A human security risk perception and the access to information during the COVID-19 pandemic

Lisette R. Robles
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A human security perspective in understanding risk information during the COVID-19 Pandemic

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Keywords: human security, risk information, risk perception, information seeking, COVID-19 in Japan
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Background

The year 2020 will perpetually be associated with the COVID-19 pandemic. Despite the novel coronavirus having been detected in 2019, its global impact paralyzed the complex activities and interactions of the succeeding year, leading people to experience old and new insecurities in their lives, livelihood, and dignity. The rapid increase in reach and impact of COVID-19 reaffirms our interconnectedness in a global landscape, necessitating urgent action to mitigate the health emergency and reduce its consequences to the various aspects of our lives. Over the years, infectious diseases have extended beyond an entire health issue to a security concern (Enemark, 2009; Caballero-Anthony, 2006; Davies, 2008). Health insecurities are commonly observed as the detrimental consequence of large-scale crises. Critical security threats such as disasters, displacements, and conflicts can implicate the health of individuals, communities, and the entire population (Seeger and Sellnow, 2019). The records of influenza pandemics and other infectious diseases demonstrated that poverty, inequality, and social determinants of health create conditions for the transmission of infectious diseases and that existing healthy disparity or inequalities can further contribute to unequal burdens of morbidity and mortality (Quinn and Kumar, 2014). The range of threats to public health (including infectious disease outbreaks or food, water, and air contamination) can multiply insecurities that can have a prolonged impact that ripples to the socio-economic and environmental landscapes. All these assert the need to consider health emergencies as a security issue.

The COVID-19 crisis is no less different from the other disasters in the past. This pandemic conforms to the key baseline of a disaster as it arises from the combination of hazard and vulnerability and that it occurs at multiple levels simultaneously, with responses to a hazard exposing as many vulnerability problems as the original hazard (Kelman, 2020). The extensive impacts of this novel coronavirus constrained relevant agencies’ and institutions’ capacities to confront various security issues. It has affected people disproportionately, underscoring the need for an all-inclusive response to people's differentiated needs. With the leading demand for health, food, and economic securities in this time of uncertainties, access to accurate and sufficient information is also indispensable.

An early COVID-19 Policy Brief stressed how access to information is often a barrier for persons with specific communication needs and that it is imperative to ensure that targeted risk communication reaches all vulnerable groups (United Nations Office of Disaster Risk Reduction, 2020). Uncertainty is a common feature of crises and extreme events; thus, the public is likely to engage in information seeking to reduce uncertainty and dissonance (Burke, Spence, and Lachlan, 2010). While COVID-19 was previously unknown to science, its behavior is typical of other coronaviruses; with symptoms from mild to moderate, but for some, especially those with pre-existing health conditions, they can be fatal (Bryce et al., 2020). The first quarter of 2020 was filled with doubts and skepticism on the nature and effect of the infectious disease; while simultaneously mitigating and containing its transmissions. The lack of sufficient and accurate facts about this health hazard and other related concerns position people at a greater level of vulnerability and insecurity. With such challenging conditions, access to emergency and related information during a crisis is an equally crucial human security issue that must be addressed.
Access to Information and Human Security

Under the thematic umbrella of "security," human security remains a disputed concept yet has been adapted in multiple contexts and disciplines. The "broader" conceptualization of human security stems from the 1994 UNDP Human Development Report that promotes the concept's universality and acknowledges that people faced differentiated threats that are real and growing. In essence, the commonly accepted understanding of human security at the United Nations entails "the right of people to live in freedom and dignity, free from poverty and despair. All individuals, in particular vulnerable people, are entitled to freedom from fear and freedom from want, with an equal opportunity to enjoy all their rights and fully develop their human potential (United Nations General Assembly, 2012)". Human security as a conceptual framework fits the demand for a people-centered approach to address the insecurities that are organically evolving and directly affecting the everyday lives of individuals and communities. Placing people at the center of the analysis considers the broad range of conditions that threaten people's survival by generating a multi-sectoral understanding of insecurities by recognizing the interdependence of the threats people face and specific responses to these insecurities. Human security focuses on people rather than the state, addressing the "downside risks" to broaden human development's "growth with equity" and respecting human rights. Human security is realized through its dual policy framework of mutually reinforcing pillars of protection and empowerment.

Despite its potential as a practical framework, human security is sometimes overlooked, if not unnoticed. A recent study on the human security norms in East Asia confirmed that various stakeholders in the region engaged in multiple practices to address human security even though the term is not explicitly used (Mine, Gómez, and Muto 2019). The diverse experiences in these countries resonate with the fundamental elements of human security – the existence of vulnerable groups or populations from severe and pervasive threats, including the swift and largescale spread of COVID-19.

By the end of January 2020, COVID-19 has been declared a “public health emergency of international concern" (PHEIC)1. Its rapid and global spread exposed people's vulnerabilities to various insecurities and social systems to severe strains. Akiko Fukushima (2020) detailed that the COVID-19 pandemic is not only a health crisis [but], is a human security crisis — depriving our freedom from fear, freedom from want and freedom to live with dignity; [wherein] the pandemic demands a human security approach of comprehensive, across-the-board human protection and empowerment. The indiscriminate spread of the virus revealed how certain groups had been disproportionately affected, including those already marginalized by structural barriers and inequalities even before the pandemic, including older persons, women, persons living with disabilities, migrants, and informal sector workers. To re-articulate, COVID-19 is more than health insecurity; but a complex crisis that cascades to other dimensions of human security, including, among other things, economic, food, and personal security2. COVID-19 is an existential concern encompassing multiple and interrelated insecurities that require a people-centered solution to ensure that freedoms and fulfillment are realized, all of which is indicative of what human security entails.

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1 On January 30, 2020, The Director-General accepted the recommendation and declared the novel coronavirus outbreak (2019-nCoV) a PHEIC. This is the 6th time WHO has declared a PHEIC since the International Health Regulations (IHR) came into force in 200 (World Health Organization, 2020b).

During this global health crisis, information access is likewise an essential human security matter, albeit not inherently a security threat. People’s (in)ability to communicate risk during a crisis is critical to everyone’s security and safety. Risk communication is recognized as the two-way and multi-directional communications and engagement with affected populations so that they can make informed decisions to protect themselves and their loved ones (Gamhewage, 2014). However, the combined denial and inability to access population-specific information can aggravate the crisis and place people at a greater level of vulnerability. Human security, as a people-centered approach, can be applied in understanding the value of risk information. Three themes can aid in fully comprehending the intersection of risk information and human security: (a) the freedom from fear and want, (b) risk perception, and (c) protection and empowerment.

Health crises, like other disasters, are sources of uncertainty rooted in the fear of not knowing. When confronted with these [uncertainties], people turn to others to reduce their uncertainty and seek guidance (Paton et al. 2008). People’s confidence and satisfaction with information sources provide a sense of security, obtaining the ability to assess and manage risks based on the knowledge of the crisis and its potential impact on the issues that matter to them. Hence, understanding people’s actual information-seeking needs is fundamental in their crisis response and in developing resilience.

Studies on disasters have shown how people’s action/inaction during the crisis is related to their perception of existing risks and the threats they pose to their safety (Bankoff, 2003; Oliver-Smith, 1996; Viscusi and Zeckhauser, 2006). Higher risk perception is congruent to higher uncertainty. How people see the risks associated with information security determines what decisions they will make regarding their actions (not take) in conjunction with whatever risk security measures their particular organization has put in place (Pattinson and Anderson, 2005). During a crisis, the possession of information and how it is made meaningful drives the subsequent actions to avoid or minimize risks. Previous studies have reported evidence of this positive relationship between risk perception and information needs, in turn affecting the consequent information-seeking behavior (Ter Huurne and Gutteling 2008).

A people-centered approach to global health would focus on empowerment and protection, [wherein] empowerment strategies would enhance the capacity of individuals and communities to assume responsibility for their own health (Commission on Human Security, 2003). Human security’s dual framework of protection and empowerment amplifies the importance of risk information in responding to crises. Protection comes from the information and resources provided by government and relevant institutions that ensure the health and safety of everyone, while people’s capabilities to access and utilize the information that is accurate, relevant, and timely echoes empowerment.

Human security has often been synonymous with the development agenda, consequently suggesting that human security, vulnerability, resilience, and empowerment discourses as relevant only to people in less developed countries (Bacon and Hobson 2014, 33). However, large-scale disasters in developed countries reaffirm the universality of human security. For instance, the 2011 Great East Japan Earthquake (GEJE) encouraged rethinking human security as a relevant domestic concern for Japan (Sato 2013; Bacon and Hobson 2014; Gómez 2019). The advent of the COVID-19 pandemic re-emphasized these various insecurities for diverse, vulnerable groups/communities and those who have long been marginalized, even for a developed country like Japan.

This paper explores the nexus of risk information and human security against the backdrop of the current COVID-19 pandemic. The study curates how human security concerns drive people’s risk perception during a pandemic and expounds on the importance of risk information

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in protecting and empowering people during a crisis. Though combined literature review and a survey on information seeking conducted in four prefectures in Japan, this manuscript presents the kinds of information sought, the frequency and challenges in information seeking, trust in sources, acquiescence to COVID-19 safety measures, and the specific concerns for seeking information.

With the established exigency to look at information access as a human security concern, the paper will present the timeline of the COVID-19 crisis in Japan, succeeded by a brief detail on the survey design, distribution, and results. These lead to the discussion on risk information, through information access, as an enabler of human security.

This article intends to establish that as people become properly informed based on their needs, it reduces the anxiety (freedom from fear) and can potentially aid the access and use of resources (freedom from want) to manage their risks and gain resilience from the crisis.

Japan’s COVID-19 Crisis Timeline

COVID-19 pandemic encroached the events in Japan for the entire 2020. While the virus outbreak in China had already been reported since late 2019, it was only until January 14, 2020, when the first confirmed positive case of COVID-19 in Japan was reported (World Health Organization, 2021). Domestic awareness about the COVID-19 grew as the Diamond Princess Cruises, with confirmed positive cases for the novel coronavirus infections docked at Yokohama Port on February 3, 2020 (Muto et al., 2020)3. February saw the increase in cumulative positive cases reach 100, and the first death from COVID-19 was reported on the 13th. With the alarming extent of the coronavirus globally, the WHO declared COVID-19 as a pandemic by mid-March (World Health Organization 2020a). Several countries began to implement lockdowns and other measures to limit the transmission of the virus. During the same month, Japan announced the closures of schools and, from March 5 on, placed entry restrictions for travelers from China and Korea. Japan’s Ministry of Health, Labour, and Welfare (MHLW) officially ascertained the characteristics of the new coronavirus infection (2020). They informed the public of the possible routes of transmissions and the common symptoms and risk of contracting COVID-19.

The detection of the surge in early signs of infections, along with the growing strain in the health care system and the logistical strains in the cluster-based approach, drove the declaration of a state of emergency in Japan (Omi and Oshitani, 2020). On April 7, the Government of Japan officially declared a state of emergency (SoE1)4 for Tokyo, Saitama, Chiba, Kanagawa in Eastern Japan, and Osaka, Hyogo, and Fukuoka in the Western region, was eventually expanded nationwide on April 16. The declaration was made as an exercise of the government’s power through action plans and guidelines under the Special Measures on New Influenza Act (Act No. 31 of 2012) (Government of Japan, 2013). In essence, the declaration of a state of emergency empowers prefectures to take restrictive actions [however, not legally binding] to ensure that the functioning of the medical care system and to ask cooperation to avoid contacts to reduce the spread of the infection (Sugiyama, 2020). By May

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3 The study excludes the details of the coronavirus infection from the Diamond Princess Cruises in the timeline of COVID-19 cases in Japan. While the cruise ship has docked Yokohama, Japan on Feb.3, 2020; the Japanese government declined the immediate disembarkation of its passengers and instead adopted the Anchorage Quarantine Approach, sending Quarantine officers to the ship (Jimi and Hashimoto, 2020). Hence, the cases in the cruise ship does not account for Japan’s confirmed COVID-19 cases.

4 For the purpose of this paper, the State of Emergency declared in April 2020 is alternately referred to as “SoE1”; while the State Emergency declared in January 2021 as “SoE2.”
14, SoE1 was lifted in 39 prefectures and for the rest of the prefectures by May 25. During this period, various actions were put into place to control the spread of the disease and dampen the socio-economic strains to the residents. In addition to the consistent advisories for prevention measures against COVID-19 and expert meetings to control the disease, the government enacted policies including travel restrictions, distribution of financial assistance stimulus packages for residents and affected businesses, postponement or canceling of major events, including the 2020 Tokyo Olympics, and closure of schools nationwide. Telecommuting was encouraged whenever possible, and limiting non-essential activities has been strongly advised.

Following the lifting of SoE1 in late May, the daily number of cases stayed below 100 between May 16 to June 25 (World Health Organization 2021). Preventive measures have been continuously encouraged sans any strict legal consequences if violated. Despite this, big cities during the summer had to deal with the virus transmission cases in nightlife districts and care facilities, and transmission became a similar issue faced by less-populated prefectures (Abe and Noguchi 2020). More so, the Japanese government subsidy program “Go-To Travel” campaign led to a surge in travel-associated cases (Anzai and Nishiura 2021). There was a resurgence of weekly recorded cases in mid-October (cumulated 3,744 cases, October 12, 2020), leading to another peak of 39,821 cases in a single week during the New Year holiday. Despite repeated reminders for preventive measures, the number of cases continues to rise and takes its toll on the medical system (Mun-Keat 2021). Amidst these incessant domestic challenges and the discovered presence of new COVID-19 variants globally, the second state of emergency was enforced on January 7, 2021, for Tokyo and its surrounding prefectures, which extended to 8 additional prefectures on January 14 and is expected to last until February 7. Prime Minister Suga’s declaration entails the following plans: 1) shortening business hours for restaurants and bars, 2) reducing the number of workers at offices by 70%, 3) avoiding outings in the evening, and 4) restrictions on events (Okutsu and Obe, 2021). As of writing, a surge of COVID-19 cases has been happening in East Asia, with various countries enforcing “lockdown”/quarantine measures (if necessary) while awaiting the rollout of COVID-19 vaccines. The SoE2 declaration has been extended twice as the decrease in cases staggered.

Infectious diseases, like natural and human induced-hazards, can have an extensive impact in urban areas. The Tokyo metropolis has a much greater risk of infectious diseases than local areas due to the large population and consistent increase in visitors (both domestic and abroad) (Suzuki 2010). Tokyo and the neighboring prefectures of Chiba, Kanagawa, and Saitama cover the Greater Tokyo Area. These areas have been among the critical areas confronting the transmission and surge in COVID-19 cases because of their extensive social and economic engagements.

A year after the first reported case in Japan, four prefectures remain under SoE2, and COVID-19 inoculation has already begun after a thorough review for efficacy in the country. Japan continues to navigate its management of the crisis as the number of cases fluctuates, and its impact becomes protracted. Across all these events, the need for accurate and trustworthy information has been fundamental and critical. Despite Japan’s advancements, it could not evade the dreadful consequences of the pandemic, especially in densely populated city-centers. Along with this continuing concern for COVID-19 are various trepidations that push

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5 Together with domestic concerns, Japan’s global responsibility of hosting the Olympics in Summer 2020 began to cast doubts about the feasibility of holding the event amidst a pandemic.

6 These areas are collectively referred as Itto Sanken (One metropolis, and three prefectures).
people to learn more and thereby form sound decisions. Thus, the need to be enlightened about the crisis and the other concerns consequentially make risk information essential.

Methodology

This study fuses literature review on human security, risk information, and COVID-19, and the results of an online survey on the use and access of information among the residents of 4 prefectures in Japan during the first year of the COVID-19 pandemic to draw a substantive narrative on the human security dimension of risk information. Below are the details of the survey design and distribution and the current limitations of the study.

Survey design and distribution

This study utilized the results of a 27-question survey about the access and use of information among the residents of four prefectures in Japan during the COVID-19 pandemic. It consists of close-ended questions on (1) basic socio-demographic details, (2) information seeking and gathering during the pandemic, (3) information sources, (4) information usage, and (5) risk perception. This survey was prepared based on the combined reviews on crisis information seeking during the Great East Japan Earthquake in 2011 (Kawasaki, Meguro, and Henry 2012; Kawasaki, Henry, and Meguro 2018) and the H1N1 influenza outbreak (Walter et al., 2012; Gray et al., 2012; Majid and Rahmat, 2013). Questions were aptly modified to fit the context of the current pandemic and the observed information-seeking trends and issues.

This survey was distributed to residents of Tokyo, Chiba, Saitama, and Kanagawa. These four prefectures were initially placed under SoE1 and the other three prefectures in the Western region on April 7, 2020. These prefectures were selected as the research site because of their interconnected social and economic interactions and geographic proximity. To adapt to the linguistic diversity of the participants, the survey was made available in multiple languages, including Japanese, English, Chinese, Korean, Vietnamese, Indonesian, Portuguese, Nepalese, and Spanish. The survey was distributed online through the snowball sampling technique by targeting distributions to prefectural offices, embassies and regional/country associations, universities, community-based organizations, and requests from the researcher’s social contacts. Survey respondents consented to take the survey voluntarily.

The survey was kept open on the online platform from November 1 to December 31, 2020, with 259 responses collected from 27 countries. Table 1 summarizes the survey details.

Table 1. Survey details

<table>
<thead>
<tr>
<th>Research Instrument</th>
<th>Anonymous and a voluntary internet-based survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>18 years old and above residents from Tokyo, Chiba, Kanagawa, and Saitama</td>
</tr>
<tr>
<td>Period</td>
<td>November 1 - December 31, 2020</td>
</tr>
<tr>
<td>Distribution method</td>
<td>Snowball sampling</td>
</tr>
<tr>
<td>Survey Platform</td>
<td>SurveyMonkey®</td>
</tr>
<tr>
<td>Languages</td>
<td>Japanese, English, Chinese, Korean, Vietnamese, Indonesian, Portuguese, Nepalese, and Spanish.</td>
</tr>
<tr>
<td>Responses</td>
<td>259 total (27 countries)</td>
</tr>
</tbody>
</table>

7 This survey is a supplementary study under the on-going research project “Human Security and Practices of Empowerment in East Asia” of Japan International Cooperation Agency (JICA) Ogata Research Institute in Tokyo. The inception of this study comes as a timely contribution to the projects overall theme on human security.

8 The survey has been reviewed for ethical consideration at the JICA Ogata Research Institute. Participants were requested to consent their voluntary participation and were ensured of anonymity.
Scope and Limitations

Among the survey contents included in this study are the socio-demographic details (such as prefecture of residence, sex, age, employment status, and residence\(^9\)), frequency in information seeking, types of COVID-19 information, types of information sources, the challenges in information seeking, importance in using preferred sources, reasons for seeking COVID-19 information, and compliance to safety protocols. Given the current restrictions for face-to-face interactions that may further the virus transmission, the survey optimized an online distribution. Thus, the sample collected from the survey is skewed to those who have unrestricted access to the internet at that time and who willingly responded to the survey. At this point in the paper, the author stresses that the survey will not provide any empirical assessment on the population of the four prefectures, nor Japan\(^{10}\). Instead, the data that presents the respondents’ preferences and challenges in information seeking and their compliance to COVID-19 protocols will supplement a substantial discussion on understanding risk information during this pandemic against the backdrop of human security.

\(^9\) For the purpose of analysis, survey data on nationality was used for the “residence” variable, sorted as (1) Foreign residents and (2) Japanese, respectively.

\(^{10}\) See: “How many cases do I need?: On science and the logic of case selection in field-based research” (Small 2009)
Survey Results

A total of 259 individual responses were collected from the online survey (see Table 2). The four prefectures were represented from the total respondents, of which 168 (64.9%) are residing in Tokyo. The female and male are distributed with 134 (51.7%) and 120 (46.3%) participants. Almost half of the participants (125, 48.3%) are between the 25-34 years old age bracket. From the total respondents, there are 203 (78.4%) who identified themselves in some form of employment (i.e., full-time, self-employed, employed part-time), and the rest (56, 21.6%) are not currently working (i.e., full-time student, retired, homemaker, unemployed, and unable to work). Half of the respondents (131, 50.6%) identified themselves as Japanese, while 115 (44.4%) are foreign residents from 26 countries.

Table 2. Socio-demographic characteristic of survey respondents (N=259)

<table>
<thead>
<tr>
<th>Socio-demographic characteristics</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prefecture</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chiba</td>
<td>22</td>
<td>8.5%</td>
</tr>
<tr>
<td>Kanagawa</td>
<td>56</td>
<td>21.6%</td>
</tr>
<tr>
<td>Saitama</td>
<td>13</td>
<td>5.0%</td>
</tr>
<tr>
<td>Tokyo</td>
<td>168</td>
<td>64.9%</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>134</td>
<td>51.7%</td>
</tr>
<tr>
<td>Male</td>
<td>120</td>
<td>46.3%</td>
</tr>
<tr>
<td>Prefer not to say</td>
<td>4</td>
<td>1.5%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-24 years old</td>
<td>25</td>
<td>9.7%</td>
</tr>
<tr>
<td>25-34 y/o</td>
<td>125</td>
<td>48.3%</td>
</tr>
<tr>
<td>35-44 y/o</td>
<td>52</td>
<td>20.1%</td>
</tr>
<tr>
<td>45-54 y/o</td>
<td>27</td>
<td>10.4%</td>
</tr>
<tr>
<td>55-64 y/o</td>
<td>13</td>
<td>5.0%</td>
</tr>
<tr>
<td>65+ y/o</td>
<td>16</td>
<td>6.2%</td>
</tr>
<tr>
<td><strong>Employment status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed full time</td>
<td>147</td>
<td>56.8%</td>
</tr>
<tr>
<td>Employed part-time (working students, baito)</td>
<td>45</td>
<td>17.4%</td>
</tr>
<tr>
<td>Self-employed</td>
<td>11</td>
<td>4.2%</td>
</tr>
<tr>
<td>Full-time Student</td>
<td>36</td>
<td>13.9%</td>
</tr>
<tr>
<td>Retired</td>
<td>6</td>
<td>2.3%</td>
</tr>
<tr>
<td>Homemaker</td>
<td>5</td>
<td>1.9%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>8</td>
<td>3.1%</td>
</tr>
<tr>
<td>Unable to work</td>
<td>1</td>
<td>0.4%</td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign Resident</td>
<td>115</td>
<td>44.4%</td>
</tr>
<tr>
<td>Japanese</td>
<td>131</td>
<td>50.6%</td>
</tr>
<tr>
<td>Did not say</td>
<td>13</td>
<td>5.0%</td>
</tr>
</tbody>
</table>
Information seeking during the pandemic

The details on information seeking cover the frequency of seeking COVID-19 information and the type of information wanted. Frequency suggests the urgency of getting the information as needed, while the type of information implies the information relevant to the respondents. Table 3 summarizes the distribution of information seeking across three periods. The significant time marker considered in this study is the imposition of a state of emergency in April 2020 (SoE1). Before SoE1, survey respondents have already been looking for COVID-19 related information daily (175, 67.6%), with 115 (44.4%) of them seeking information more than once a day. By the time the SoE1 was enforced, more respondents had claimed to seek the information at least once a day (192, 74.1%). Once the SoE1 was lifted, the survey respondents continue to look for COVID-19-related information at least once a day (81, 31.3%) or weekly (82, 31.7%).

Table 3. Frequency of Information seeking in three periods (N=259)

<table>
<thead>
<tr>
<th></th>
<th>Jan 2020- April 7, 2020</th>
<th>SoE1 (April 8- May 27,2020)</th>
<th>Post-SoE1 (May 28- Dec 2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than once a day</td>
<td>115 (44.4%)</td>
<td>121 (46.7%)</td>
<td>58 (22.4%)</td>
</tr>
<tr>
<td>Once a day</td>
<td>60 (23.2%)</td>
<td>71 (27.4%)</td>
<td>81 (31.3%)</td>
</tr>
<tr>
<td>Weekly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than once a week</td>
<td>41 (15.8%)</td>
<td>26 (10.0%)</td>
<td>53 (20.5%)</td>
</tr>
<tr>
<td>Once a week</td>
<td>11 (4.2%)</td>
<td>11 (4.2%)</td>
<td>29 (11.2%)</td>
</tr>
<tr>
<td>Rarely/Never</td>
<td>6 (2.3%)</td>
<td>3 (1.2%)</td>
<td>12 (4.6%)</td>
</tr>
</tbody>
</table>

From the 233 participants that identified the type of information they sought, 198 (85.0%) looked for information on the spread of COVID-19 in Japan, 187 (80.3%) on its diffusion around the world, and 181 (77.7%) on the signs and symptoms of COVID-19. In addition to these, 158 (67.8%) seek the prevention and control of COVID-19, and 146 (62.7%) want to know about corresponding government advice on the pandemic. Despite the interest in the general information about its spread and relevant updates, only 30 (12.8%) and 15 (6.44%) of the respondents search about the availability of food and water supply and procedures to participate in volunteer activities, respectively. Figure 1 presents the types of COVID-19-related information sought.

From among these types of information, the respondents would like to receive more information about relevant updates such as public services and government updates (167), the spread of COVID-19 in Japan and elsewhere (160), and the continued need for general information about COVID-19 (150). The respondents also encountered challenges in collecting relevant COVID-19 details (Figure 2). The need for clear information (122), having too much conflicting info (98), and too much repetitive information from different sources (92) are among the key risk information issues for the respondents.
Trust in information sources

Survey respondents were asked about their sources of information concerning the pandemic. For the purpose of the survey, sources were classified into three types: human sources, traditional media, and online sources. Traditional sources include the conventional print and broadcast media, and the online sources accommodate the more contemporary forms to communicate information. Figure 3 presents the information sources named by the respondents.
Online sources have been the cumulatively preferred sources of information. Among the human sources, the medical professionals (164), and government officials, both at the local and national level (130), are the most preferred sources for COVID-19 information. Some of the professionals/experts specifically identified included epidemiologists, immunologists, psychologists, economists, and data analysts. From the traditional sources, 131 respondents get their information from the television, and 115 rely on prints such as newspapers, magazines, and flyers. As mentioned, online sources are the most preferred sources of information, particularly from online news websites (local and international), international organizations websites (e.g., WHO, IOM, etc.), and Japan’s Health ministry prefectural offices websites. Official COVID-19 social media accounts, online platforms of medical personnel and researchers, and related journal articles are the more specific online sources. Of the 115 who identified as foreign residents, 65 of them (56.5%) refer to news sites from their home countries for additional information.

Table 4 shows that the respondents have varied reasons for choosing the different sources of information. The respondents rated their trust in sources as the most important reason to seek information from their preferred sources (mean score 3.14), followed by the accessibility of the information (mean score 3.00) and the availability of sufficient information (mean score 2.88).
Reasons for seeking COVID-19 information

To support the theme of the study, survey participants were asked about the importance of varied issues aligned with human security dimensions in their information seeking about COVID-19. As shown in Table 5, the respondents placed the highest priority on their health as the reason for seeking information during this pandemic (mean score 3.19). Health concern is followed by their concern for personal issues such as education, family, and visa status for foreign residents (mean score 3.02). These were followed in importance by their economic situation (mean score 2.61), the concern for the political situation/condition in Japan and/or their home country (mean score 2.60), and the consideration for their neighborhood/community (mean score 2.35). The survey respondents rated minimum importance for concern about food and water supply (mean score 2.14) and the pandemic’s impact on the environment (mean score 2.15).

Table 5. Summary of Reasons for Seeking COVID-19 Information.

<table>
<thead>
<tr>
<th>I seek information about COVID-19 because…</th>
<th>N</th>
<th>Mean Score (1-4)</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am concern about my source of income (ex: job, business).</td>
<td>221</td>
<td>2.61</td>
<td>1.23</td>
</tr>
<tr>
<td>I am concern about the availability of food and water supply.</td>
<td>221</td>
<td>2.14</td>
<td>1.24</td>
</tr>
<tr>
<td>I am concern about my health.</td>
<td>223</td>
<td>3.19</td>
<td>1.03</td>
</tr>
<tr>
<td>I am concern about its impact on the environment (ex: medical waste etc.).</td>
<td>221</td>
<td>2.15</td>
<td>1.16</td>
</tr>
<tr>
<td>I am concern about my personal matters (ex: education, family, visa status).</td>
<td>220</td>
<td>3.02</td>
<td>1.12</td>
</tr>
<tr>
<td>I am concern about my neighborhood/community.</td>
<td>220</td>
<td>2.35</td>
<td>1.22</td>
</tr>
<tr>
<td>I am concern about the political situation/condition (in Japan and/or my country).</td>
<td>220</td>
<td>2.60</td>
<td>1.14</td>
</tr>
</tbody>
</table>

COVID-19 Safety Protocols

The survey respondents were asked if they follow the recommended COVID-19 safety measures. Out of the 224 responses, 217 affirmed compliance to safety protocols, and only 7 responded otherwise. Figure 3 illustrates the preferred prescribe measures such as wearing masks (218), regular washing of hands (205), and improving air circulation in confined spaces (172) were prioritized. Japan’s Ministry of Health, Labour and Welfare (MHLW) encouraged “The Three Cs” 11, and about three-fourths of the participants confirmed avoiding closed spaces (169), crowded places (180), and close contact settings (164). Respondents also named other safety measures observed, including regular disinfection, online shopping, boosting the immune system, and keeping in touch with the family.

Table 3. Suggested COVID-19 Safety Measures.

<table>
<thead>
<tr>
<th>Safety Measure</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staying at home</td>
<td>134</td>
</tr>
<tr>
<td>Working from home</td>
<td>140</td>
</tr>
<tr>
<td>Wearing masks when going to public places</td>
<td>218</td>
</tr>
<tr>
<td>Regular washing of hands</td>
<td>205</td>
</tr>
<tr>
<td>Cleaning/disinfecting things I touch</td>
<td>144</td>
</tr>
<tr>
<td>Avoiding closed spaces</td>
<td>169</td>
</tr>
<tr>
<td>Avoiding crowded places</td>
<td>180</td>
</tr>
<tr>
<td>Avoiding close-contact settings</td>
<td>164</td>
</tr>
<tr>
<td>Improving air circulation (opening doors and..)</td>
<td>172</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>12</td>
</tr>
</tbody>
</table>
Discussion

As established in the first section of this paper, risk information, in terms of access to information, can contribute to enabling human security during a crisis such as the current pandemic. This discussion covers three points: (1) COVID-19 information seeking and the freedom from fear and want, (2) risk perception and human insecurity, and (3) protection and empowerment of people during the pandemic through trusted information. The grasp of people’s information needs and access vis-à-vis the COVID-19 pandemic can help minimize (if not alleviate) people’s insecurities.

Freedom from fear and freedom from want

To draw the link between information seeking and human security, we begin by framing the former with the basic tenet of human security that “All individuals, in particularly vulnerable people, are entitled to Freedom from Fear and Freedom from Want, with an equal opportunity to enjoy all their rights and fully develop their human potential (United Nations General Assembly, 2012)”. In the context of information access, fear is rooted in the absence of information to explain and rationalize the current dilemma. Consequentially, the freedom from want indicates the ability to acquire and access need-specific information to address the threats. These combined freedoms can enable people to assess their vulnerabilities about the crisis and gain the capability to make informed decisions.

This sense of insecurity in information seeking has been in past large-scale disasters and emergencies. The early aftermath of the triple disaster of the 2011 Great East Japan Earthquake raised several questions, particularly pertaining to the extent of the damage from a 9.0 magnitude earthquake and tsunami and the contamination level from the damaged Fukushima nuclear plant. Similarly, infectious diseases like the SARS (2003), H1N1 (2009-2010), and MERS (2012) caught people’s awareness and need to be informed. In the course of these crises, people need to acquire accurate and trustworthy information to help ascertain and gauge their vulnerabilities.

Poor risk communication can further heighten uncertainty during a crisis. The frequency in seeking information during the pandemic reflects the perceived risks and the accompanying uncertainties. Table 3 presents the respondents’ frequency in information seeking in relation to the SoE1. Before the declaration of SoE1, about 67.6% of the respondents sought information at least once a day. This rose to 73.4% during the SoE1. During the early months of 2020, countries and international experts were trying to comprehend the nature of COVID-19 while simultaneously navigating the multiple challenges accompanying the pandemic. At the state level, enforced responses included mitigating the virus transmission, travel suspensions, and border closures, minimizing strains in the health system, and securing social safety nets for everyone. For most countries, hearing about the spread of the virus in Wuhan, China began with a more passive acknowledgment of the threat from the coronavirus. This anxiety escalated quickly from a distant concern to an urgent existential threat as confirmed cases of infection increased. In Japan, the rapid spread of coronavirus infection cases coincided with high demand for personal protective supplies, including surgical masks. (Takahashi, 2020; Nikkei Asia, 2020). This aggravated further doubts and worries about the reality and extent of the crisis.

The type of information people sought and the frequency in information seeking support the respondents’ necessity for verifiable facts to explain what is happening. People wanted to be fully informed about the crisis and the current conditions that may affect them, as seen in Figure 1. The first quarter of 2020 was filled with concern on understanding the root cause of
the virus -- who can be affected, by what means, and how to prevent contracting the virus. These domestic apprehensions were not limited to Japan; however, as experts attempt to address these questions, cases continue to increase exponentially and are further exacerbated by the observed shutdowns and lockdowns elsewhere (Wilson, 2020). The first State of Emergency (SoE1) declaration raised more concerns, including restrictions and their consequences. Fear from the absence of information and the need to know more thrive during uncertainty. Thus, people constantly seek answers to explain their circumstances and predicament. This echoes the role of risk information as people discern threats and assess their risks.

Risk perception and human insecurity

Disaster risk is best illustrated as a function of hazard, exposure, vulnerability, and capacity; and can potentially result in losses in varied forms. More so, it is vital to consider the social and economic contexts in which disaster risks occur and that people do not necessarily share the same perceptions of risk and their underlying risk factors (United Nations General Assembly, 2016). Such parameters equally apply in the context of health emergencies. COVID-19 equates to the hazard that exposes every one of various vulnerabilities and capacities to respond, and thus, the source of differentiated risk perception.

Kim and Madison (2020) explained that although the local public commonly experienced natural hazards and disasters, risk perception of the disaster varies by individual's psychological frame and/or previous experiences and reflects specific individual values. For Japan, the combination of disasters resulting from natural hazards and the challenge of infectious disease are opposite poles of the country’s expertise. Between infectious diseases and disasters, Japan has inarguably multiple volumes worth of best practices to refer to and share when facing disasters. In contrast, Japan has not experienced any severe losses from a new infectious disease (i.e., SARS, MERS, Ebola). Although it experienced the 2009 H1N1 influenza pandemic, it rated the lowest worldwide (Muto et al. 2020, 2). This experience, albeit the absence of recent occurrence of infectious disease in the country, may have affected the reaction time in responding to the pandemic.

At the personal level, insecurities may vary subject to what they perceived as a threat to their freedom and survival, and these matter in their information seeking during crises. Human insecurity comprises a multitude of threats beyond military or traditional security risks, including economic, food, health, environmental, personal, community, and political security (Tadjbakhsh and Chenoy, 2007). The survey respondents were asked for the reasons for seeking COVID-19 related information. The majority of respondents expressed their primary concerns for health and personal matters as important reasons to seek Information about COVID-19 (see Table 5). Infectious diseases, like the 2019 novel coronavirus, directly threaten the health of individuals and communities, thus the straightforward rationale for the high health concern. Succeeding health security is the concern for personal matters correlated to personal security. This form of security threat is attributed beyond criminality to individual perceptions and fears that can contribute to personal levels of insecurity (Tadjbakhsh and Chenoy, 2007).

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13 The UN HDR 1994 interpretation of personal security threats covers various forms of violence, including physical violence and the various forms of threats. However, as Gasper and Gomez (2015) emphasized, personal physical security is fundamentally important, but the limited interpretations to intentional violence, organized violence, and violence in public spaces diminish human security’s added-value of a people-centered attention to the intersections of multiple dimensions of life.
Personal concerns include the anxiety for everyday concerns; and are not limited to themselves but for their [familial] extensions. For example, education for themselves or their children has been compromised by the pandemic, raising both financial and logistical challenges\(^{14}\). For foreign nationals in Japan, the assurance of their residence status (as residents, refugees, or undocumented migrants) has been a subject of concern (Human Rights Working Group, 2020)\(^{15}\). While each threat to human security was categorized, they overlap and are intertwined, rendering complex challenges for each community or group. Inevitably, the capacity to be risk-informed of these various insecurities can determine the course of action taken during crises/emergencies.

Risk perception draws together issues and concerns that matter to the individual, including those that contribute to their insecurities. Some studies present this correlation of individual risk perception as determinants to people’s action or inaction during pandemics or disasters (e.g., Walter et al., 2012; Rubin et al., 2009; Kim and Madison, 2020). Typhoon Haiyan that struck the central Philippines in 2013 became a shared experience for about 4 million people displaced by the cyclone and accompanying storm surges (Robles and Ichinose 2016). The limited understanding of a storm surge led to complacency in preparing and responding to the super typhoon. Risk-related information becomes the necessary intermediary between people’s perceived insecurities and the action they take after that. As Hansson and colleagues (2020) detailed about communication and disaster vulnerability, it is through this meaning-making from gathered information about a hazard that helps people make sense of the situation and potentially take steps to minimize risks.

The various human insecurities contribute to how people perceive risks and how they behave to address the challenge and improve their conditions and behaviors. Risk information becomes a salient element that adds to the better understanding of the pandemic and the decisions made after that. Hence, access to accurate and trustworthy information may not be directly a source of insecurity; however, it is a crucial determinant of people’s risk perception.

**Protection and empowerment through information**

Human security, as an operational tool, rests on the mutually reinforcing framework of protection and empowerment. Top-down protection involves strategies to protect affected communities against identified threats. In contrast, bottom-up empowerment builds upon the capacities of affected communities to cope with identified threats and strengthen their resilience and the choices to act on their behalf and others (Office for the Coordination of Humanitarian Affairs, 2009). Protection and empowerment in information seeking best manifest in the display of trust with preferred information sources and the capacity to make sound decisions based on the acquired risk information.

The trusted information sources serve as the channels for protection mechanisms from uncertainty. This concept of trust entails the assumption of risks that make it impossible to gain certainty (Hertzum et al. 2002), involving an assessment from the information seeker that the source is truthful and unbiased, thereby having the confidence to interpret the message correctly. Protection strategies, in this context, suggest equitable access to information from trustworthy sources that can rationalize the course of action taken. When health risks are uncertain, as likely will be the case during a pandemic, people need information about what is


known and unknown as well as interim guidance to formulate decisions to help protect their health and the health of others (Reynolds 2006 as cited in Reynolds and Quinn, 2008). From the survey responses shown in Figure 3, medical professionals (doctors and personnel) were the preferred primary sources of COVID-19 related information, along with official websites of relevant international and local agencies. News-related sources in different formats such as broadcast (TV), print (newspaper), and online (news websites) were also named as leading sources of information.

In summary, these preferences suggest the need for accurate facts from credible sources as a form of protection mechanisms. International agencies and regional collectives (including WHO, European Union, ASEAN, African Union), state-level initiatives, and various civil society organizations (CSO) profusely disseminate and exchange information to understand and adequately respond to this crisis. These efforts and the apt interpretation of information can help people assess the risk for themselves and others and act appropriately.

Equally important is the trust in information sources as an aid in empowering individuals during the crisis. The development of the capabilities of individuals and communities to make informed choices and to act on their behalf is definitive of empowerment (Office for the Coordination of Humanitarian Affairs, 2009). Based on the survey, respondents value trust as the primary reason for seeking information from these sources (see Table 4). Trust in information sources acts as critical determinants in people’s response and adaptation of recommended actions. The perceived trustworthiness of these sources makes them reliable sources for information to prevent and control its spread and the subsequent action taken after, such as following the prescribed safety protocols. A recent study on Japanese behavioral changes during the early phase of the pandemic found out that despite the absence of an enforced ban on mass gathering or traveling beyond the home region, a large portion of Japanese citizens seems to implement proper prevention measures on their own, even before the end of March 2020 (Muto et al. 2020). Similarly, most of their survey respondents follow preventive actions, including social distancing, handwashing, coughing etiquette, and ways to strengthen immunity16.

Paton and colleagues (2008) capture well this relation between trust and empowerment: when people do not perceive themselves as empowered, they are less likely to trust agency sources [information sources], which reduces the likelihood that people will prepare. People commence addressing threats by fully understanding how they are vulnerable and what makes them insecure. By having access to accurate and context-appropriate information, people become protected from these threats, consequently empowered to enact measures to reduce their vulnerability and increase resilience.

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16 In terms of awareness of hygiene and health, it cannot be said that Japan ranks particularly high in comparison with countries such as Sweden and South Korea. However, it is worth noting that hand washing, gargling, and masks (for infectious disease prevention especially in winter) have taken root “as a natural way of life” in Japan as a result of years of education and awareness-raising on hygiene and health. (Japan International Cooperation Agency, 2020)
Conclusion

Risk is interpreted differently across context and time\textsuperscript{17}. We have experienced the spread of infectious diseases in the past, yet the COVID-19 pandemic continues to be a complex challenge affecting people indiscriminately and disproportionately. Like other forms of hazards, this pandemic poses a threat to people’s lives, livelihood, and dignity; and remains a continuous source of insecurity ranging from the global to the individual level. The infrequent, complex, and threatening nature of a pandemic hazard activity demands the need to deal with considerable risk and uncertainty (Paton et al., 2008). COVID-19’s spread continues to diminish the proper functioning of multiple social infrastructures and institutions, requiring urgent and coordinated intervention to prevent, contain, and respond to the disease.

The framework in responding to this pandemic is aligned with the Sendai Framework for Disaster Risk Reduction (2015-2020) priorities. Addressing the current health emergency demands understanding risk vis-à-vis a systematic assessment of the risk (hazards, exposure, vulnerabilities, and capacities), that is COVID-19. From the lens of human security, risk information is a fit tool to address the wide range of insecurities that continue to persist and evolve. Context-specific and sufficient information can reduce (if not eliminate) fear. Risk information also aids people in assessing vulnerabilities across a spectrum of (potential) insecurities through risk perception. Finally, aligned with human security’s operational framework, risk information can protect and empower people in responding to the multiple threats of COVID-19 by making rational and sound choices for themselves and their communities/groups.

A year into the COVID-19 pandemic, vaccine inoculation has begun, mitigation strategies continue, and experts remain vigorous in understanding the virus and its accompanying effects. Japan is under its second state of emergency (SoE2), with preventive measures continuously being encouraged, and vaccination is on its way. As a donor country, its thrust in ensuring the human security and growth of developing countries is challenged by this pandemic. Now more than ever, the need for risk-informed governance is imperative through the investment in risk information and context-specific dissemination aided by technology.

It is important to re-emphasize that understanding risks is just the first step, and risk information is integral in realizing this. However, addressing hazards like COVID-19 also requires risk-informed governance. Risk information becomes a valuable resource once appropriately communicated. The knowledge of people’s information-seeking needs and access can support in delivering adequate support to protect and empower individuals and communities. It is vital to remember that as the COVID-19 pandemic persists, other disasters and challenges can co-occur. Preparedness activities can aptly be realized when people and institutions are well informed of the risks to their human security.

\textsuperscript{17} See “Risk-informed development: From crisis to resilience” (Optiz-Stapleton et al, 2019).
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