for migrants.

### Index Questions

*Now, I would like to ask you some questions about foreign immigrants - people who have come to live and work in this country from another country. Please tell me whether you, personally, think each of the following is a good thing or a bad thing? How about:*

- *Immigrants living in (country) (WP17639)*
- *An immigrant becoming your neighbor (WP17640)*
- *An immigrant marrying one of your close relatives (WP17641)*

### Index Construction

Index scores are calculated at the individual record level. For each individual record the following procedure applies: Each item is recoded as follows: “good thing” is coded as 3, “it depends” and “don’t know” is coded as 1, and “a bad thing” as zero. Each respondent’s Migrant Acceptance Index is the sum of the points across the three questions with a maximum score of nine (all three are good things) and a minimum score of zero (all three are bad things). The final country-level index score is the mean of all individual records for which an index score was calculated. Country-level weights are applied to this calculation.

### Reliability

The Migrant Acceptance Index has a Cronbach’s alpha of .97 when aggregated at the country level.

## Gallup-Sharecare Global Well-Being Index™

### Global Well-Being Index<sup>18</sup>

The Global Well-Being Index is a barometer of individuals' perceptions of their own well-being — those aspects that define how we think about and experience our daily lives. The Global-Well-Being Index is calculated on a country level and measures the percentage of the population that is thriving in three or more well-being elements. The index includes five elements of well-being; purpose, social, financial, community and physical.

### Elements of Global Well-Being

The responses from each question are used to classify whether a respondent is thriving, struggling or suffering in each element.

#### Purpose

This well-being element measures liking what one does each day and being motivated to achieve one's goals.

- *Thinking about your life in general, please rate your level of agreement with each of the following using a five-point scale, where 5 means you STRONGLY AGREE and 1 means you STRONGLY DISAGREE. You may choose any of the numbers 1, 2, 3, 4, or 5. You like what you do every day. (WP14442)*
- *Thinking about your life in general, please rate your level of agreement with each of the following using a five-point scale, where 5 means you STRONGLY AGREE and 1 means you STRONGLY DISAGREE. You may choose any of the numbers 1, 2, 3, 4, or 5. You learn or do something interesting every day. (WP14443)*

#### Social

This well-being element measures having supportive relationships and love in your life.

- *Thinking about your life in general, please rate your level of agreement with each of the following using a five-point scale, where 5 means you STRONGLY AGREE and 1 means you STRONGLY DISAGREE. You may choose any of the numbers 1, 2, 3, 4, or 5. Someone in your life always encourages you to be healthy. (WP14444)*
- *Thinking about your life in general, please rate your level of agreement with each of the following using a five-point scale, where 5 means you STRONGLY AGREE and 1 means you STRONGLY DISAGREE. You may choose any of the numbers 1, 2, 3, 4, or 5. Your friends and family give you positive energy every day. (WP14445)*

#### Financial

This well-being element measures being able to manage one's economic life to reduce stress and increase security.

- *Thinking about your life in general, please rate your level of agreement with each of the following using a five-point scale, where 5 means you STRONGLY AGREE and 1 means you STRONGLY DISAGREE. You may choose any of the numbers 1, 2, 3, 4, or 5. You have enough money to do everything you want to do. (WP14446)*

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<sup>18</sup> This index was calculated from 2013-2015.



- *Thinking about your life in general, please rate your level of agreement with each of the following using a five-point scale, where 5 means you STRONGLY AGREE and 1 means you STRONGLY DISAGREE. You may choose any of the numbers 1, 2, 3, 4, or 5. In the last seven days, you have worried about money. (WP14447)*

## Community

This well-being element measures liking where one lives, feeling safe and having pride in one's community.

- *Thinking about your life in general, please rate your level of agreement with each of the following using a five-point scale, where 5 means you STRONGLY AGREE and 1 means you STRONGLY DISAGREE. You may choose any of the numbers 1, 2, 3, 4, or 5. The city or area where you live is a perfect place for you. (WP14450)*
- *Thinking about your life in general, please rate your level of agreement with each of the following using a five-point scale, where 5 means you STRONGLY AGREE and 1 means you STRONGLY DISAGREE. You may choose any of the numbers 1, 2, 3, 4, or 5. In the last 12 months, you have received recognition for helping to improve the city or area where you live. (WP14451)*

## Physical

This well-being element measures having good health and enough energy to get things done daily.

- *Thinking about your life in general, please rate your level of agreement with each of the following using a five-point scale, where 5 means you STRONGLY AGREE and 1 means you STRONGLY DISAGREE. You may choose any of the numbers 1, 2, 3, 4, or 5. In the last seven days, you have felt active and productive every day. (WP14448)*
- *Thinking about your life in general, please rate your level of agreement with each of the following using a five-point scale, where 5 means you STRONGLY AGREE and 1 means you STRONGLY DISAGREE. You may choose any of the numbers 1, 2, 3, 4, or 5. Your physical health is near-perfect. (WP14449)*

## Appendix A: 2021 Core Questions and Codes

Education and income data were collected using country-specific response options and data were standardized into globally comparable variables. For more information on education and income variables, please refer to pages 17 and 18 and Appendix C. In addition to the items listed, questions relevant to the specific country or region may have been asked. Additional information about years of data collection, specific countries where questions were asked, and all questions available in the dataset is available in the Gallup Poll Dataset Reference at <https://wpr.gallup.com>.

Variable Name	Question	Response Options
(Read WP16, 18)	Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. (read WP16 and WP18)	00 Worst Possible 01 02 03 04 05 06 07 08 08 10 Best possible  98 (DK) 99 (Refused)
[WP16]	On which step of the ladder would you say you personally feel you stand at this time?	
[WP18]	Just your best guess, on which step do you think you will stand in the future, say about five years from now?	
[WP23]	Do you have any health problems that prevent you from doing any of the things people your age normally can do?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP27]	If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP30]	Are you satisfied or dissatisfied with your standard of living, all the things you can buy and do?	1 Satisfied 2 Dissatisfied 3 (DK) 4 (Refused)
[WP31]	Right now, do you feel your standard of living is getting better or getting worse?	1 Getting better 2 (The same) 3 Getting worse 4 (DK) 5 (Refused)
(Read WP40, 43)	Have there been times in the past 12 months when you did not have enough money (read A-B)?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP40]	A. To buy food that you or your family needed	
[WP43]	B. To provide adequate shelter or housing for you and your family	

Variable Name	Question	Response Options
(Read WP60, 61, 63, 65)	Now, please think about yesterday, from the morning until the end of the day. Think about where you were, what you were doing, who you were with, and how you felt (read A-D).	1 Yes 2 No 3 (DK) 4 (Refused)
[WP60]	A. Did you feel well-rested yesterday?	
[WP61]	B. Were you treated with respect all day yesterday?	
[WP63]	C. Did you smile or laugh a lot yesterday?	
[WP65]	D. Did you learn or do something interesting yesterday?	
(Read WP67-71, 74)	Did you experience the following feelings during a lot of the day yesterday? How about (read A-F)?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP67]	A. Enjoyment	
[WP68]	B. Physical pain	
[WP69]	C. Worry	
[WP70]	D. Sadness	
[WP71]	E. Stress	
[WP74]	F. Anger	
[WP83]	Are you satisfied or dissatisfied with the city or area where you live?	1 Satisfied 2 Dissatisfied 3 (DK) 4 (Refused)
[WP85]	In the next 12 months, are you likely or unlikely to move away from the city or area where you live?	1 Likely to move 2 Unlikely to move 3 (DK) 4 (Refused)
[WP86]	Would you recommend the city or area where you live to a friend or associate as a place to live, or not?	1 Yes, would recommend 2 No, would not recommend 3 (DK) 4 (Refused)
[WP19472]	How would you rate economic conditions in this city or area today - as excellent, good, only fair, or poor?	4 Excellent 3 Good 2 Only Fair 1 Poor 8 (DK) 9 (Refused)
[WP88]	Right now, do you think that economic conditions in the city or area where you live, as a whole, are getting better or getting worse?	1 Getting better 2 (The same) 3 Getting worse 4 (DK) 5 (Refused)
[WP89]	Thinking about the job situation in the city or area where you live today, would you say that it is now a good time or a bad time to find a job?	1 Good time 2 Bad time 3 (DK) 4 (Refused)

Variable Name	Question	Response Options
<i>(Read WP91-95, 97-99, 10248)</i>	In the city or area where you live, are you satisfied or dissatisfied with (read A-H)?	1 Satisfied 2 Dissatisfied 3 (DK) 4 (Refused)
[WP91]	A. The public transportation systems	
[WP92]	B. The roads and highways	
[WP93]	C. The educational system or the schools	
[WP94]	D. The quality of air	
[WP95]	E. The quality of water	
[WP97]	F. The availability of quality health care	
[WP98]	G. The availability of good affordable housing	
[WP10248]	H. The opportunities to meet people and make friends	
<i>(Read WP103, 105, 106, 11589)</i>	Is the city or area where you live a good place or not a good place to live for (read A-D)?	1 Good place 2 Not a good place 3 (DK) 4 (Refused)
[WP103]	A. Racial and ethnic minorities	
[WP105]	B. Gay or lesbian people	
[WP106]	C. Immigrants from other countries	
<i>(Read WP108-111)</i>	Have you done any of the following in the past month? How about (read A-D)?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP108]	A. Donated money to a charity	
[WP109]	B. Volunteered your time to an organization	
[WP110]	C. Helped a stranger or someone you didn't know who needed help	
[WP111]	D. Voiced your opinion to a public official	
[WP112]	In the city or area where you live, do you have confidence in the local police force, or not?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP113]	Do you feel safe walking alone at night in the city or area where you live?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP117]	Within the last 12 months, have you had money or property stolen from you or another household member?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP118]	Within the last 12 months, have you been assaulted or mugged?	1 Yes 2 No 3 (DK) 4 (Refused)

Variable Name	Question	Response Options
[WP119]	Is religion an important part of your daily life?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP129]	Do you believe that children in (Country) are treated with respect and dignity, or not?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP130]	Do most children in (Country) have the opportunity to learn and grow every day, or not?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP9050]	Do you believe women in (Country) are treated with respect and dignity, or not?	1 Yes 2 No 3 (DK) 4 (Refused)
<i>(Read WP131, 132, 134)</i>	In (this country), are you satisfied or dissatisfied with (read A-C)?	1 Satisfied 2 Dissatisfied 3 (DK) 4 (Refused)
[WP131]	A. Efforts to deal with the poor	
[WP132]	B. Efforts to preserve the environment	
[WP134]	C. Your freedom to choose what you do with your life	
<i>(Read WP137-139, 141, 144)</i>	In (this country), do you have confidence in each of the following, or not? How about (read A-E)?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP137]	A. The military	
[WP138]	B. Judicial system and courts	
[WP139]	C. National government	
[WP141]	D. Financial institutions or banks	
[WP144]	E. Honesty of elections	
[WP10251]	Do the media in this country have a lot of freedom, or not?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP145]	Is corruption widespread within businesses located in (this country), or not?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP146]	Is corruption widespread throughout the government in (this country), or not?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP150]	Do you approve or disapprove of the job performance of the leadership of this country?	1 Approve 2 Disapprove 3 (DK) 4 (Refused)

Variable Name	Question	Response Options
(Read WP151, 153, 155, 156, 157)	Do you approve or disapprove of the job performance of the leadership of (read A-E)?	1 Approve 2 Disapprove 3 (DK) 4 (Refused)
[WP151]	A. The U.S.A.	
[WP153]	B. Germany	
[WP155]	D. Russia	
[WP156]	E. China	
[WP13125]	Do you approve or disapprove of the way [leader/head/president] of (country) is handling his/her job as [leader title]?	1 Approve 2 Disapprove 3 (DK) 4 (Refused)
[WP1219]	GENDER	1 Male 2 Female
[WP1220]	Please tell me your age.	99 99+ 100 (Refused)
[WPXXXX]	What is your highest completed level of education?	
[WP1223]	What is your current marital status?	1 Single/Never been married 2 Married 3 Separated 4 Divorced 5 Widowed 8 Domestic partner 6 (DK) 7 (Refused)
[EMP_2010]	Employment status	
[WP1230]	How many children under 15 years of age are now living in your household?	00 None ____(01 – 96) 97 97+ 98 (DK) 99 (Refused)
[WP1233]	Could you tell me what your religion is?	00 Other (list) 01 Christianity: Roman Catholic, Catholic 02 Christianity: Protestant, Anglican, Evangelical, SDAs, Jehovah's Witnesses, Quakers, AOG, Monophysite, AICs, Pentecostal, etc. 03 Christianity: Eastern Orthodox, Orthodoxy, etc. 04 Islam/Muslim 05 Islam/Muslim: Shiite 06 Islam/Muslim: Sunni 07 Druze 08 Hinduism 09 Buddhism 10 Primal-indigenous/African Traditional and Diasporic/Animist/ Nature Worship/Paganism 11 Chinese traditional religion/Confucianism 12 Sikhism 13 Juche 14 Spiritism 15 Judaism 16 Baha'i 17 Jainism 18 Shinto 19 Cao Dai

Variable Name	Question	Response Options
		20 Zoroastrianism 21 Tenrikyo 22 Neo-Paganism 23 Unitarian-Universalism 24 Rastafarianism 25 Scientology 26 Secular/Nonreligious/Agnostic/Atheist/None 28 Christian 29 Taoism/Daoism 97 No response 98 (DK) 99 (Refused)
INCOME	Constructed Variables: Annualized Household Income and per capita income (in local currency and International Dollars). See Appendix C.	
[WP2319]	Which one of these phrases comes closest to your own feelings about your household's income these days?	1 Living comfortably on present income 2 Getting by on present income 3 Finding it difficult on present income 4 Finding it very difficult on present income 5 (DK) 6 (Refused)
[WP4657]	Were you born in this country, or not?	1 Born in this country 2 Born in another country 3 (DK) 4 (Refused)
[WP9042]	Did you move to this country within the last five years?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP9048]	In which country were you born?	903 Other 998 (DK) 999 (Refused)
[WP17625]	Do you have a landline telephone in your home that you use to make and receive personal calls?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP17626]	Do you have a mobile phone that you use to make and receive personal calls?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP16056]	Do you have access to the internet in any way, whether on a mobile phone, a computer, or some other device?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP15862]	Have you used the internet in the past seven days, whether on a mobile phone, a computer, or some other device?	1 Yes 2 No 3 (DK) 4 (Refused)
[WP19544]	Can your mobile phone be used to access the Internet?	1 Yes 2 No 3 (DK) 4 (Refused)
[Region_XXX]	Respondent lives in:	

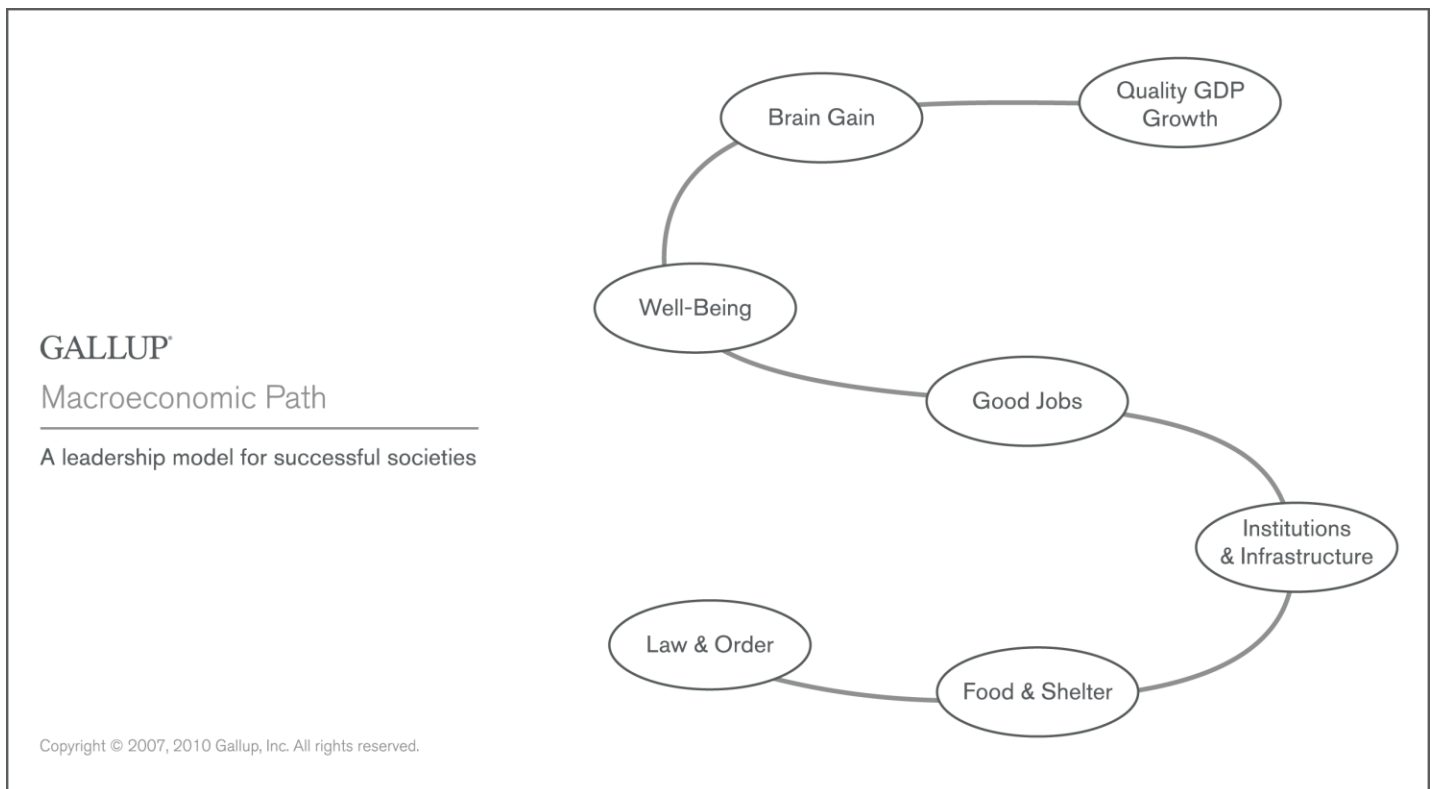
## Appendix B: Gallup World Path: Macroeconomics

Gallup employs a unique approach to understanding and improving well-being by focusing on the importance of metrics and continuous monitoring. The Gallup World Path: Macroeconomics highlights this approach. The constituent parts of the path comprise a pattern of relationships. The model provides the framework Gallup researchers believe societies must follow to thrive.

The Gallup World Path: Macroeconomics highlights the link between every resident's individual contribution and the community's or country's overall success. The heart of the path is well-being. Just as great workplaces must deliberately create conditions to produce engaged employees and customers, communities must deliberately promote well-being to attract the best talent and promote quality GDP growth. As engaged employees and customers make growth and prosperity possible for companies, engaged residents do the same for their communities.

The fundamental needs of a community's residents, such as food and shelter, form the early steps of the path, followed by higher order needs such as good jobs and well-being. Many communities succeed at addressing basic needs, but they fail in achieving the latter steps of the path.

The Gallup World Path: Macroeconomics measures interconnected components regarding law and order, food and shelter, institutions and infrastructure, good jobs, well-being, and brain gain in a society. These components are composed of indicators that correlate with real-world outcomes.





## Appendix C: Income Variables

To calculate household income, respondents are asked to report their monthly household income in local currency. Those respondents who have difficulty answering the question are presented a set of ranges in local currency and are asked to which group they belong. A hot deck procedure is used to impute these cases, bounding them by the local currency range reported by the respondent. If a respondent does not answer both income questions, missing values are imputed using the hot deck method.

Worldwide, roughly 70% of respondents provide a specific income figure during the World Poll Survey (2015 estimate). Approximately 15% report an income range, and 15% do not provide any indication of household income.

After imputation of income ranges and missing values, income data are annualized, and final variables are created. Estimates of household income are expressed in both local and International Dollars. Local income is converted to International Dollars using the World Bank's individual consumption purchasing power parity (PPP) conversion factor, making income estimates comparable across all countries. The International Dollars measure is comparable across all respondents, communities, local regions, countries and global regions. One respondent reporting a household income of \$1,000 ID has twice the income of one reporting \$500 ID.

To calculate respondent income in International Dollars, Gallup used the latest individual consumption PPP conversion factors available – the most recent PPP estimates produced by the World Bank (2014 for many countries) based on the 2011 International Comparison Program (ICP). In addition, PPP rates have been deflated based on CPI of U.S. dollars for years 2009-2015, thus making all years in in 2016 U.S. dollars and comparable.

Gallup has created a worldwide income variable (INCOME\_2: Annual Household Income in International Dollars) that estimates household wealth on equal footing among all Gallup World Poll respondents. In addition to the continuous International Dollars variable, Gallup constructed other income variables.

The calculations and coding for each variable are described in detail below.

### **Income \_1: Annual Household Income in Local Currency**

After imputation of income range data and missing data, monthly household income is annualized to create INCOME\_1: annual household income in local currency. WP7824 in the dataset designates the local currency reported by country.

### **Income \_2: Annual Household Income in International Dollars**

INCOME\_1 is used to create INCOME\_2 by converting local currency to International Dollars (ID) using purchasing power parity (PPP) ratios. Annual household income in international dollars (ID) is calculated using the World Bank's PPP private consumption conversion factor.

### **Income \_3: Per Capita Annual Income in Local Currency**

To determine per capita income, INCOME\_1 (Annual Household Income in Local Currency) is divided by HHSIZE (Total Number Living in Household.) This is reported in local currency.

### **Income\_4: Per Capita Annual Income in International Dollars**

To determine per capita income, INCOME\_2 (Annual Household in International Dollars) is divided by HHSIZE (Total Number Living in Household). This is reported in International Dollars.

### **Income\_5: Per Capita Income Quintiles**

For INCOME\_5, income data from INCOME\_4 (Per Capita Annual Income in International Dollars) is used to divide respondents into five groups of equal size. This provides a measure of respondent wealth that is relative to other respondents in that country. This variable provides a look at wealth within a given country.

- 1 – Poorest 20%
- 2 – 21% - 40%
- 3 – 41% - 60%
- 4 – 61% - 80%
- 5 – Richest 20%

### **Income\_7: Reported Versus Imputed Values**

This variable explains how a given income value was determined for an individual respondent:

- 1 – created using open-ended item on monthly income
- 2 – created using hot deck imputation within local currency ranges
- 3 – both income variables missing and created using hot deck imputation

### **HHsize: Total Number Of People Living In Household**

Household headcount is calculated using WP12 (residents aged 15 and older in household) and WP1230 (children younger than 15.) Any missing values (which tend to be very few) are imputed from annual data using the hot deck method. For countries where household headcount exceeds 10, this variable was truncated at the 95% percentile within the country measurement.

### **Considerations When Analyzing Income Data**

When analyzing income data, it is important to consider the manner in which income data are collected. During the final stage of sampling, a respondent is randomly selected from a household. That respondent is asked to report a household income. It is thus not advised to use the respondent-level weights included in the World Poll dataset when analyzing household measures of income (income\_1 and income\_2). But when analyzing per capita income (income\_3, income\_4 and income\_5) respondent-level weights should be applied.

All income variables can be used as predictors (independent variables) of personal or household level variables if there is a good causal logic in a user's model. However, none of the income variables (regardless it is per capita or household level) should be used as dependent variables when independent variables are personal characteristics (age, gender, education, employment, etc). Because of the way income data are collected on World Poll, only household-level variables can be predictors of income variables.

## Appendix D: External Measures

Measure	Source	Year	Notes
Adolescent fertility rate	World Bank	2014	Adolescent fertility rate is the number of births per 1,000 women aged 15 to 19.
Age dependency ratio	World Bank	2015	Age dependency ratio is the ratio of dependents--people younger than 15 or older than 64--to the working-age population--those ages 15-64. Data are shown as the proportion of dependents per 100 working-age population.
Alternative and nuclear energy (% of total energy use)	World Bank	2013	Clean energy is non-carbohydrate energy that does not produce carbon dioxide when generated. It includes hydropower and nuclear, geothermal, and solar power, among others.
CO2 emissions (metric tons per capita)	World Bank	2013	Carbon dioxide emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring.
Depth of the food deficit (kilocalories per person per day)	World Bank	2015	The depth of the food deficit indicates how many calories would be needed to lift the undernourished from their status, everything else being constant. The average intensity of food deprivation of the undernourished, estimated as the difference between the average dietary energy requirement and the average dietary energy consumption of the undernourished population (food-deprived), is multiplied by the number of undernourished to provide an estimate of the total food deficit in the country, which is then normalized by the total population.
GDP per capita, PPP (current international \$)	World Bank	2015	GDP per capita based on purchasing power parity (PPP). PPP GDP is gross domestic product converted to international dollars using purchasing power parity rates. An international dollar has the same purchasing power over GDP as the U.S. dollar has in the United States. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current international dollars.
GDP growth (annual %)	World Bank	2015	Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2005 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.
GINI index	World Bank	2014	GINI index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution. A GINI index of 0 represents perfect equality, while an index of 100 implies perfect inequality.
Health expenditure per capita (current US\$)	World Bank	2013	Total health expenditure is the sum of public and private health expenditures as a ratio of total population. It covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health but does not include provision of water and sanitation. Data are in current U.S. dollars.
Improved sanitation facilities (% of population with access)	World Bank	2015	Access to improved sanitation facilities refers to the percentage of the population using improved sanitation facilities. The improved sanitation

Measure	Source	Year	Notes
			facilities include flush/pour flush (to piped sewer system, septic tank, pit latrine), ventilated improved pit (VIP) latrine, pit latrine with slab, and composting toilet.
Improved water source (% of population with access)	World Bank	2015	Access to an improved water source refers to the percentage of the population using an improved drinking water source. The improved drinking water source includes piped water on premises (piped household water connection located inside the user's dwelling, plot or yard), and other improved drinking water sources (public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, and rainwater collection).
Intentional homicide rate per 100,000 population	United Nations	2014	Intentional homicides are estimates of unlawful homicides purposely inflicted as a result of domestic disputes, interpersonal violence, violent conflicts over land resources, intergang violence over turf or control, and predatory violence and killing by armed groups.
Internet users (per 100 people)	World Bank	2015	Internet users are people with access to the worldwide network.
Maternal mortality ratio (modeled estimate, per 100,000 live births)	World Bank	2015	Maternal mortality ratio is the number of women who die during pregnancy and childbirth, per 100,000 live births. The data are estimated with a regression model using information on fertility, birth attendants, and HIV prevalence.
Mortality rate, under-5 (per 1,000)	World Bank	2015	Under-five mortality rate is the probability per 1,000 that a newborn baby will die before reaching age five, if subject to current age-specific mortality rates.
Mortality rate, infant (per 1,000)	World Bank	2015	Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year.
Life expectancy at birth, total (years)	World Bank	2014	Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.
Literacy rate, adult total (% of people ages 15 and above)	World Bank	2015	The percentage of the population age 15 and above who can, with understanding, read and write a short, simple statement on their everyday life. Generally, 'literacy' also encompasses 'numeracy', the ability to make simple arithmetic calculations. This indicator is calculated by dividing the number of literates aged 15 years and over by the corresponding age group population and multiplying the result by 100.
Long-term unemployment (% of total unemployment)	World Bank	2014	Long-term unemployment refers to the number of people with continuous periods of unemployment extending for a year or longer, expressed as a percentage of the total unemployed.
Rural population (% of total)	World Bank	2015	Rural population refers to people living in rural areas as defined by national statistical offices. It is calculated as the difference between total population and urban population.
School enrollment, tertiary (% gross)	UNESCO	2014	Total enrollment in tertiary education (ISCED 5 and 6), regardless of age, expressed as a percentage of the total population of the five-year age group following on from secondary school leaving.
Urban population (% of total)	World Bank	2015	Urban population refers to people living in urban areas as defined by national statistical offices. It is calculated using World Bank population estimates and urban ratios from the United Nations World Urbanization Prospects.
Youth literacy rate, population 15-24 years, both sexes (%)	World Bank	2015	Number of people age 15 to 24 years who can both read and write with understanding a short simple statement on their everyday life, divided by the population in that age group. Generally, 'literacy' also encompasses 'numeracy', the ability to make simple arithmetic calculations. Divide the number of people aged 15 to 24 years who are literate by the total population in the same age group and multiply the result by 100.