Safety Perceptions Index 2022

Understanding the perceptions and connections of global risk

LR Foundation

IEP

Contents

Executive Summary

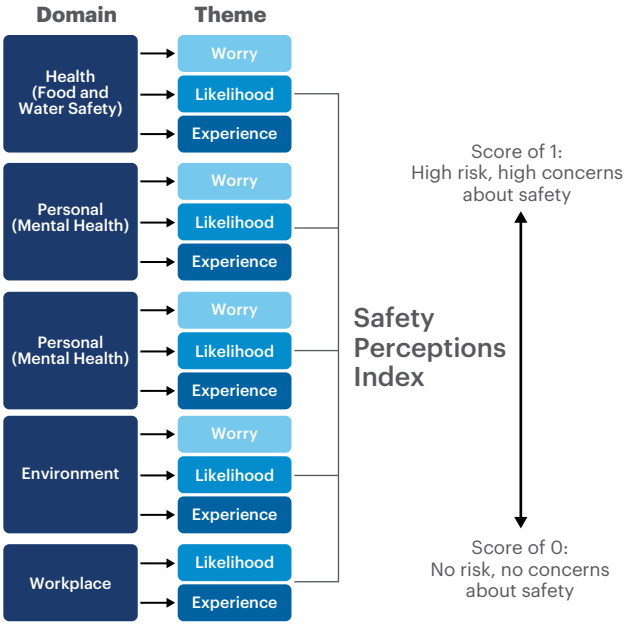
This is the first edition of the Lloyd's Register Foundation *Safety Perceptions Index (SPI)*, produced by the Institute for Economics and Peace using data from the Lloyd's Register Foundation's World Risk Poll.

The purpose of the index is to better understand how perceptions of safety differ across countries, and how the different aspects of risk are connected. The SPI measures the levels of *worry, likelihood and experience of risk* across five domains: health, personal, violence, environment, and the workplace. These domains and themes are combined into a composite score which reflects perceptions of safety at the country level. A high score indicates a high level of concern with safety issues.

FIGURE A.1

Safety Perceptions Index - Composition

The SPI measures the levels of worry, likelihood and experience of risk across five domains: health, personal, violence, environment, and the workplace.



Source: IEP

Future versions of the index will be able to track trends and changes in perceptions of safety over time, and to see if perceptions of safety have changed across different regions. This will be particularly important as the world begins to recover from the COVID-19 pandemic. Data for the first iteration of the SPI was collected before the onset of the pandemic in early 2020. As such, it is highly likely that attitudes towards different risks will have shifted significantly over the past two years.

The SPI is constructed from data from the World Risk Poll, a collaboration between Lloyd's Register Foundation and Gallup. The World Risk Poll provides invaluable insight into cross-country level of risk in areas where comparable data from official government sources is unavailable, incomplete, or insufficiently comprehensive. For example, comparable data on violent crime rates is unavailable across more than a handful of countries owing to differences in definitions, recording mechanisms, and police collection procedures. While some existing survey data is available, it covers far fewer countries than the World Risk Poll, and is now at least a decade old. Similarly, cross-country data on mental health tends to reflect official prevalence rates, but potentially misses issues related to under-diagnosis or cultural differences in attitudes towards diagnosis and treatment.

The first edition of the SPI finds that there are significant differences in the safety perceptions across countries and regions. Russian and Eurasian countries have the lowest levels of fear and worry with nine of the 25 countries with lowest overall scores coming from this region. People were most fearful of falling victim to road accidents, followed by violent crime, however the poll was completed just prior to COVID and the fear of illness would likely have increased in 2021. Additionally, the risk from violent crime is substantially higher in South America than other regions, mental health conditions are perceived the most significant risk in Europe and North America. Risk is low across all domains in Russia and Eurasia, however in sub-Saharan Africa the opposite holds true.

The index also finds that although scores across domains vary significantly from region to region, as a whole different risk domains and risk themes are strongly correlated. If a country has high levels of risk in one domain, it is likely to face high risk in others. Similarly, if the experience of a certain risk is high, people are more likely to be worried about it in the present, and to feel that it is highly likely to reoccur in the future.

There are two key exceptions to this pattern found in the SPI. Risk from mental health and the risk of workplace injury are correlated far less strongly with other forms of risk. This suggests that these two domains have different drivers and correlates of risk, and that addressing these risks will require a different understanding, and different policy responses.

BOX 1

World Risk Poll R package

This report forms a broader multi-year broader collaboration between Lloyd's Register Foundation and the Institute for Economics and Peace (IEP) to better understand how perceptions of safety differ across countries, and how the different aspects of risk are connected.

As part of this work, the Institute for Economics and Peace has released an R package to allow researchers and practitioners easy access to the data and various aggregations. This package can be installed from **https://github.com/githubIEP/wrp**. This packages will be updated with the second World Risk Poll wave when it is released in 2022.

Key Findings

- **Prior to the COVID-19 pandemic, concerns about safety were falling across the world.**

  Only a quarter of people globally stated that they felt less safe in 2019 than they did in 2014, while over 70 per cent of people reported that they felt about as safe or more safe.

- **Worry about a risk is highly correlated to their estimation of the likelihood that they will be affected by that risk.**

  Respondents worry is clearly associated with the likelihood of it occurring, however, there are some countries where this is not true, most noticeably Sweden, where likelihood is higher than worry, and Japan, where worry is higher than likelihood.

- **There are significant differences in the perceptions of safety across the world.**

  Risk varies considerably by region and sex. On average it is highest in sub-Saharan Africa, lowest in Russia and Eurasia, and higher for women than for men. Four of the ten countries with the lowest level of risk are in Russia and Eurasia, while all ten of the countries with the highest levels of risk are in sub-Saharan Africa.

- **In most countries, worry about most risks is higher than past experience of those risks.**

  Worry about risk is higher for both men and women, and across almost every country. The mental health conditions indicator was the only part of the index where experience was higher than worry.

- **The highest variance between countries was recorded on questions about trust in institutions.**

  There are 21 countries where less than a quarter of the population would trust their government to provide accurate information about food safety, whilst in nine countries over 75 per cent of people would trust their government to provide that information.

- **The SPI is strongly correlated with peace.**

  Many of the major indices of development, peace, and conflict are correlated with the Safety Perceptions Index. In particular, countries that perform well in *Equitable Distribution of Resources* and *High Levels of Human Capital* report less worry, likelihood and experience of risk.

- **The perception of safety is strongly correlated with the presence of negative emotions in society, but not with positive.**

  Countries that report high levels of sadness and anger in the World Happiness Index report higher worry, likelihood and experience of risk. However, there is no correlation between safety perception and the prevalence of happiness, laughter, and enjoyment.

- **Countries with strong social support networks report lower levels of worry, likelihood and experience of risk.**

  Countries that report higher levels of "having someone to count on in times of trouble" have lower worry about, perceived likelihood of, and experience of risks than other countries. Levels of social support were highest in Iceland, Norway, Finland, Uzbekistan, and Mongolia.

- **Low uncertainty avoidance may help explain why some cultures have lower levels of worry about risk.**

  Countries with cultural norms that are less hierarchical, prioritise the long term, and are more open to uncertainty and change are much less likely to be worried about risk.

- **Political unrest and civil disorder can arise quickly, even in countries where worries about other types of risk are low.**

  Countries with low concern about daily risks still experienced significant political unrest since 2014.

- **Most risks are strongly correlated with each other. However, the connection is much weaker for mental health conditions and workplace injury.**

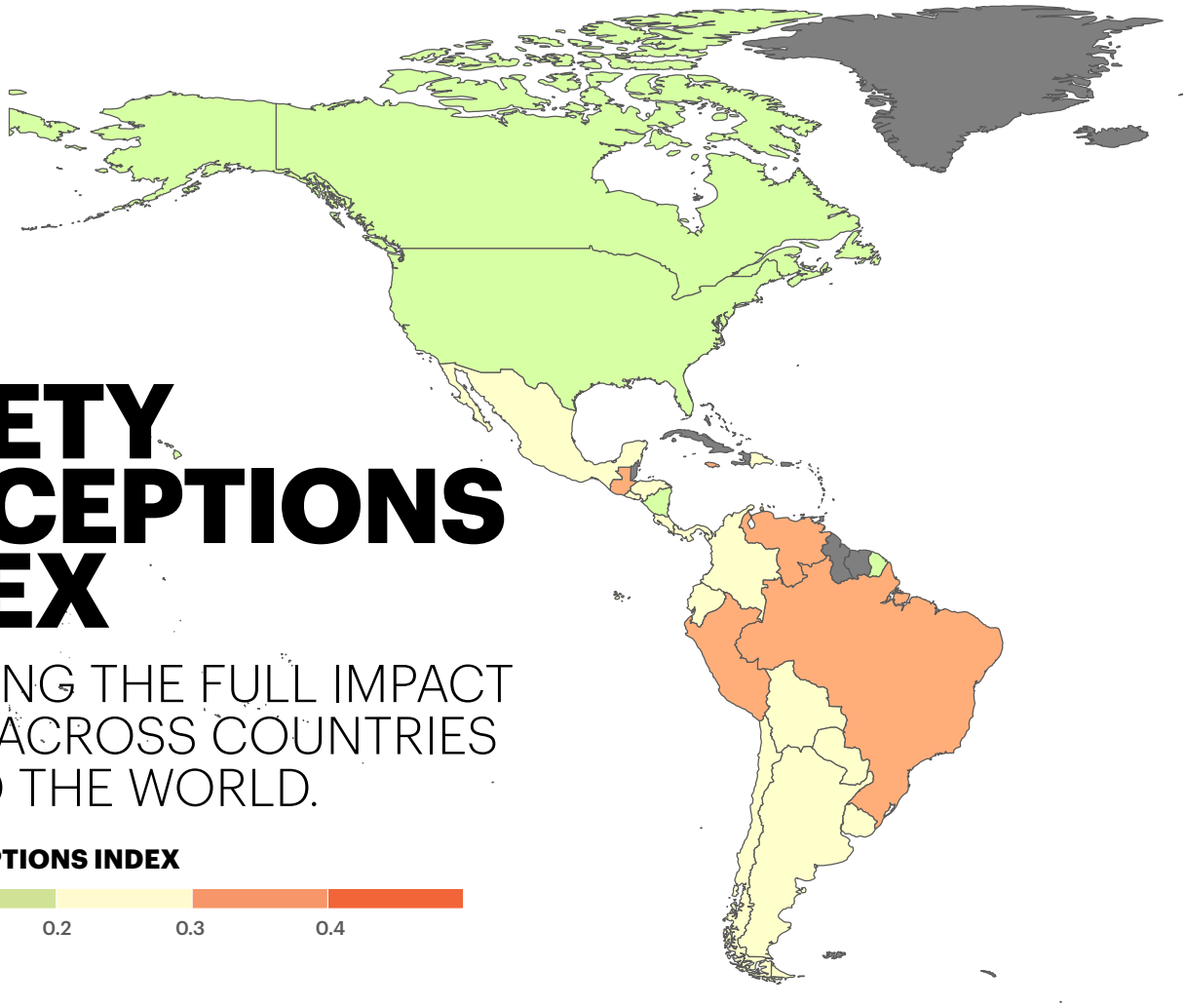
  Workplace injury has a much lower prevalence rate than any other risk, and has the weakest association with other forms of risk. Mental health is strongly correlated with other forms of risk for most countries, but there is a clear cluster of outliers where this does not hold true.

- **There are two distinct clusters of countries with high concerns stemming from mental health conditions.**

  The experience of mental health conditions is highest in sub-Saharan Africa and the West. Of the top 50 countries on this indicator, 47 are from these two regions. In the West, the experience of mental health is uncorrelated with other risks, but in sub-Saharan Africa, it is strongly correlated with the overall SPI score. The three countries with the highest levels of worry about mental health are Guinea, Liberia, and The Gambia. The three countries with the lowest level of worry are Poland, Ukraine, and Bulgaria.

- **Mental health concerns have a relatively high impact in the West, but worry about these issues is much lower than in other regions.**

  Young women in particular are far more likely to report having an experience with mental health conditions in the West than in other regions. However, the rate of worry for both men and women in the west is much lower than the experience rate.



SAFETY PERCEPTIONS INDEX

CAPTURING THE FULL IMPACT OF RISK ACROSS COUNTRIES AROUND THE WORLD.

SAFETY PERCEPTIONS INDEX

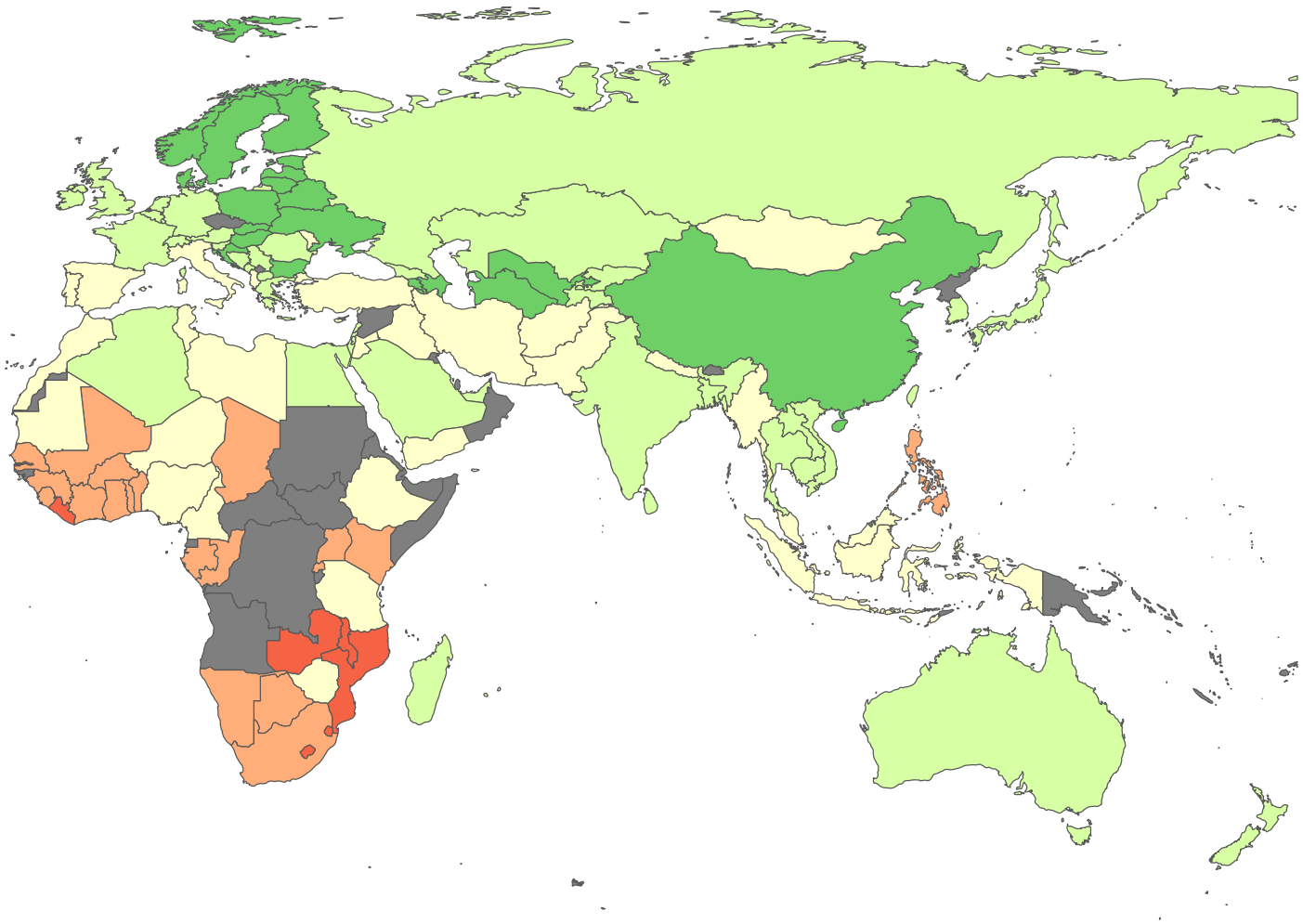
0.1 0.2 0.3 0.4

Source: IEP, Lloyd's Register Foundation World Risk Poll

RANK	COUNTRY	SCORE
1	Singapore	0.04
2	Turkmenistan	0.06
3	Uzbekistan	0.06
4	Lithuania	0.07
5	China	0.08
6	Norway	0.08
7	Azerbaijan	0.08
8	Belarus	0.08
9	Estonia	0.08
10	Poland	0.09
11	Bulgaria	0.09
12	Croatia	0.09
13	Latvia	0.09
14	Armenia	0.09
15	Slovakia	0.10
16	Ukraine	0.10
17	Finland	0.10
18	Hungary	0.10
19	Denmark	0.10
20	Sweden	0.10
21	Tajikistan	0.10
22	Kazakhstan	0.12
23	Serbia	0.12
24	Georgia	0.12

RANK	COUNTRY	SCORE
25	Egypt	0.12
26	Bosnia Herzegovina	0.12
27	Israel	0.13
28	Netherlands	0.13
29	Thailand	0.13
30	Germany	0.13
31	Saudi Arabia	0.13
32	United Kingdom	0.14
33	Switzerland	0.14
34	United Arab Emirates	0.14
35	Taiwan	0.14
36	Austria	0.14
37	Algeria	0.14
38	Hong Kong	0.15
39	Australia	0.15
40	Kyrgyzstan	0.15
41	Russia	0.15
42	New Zealand	0.15
43	Belgium	0.16
44	Romania	0.16
45	Vietnam	0.16
46	Kosovo	0.16
47	Ireland	0.16
48	Japan	0.16

RANK	COUNTRY	SCORE
49	Nicaragua	0.17
50	Palestine	0.17
51	South Korea	0.17
52	Bahrain	0.17
53	Montenegro	0.17
54	Canada	0.17
55	Slovenia	0.18
56	Cambodia	0.18
57	Greece	0.18
58	Malta	0.18
59	India	0.18
60	United States	0.18
61	Bangladesh	0.19
62	North Macedonia	0.19
63	France	0.19
64	Lebanon	0.19
65	Laos	0.20
66	Sri Lanka	0.20
67	Madagascar	0.20
68	Turkey	0.20
69	Ethiopia	0.20
70	Mauritania	0.21
71	Myanmar	0.21
72	Luxembourg	0.21



RANK	COUNTRY	SCORE
73	Italy	0.21
74	Yemen	0.21
75	Nigeria	0.21
76	Paraguay	0.21
77	Jordan	0.21
78	Iran	0.22
79	Moldova	0.22
80	Malaysia	0.22
81	Libya	0.22
82	Uruguay	0.22
83	Albania	0.23
84	Mongolia	0.23
85	Argentina	0.23
86	Spain	0.24
87	Indonesia	0.25
88	Tanzania	0.25
89	Cyprus	0.25
90	Mexico	0.25
91	El Salvador	0.26
92	Tunisia	0.26
93	Honduras	0.26
94	Morocco	0.26
95	Dominican Republic	0.26
96	Bolivia	0.26

RANK	COUNTRY	SCORE
97	Costa Rica	0.26
98	Iraq	0.27
99	Panama	0.27
100	Mauritius	0.28
101	Nepal	0.28
102	Cameroon	0.28
103	Ecuador	0.28
104	Zimbabwe	0.28
105	Portugal	0.28
106	Niger	0.29
107	Pakistan	0.29
108	Chile	0.29
109	Colombia	0.29
110	Afghanistan	0.29
111	Burkina Faso	0.30
112	Guatemala	0.30
113	Togo	0.30
114	Jamaica	0.31
115	Chad	0.31
116	Venezuela	0.31
117	Ghana	0.31
118	Kenya	0.32
119	Benin	0.33
120	Botswana	0.33

RANK	COUNTRY	SCORE
121	Peru	0.34
122	Rwanda	0.34
123	Mali	0.35
124	Brazil	0.35
125	Guinea	0.36
126	Ivory Coast	0.37
127	Senegal	0.37
128	Philippines	0.37
129	Uganda	0.38
130	Gabon	0.38
131	Namibia	0.38
132	Congo Brazzaville	0.38
133	Sierra Leone	0.39
134	South Africa	0.39
135	Eswatini	0.40
136	Mozambique	0.40
137	Gambia	0.41
138	Zambia	0.42
139	Liberia	0.47
140	Lesotho	0.47
141	Malawi	0.48

INTRODUCTION

There has been a dramatic increase in risk, uncertainty, and unrest across the world over the past decade. Political unrest led to the rise of populist movement in many countries, with a concurrent increase in civil unrest and mass demonstrations. The number of civil unrest events rose over 600 per cent between 2011 and 2019.[1] Deaths from terrorism and war also rose substantially before subsiding over the past five years.

The increase in risk and unrest has not been limited to the political sphere. Technological change and disruption led to the rise of social media, and the transformation of traditional media business and consumption models. The way in which people receive, consume, and understand information is vastly different now than it was ten years ago.

Several much broader and serious risks also loom large on the horizon. The threat posed by climate change continues to mount, with the disruption from the increased frequency of extreme weather events, conflict over resources, and climate-related migration now starting to be felt in many regions across the world. In the economic sphere, the impact of artificial intelligence could lead to significant disruptions in the near future, with some estimates suggesting that nearly half of all jobs are at risk of automation.[2]

In this climate of high uncertainty, it is extremely important to understand the perceptions of safety across different regions, countries, and demographics, and to examine how different risks are related. Although the world is facing a great deal of uncertainty and risk, these risks are not evenly distributed, and attitudes toward risk differ significantly from country to country. The World Risk Poll (WRP) data shows that for certain types of risk, some countries are extremely accepting of uncertainty and danger, whilst others are highly risk averse.

The WRP also provides tremendous insight into the relative level of certain types of risk where formal, non-survey data is not available in a comparable form. Cross-national data on the impact of mental health conditions, for example, is only available for a select number of countries, with an emphasis on antidepressant usage or the incidence of formal diagnosis. Similarly, owing to differences in police procedures, reporting standards, and crime underreporting, a cross-national dataset on the prevalence of violent crime has not been available since 2010. While the data in the WRP is not a perfectly comparable measure of these risks, it does allow for broad comparison across countries and regions.

The aim of the Lloyd's Register Foundation Safety Perceptions Index (SPI) is to use the data from the WRP and develop a composite measure of how risk impacts perceptions of safety at the country level, in order to better understand risk in the aggregate, and the relationship between different risk domains. The SPI uses a subset of the 75 questions from the WRP, focusing on those risks with the potential to cause the most disruption and have the most significant impact on the lives of people across the world. There are five domains in the SPI: Health risk (focusing on food safety), personal risk (focusing on mental health), the risk of violence (focusing on violent crime), environmental risk (focusing on severe weather), and employment risk (focusing on workplace injury). While these domains are not an exhaustive collection of all risk, they do cover the major risks that people are likely to face in their daily lives, that are serious enough to significantly hurt, harm, or even kill.

Each of the five domains (other than workplace risk, owing to data limitations) has three cross-cutting themes: *worry, likelihood, and experience*. It is these three themes that together provide the fullest measure of perceptions of safety. A composite index that just focused on the presence or absence of risk in terms of experience of that risk would not be fully capturing the impact that risk might have on someone's daily activity. A disconnect between experience of a risk and worrying about that risk should not necessarily imply that this worry is unfounded. For example, a society with high levels of private security and a populace too afraid to go out at night might have low levels of violence only because of the risk mitigation strategies that people must take to avoid it. For more information on how the index was constructed, which indicators were used, and the importance of the cross-cutting themes, see Appendix A at the end of this report.

This report uses the results of the SPI as a starting point for examining how different types of risk are related, how perceptions of safety vary by country and region, and how risks are related to the broader socio-economic environment. It has a special focus on personal risk, in particular the experience of mental health in the West and in sub-Saharan Africa. Future iterations of the index will focus in more detail on the four remaining domains.

The risk landscape

Figure A.2 shows the reported greatest risks to safety for WRP respondents. It should be noted that this data was collected prior to the COVID-19 pandemic. The second wave of the WRP will contain perceptions of safety post-COVID, and is likely to differ significantly.

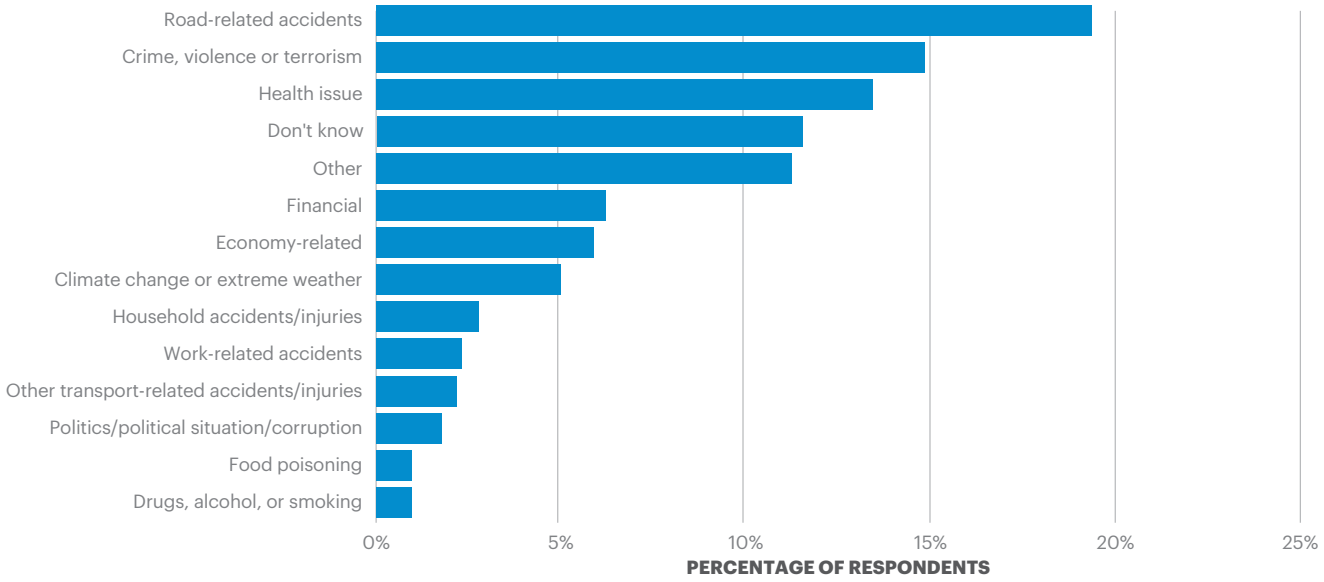
The single answer with the greatest number of respondents was 'no risk', meaning that respondents felt that they did not face any significant risks to safety in their daily lives. Of the risks that were reported, the most common response was 'road-related accidents' at just under 20 per cent. The second most common response was 'crime, violence, or terrorism', which was rated as the highest risk to safety by 15 per cent of respondents. Health issues were the third most cited risk. No other specific category was rated as the greatest risk by more than ten per cent of poll respondents globally.

Despite the political, financial, and social disruption that usually accompanies political unrest, less than two per cent of people rated 'politics/political situation/corruption' as the greatest risk they face, perhaps as a result of the relative infrequency of serious political disorder.

FIGURE A.2

Greatest risks to daily safety globally

No single risk was considered the greatest by more than 20 per cent survey respondents.

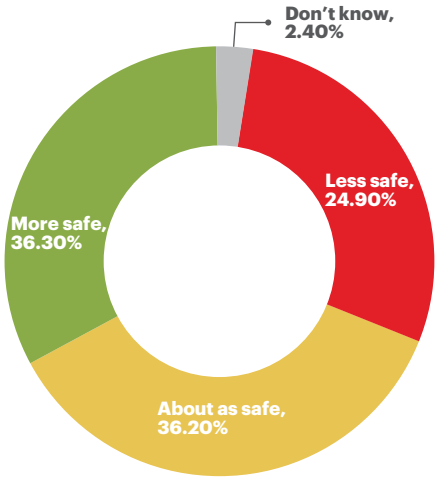


Source: World Risk Poll, IEP Calculations

FIGURE A.3

Feelings of safety in 2019 compared to 2014

Less than a quarter of survey respondents felt the world was less safe in 2019.



Source: World Risk Poll, IEP Calculations
Note: Total excludes those who refused to respond to the survey question

There was significant variation across regions and countries with regards to the greatest risk. For example, while 'crime, violence, or terrorism' was rated as the greatest risk by just 15 per cent of respondents, in some regions this figure was much higher. In South America, half of poll respondents rated it as the greatest risk to their safety.

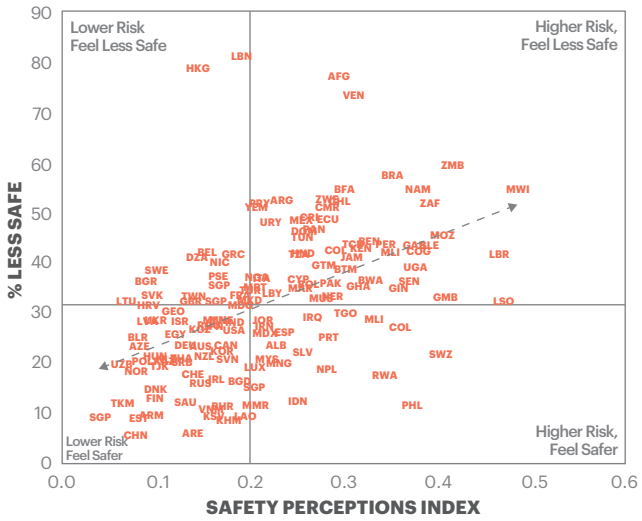
Although the WRP reveals that many people worldwide are worried about or have experienced a high number of significant risks, the general feeling of risk was declining before the onset of the COVID-19 pandemic, as shown in Figure A.3. One of the questions on the WRP asked respondents whether they felt more safe, about as safe, or less safe in 2019 as they did five years prior. Only a quarter of people globally stated that they felt less safe in 2019 than they did in 2014, with over 70 per cent of people reporting that they felt about as safe or more safe.

Countries with lower overall safety perception were more likely to report increased feelings of safety between 2014 and 2019. The scatterplot in Figure A.3 shows the relationship between the overall Safety Perceptions Index, and the difference in feelings of safety between 2014 and 2019. This chart is divided into four categories. From this most countries fall into the categories of 'lower risk, feel safer', 'higher risk, feel less safe'. However, there were several countries where lower safety perception was not correlated with increased feelings of safety, and vice versa.

FIGURE A.4

Safety Perceptions Index vs feelings of safety

Very few countries that felt less safe had low overall risk.



Source: World Risk Poll, IEP Calculations

The most notable outliers on Figure A.4 are Hong Kong and Lebanon experiencing lower risk but feeling less safe. Afghanistan and Venezuela also had very high percentages of people who felt less safe (albeit with higher overall levels of experience and likelihood of risks). Both Hong Kong and Lebanon have seen significant civil unrest in the past few years, with Lebanon facing a significant economic crisis and subsequent political fallout, and Hong Kong experiencing protracted protests concerning its political and legal relationship with mainland China. These outlier countries on Figure A.4 highlight the volatile nature of political risk, and how even countries with low concerns about safety can still be susceptible to political and social crises.

As noted above, many of the questions in the WRP focus on one of three themes: *worry, likelihood, and experience of risk*. The questions with the highest negative response across these three domains are outlined in Figure A.5.

The questions with the highest average negative response were related to the likelihood of future harm from **genetically modified organisms (GMO)** in food, and on the likelihood of strangers returning a lost item of significant financial value. On average, across the 142 countries included in the WRP, nearly 54 per cent felt that the introduction of GMO food was likely to cause harm in the future (as opposed to helping). Just under 53 per cent said that a stranger would be unlikely to return an item of significant personal value, with nearly 20 per cent on average feeling that a neighbour would be unlikely to return a similar item.

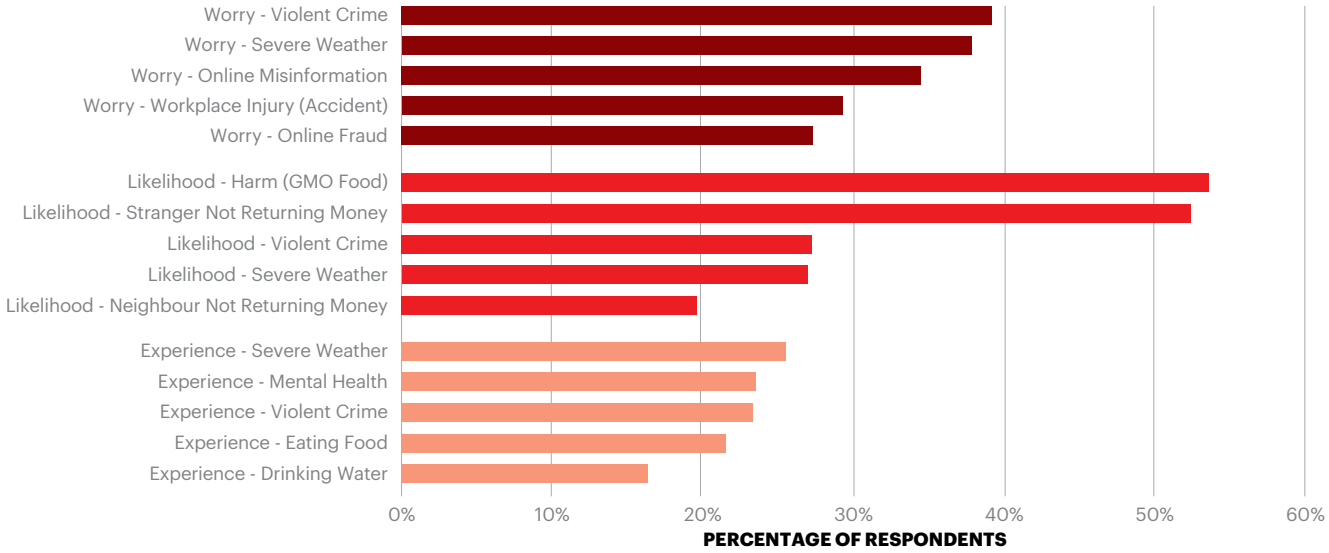
Worry about **violent crime and severe weather** was high across most countries. There were only five countries globally where fewer than ten per cent of respondents stated that they were very worried about suffering serious harm from violent crime, compared to 48 countries where over half the population was very worried. Worry about harm from severe weather was reflected in the worry about climate change, with a statistically significant correlation (r = 0.4) being seen between worry about harm from severe weather, and seeing climate change as a very serious threat. However, seeing climate change as a threat was more weakly correlated (r = 0.2) with having experienced harm from severe weather in the past.

Many people in the WRP also expressed concerns about **online risks**, with online **misinformation and online fraud** being the third and fifth most common worries respectively. These concerns were highest in the Americas countries, with 62 per cent of people on average in North America, and 48 per cent of people in South America reporting that they were worried about online misinformation. By contrast, in sub-Saharan Africa the

FIGURE A.5

Most common risks by theme, World Risk Poll

Fear of violent crime is high across most countries.



Source: World Risk Poll, IEP Calculations

country average level of worry was 20 per cent, and in South Asia it was just 11 per cent.

Looking at the correlations between *worry*, *likelihood and experience* in Table A.1, shows that while a respondents worry about a risk is highly correlated to their estimation of the likelihood that they will be affected by that risk, both are less correlated to their personal experience of the risk.

TABLE A.1

Correlation of Worry, Likelihood and Experience

While a respondents worry about a risk is highly correlated to their estimation of the likelihood that they will be affected by that risk, both are less correlated to their personal experience of the risk.

	Worry	Likelihood	Experience
Worry	1.00		
Likelihood	0.95	1.00	
Experience	0.76	0.76	1.00

In general, the **experience of risks tends to be much lower than worry or likelihood of those risks**. However, a notable exception of that is how respondents answered about mental health, which in many cases **experience was larger than worry about mental health**.

Further correlation analysis is presented in section three of this report.

1 Results

The purpose of the SPI is to better understand how perceptions of safety differ across countries, and how the different aspects of risk are connected. The SPI measures the levels of *worry, likelihood and experience of risk* across five domains: health, personal, violence, environment, and the workplace. These domains and themes are combined into a composite score which reflects perceptions of safety at the country level. A high score indicates a high level of concern with safety issues.

The results of the SPI show a strong connection between the different risk domains, and also between the three cross-cutting themes. Although there are countries where risks are over or underestimated, in general there is a strong correlation between the past experience of risk, present worry, and estimation of its future likelihood.

The correlation between the different risk domains is strong. Countries are much more likely to have relatively high levels of risk across all five domains, rather than to only have one or two domains with a high score. However, there were two notable exceptions.

Firstly, on the workplace domain, the risk of workplace injury was low across almost all countries, with only a handful of outliers with exceptionally high levels of workplace risk.

Secondly, while worry about mental health risk was closely correlated with the overall index, the experience of mental health conditions was not. This was the result of very high levels of the experience of mental health concerns in highly economically developed countries that otherwise had a low overall score on the index. This finding is explored in more detail later in the report.

Figure 1.1 shows the average country score on the SPI for the overall score, each of the five domains, and for an aggregate of the three cross-cutting themes. The index is scored between 0 and 1, where a score of 1 would mean that every person in a given country was very worried about every risk, thought it was very likely that the risk would occur in the next two years, and had personally experienced the risk or known someone who had in the past two years. Conversely, a score of zero would mean that nobody in a country was worried about any of the risks, had not experienced the risk in the past two years, and thought none of them were likely to occur in the near future.

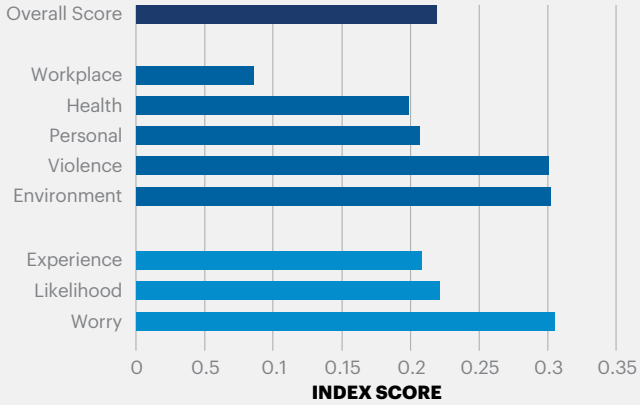
The average country score on the index was just under 0.22, with scores ranging from 0.04 in Singapore, the country with the lowest overall score, to 0.48 in Malawi, the country with the highest concern about perceptions of safety.

At the domain level, workplace risk was considerably lower than any other domain, with an average score of 0.08. Levels of workplace risk were low across both indicators, with an average of just under 12 per cent of people having experienced a workplace injury or known someone who had, and just over five per cent of people feeling that a workplace injury was very likely to occur in the near future.

FIGURE 1.1

Average country score on the SPI, domains and themes

Violence and the environment were the risk domains with the greatest impact.



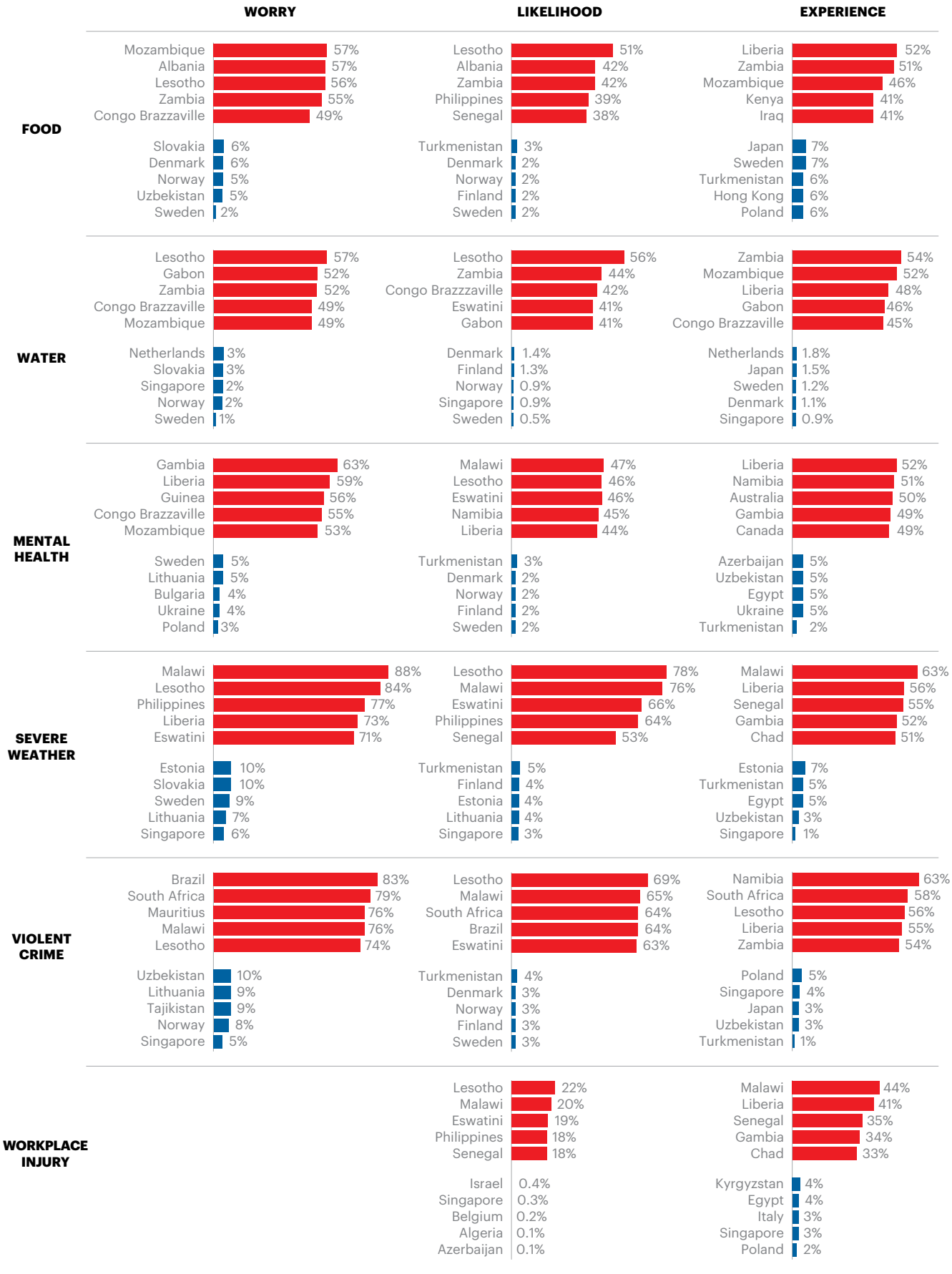
Source: World Risk Poll, IEP Calculations

The health risk and personal risk domains had similar average scores, at 0.19 and 0.21 respectively, while the violence and environment domains had by far the highest average score. Worry about risk was much higher than experience of risk for both these domains. In some countries over 80 per cent of people were very worried about suffering serious harm from severe weather or violent crime, the highest by far of any domain.

Figure 1.2 shows the highest and lowest percentage responses by country for each of the indicators on the SPI. It shows that the response rate for both the likelihood and experience of workplace injury is considerably lower than for any other indicator. The highest response rate for the experience indicator on the workplace domain was 44 per cent in Sierra Leone. By contrast, no other experience indicator had a maximum country response lower than 50 per cent.

FIGURE 1.2

Five highest and lowest country percentage responses, SPI Indicators



Source: World Risk Poll, IEP Calculations

Lowest overall score - Singapore

Singapore has the lowest overall score of any country in the SPI. Its level of risk was consistently low across every domain and every risk theme, with only one indicator having a response rate higher than ten per cent. Singapore also had the lowest overall score for both men and women and was ranked amongst the top ten in every domain and theme.

Figure 1.3 highlights Singapore's performance on the SPI by sex. Singapore performed especially well on the violence and environment domains being ranked first for both men and women across these two areas. Just 2.8 per cent of Singaporeans reported that the felt it was very likely that violent crime could cause them serious harm in the next two years (although there were noticeable sex differences, with 0.8 per cent of men and 4.8 per cent of women stating that it was 'very likely').

The one area where Singapore was not ranked at the apex of the index was food safety. Close to 11 per cent of Singaporeans reported suffering serious harm or knowing someone who had from eating food in the past two years. This was a higher rate than 25 other countries, with five countries in the Asia-Pacific region all recording lower rates of harm from eating food. There was a concurrent worry about the risk of eating food, with 9.4 per cent of respondents reporting that they were very worried, however, only 3.8 per cent of people felt that it was very likely they would suffer serious harm in the next two years from eating food.

Despite the low level of risk from severe weather, a high number of Singaporeans stated that they felt climate change was a 'very serious threat'. Over 70 per cent of Singaporeans had serious concerns about climate change, a much higher level than other countries with comparable levels of overall risk. The threat of sea level rise from climate change, and an increase in extreme weather events, average rainfall, and a rising average temperature have all been noted as serious risks by the Singaporean government.[3]

Singapore has a higher level of trust in institutions than most countries, including many countries with similarly low levels of risk. This is reflected in attitudes towards both the government and traditional media. Eighty per cent of Singaporeans reported that they would look to the government to provide information on food safety, with just over 80 per cent stating they would look to traditional media for information on food safety. Most other other low risk countries showed a strong distrust of traditional media, with between 30 and 80 per cent of people in low-risk countries reporting that they would not look to the media for food safety advice.

Singaporeans also demonstrated a strong ability to correctly assess the risk of extreme events occurring. Fewer than one per cent of Singaporeans reported that they were likely to be in an airplane accident, drown, or be struck by lightning. However, there were a small number of risks where the country was more worried than the global average. **Over half of Singaporeans reported being worried about online misinformation**, with 43 per cent being worried about online fraud, and 28 per cent expressing worry about online bullying.

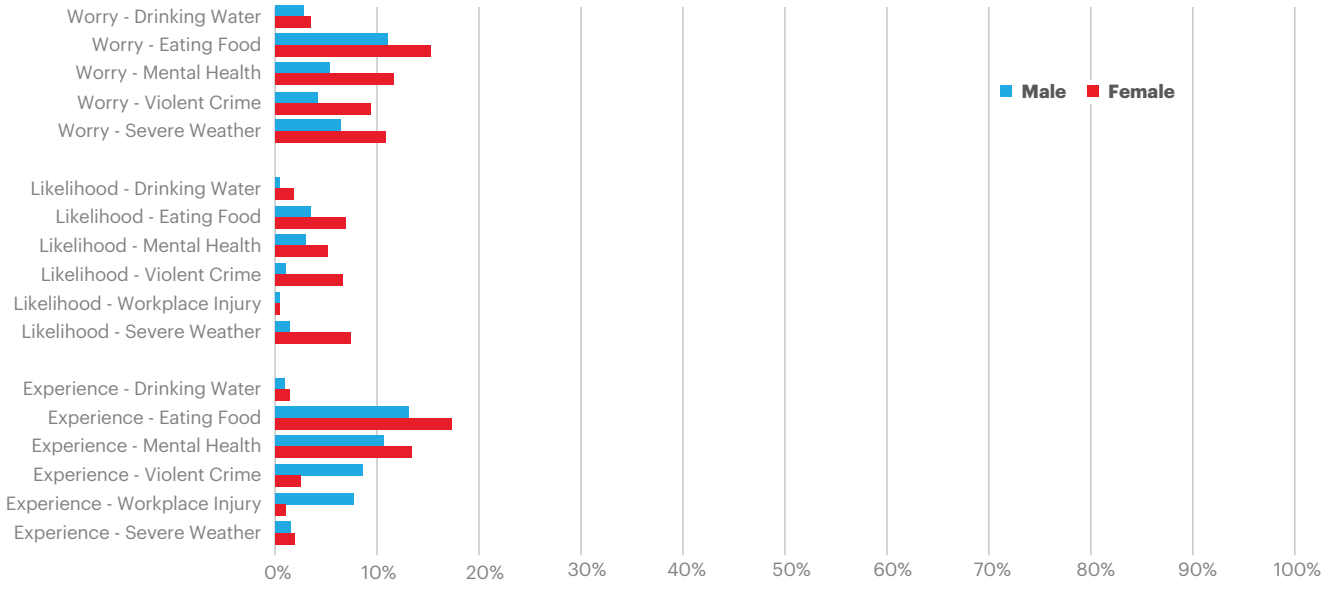
Worst overall score - Malawi

Malawi had the highest overall score on the SPI. It scored highly across all domains and risk themes, but scored particularly poorly on the worry theme, and the severe weather domain. Malawi had the highest experience and worry response levels for severe weather of any country in the index. It was ranked amongst the ten countries with the highest score on every domain other than the health domain.

FIGURE 1.3

Safety Perceptions Index, indicator scores by sex, Singapore

Only one of the indicators for Singapore had an average response rate higher than 10%.



Source: World Risk Poll, IEP Calculations

Malawi was also one of the few countries where scores were higher for men across all domains, with significant sex differences recorded on the experience of workplace injury, violent crime, and mental health. Figure 1.4 shows Malawi's performance on the index indicators, disaggregated by sex. Of the countries where the overall score was greater for men, only Nigeria and Lesotho had a larger gap between male and female index scores.

Concerns about perceptions of safety in Malawi were highest on the environment domain. With Malawi suffering from major floods in 2019[4], over 60 per cent of respondents reported that they had suffered serious harm from a severe weather in the past two years, with almost 90 per cent of respondents reporting that they were very worried about severe weather. Lesotho was the only other country where more than 80 per cent of the country reported being very worried.

The score on the environment domain was mirrored in the country's attitude towards climate change. Nearly three quarters of respondents from Malawi described climate change as a very serious threat to people in their country in the next twenty years. This worry about climate change reinforces the findings of other measures of climate change. Malawi is ranked fourth on the 2021 *Ecological Threat Report*, which assesses ecological threat in the form of climate change, extreme climate events, severe weather, and the social and epidemiological impact of environmental threat.

Although the workplace domain had the lowest score relative to all other domains in Malawi, it was still very high when compared to other countries. Over 30 per cent of respondents from Malawi reported that they had suffered serious harm from a workplace injury. There were considerable sex differences on this indicator, with 40 per cent of men reporting serious harm, compared to 20 per cent of women. This was the 6th highest level of workplace injury reported globally. Accidents and equipment issues were the most common source of workplace injury, although almost a third of respondents also reported that they suffered a workplace injury as the result of workplace violence.

Concerns about perceptions of safety were voiced by many respondents in Malawi across the whole spectrum of WRP questions. Outside of the index domains and indicators, people from Malawi were more likely than respondents from any other country to believe that they were likely to be physically attacked by someone else in the next two years (at 32.3 per cent). They also had very high likelihood rates for lightning strikes, airplane accidents, and the possibility of drowning. Despite these fears, trust in institutions and other people was not much lower than average.

The gap between worry and experience

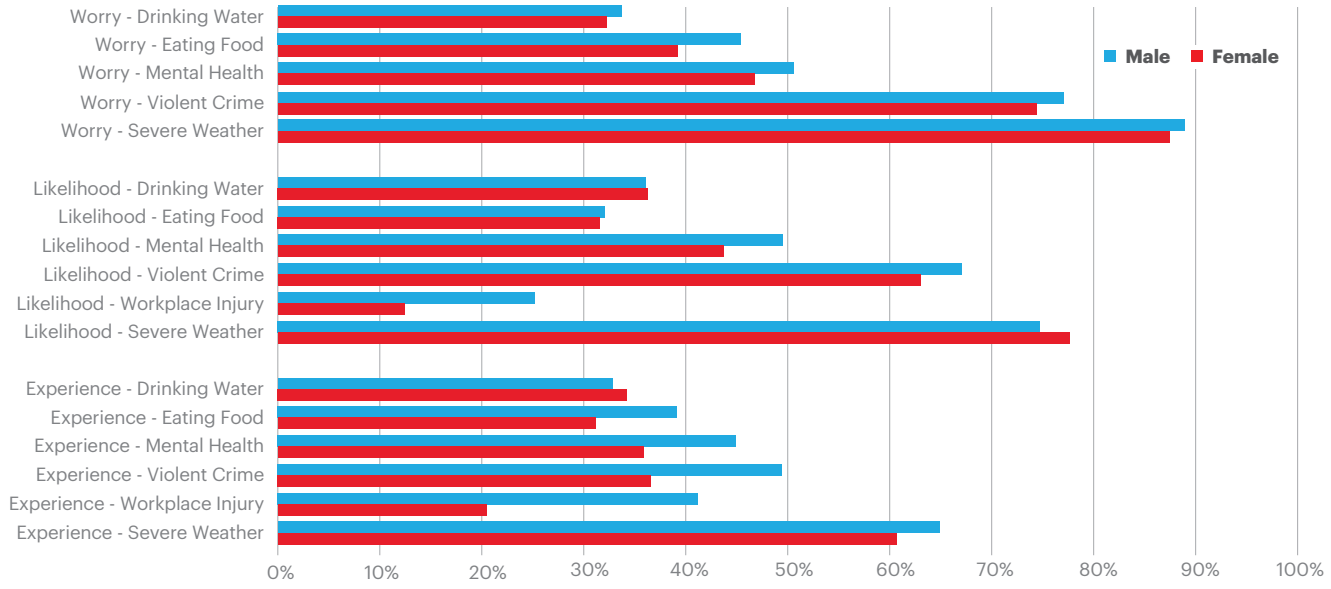
The data from the WRP shows that there is a gap between past experience of risk, and worry about that risk in the present. For the majority of countries in the index, worry tends to be higher than experience. This is true for index indicators, questions about rare events in the WRP, and for the index as a whole. The clearest example of this phenomenon is the overestimation of the likelihood of extremely rare events such as being hit by lightning, being in an airplane accident, or drowning. The estimated odds of being hit by lightning in a given year are over 1 in 1,200,000.[5] However, the average country response for the percentage of people who thought it was 'very likely that they would be struck by lightning in the next two years' was almost six per cent, with some countries having more than 20 per cent of people who feel that such a rare event was extremely likely.

It is important to note, however, that the overestimation of extremely rare events does not necessarily mean that risk is always overstated where there is a gap between worry and

FIGURE 1.4

Safety Perceptions Index, indicator scores by sex, Malawi

Nearly 90% of respondents from Malawi were very worried about severe weather.



Source: World Risk Poll, IEP Calculations

experience. Rather, such a gap might be reflection of risk mitigation efforts undertaken by an individual or society, to deal with a real risk which would have a much higher prevalence if not for those mitigation efforts. For example, in Brazil there is a large gap between worry about violent crime (82.7%) and experience of serious harm from violent crime (41.7%). However, this is most likely reflective of the high level of risk mitigation with respect to the threat of violent crime that occurs in Brazil. Private security spending alone accounted for close to one per cent of Brazil's GDP in 2018.[6]

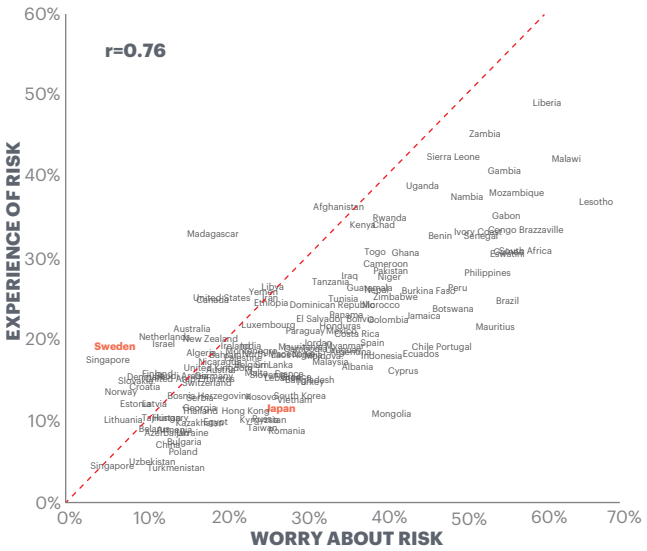
Similarly, there is a gap between male and female worry about violent crime, and the experience of violent crime. **In 85 per cent of countries, women are more worried about violent crime then men, but men have a higher experience of violence than women in 75 per cent of countries in the SPI.** However, this might be reflective of violence avoidance strategies taken by women. One UK study estimated that a third of women take regular conscious actions to protect themselves from sexual assault, such as making sure they are never alone in public spaces, or avoiding certain areas all together.[7]

The gap between worry and experience held across almost every indicator, country, and region on the SPI. Of the 141 countries in the SPI, only 21 had a higher experience of risk theme score than the worry theme score, as shown in Figure 1.5.

FIGURE 1.5

Worry about risk vs experience of risk, Safety Perceptions Index

Only 21 countries had higher levels of experience than worry.



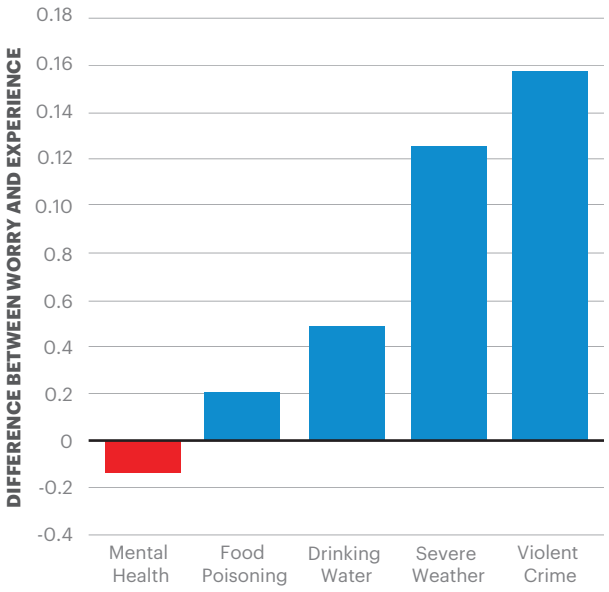
Source: World Risk Poll, IEP Calculations

The average difference between worry and experience on the SPI indicators is summarized in Figure 1.6. Of the five indicators with both worry and experience data, only one had a higher average experience than worry score (mental health). All other indicators had a higher average worry score, meaning a higher percentage of people were very worried about experiencing a risk than had experienced it in the past two years. The largest discrepancy between worry and experience was found on the severe weather and violent crime indicators.

FIGURE 1.6

Difference between worry and experience themes by indicator

Mental health was the only indicator with a higher experience than worry score.



Source: World Risk Poll, IEP Calculations

There are several reasons why the gap between experience and worry would vary across countries and indicators. As mentioned above, an excess of worry might be the result of risk mitigation efforts, in order to avoid a known risk. This seems likely to be the case for violent crime, especially in areas where the level of overall violent crime is relatively high. However, in countries where the level of crime is low, an excess of worry about violent crime seems to be connected to excess levels of focus or media coverage, particularly on extreme levels of violence or rare violent events.

Prior research from IEP has found that national level news coverage has a distortionary effect on the perception of violent crime rates at the national level. People tend to overestimate the level crime nationally, but have a much more accurate perception of violent crime at the local level. Similarly, the level of perceived violent crime is generally correlated with the coverage of violent events but in countries with lower levels of violence, there is a much higher chance that there will be an excess of media coverage on violent events.

Another possible cause of an excess of worry is the level of fear or dread associated with the risk. If a given risk creates a feeling of dread or terror, the level of worry is much more likely to be disproportionate to the experience of that risk.[8] This is a possible explanation for why severe weather and violent crime have much higher levels of excess worry than the risk of suffering harm from mental health, eating food, or drinking water. Both severe weather and some forms of violent crime can potentially be mass casualty events with a high number of victims, and a high level of destruction. Furthermore, in the case of severe weather, the specter of climate change leads to an associated between a specific risk in the present, and the possibility of a higher number of events in the future. There is a clear correlation between a country's score on the environment

domain of the SPI, and the percentage of people who think that climate change will be a very serious threat in their country (r = 0.39).

Conversely, in situations where there is low dread attached to a given risk, the level of worry may be lower than the level of experience. This can be seen when looking at the difference between the experience of serious harm from mental health, and worry about mental health in the present, or perceptions of the future likelihood of having mental health concerns. Across most countries in the SPI, likelihood, worry, and experience on the mental health indicator are very closely correlated. However, in highly economically developed countries, levels of experience are consistently higher than levels of worry or likelihood, as shown in Figure 1.6.

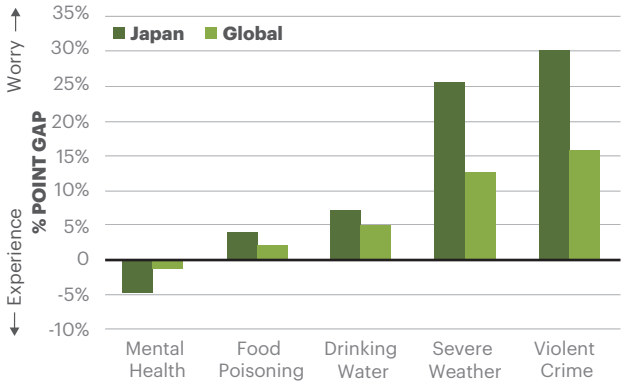
Higher worry case study – Japan

Despite having very low levels of risk overall, there is a clear gap between experience and worry in Japan, as shown in Figure 1.7. Of the five indicators with adequate data coverage, Japan recorded more worry than experience on four of them, with a considerably larger gap than the global average in all cases. However, it did record the opposite result on the mental health indicator, with a modest gap in favor of experience over worry.

FIGURE 1.7

Gap between worry and experience by indicator, Japan

The trend in Japan matched the global trend for every indicator.



Source: World Risk Poll, IEP Calculations

The largest gap was recorded on the violent crime indicator, with a 30 percentage point gap between people worried about suffering serious harm from violent crime, and those who had experienced it in some form in the past two years. The gap is particularly notable because of the low levels of violent crime in Japan. Just 3.1 per cent of people recorded having experienced serious harm from violent crime, with only Turkmenistan recording a lower percentage. Most other countries with a high gap between worry and experience had much higher levels of the experience of violent crime. The gap was especially high for Japanese women, with just under 40 per cent reporting that they were very worried about violent crime.

There was also a considerable gap between worry about severe weather, and the experience of serious harm from severe weather, with Japan recording a 25 percentage point gap between the two, which was more than double the global average recorded on the WRP. Worry about severe weather was the area where Japan had the highest overall score. However, unlike with violent crime, the experience of harm in Japan from severe weather was considerable, with over a quarter of the population recording an experience of harm as a result of a severe weather. Japan as a whole has experienced significant environmental damage from severe weather over the past decade, most notably in the 2011 Tohoku earthquake and tsunami, which was the most powerful earthquake ever recorded in Japan.

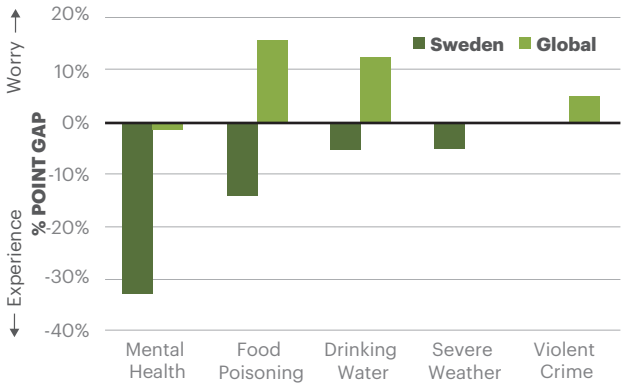
The cause of the gap between worry and experience in Japan is not immediately clear. However, Japan does have very high levels of uncertainty avoidance, with the country recording the 11th highest levels globally, and the highest levels in the Asia-Pacific region. This could lead to an overemphasis on the disruptive nature of rare events, or excessive focus on the harm that could occur from rare events. The worry over violent crime is also reflected in the Japanese general social survey, where over 50 per cent of respondents reported that there were areas in their local neighborhood that they would be afraid to walk alone in at night. It has also been suggested that the low levels of crime in Japan have led to a strong media focus on rare events, creating a distorted understanding in the populace of how common violent events are.[9]

Higher experience case study – Sweden

Sweden has one of the highest gaps between worry about risk and the experience of risk. For every one of the SPI indicators with worry and experience data, more people in Sweden reported having an experience (or knowing someone who had) of a given risk, than reported that they were very worried about that risk. By contrast, for all countries on average, mental health was the only indicator where experience was higher than worry, and even then only marginally. The gap for each indicator for both Sweden and the world as a whole is shown in Figure 1.8.

FIGURE 1.8

Gap between worry and experience by indicator, Sweden



Source: World Risk Poll, IEP Calculations

The gap between experience and worry is highest on the indicator of mental health. In 2019, 38 per cent of poll respondents in Sweden reported an experience of serious harm

from mental health. However, just five per cent of Swedes reported that they were very worried about suffering serious harm as the result of mental health, and only 2.5 per cent felt that it was very likely that they would be seriously affected by a mental health in the next two years. Only Australia and the Netherlands had larger gaps between experience and worry on the mental health domain.

Sweden also had a large gap between worry and experience on the violent crime indicator, with 25 per cent reporting an experience of harm from violent crime, but only 11 per cent reporting that they were very worried about harm from violent crime. Although there were no sex differences with regards to the experience of violent crime, Sweden had a higher female violence experience rate of any country in Europe, more than twice as high as its neighbour Norway. There has been a significant increase in violent attacks (particularly gang-related violence) in Sweden over the past five years and there have been claims that this violence has been under-reported by state-controlled media, although this claim is disputed.[10]

There are several possible reasons for the gap between worry and experience in Sweden. Most Swedes remain very trustful of state institutions, particularly the media, with 90 per cent of Swedes reporting that they trust the national broadcaster SVT. A lack of focus on the increase in violence and violent crime might therefore have some impact on the gap between experience and worry. However, the gap is found across all index domains, suggesting that there is a more systematic explanation. One possible reason might be due to the low levels of uncertainty avoidance in Sweden. It was ranked 4th on the uncertainty avoidance index, behind only Singapore, Jamaica, and Denmark, indicating a higher tolerance for ambiguity, change, and lower levels of stress in the wake of uncertainty.

Results by gender

Men and women have different perceptions of safety, and different experiences of risk. Overall, women had a higher score on the SPI, with an average score of 0.223, compared to 0.214 for men. Of the nine regions in the SPI, women had a higher score in five, with the largest difference between women and men occurring in North America. The Middle East and North Africa had the largest excess scores for men compared to women.

Figure 1.9 highlights the differences between men and women across all the index themes and domains. Women had a higher average score across four of the five domains, with men having a higher average score on the workplace domain. However, the difference on the workplace domain was the largest difference across any domain on theme. Women were more likely to express worry about risk, or to believe that a given risk was more likely to occur. Conversely, men were more likely to report having experienced a given risk, or to have known someone who had in the past two years.

The biggest difference on a single indicator between men and women was on the worry about violent crime indicator. Globally, the country average for worry about violent crime was nearly 43 per cent for women, compared to 36 per cent for men. However, in some countries the gap between male and female fear of violence was considerably higher.

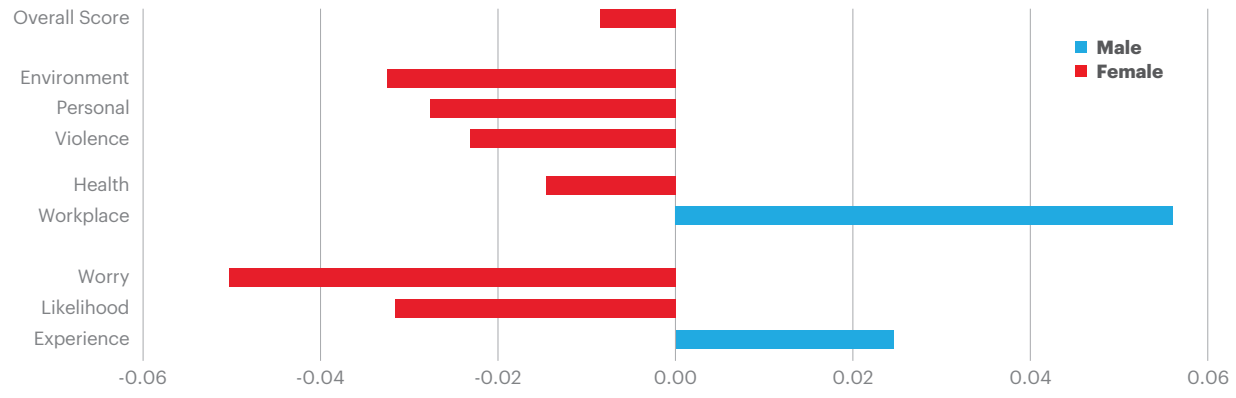
Of the 142 countries with applicable data, female worry about suffering serious harm from violence was higher than men in 118 countries, with 49 countries having a gap of ten percentage points or higher. The biggest gap was in Portugal with 66 per cent of women being worried compared to 43 per cent of men, followed by South Korea, where 47 per cent of women were very worried, compared to 25 per cent of men. There were only two countries where male fear of violence was higher than the female fear of violence by more than ten percentage points: Togo (49 per cent of men compared to 39 per cent of women), and Pakistan (56 per cent of men compared to 37 per cent of women). With regards to the experience of violence, men had a higher overall experience of violence than women, with 25 per cent of men reporting being a victim, compared to 22 per cent of women. The experience of violence was higher for men than women in 104 of 141 countries in the SPI.

The gap between worry and experience was more pronounced for women than men, as shown in Figure 1.10. For women, the average level of worry was higher than experience across all five indicators with enough data. Men had higher worry than

FIGURE 1.9

Difference between male and female domain scores

The impact of risk is higher for women, except on the workplace domain and the experience theme.

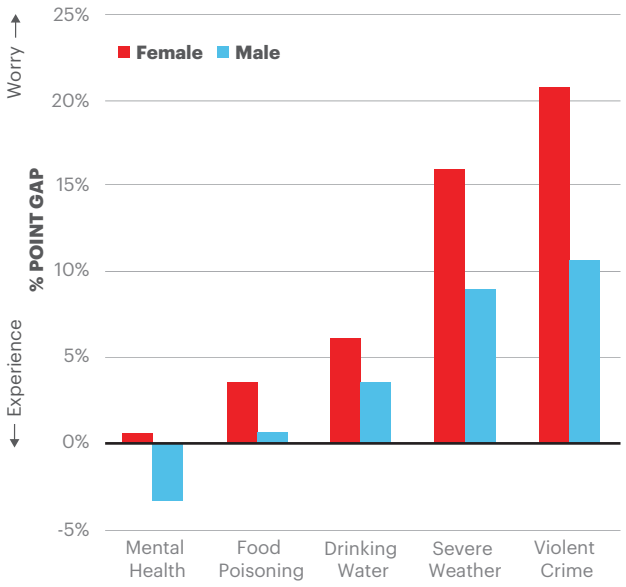


Source: World Risk Poll, IEP Calculations

FIGURE 1.10

Worry and experience gap by sex

Worry was higher than experience for women on every domain.



Source: World Risk Poll, IEP Calculations

experience across four of the five indicators, but had more experience than worry on the mental health indicator. The gap between worry and experience was higher for women than men across all five indicators with the largest discrepancy occurring on the violent crime indicator.

There were also differences between male and female attitudes towards risk on the WRP questions that were not included in the index. Men were slightly more likely to believe that climate change would pose a serious threat in their country over the next twenty years, and also slightly more likely to believe that nuclear power would harm more than help over the same time period. Conversely, women were slightly more likely to feel that Artificial Intelligence would harm more than it helped. There was virtually no difference in male and female attitudes towards GMO foods.

There was very little difference by sex in attitudes towards and trust in traditional institutions. Men were slightly more likely to trust traditional media and doctors with regards to information about food safety, with women having slightly more trust in the government, but the differences in both cases were negligible. Similarly, attitudes towards online risks were almost indistinguishable, with an almost equal number of men and women being concerned about online bullying, fraud, and misinformation.

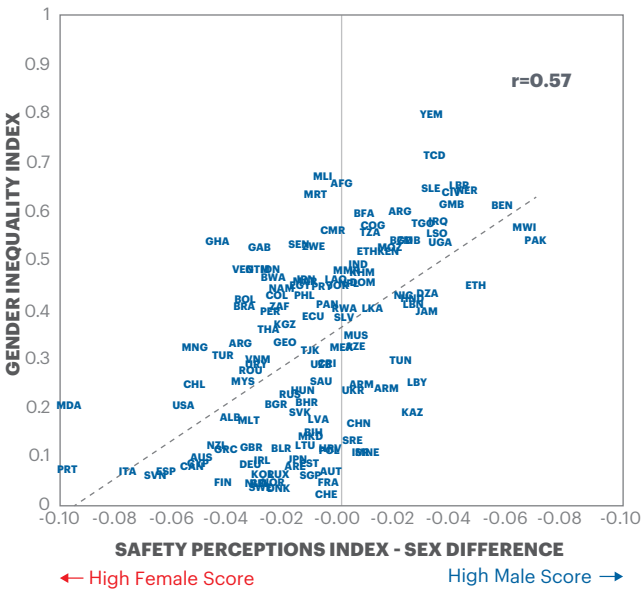
Gender inequality as a whole is correlated with gender inequality in risk. However, the relationship is inverse: in countries where women face more gender inequality, the overall SPI score is likely to be higher for men. Figure 1.11 shows the correlation between the UNDP's Gender Inequality Index, and the gap between average male and female scores on the SPI by country (r=0.57).

There are many possible explanations for the seemingly inverse relationship between gender inequality and the gender gap in

FIGURE 1.11

Gender Inequality Index vs Male/Female Gap on the Safety Perceptions Index

There is an inverse relationship between gender inequality and risk.



Source: UNDP, World Risk Poll, IEP Calculations

risk. Firstly, in countries with higher levels of gender inequality, women are less likely to be involved in public life, and less likely to be in situations where they are likely to face the possibility of public (as opposed to domestic) violence. Thus, women in these countries are less likely than men to be very worried about being the victims of violent crime. Secondly, women in countries with higher gender inequality are less likely to be in the workforce, and thus less likely to face the risk of a workplace injury, which was the indicator that had the biggest gap between male and female experience. For example, in Yemen, the country with the highest level of gender inequality, the female/male workforce ratio is .082, meaning that for every 100 men in the workforce, there are approximately eight women.

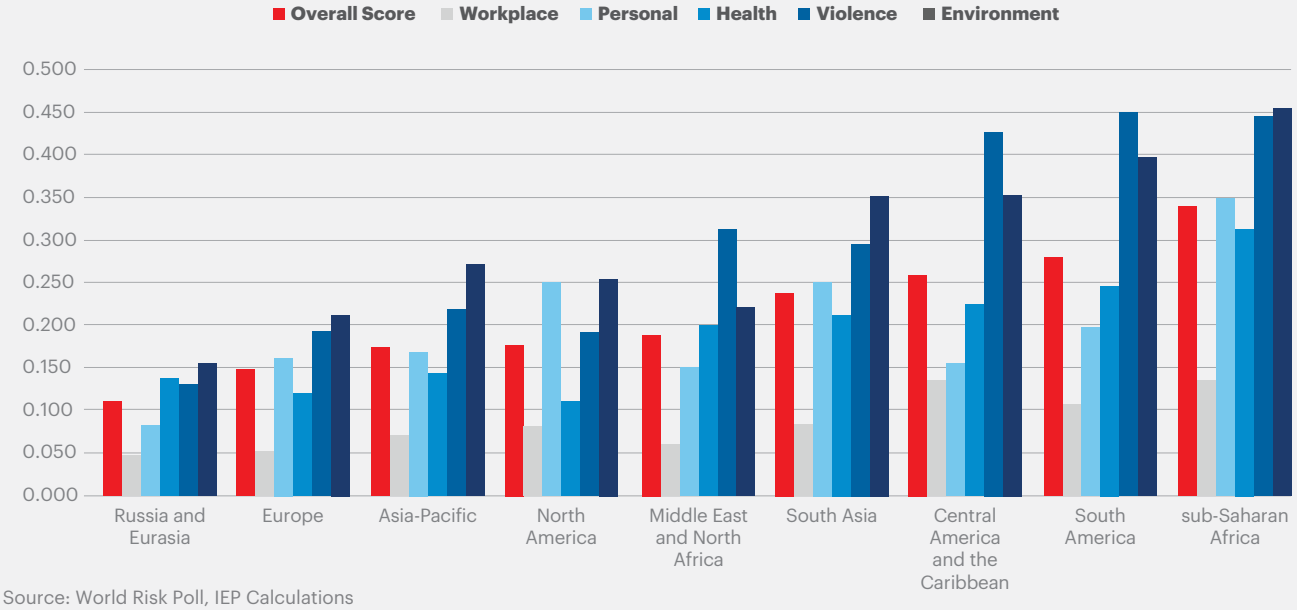
2 | Results by Region

There was considerable variation in perceptions of safety by region and country. No region had either the highest or lowest levels of risk across all five domains. Risk profiles also tended to be the same across most countries within a region. A high level of risk on a given domain in one country was very likely to be reflected in a high level of risk in the same domain across other countries in the region. Figure 2.1 highlights the average overall score and domain score by region.

FIGURE 2.1

Regional scores by domain

Sub-Saharan Africa had the highest impact of risk on four of the five SPI domains.



Source: World Risk Poll, IEP Calculations

The overall SPI score was lowest in the Russia and Eurasia region, which had the lowest score on the workplace, personal, and violence risk domains. This result was driven by a very low number of people across the region reporting that they had experienced, or known someone who had experienced any of the types of risk over the past two years. On the composite experience theme, only Moldova was ranked outside of the 25 countries with the lowest experience of risk, with Turkmenistan having the lowest experience score of any country.

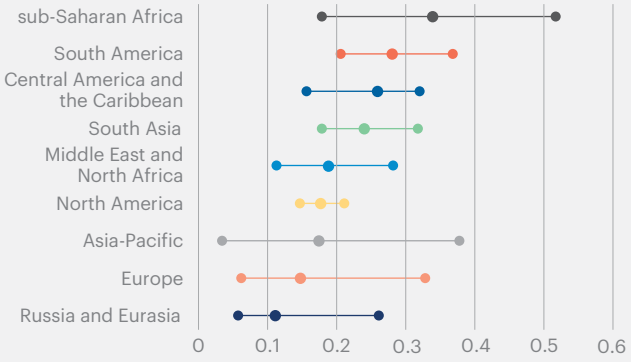
Sub-Saharan Africa had the highest overall score on the index. It also had the highest average score on four of the five domains, and the second highest score on violence risk (with only South America having a higher score on that domain). Most countries in sub-Saharan Africa also had strongly correlated levels of worry, likelihood, and experience, with the region having the lowest average discrepancy between the three cross-cutting themes.

Although sub-Saharan Africa had the highest average score, it also had the highest variation between countries in the region, as shown in Figure 2.2. Madagascar, Ethiopia, and Mauritania were all ranked in the top half of the index, at 67th, 69th, and 70th respectively. However, the region is also home to most of the countries with the lowest ranking on the index. Of the 20 countries with the highest overall SPI score, 18 are from sub-Saharan Africa, with the Philippines and Brazil being the only two countries from outside the region ranked lower than 121.

FIGURE 2.2

Highest, lowest, and average impact of risk by region

sub-Saharan Africa and the Asia-Pacific regions had the highest variation in risk



Source: World Risk Poll, IEP Calculations

There was also considerable variation in levels of risk across the Asia-Pacific region. Both Singapore and China were ranked in the five countries with the lowest SPI score, with China also having the lowest percentage of people who felt less safe in 2014 compared to 2019. No other country from the region was ranked in the top 25 countries on the SPI. Australia, New Zealand, Japan, and South Korea were all ranked between 35th and 55th on the index. On most measures of national level wellbeing, all four are usually ranked much higher. Mental health and concerns over violent crime were the predominant drivers of their perceptions of safety.

The distribution of scores was more tightly clustered in both South America and the Central America and the Caribbean regions. The primary driver of risk in both these regions was violent crime, and in particular worry about experiencing serious harm from violent crime. The average level of worry about violent crime was 61 per cent in South America and 53 per cent in the Central America and the Caribbean. In Brazil, over 80 per cent of the population were very worried about suffering serious harm from violent crime. By contrast, just 20 per cent of respondents on average in the Russia and Eurasia region were seriously worried.

Region with the lowest risk impact - Russia and Eurasia

The Russia and Eurasia region, which encompasses Russia and the former Soviet republics other than the Baltic states, had the lowest average score of any region. Most of the countries in the region performed much better on the SPI than on other national level indices of development, wellbeing, and economic performance. For example, while no country in the region is ranked amongst the 50 countries with the highest GDP per capita, every single country in the region other than Moldova was ranked amongst the top 50 countries on the SPI.

The region performed well across all five domains and all three key themes on the SPI. It had the lowest average score for every domain other than health (where only Europe had lower levels of risk from eating food and drinking water). It also had the lowest average score across all three themes. However, the clearest difference between the region and all other regions was on the experience theme. Russia and Eurasia had an average score of 0.1 on this theme, with the next closest region having an average score of 0.15.

The experience of risk was especially low in Uzbekistan and Turkmenistan. Both countries had experience rates of lower than ten per cent for every single indicator on the index Just one per cent of respondents in Turkmenistan, and three per cent of respondents in Uzbekistan claimed to have suffered serious harm from violent crime, or known someone who had in the past two years. Experience of harm from violent crime rates were also lower than ten per cent in Tajikistan, Armenia, Azerbaijan, and Kyrgyzstan.

Moldova was the only country in the region with an experience of violence rate higher than 15 per cent, and the only country in the region to be ranked outside of the top 60 of the index. It was also the country with greatest sex differences on the SPI, with men in Moldova being ranked 56th on the index, but women being ranked 72nd. The greatest sex differences were recorded on the worry about violent crime and worry about severe weather indicators, with gaps of 20 percentage points and 34 percentage points respectively.

Russia is the most populous country in the region, and also the country with the largest gap between worry about risk, and the experience of risk. Russia was ranked 56th on the index for the worry theme, but just 17th on the index for the experience theme. Russians are particularly likely to have excess levels of worry about violent crime, with nearly 35 per cent of Russians expressing worry, but only 10.5 per cent having had an experience in the past two years. This excess level of worry may reflect concerns about levels of violence in the past. Violence has fallen over much of Russia in the past two decades, with the homicide rate having fallen by over 80 per cent since 2001.

It is not clear why countries in the region performed so well on the SPI, particularly as most countries in the region do not perform as well on the major correlates of risk such as economic performance. Data from other WRP questions on risk is also not closely correlated with the level of risk in the region. Although some countries in the region such as Uzbekistan and Tajikistan have high levels of trust in the government, other countries in the region like Russia, Georgia, and Ukraine have middling or

TABLE 2.1

Index and domain scores for the Russia and Eurasia region

Country	Overall Rank	Overall Score	Domain - Worry	Domain - Likelihood	Domain - Experience
Uzbekistan	2	0.06	0.11	0.05	0.05
Turkmenistan	3	0.06	0.14	0.03	0.04
Belarus	7	0.08	0.11	0.07	0.09
Azerbaijan	8	0.08	0.13	0.07	0.09
Armenia	14	0.09	0.14	0.09	0.09
Ukraine	16	0.10	0.16	0.08	0.09
Tajikistan	21	0.10	0.12	0.11	0.10
Kazakhstan	22	0.12	0.17	0.12	0.10
Georgia	24	0.12	0.17	0.12	0.12
Kyrgyzstan	40	0.15	0.25	0.15	0.10
Russia	41	0.15	0.25	0.16	0.10
Moldova	79	0.21	0.32	0.23	0.18

very low levels of trust. There may be other unobserved factors driving the low score, such as cultural attitudes towards risk or linguistic issues concerning the relative level or impact of risk.

Region with the highest overall score - sub-Saharan Africa

Sub-Saharan Africa had a higher average score than any other region on the SPI. Half of the 34 countries in the region that were included in the index were ranked amongst the 20 countries with the highest impact of risk. The region had the highest score on all three themes, and four of the five index domains. Only South America had a higher score on the violence domain than sub-Saharan Africa. The highest score for the region was on the environment domain, a reflection of high levels of ecological threat and the potential future impact of climate change.

The average SPI score in the region was highest in the south-east, with Malawi, Lesotho, Zambia, Mozambique, and South Africa all being ranked amongst the ten countries with the highest overall score. This area has seen considerable political and social unrest over the past decade, and has seen a surge of terrorist activity in the past few years. The Central Africa province of the Islamic State terrorist groups has been increasingly active since 2018. Aside from terrorist activity, the general risk of harm from violent crime is particularly high in this area, with four of the five countries with the highest experience of violent crime response rate being found in the south-east of sub-Saharan Africa. Namibia, South Africa, Lesotho, and Zambia all had higher experience of violence response rates than Afghanistan, which has been consistently ranked as the least peaceful country in the world over the past five years, according to the Global Peace Index.

TABLE 2.2

Index and domain scores for the sub-Saharan Africa region

Country	Overall Rank	Overall Score	Domain - Worry	Domain - Likelihood	Domain - Experience
Madagascar	67	0.20	0.18	0.10	0.33
Ethiopia	69	0.20	0.26	0.17	0.25
Mauritania	70	0.20	0.29	0.21	0.19
Nigeria	75	0.21	0.30	0.22	0.18
Tanzania	88	0.25	0.33	0.19	0.27
Mauritius	100	0.28	0.53	0.21	0.22
Cameroon	102	0.28	0.40	0.25	0.29
Zimbabwe	104	0.28	0.41	0.30	0.25
Niger	106	0.29	0.40	0.27	0.28
Burkina Faso	111	0.30	0.45	0.31	0.26
Togo	113	0.30	0.39	0.32	0.31
Chad	115	0.31	0.40	0.29	0.34
Ghana	117	0.31	0.43	0.32	0.31
Kenya	118	0.32	0.37	0.31	0.34
Benin	119	0.33	0.47	0.31	0.33
Botswana	120	0.33	0.48	0.41	0.24
Rwanda	122	0.34	0.40	0.35	0.35
Mali	123	0.35	0.52	0.38	0.28
Guinea	125	0.36	0.55	0.35	0.31
Ivory Coast	126	0.37	0.51	0.41	0.33
Senegal	127	0.37	0.52	0.43	0.33
Gabon	129	0.38	0.55	0.39	0.35
Uganda	130	0.38	0.45	0.39	0.39
Namibia	131	0.38	0.50	0.42	0.38
Congo Brazzaville	132	0.38	0.58	0.39	0.33
Sierra Leone	133	0.39	0.48	0.32	0.42
South Africa	134	0.39	0.57	0.47	0.31
Eswatini	135	0.40	0.55	0.53	0.30
Mozambique	136	0.40	0.56	0.40	0.38
Gambia	137	0.41	0.55	0.37	0.41
Zambia	138	0.42	0.52	0.41	0.45
Liberia	139	0.47	0.60	0.41	0.49
Lesotho	140	0.47	0.66	0.62	0.37
Malawi	141	0.49	0.63	0.56	0.42

Madagascar has the lowest score in sub-Saharan Africa and is ranked 67th overall on the index. Although Madagascar has a relatively high score on the experience and worry themes, it has a very low score on the likelihood theme, where it was ranked 24th in the world. While 28 per cent of respondents from Madagascar were very worried about severe weather, only 13.9 per cent thought it was very likely that they would experience serious harm from a severe weather in the next two years. Madagascar also had the largest gap between experience and likelihood of any country on the index. Although almost 30 per cent of respondents had suffered serious harm from violent crime or known someone who had in the past two years, only 8.7 per cent of respondents felt that that they were very likely to experience such harm in the next two years.

Sub-Saharan Africa had the highest level of risk for both men and women, and was also one of the four regions where overall risk for men was higher than for women. Only South Asia had a higher male/female risk disparity (although several regions had a relatively higher female/male risk gap). The largest discrepancy between men and women was on the workplace domain. Nearly a quarter of men on average in the region reported having suffered serious harm from a workplace injury, compared to 14 per cent of women. However, women in sub-Saharan Africa do have higher levels of risk on some indicators and themes. Both the worry and likelihood theme scores are slightly higher for women, as well as on the personal domain, indicating a slightly higher score with regards to mental health.

The SPI score in sub-Saharan Africa is correlated with a number of other factors, including GDP per capita and Positive Peace. However, there is a high level of variance in the region on the WRP questions that were not included in the SPI. Risk-taking behavior varies considerably with countries, with 72 per cent of people in Madagascar not wearing seatbelts in cars, compared to three per cent of people in Mauritius. Similarly, trust in government ranges from very high to very low. Just under 60 per cent of people in Lesotho do not feel that the government does a good job with regards to food safety, compared to just five and a half per cent in Rwanda.

3 | Correlates of Risk

The following sub-section assesses the correlation between risk indicators, and between the SPI and other country-level indicators and indices. It is important to identify relationships between risk indicators and between the SPI and other measures in order to determine how different risk indicators are linked, and how overall risk interacts with other socio-economic or political factors.

The relationship between different kinds of risk

Figure 3.1 illustrates the correlation between the different domains and indicators of the SPI. Overall, the results of the SPI show a strong relationship between the different risk domains, and also between the three cross-cutting themes. While there are countries where risks are over or underestimated, in general there is a strong correlation between the past experience of risk, present worry, and estimation of its future likelihood.

FIGURE 3.1

Correlation matrix between domains and indicators, Safety Perceptions Index

Mental health and workplace injury had the weakest relationship with the other forms of risk.

			Domain					Theme			Worry					Likelihood						Experience					
		Overall Score	Health	Personal	Violence	Workplace	Environment	Worry	Likelihood	Experience	Drinking Water	Eating Food	Mental Health	Violent Crime	Severe Weather	Drinking Water	Eating Food	Mental Health	Violent Crime	Workplace Injury	Severe Weather	Drinking Water	Eating Food	Mental Health	Violent Crime	Workplace Injury	Severe Weather
	Overall Score	1.00	0.89	0.87	0.92	0.67	0.93	0.96	0.96	0.89	0.84	0.81	0.89	0.89	0.89	0.88	0.84	0.92	0.89	0.71	0.90	0.77	0.72	0.56	0.84	0.55	0.83
Domain	Health	0.89	1.00	0.71	0.81	0.55	0.78	0.86	0.88	0.79	0.94	0.89	0.76	0.77	0.74	0.97	0.92	0.80	0.78	0.59	0.75	0.88	0.84	0.35	0.76	0.44	0.70
Domain	Personal	0.87	0.71	1.00	0.72	0.57	0.77	0.82	0.78	0.87	0.66	0.66	0.95	0.67	0.72	0.67	0.65	0.93	0.65	0.54	0.70	0.62	0.59	0.83	0.74	0.51	0.74
Domain	Violence	0.92	0.81	0.72	1.00	0.50	0.82	0.91	0.94	0.77	0.78	0.71	0.74	0.97	0.80	0.83	0.79	0.80	0.98	0.60	0.84	0.68	0.63	0.42	0.88	0.37	0.66
Domain	Workplace	0.67	0.55	0.57	0.50	1.00	0.60	0.56	0.54	0.72	0.46	0.43	0.57	0.45	0.56	0.52	0.45	0.57	0.44	0.86	0.52	0.58	0.52	0.40	0.55	0.95	0.62
Domain	Environment	0.93	0.78	0.77	0.82	0.60	1.00	0.93	0.92	0.78	0.73	0.74	0.80	0.82	0.97	0.78	0.77	0.83	0.81	0.66	0.96	0.64	0.57	0.45	0.68	0.48	0.87
Theme	Worry	0.96	0.86	0.82	0.91	0.56	0.93	1.00	0.95	0.76	0.85	0.85	0.90	0.93	0.94	0.85	0.84	0.87	0.88	0.62	0.90	0.67	0.62	0.45	0.74	0.44	0.73
Theme	Likelihood	0.96	0.88	0.78	0.94	0.54	0.92	0.95	1.00	0.76	0.83	0.82	0.81	0.91	0.88	0.90	0.90	0.90	0.95	0.65	0.95	0.69	0.63	0.41	0.78	0.40	0.74
Theme	Experience	0.89	0.79	0.87	0.77	0.72	0.78	0.76	0.76	1.00	0.69	0.60	0.80	0.66	0.68	0.74	0.64	0.82	0.67	0.65	0.68	0.83	0.78	0.75	0.88	0.67	0.88
Worry	Drinking Water	0.84	0.94	0.66	0.78	0.46	0.73	0.85	0.83	0.69	1.00	0.87	0.73	0.77	0.72	0.94	0.83	0.75	0.75	0.50	0.72	0.78	0.66	0.32	0.69	0.38	0.60
Worry	Eating Food	0.81	0.89	0.66	0.71	0.43	0.74	0.85	0.82	0.60	0.87	1.00	0.74	0.73	0.76	0.83	0.91	0.74	0.71	0.51	0.74	0.61	0.62	0.29	0.56	0.32	0.57
Worry	Mental Health	0.89	0.76	0.95	0.74	0.57	0.80	0.90	0.81	0.80	0.73	0.74	1.00	0.74	0.81	0.71	0.71	0.93	0.68	0.55	0.73	0.63	0.60	0.66	0.69	0.51	0.71
Worry	Violent Crime	0.89	0.77	0.67	0.97	0.45	0.82	0.93	0.91	0.66	0.77	0.73	0.74	1.00	0.84	0.78	0.77	0.75	0.96	0.56	0.84	0.60	0.56	0.33	0.76	0.32	0.60
Worry	Severe Weather	0.89	0.74	0.72	0.80	0.56	0.97	0.94	0.88	0.68	0.72	0.76	0.81	0.84	1.00	0.73	0.75	0.78	0.78	0.62	0.93	0.56	0.49	0.37	0.60	0.44	0.75
Likelihood	Drinking Water	0.88	0.97	0.67	0.83	0.52	0.78	0.85	0.90	0.74	0.94	0.83	0.71	0.78	0.73	1.00	0.91	0.79	0.82	0.60	0.79	0.84	0.73	0.31	0.75	0.40	0.67
Likelihood	Eating Food	0.84	0.92	0.65	0.79	0.45	0.77	0.84	0.90	0.64	0.83	0.91	0.71	0.77	0.75	0.91	1.00	0.79	0.80	0.56	0.80	0.68	0.68	0.25	0.64	0.33	0.62
Likelihood	Mental Health	0.92	0.80	0.93	0.80	0.57	0.83	0.87	0.90	0.82	0.75	0.74	0.93	0.75	0.78	0.79	0.79	1.00	0.77	0.61	0.81	0.67	0.64	0.62	0.75	0.47	0.74
Likelihood	Violent Crime	0.89	0.78	0.65	0.98	0.44	0.81	0.88	0.95	0.67	0.75	0.71	0.68	0.96	0.78	0.82	0.80	0.77	1.00	0.58	0.87	0.61	0.56	0.31	0.79	0.30	0.61
Likelihood	Workplace Injury	0.71	0.59	0.54	0.60	0.86	0.66	0.62	0.65	0.65	0.50	0.51	0.55	0.56	0.62	0.60	0.56	0.61	0.58	1.00	0.64	0.56	0.48	0.32	0.58	0.66	0.60
Likelihood	Severe Weather	0.90	0.75	0.70	0.84	0.52	0.96	0.90	0.95	0.68	0.72	0.74	0.73	0.84	0.93	0.79	0.80	0.81	0.87	0.64	1.00	0.56	0.49	0.36	0.65	0.37	0.76
Experience	Drinking Water	0.77	0.88	0.62	0.68	0.58	0.64	0.67	0.69	0.83	0.78	0.61	0.63	0.60	0.56	0.84	0.68	0.67	0.61	0.56	0.56	1.00	0.87	0.39	0.76	0.52	0.72
Experience	Eating Food	0.72	0.84	0.59	0.63	0.52	0.57	0.62	0.63	0.78	0.66	0.62	0.60	0.56	0.49	0.73	0.68	0.64	0.56	0.48	0.49	0.87	1.00	0.36	0.70	0.46	0.65
Experience	Mental Health	0.56	0.35	0.83	0.42	0.40	0.45	0.45	0.41	0.75	0.32	0.29	0.66	0.33	0.37	0.31	0.25	0.62	0.31	0.32	0.36	0.39	0.36	1.00	0.58	0.40	0.58
Experience	Violent Crime	0.84	0.76	0.74	0.88	0.55	0.68	0.74	0.78	0.88	0.69	0.56	0.69	0.76	0.60	0.75	0.64	0.75	0.79	0.58	0.65	0.76	0.70	0.58	1.00	0.45	0.69
Experience	Workplace Injury	0.55	0.44	0.51	0.37	0.95	0.48	0.44	0.40	0.67	0.38	0.32	0.51	0.32	0.44	0.40	0.33	0.47	0.30	0.66	0.37	0.52	0.46	0.40	0.45	1.00	0.55
Experience	Severe Weather	0.83	0.70	0.74	0.66	0.62	0.87	0.73	0.74	0.88	0.60	0.57	0.71	0.60	0.75	0.67	0.62	0.74	0.61	0.60	0.76	0.72	0.65	0.58	0.69	0.55	1.00

Source: World Risk Poll, IEP Calculations

Every domain is strongly correlated except for the workplace domain. This is likely due to the low overall prevalence of workplace injury, with a handful of outlying countries including Sierra Leone and Myanmar. The only other aspect of the index that does not correlate strongly is mental health experience. Mental health worry and likelihood have a much stronger correlation, and this will be explored in further detail in Section four below.

Risk and other indicators

Differences in perceptions of safety across countries are likely to be driven by two different sets of factors: the security environment within a country, and cultural attitudes towards risk and safety.

Risk and Peace

The Global Peace Index is a strong measure of the security environment within a country. It measures the levels of violence and fear of violence at the national level, and comprises 23 indicators which are categorised into three domains:

- Safety and Security
- Ongoing Domestic and International Conflict
- Militarisation

Figure 3.2 shows the correlation between the SPI and the GPI, across all domains for both indices. It shows SPI is most strongly correlated with the GPI domain *Safety and Security*. This suggests that the levels of internal peace within a country are broadly consistent with responses to the World Risk Poll. Interestingly, levels of Ongoing Domestic and International Conflict do not correlate strongly with perceptions of safety.

Figure 3.3 also shows the relationship between the SPI and measures of Positive Peace. The GPI is a measure of negative peace meaning it is a measure of violence. However, peace is more than just the absence of violence. In reality it requires a whole range of positive societal factors to create and sustain peaceful societies. The Institute for Economics and Peace (IEP), has derived and captures these societal factors in its Positive Peace Index (PPI). The eight factors or 'Pillars of Peace' that comprise the PPI are shown in Figure 3.3.

Correlating the Pillars of Peace to the SPI shows that low levels of worry, likelihood and experience of risk is also associated with Positive Peace. In particular countries that perform well in *Equitable Distributions of Resources* and *High Levels of Human Capital* tend to also have less worry, *likelihood and experience of risk* in the SPI. Interestingly, the *Well-Functioning Government* Pillar has the weakest relationship with the SPI.

FIGURE 3.3

The Pillars of Positive Peace

A visual representation of the factors comprising Positive Peace. All eight factors are highly interconnected and interact in varied and complex ways.

FIGURE 3.2

Correlation of Safety Perception and Peace

The SPI is most strongly correlated with the GPI domain Safety and Security. This suggests that the levels of internal peace within a country are broadly consistent with responses to the World Risk Poll.

	Negative Peace				Positive Peace								
	Global Peace Index	GPI - Safety and Security	GPI - Ongoing Conflict	GPI - Militarisation	Positive Peace Index	PPI - Acceptance of the Rights of Others	PPI - Equitable Distribution of Resources	PPI - Free Flow of Information	PPI - Good Relations with Neighbours	PPI - High Levels of Human Capital	PPI - Low Levels of Corruption	PPI - Sound Business Environment	PPI - Well-Functioning Government
Overall Score	0.265	0.470	0.072	-0.107	0.494	0.453	0.624	0.308	0.343	0.610	0.391	0.496	0.304
Domain - Health	0.380	0.546	0.200	-0.025	0.619	0.567	0.684	0.463	0.445	0.720	0.535	0.602	0.479
Domain - Personal	0.066	0.196	-0.045	-0.094	0.278	0.245	0.513	0.148	0.171	0.434	0.140	0.257	0.114
Domain - Violence	0.348	0.563	0.117	-0.048	0.432	0.408	0.510	0.218	0.322	0.607	0.353	0.461	0.251
Domain - Workplace	0.164	0.305	0.061	-0.133	0.426	0.414	0.570	0.314	0.269	0.492	0.333	0.431	0.278
Domain - Environment	0.166	0.382	-0.008	-0.186	0.444	0.394	0.576	0.280	0.303	0.598	0.372	0.449	0.256
Theme - Worry	0.226	0.442	0.032	-0.135	0.461	0.405	0.575	0.285	0.326	0.618	0.386	0.469	0.280
Theme - Likelihood	0.268	0.481	0.065	-0.108	0.458	0.421	0.564	0.275	0.320	0.633	0.371	0.464	0.278
Theme - Experience	0.264	0.404	0.120	-0.034	0.464	0.440	0.650	0.293	0.322	0.585	0.336	0.455	0.291

Source: World Risk Poll, IEP Calculations

The relationship between the SPI and both Positive and Negative peace is shown in more detail in Figures 3.4 and 3.5. Figure 3.4 illustrates the relationship between the GPI Safety and Security domain and the SPI, revealing that countries with high political uncertainty do not necessary have the highest levels of risk. For instance, countries facing high levels of political instability – such as Yemen, Iraq, Afghanistan and Venezuela – do not rank within the lowest 25 countries on the SPI. Instead, Yemen ranks 74th on the SPI, Iraq 99th, Afghanistan 110th and Venezuela 115th. This suggests that the SPI currently does not capture political risk and that political risk can be independent of other types of risk measured in the SPI, given events which lead to political instability can happen suddenly even in countries that are otherwise stable.

FIGURE 3.4

SPI vs GPI: Safety and Security domain (r =0.47)

Source: World Risk Poll, IEP Calculations

Overall, there is a statistically significant relationship between the SPI and PPI, illustrating that countries with higher societal resilience, as measured by the PPI, typically have lower levels of risk. Of the eight Positive Peace Pillars, *Equitable Distribution of Resources* has the strongest correlation with the SPI, as shown in Figure 3.5. There is a moderate relationship between the *Equitable Distribution of Resources* Pillar and the SPI, showing that countries with higher levels of inequality typically have higher levels of risk. The only countries with high inequality and low risk are in the Russia and Eurasia region, further highlighting the region as an outlier on the SPI.

FIGURE 3.5

SPI vs PPI: Equitable distribution of resources (r = 0.62)

Source: World Risk Poll, IEP Calculations

Cultural correlates of risk

While overall risk is strongly correlated, it is less strongly correlated to the *worry* domain of the SPI. Looking at cultural factors and attitudes can help explain the varying levels of worry that different countries have about risk. A popular framework for looking at cultural attitudes at the national level was developed by Geert Hofstede[11] which looks at differences in cultural outlook for 66 countries across five domains:

- **Individualism**: Individualism is the one side versus its opposite, collectivism, that is the degree to which individuals are integrated into groups.
- **Long-Term Orientation**: Measures the priorities of a society in terms of priorities given to long term verses short term goals.
- **Masculinity**: Masculinity versus its opposite, femininity refers to the distribution of roles between the genders.
- **Power Distance Index**: The extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally.
- **Uncertainty Avoidance Index**: Deals with a society's tolerance for uncertainty and ambiguity.

Table 3.1 shows the correlation between these national level cultural factors and the SPI

There is a strong negative correlation between most of the SPI dimensions and individualism. Countries with higher levels of individualism have lower levels of risk across every domain other than the personal domain (which measures mental health risk). Long term orientation is also correlated with every aspect of the SPI, and has by far the strongest correlation with the experience of risk. Societies that prioritise long term goals tend to have lower experience of all forms of risk.

There is a significant correlation (r=0.35) between country level uncertainty avoidance, and the difference between a country's worry and experience theme scores on the SPI. This means that countries with high levels of uncertainty avoidance are more likely to have higher levels of anxiety when faced with the prospect of change or uncertainty, and have strong cultural norms and institutions that favour or promote stability and attempt to control uncertainty as much as possible. By contrast, countries with lower levels of uncertainty avoidance are more comfortable with change and ambiguity, and have lower levels of anxiety and stress. In countries with similar health outcomes in terms of disease prevalence, countries with lower uncertainty avoidance will have higher feelings of healthiness, despite having similar health profiles to countries with high uncertainty avoidance.

Happiness Correlates

Another way to measure cultural attitudes is to look at national level happiness and the prevalence of both negative and positive emotional states. The most prominent measure of happiness at the national level is the *World Happiness Report*, which measures levels of happiness across 150 countries. It does this across the following domains:

- Happiness Score: Subjective Well-being
- GDP per Capita
- Health Life Expectancy
- Social support: having someone to count on in times of trouble.
- Freedom to make life choices
- Generosity
- Corruption Perception
- Positive affect: a combined score based on the prevalence of happiness, laughter and enjoyment.
- Negative affect: a combined score based on the prevalence of worry, sadness, and anger.

Table 3.2 looks at the correlation between the indicators used in the World Happiness Report and the SPI domains and themes.

There is a strong correlation between overall happiness and the SPI. As subjective perceptions of happiness and quality of life increase, the level of risk decreases. Similarly, all aspects of the SPI are correlated with the social support indicator, indicating that people with strong support networks are less likely to be exposed to risk or to be worried about it. There is a similar but slightly weaker correlation between the freedom to make life choices and every domain on the SPI, other than workplace risk.

While happiness and emotional states are correlated with the SPI, not every kind of emotional state is strongly linked to levels of risk. There is no correlation between 'positive affect' and the SPI, meaning that the presence of positive emotions like happiness, laughter, and enjoyment is not correlated with either higher or lower safety perceptions. However, 'negative affect' is strongly correlated with the SPI, across all themes and domains. High levels of worry, sadness, and anger are correlated with higher experience of risk, higher worry about risk, and a belief that risks are very likely to occur in the future.

TABLE 3.1

Correlation matrix between Safety Perceptions Index Domains and Cultural Indicators

As a societies level of cultural individualism increases, perceptions of Worry and Likelihood in the Perceptions of Safety decrease.

Cultural Indicators	Health	Personal	Violence	Workplace	Environment	Worry	Likelihood	Experience
Individualism	-0.57	0.03	-0.48	-0.45	-0.45	-0.50	-0.54	-0.18
Long Term Orientation	-0.33	-0.56	-0.29	-0.47	-0.27	-0.22	-0.26	-0.62
Masculinity	0.02	-0.08	0.03	-0.20	0.16	0.09	0.08	-0.12
Power Distance Index	0.53	-0.05	0.41	0.27	0.39	0.42	0.47	0.14
Uncertainty Avoidance Index	0.12	-0.10	0.21	0.01	0.33	0.26	0.24	-0.04

TABLE 3.2

Correlation matrix between Safety Perceptions Index Domains and Happiness Indicators

Perceptions of Worry, Likelihood and Experience of risks decreases as freedom to make life choices, life expectancy, overall happiness, social support and GDP increase.

Happiness Indicators	Health	Personal	Violence	Workplace	Environment	Worry	Likelihood	Experience
Freedom to make life choices	-0.38	-0.26	-0.34	-0.09	-0.25	-0.30	-0.30	-0.35
Generosity	-0.03	0.11	-0.14	0.30	-0.03	-0.04	-0.10	0.11
Healthy life expectancy at birth	-0.67	-0.56	-0.52	-0.50	-0.56	-0.58	-0.57	-0.64
Happiness Score	-0.61	-0.35	-0.48	-0.36	-0.47	-0.50	-0.49	-0.49
Log GDP per capita	-0.67	-0.51	-0.49	-0.61	-0.61	-0.60	-0.55	-0.64
Negative affect	0.52	0.35	0.42	0.37	0.43	0.42	0.44	0.48
Perceptions of corruption	0.42	0.09	0.41	0.12	0.39	0.42	0.40	0.19
Positive affect	-0.18	-0.11	-0.07	0.07	0.02	-0.06	-0.04	-0.12
Social support	-0.65	-0.51	-0.50	-0.48	-0.55	-0.56	-0.54	-0.62

4 | Domain Focus - Mental Health

Introduction

An increasing attention is being paid to the risks associated with mental health concerns in many countries, especially developed countries. This section of the report will look in detail at the personal domain of the SPI, examining where mental health is linked to other risks, and how these risks differ across country demographics.

In particular, this section analyses responses to the WRP questions with respect to mental health across the worry, likelihood and experience domains in the SPI:

- ***Worry**: In general, how worried are you that each of the following things could cause you serious harm? Are you very worried, somewhat worried, or not worried?*
- ***Likelihood**: How likely do you think it is that each of the following things could cause you serious harm in the next two years?*
- ***Experience**: Have you or someone you personally know, experienced serious harm from any of the following things in the past two years?*

The value of the WRP results is that it is not dependent on the availability of medical resources and therefore provides a good cross-cultural comparison. The comparisons between occurrence and concern over mental health concerns is especially useful.

Mental health is shaped by a complex interaction of many factors. To understand this interaction, it will be helpful to think of mental health as having three main elements:

1. Capacity to cope (improves ability to deal with or limits the effect of stressful events)
2. Vulnerabilities (increases likelihood of developing a mental health concern)
3. Stressful events (one-off or ongoing negative experiences)

There are a number of different disorders which can be typically classified as mental health conditions. Table 4.1 lists some of the most common mental health concerns, according to the 2019 Global Burden of Disease.

TABLE 4.1

Classification of mental health conditions according to the 2019 Global Burden of Disease

Category	Disorder	Description
Anxiety Disorders	Generalized Anxiety	Excessive worry about multiple events/activities that occurs in many situations and is difficult to control
	Phobias	Excessive or unreasonable fear when exposed to certain situations or objects (e.g. flying or animals)
	PTSD	Exposure to actual/threatened violence that results in distressing memories/dreams and avoidance of places or people that remind them of the event.
Depressive Disorders	Major Depression	Persistent low mood, loss of interest, fatigue, irritability
	Bipolar *	Experiences large fluctuations in mood/energy ranging from euphoria (mania) to extreme sadness (depression).
Conduct Disorders	Conduct Disorder	Ignores rights of others and basic social norms. May lie, bully and destroy or steal others property.
Eating Disorders	Anorexia	Restrictions of food that leads to an abnormally low body weight; fear of gaining weight and may induce vomiting or use laxatives to prevent weight gain
	Bulimia	Eating large amounts of food and feeling unable to control how much one is eating
Other Disorders	Schizophrenia	Experiencing auditory and visual hallucinations, delusions, paranoia, and disorganized thinking.

Source: IEP

Vulnerability to mental health conditions are not universal. There are differences between continents and the socio-economic development of countries. There are also differences in the experiences of men and women. People of different ages face different mental health challenges. For example, being young has been associated with a greater experience of depression in high income countries, whereas being older in low and middle income countries has been associated with a greater experience of depression.[12]

Mental health conditions can have a significant social and economic impact for both the individual and the economy. Some estimates suggest the global cost of mental health conditions will exceed $16.1 trillion before 2030.[13] Mental health concerns are also strongly associated with a number of personal and social risks. For example, people with severe mental health conditions are 5.3 times more likely to be the victims of violent assaults. Being the victim of a violent crime can also have a harmful effect on mental health.[14]

People with severe mental health conditions, such as schizophrenia have greater difficulty finding and maintaining employment.[15] Not only does mental health concerns make it more difficult to find employment, but unemployment also makes a person more likely to develop depression.[16]

Mental health and the SPI

As shown earlier in the report, generally there is a strong correlation between the five domains of the SPI. However, the personal risk (mental health concerns) domain shows a weaker relationship with the other domains. Further investigations revealed that this low correlation is driven largely by higher reported experience of mental health concerns in Western countries (see text Box 4.1). However, in Western countries the risk factors, other than mental health, are generally lower. This is shown in in Figure 4.1.

As shown in Figure 4.1, sub-Saharan Africa reports high experience of mental health and scores poorly on the SPI. Western countries report high experience of mental health conditions with a relatively good scores on the SPI. Of the 50 countries with the highest experience of mental health conditions, only three (Afghanistan, Iran, and Pakistan) are from outside of these two clusters, as shown in Table 4.2.

While the experience of impact from mental health conditions is high across both the West and sub-Saharan Africa, there are considerable differences across gender and age cohorts between the two groups, as shown in Figure 4.2.

In the West, the reported experience of mental health concerns was much higher than respondents' assessment of the likelihood of having a future mental health condition. It was also much higher than the worry that respondents had around mental health. By contrast, in sub-Saharan Africa, levels of experience of mental health conditions broadly correspond to reported levels of likelihood of having a future mental health concerns. However, respondents in sub Saharan Africa reported higher levels of worry about mental health conditions then the occurrence of them.

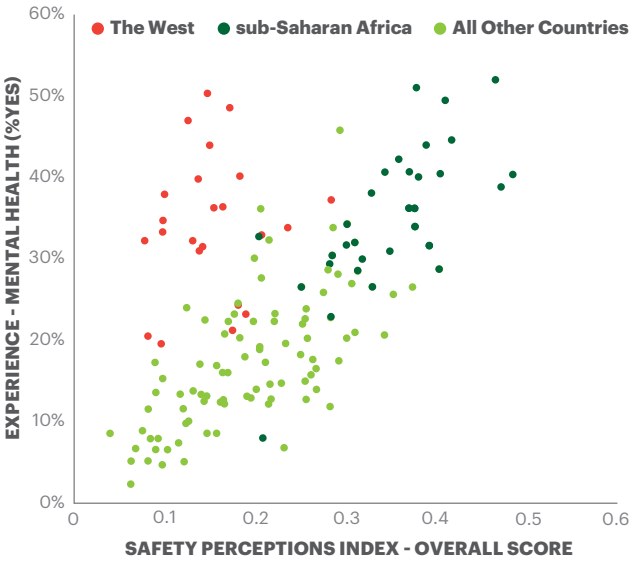
In the West, the experience of impact from mental health conditions is highest amongst young people, with close to half of women aged 15-25 reporting an experience of harm, or knowing someone personally who had experienced serious mental harm in the past two years. For young men, this number was approximately 40 per cent. Both men and women in the West tended to have lower experiences of harm from mental health concerns, with the 65-75 cohort having the lowest experience rate. This decrease in percentage was also true for both the worry and likelihood.

By contrast, in sub-Saharan Africa and the rest of the world, the experience of harm from mental health conditions was broadly the same for all demographics, with both experience and worry increasing slightly with age for women in sub-Saharan Africa.

FIGURE 4.1

Experience of harm from mental health vs overall risk

In the West, harm from mental health was not correlated with other forms of risk.



Source: World Risk Poll, IEP Calculations

BOX 4.1

The West

For the purposes of this report, 'The West' is taken to mean Western Europe, North America, and parts of Oceania, and comprises the following countries:

Andorra	Germany	Portugal
Australia	Iceland	Spain
Austria	Ireland	Sweden
Belgium	Italy	Switzerland
Canada	Luxembourg	United Kingdom
Denmark	Netherlands	United States of America
Finland	New Zealand	
France	Norway	

TABLE 4.2

Experience of serious harm from mental health, top 50 countries

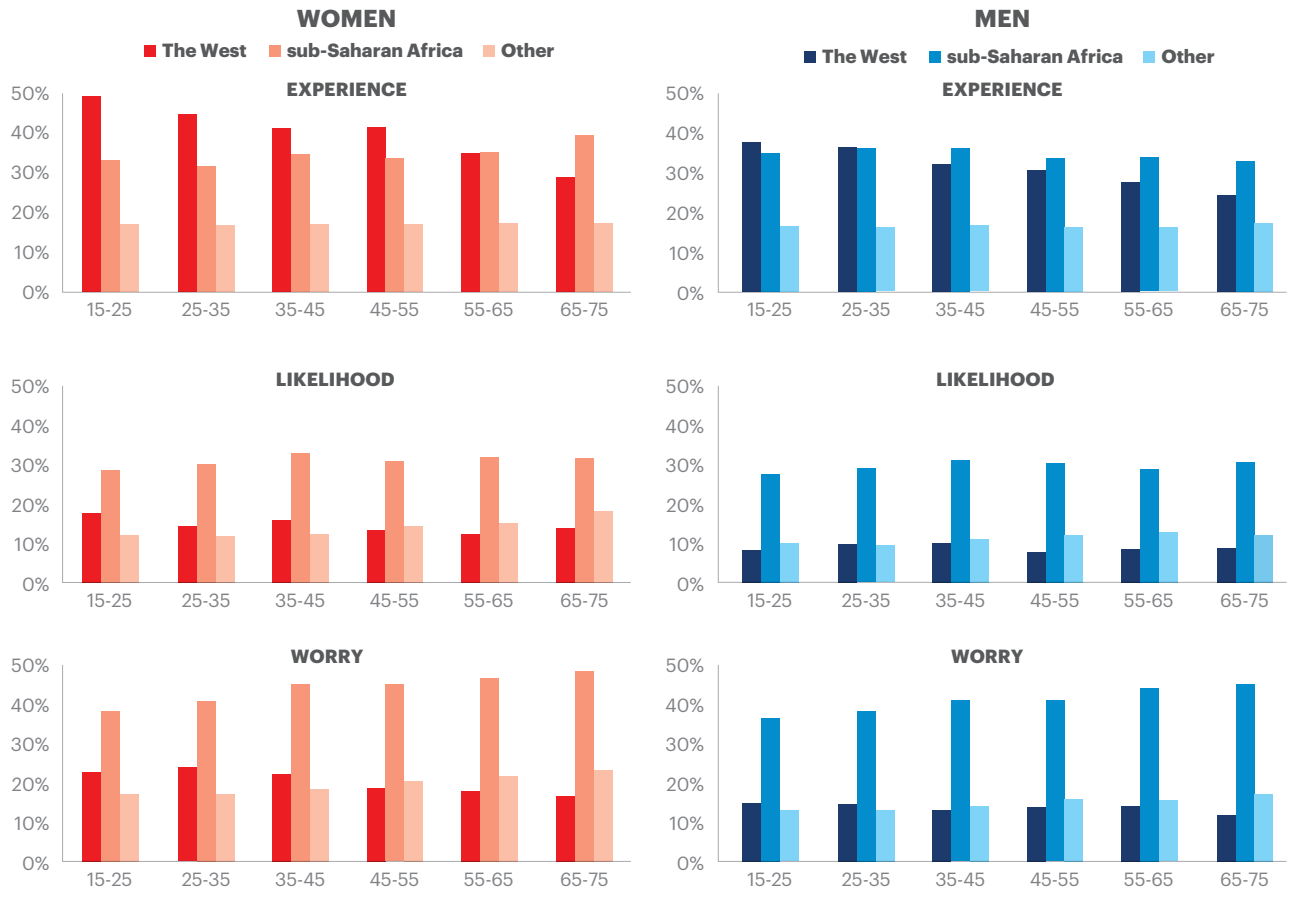
Country	Experience - Mental Health	Country	Experience - Mental Health	Country	Experience - Mental Health
Liberia	51.9%	Lesotho	38.8%	Norway	32.2%
Namibia	50.9%	Benin	38.1%	Germany	32.2%
Australia	50.3%	Sweden	37.9%	Chad	32.0%
Gambia	49.4%	Portugal	37.2%	Burkina Faso	31.7%
Canada	48.5%	Ireland	36.4%	South Africa	31.5%
Netherlands	46.9%	Belgium	36.3%	Austria	31.4%
Afghanistan	45.8%	Uganda	36.2%	Switzerland	31.1%
Zambia	44.6%	Senegal	36.2%	Mali	31.0%
Sierra Leone	43.9%	Luxembourg	36.1%	Niger	30.4%
New Zealand	43.9%	Denmark	34.7%	Madagascar	30.0%
Guinea	42.1%	Togo	34.3%	Kenya	29.9%
Rwanda	40.6%	Gabon	33.9%	Cameroon	29.4%
Ivory Coast	40.6%	Spain	33.8%	Eswatini	28.7%
Mozambique	40.4%	Pakistan	33.8%	Kenya	29.90%
Malawi	40.3%	Finland	33.2%	Cameroon	29.40%
United States	40.0%	Italy	32.9%	Eswatini	28.70%
Congo Brazzaville	40.0%	Ethiopia	32.7%		
United Kingdom	39.8%	Iran	32.3%		

Source: World Risk Poll, IEP Calculations

FIGURE 4.2

Mental health risk by age and sex in the West and sub-Saharan Africa

Young women in the West had the highest experience of serious harm from mental health.



Source: World Risk Poll, IEP Calculations

Mental health in the west

The gap in Western countries between experience and worry over mental health concerns can be seen in Figure 4.3, which shows the correlation between the experience and worry for the SPI mental health indicators.

FIGURE 4.3

Correlation between worry and experience on the mental health indicator by area

Worry was much lower than experience in the West.

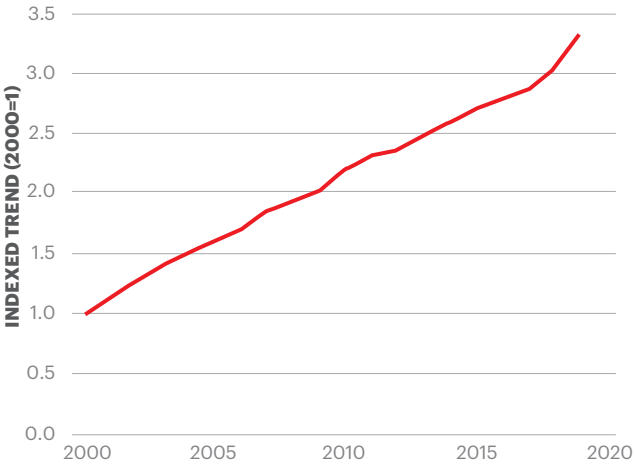
Source: World Risk Poll, IEP Calculations

The results correspond to data that shows a significant increase in antidepressant medication in the OECD. Figure 4.4 shows the trend for this data for the OECD over the last two decades, with the rate of usage of anti-depressants per 1,000 increasing by 300 per cent since 2000.

FIGURE 4.4

Indexed trend in antidepressant usage (doses per 1,000 people), 2000–2020

Antidepressant prescriptions rose by over 300% on average in the OECD over the past two decades.



Source: OECD, IEP Calculations

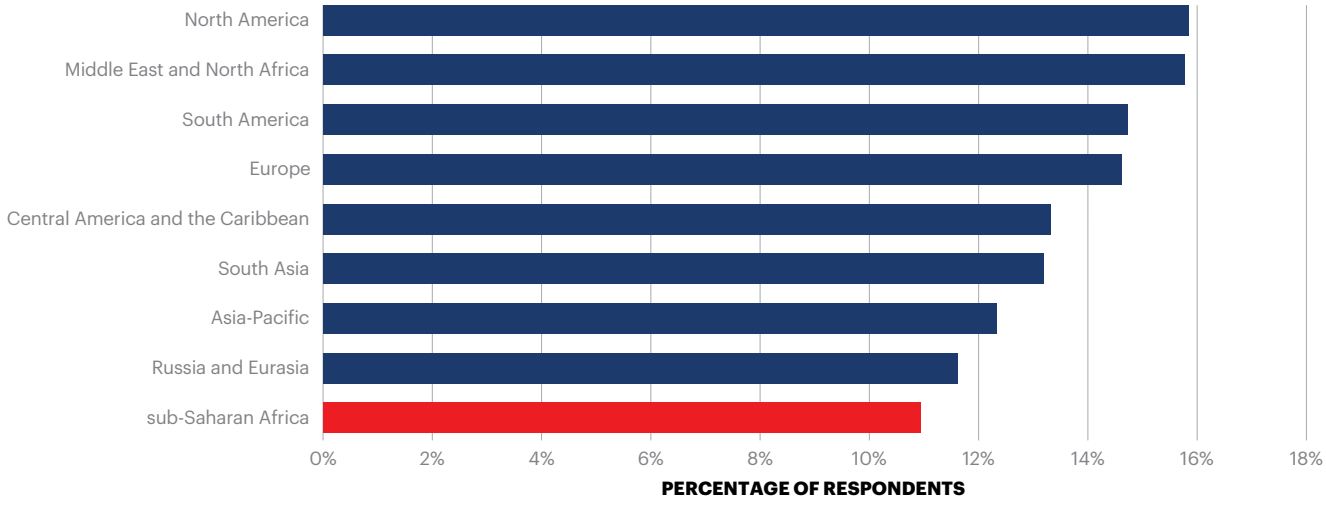
Mental health in sub-Saharan Africa

Data from the WRP shows that the experience of serious harm from mental health is higher on average in sub-Saharan Africa than any other region, and is consistent across most age cohorts, with very little difference between men and women. However, other data suggests that mental health concerns are actually less common in sub-Saharan Africa than elsewhere. This can be seen in Figure 4.5, which shows the prevalence of all mental health disorders (summarized previously in Table 4.3) as a percentage of the population, sourced from the 2019 Global Burden of Disease (GBD) database. The average prevalence rate across countries in sub-Saharan Africa was just under 11 per cent, compared to almost 16 per cent in North America and the Middle East and North Africa regions.

FIGURE 4.5

Prevalence of mental health disorders by region

sub-Saharan Africa has the lowest recorded prevalence of mental health disorders.



Source: Global Burden of Disease 2019, IEP Calculations

The results from the 2019 GBD are consistent with other studies comparing the prevalence of mental health across regions, which tend to find lower rates in sub-Saharan Africa compared to North America and Europe.[17] One metastudy combining the results of previous work from 1994 to 2014 found the prevalence of depression was 11 per cent in Africa, which was no different from the prevalence in any other region in the world.[18] Similarly, the prevalence of anxiety, depression, PTSD in African adolescents is comparable to the prevalence in regions like Europe and North America.[19]

The disparity between the results of the WRP and the prevalence data in the GBD and other studies has many possible causes. However, the WRP relates to perception while GBD represents diagnosed cases, therefore differences are to be expected. Diagnosing mental health conditions relies on identifying the presence or absence of core symptoms. While many symptoms may be similar across cultures, there are also some important differences. For example, Western countries tend to characterise depression in terms of "mood". By contrast, it has been observed in sub-Saharan African countries such as Tanzania, Rwanda and Uganda, mental health conditions are more likely to be characterised using physical symptoms.[20]

The accessibility and availability of treatment for mental health conditions could offer a further explanation of the difference between the WRP and GBD reported numbers. The number of healthcare workers per 100,000 in sub-Saharan Africa is half the global average while the number of countries who have not yet implemented standalone mental health policies is twice the global average.[21] Even when resources are available, financial barriers may prevent individuals from accessing treatment.[22] Less than one per cent of development assistance for health is specifically devoted to mental health.[23]

Appendix A - Methodology

The Lloyd's Register Foundation Safety Perceptions Index (SPI) measures perceptions of safety in 141 countries across the world. It uses data from the Lloyd's Register Foundation World Risk Poll (WRP), which consists of 75 questions relating to different aspects of risk across a broad range of topics. Over 150,000 people globally were included in the poll. In each country, researchers spoke to a nationally representative sample of around 1,000 people (more for some countries) aged 15 or above. These samples closely matched demographic characteristics of the country's adult population, including age, sex, income, and level of education. It should be noted that the data for the index was collected in 2019, and thus predates the COVID-19 pandemic. Data for the second iteration of the WRP was collected in 2021.

The index incorporates five different risk domains (health, personal, violence, work, and environment) with three cross-cutting themes in each domain (worry, likelihood, and experience).

The aim of the index is to assess the full impact that risk has on a society, and to provide a comparable measure of perceptions of safety across different countries. To this end, a subset of the 75 WRP questions were chosen, with an emphasis placed on the questions that captured information about the most serious risks. In addition, questions were only included if they had matching questions across all three cross-cutting themes. Table A.1 gives a full outline of the structure of the index.

The three cross-cutting themes each capture a different aspect of risk and the impact it has on society. The experience theme is a straight-forward measure of the prevalence of each risk in the past. The worry domain measures how concerned people are about a given risk, while the likelihood domain measures whether they link a given risk is likely to occur in the near future. Although there is a strong correlation between each of these themes, there are certain countries, regions, and certain types of risk for which the connection is not so clear. This disconnect may be due to certain risks being over or understated, but might also be the result of risk mitigation strategies undertaken in countries with high levels of risk.

While the structure of the index is very similar across all domains, it is not perfectly symmetrical. Firstly, In the health domain, there are two indicators rather than single indicator, with both the risk of harm from eating food and drinking water included. Secondly, the work domain did not have a comparable 'worry' question, however, given the importance of workplace safety the work domain was still included in the index. It is hoped that future iterations of the WRP will include a comparable question on worries about workplace injury.

TABLE A.1

The structure of the Safety Perceptions Index

Domain	Indicator	Theme	Response
Health	Food	Worry	% Very Worried
		Likelihood	% Very Likely
		Experience	% Yes
	Drink	Worry	% Very Worried
		Likelihood	% Very Likely
		Experience	% Yes
Personal	Mental Health	Worry	% Very Worried
		Likelihood	% Very Likely
		Experience	% Yes
Violence	Violent Crime	Worry	% Very Worried
		Likelihood	% Very Likely
		Experience	% Yes
Work	Workplace Injury	Likelihood	% Very Likely
		Experience	% Yes
Environment	Severe Weather	Worry	% Very Worried
		Likelihood	% Very Likely
		Experience	% Yes

Each of the questions that are included in the index have the same structure. The worry questions are worded in this manner:

- "In general, how worried are you that each of the following things could cause you serious harm? Are you very worried, somewhat worried, or not worried? **[name of risk]**"

- The likelihood questions are worded in this manner: "How likely do you think it is that each of the following things could cause you serious harm in the next two years? **[name of risk]**"

- The experience questions are worded in this manner: Have you or someone you personally know, experienced serious harm from any of the following things in the past two years? **[name of risk]**"

Both the worry and likelihood questions had multiple possible responses. For the worry questions, respondents could answer very worried, somewhat worried, or not worried, while for the likelihood questions, respondents could answer very likely, somewhat likely, or not likely. For both the worry and likelihood questions, the SPI uses the strongest possible response (very worried, or very likely).

Constructing and interpreting the Index

Each of the domains in the index is equally weighted. Although there are a number of different qualitative or statistical approaches that can be used in weighting indicators or domains in a composite index, for the sake of simplicity and ease of interpretation, each domain was given the same importance. Furthermore, each of the risks represented by the domains all have the potential to severely harm (physically, psychologically, and financially) or even kill poll respondents, and were thus treated with equal importance.

As a result, the score for each domain is the average of the worry, likelihood, and experience responses (or just the likelihood and experience responses for the workplace domain). As the potential value for each indicator was already bound between 0 and 100 per cent, there was no need to normalise or transform the data to make different indicators comparable.

The final index score for each country is bounded between 0 and 1. For a country to achieve a score of zero, none of the respondents from that country in the poll would be very worried about any of the risks, would not think that any of the risks are very likely to happen in the next two years, and would not have experienced serious harm or known someone personally who had experienced serious harm from that risk in the past two years. Conversely, to achieve the maximum potential score of 1, every respondent in a given country would have to be very worried about each risk, think that each risk is very likely to occur in the next two years, and have experienced serious harm or known someone who personally has, from each risk in the past two years.

Scores between 0 and 1 are more difficult to interpret. A country might receive a score of 0.3 because a third of respondents have been equally impact by each risk, or because they have been more strongly impacted by some risks than others. However, given that there is a strong correlation between the three themes and across the five domains, the index score can be roughly thought of as the percentage of people in a country who have been strongly impacted by most types of risk.

Limitations and Future Iterations

There are tradeoffs involved in the creation of any composite index. Although the SPI does provide a clear, comparable measure of the impact of risk across countries, no single measure can fully capture every aspect of a topic as broad and complex as risk. The index as it stands is missing data related to a number of aspects of risk that were rated as strong concerns by many poll respondents, most notably risk from traffic accidents. Furthermore, the index is not perfectly symmetrical across its domains, as the workplace domain is missing the question related to the worry theme.

There are also certain ambiguities in the index indicators that are almost unavoidable when using cross-country survey data. A number of terms or concepts in the index (for example, risk, mental health, violent crime etc.) may have slightly different meanings or connotations in different languages. Attitudes towards these topics and concepts in different countries and cultures might also influence the responses given by poll respondents.

Furthermore, the terms used to capture the severity of likelihood of risk ("very likely", "very worried") do not have a precise meaning and may be interpreted differently by respondents. Finally, the wording of the questions related to experience makes it impossible to determine the prevalence of that risk within a country. The wording of this style of question will be changed in future iterations in order to rectify this problem.

Despite these limitations, the SPI is a comprehensive and comparable measure of the impact of risk across countries. It can be disaggregated by any of the demographic variables collected in the WRP, allowing for the creation of sex, income, age, and location specific indices. Future iterations of the index will look to incorporate a broader spectrum of risks, especially in the light of the COVID-19 pandemic.

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