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코로나19가 표본조사에 미친 영향과 전망

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Contents

1. Introduction
2. Impact of Covid-19 on Survey Data Collection
3. Basics of Web Surveys
4. Discussion

1. Introduction

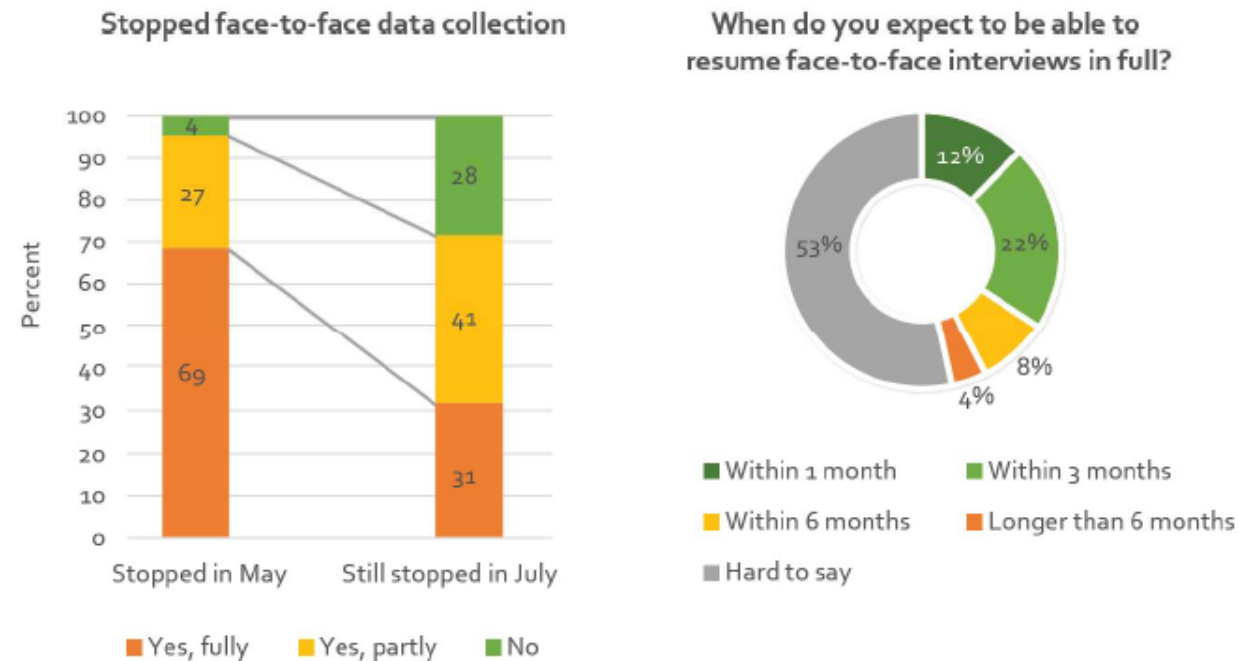
- Increasing Internet penetration and technological advancement have stimulated the adoption of online mode of data collection by scholars across different disciplines.
- The outbreak of the COVID-19 and its associated social distancing, lockdowns and closure of organizations appear to have suddenly spurred the use of online surveys
- The impact of Covid-19 on data collection in sample surveys
- Challenge raised by Covid-19

Development of Survey Methods

- Until 20C. Complete enumeration
- 1930s. Probability sampling
- 1960s. Telephone surveys
- 1980s. Computer-assisted surveys
- 1990s. Internet/Web surveys
- 2010s. Mobile surveys
- 2020. Outbreak of the Covid-19

2. Impact of Covid-19 on Survey Data Collection

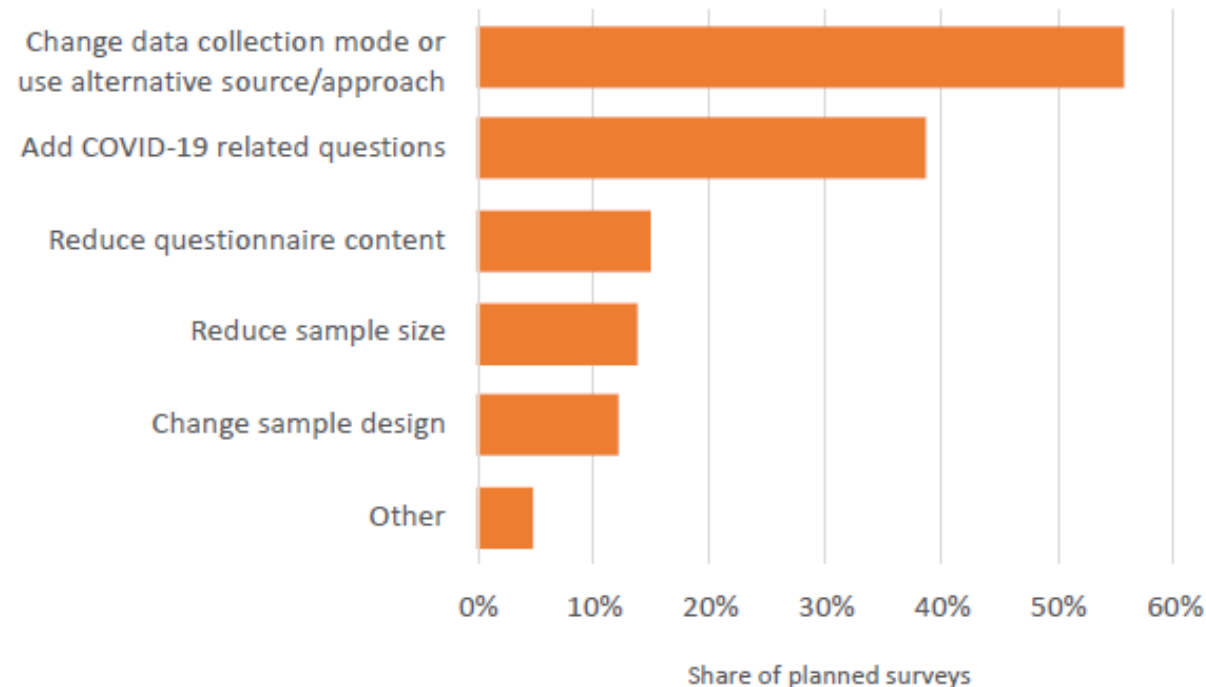
Face-to-face data collection was suspended
and is yet to recover in many cases



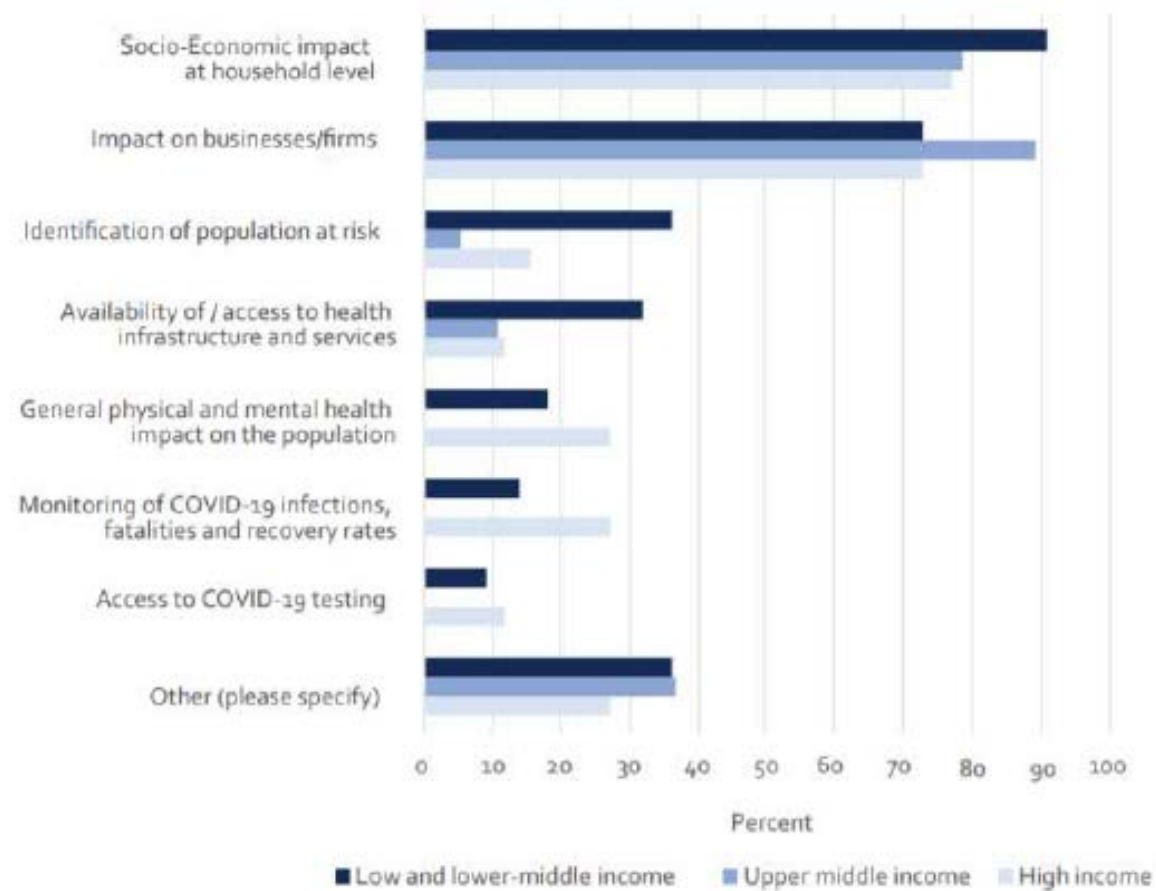
- UN 2020. 9.

Many countries adapted quickly to challenges raised by COVID-19

If you had to alter a planned survey because of the COVID-19 pandemic, which changes did / will you introduce?



Focus of the surveys on COVID-19 and its impacts



Impact of Covid-19 on Panel Surveys

- Panel Study of Income Dynamics (USA)
- UK Household Longitudinal Study (UK)
- The German Family Panel Survey

Panel Study of Income Dynamics (USA)

- Two major supplements to the PSID during COVID-19
 - 2019 waves of PSID Child Development Supplement (CDS-19)
 - the PSID Transition into Adulthood Supplement (TAS-19).
- Both CDS-19 and TAS-19 abruptly terminated all face-to-face fieldwork.
- COVID-19 had a net negative effect on response rate.
- The costs were high of adapting to COVID-19 and providing paid time-off benefits to staff affected by the pandemic.

UK Household Longitudinal Study

- Understanding Society is a household panel survey with continuous fieldwork (monthly samples) using a mixed mode design.
- Prior to March 2020, around half of all interviews were carried out face-to-face, amounting to around 1,150 interviews per month.
- The survey rapidly transitioned to a protocol without face-to-face interviews and presents some initial indicators of the impact +of the change on field outcomes.

The German Family Panel Study

- The worldwide spread of the COVID-19 pandemic has disrupted the fieldwork of surveys.
- The data collection efforts via the face-to-face mode have been affected especially, including the ongoing surveys that were in the field during the COVID-19 outbreak and the planned surveys scheduled for fieldwork later in 2020.

3. Basics of Web Surveys

- **Web survey** is A data collection method where surveys or questionnaires are sent over the internet to a sample of respondents and they can respond to this survey over the world wide web.
- Respondents can be sent web surveys via various mediums such as email, embedded over the website, social media, etc.
- Respondents answer the questionnaire with the help of a web browser and the survey responses are stored in web-based databases. (QuestionPro 2021)

Reasons for Web Surveys

- The primary reason for the growth of web survey is that
 - (1) **lower cost** and
 - (2) **easy of implementation** (WSM 2015; De Bomi 2020).
- These surveys also allow the use of multimedia data collection, advanced features such as survey skip logic & branching among others. (QuestionPro, 2021).

Aspects of Survey Modes (WSM, 2015, p.18)

Table 1.2 Administration and computerization aspects of survey modes

Administration	Computerization	
	Paper and pencil (P&P) surveys	Computer-assisted survey information collection (CASIC)
Interviewer-administered surveys	P&P interviewing (PAPI): <ul style="list-style-type: none">• Face-to-face P&P surveys• Telephone P&P surveys	Computer-assisted interviewing (CAI): <ul style="list-style-type: none">• Computer-assisted personal interviewing (CAPI) face to face• Computer-assisted telephone interviewing (CATI), via fixed or mobile telephone
Self-administered surveys	Self-administered P&P surveys: <ul style="list-style-type: none">• Mail surveys• Self-administered P&P surveys, handed over by interviewers• Fax surveys	Computer-assisted self-interviewing, introduced by F2F interviewer (CASI, ACASI, VCASI) Computerized self-administered questionnaires (CSAQs): <ul style="list-style-type: none">• Disk-by-mail (DBM)• Telephone self-interviewing: touchstone data entry (TDE), interactive voice recognition (IVR), robo-surveys, SMS surveys• Electronic mail surveys (EMSs)• Email surveys• Web surveys (on various devices)• Mobile survey apps

Advantages of Web Surveys

- Lower cost
- Speed of data collection
- Ease of implementation
- Computerization of the questionnaire
- Multimedia
- Time and geographic flexibility
- (WSM 2015; De Bomi 2020)

Disadvantages of Web Surveys

- Internet-coverage
 - Lack of a single registry of internet users
 - Quantification of non-response
 - Selection bias
 - The possibility of multiple responses of a single user
 - Meaningless Data
-
- (WSM 2015; De Bomi 2020)

Sampling Aspects of Web Surveys

Table 1.1 Examples of web surveys according to key sampling characteristics

	Probability sampling	Non-probability sampling
List-based surveys	Probability surveys of specific Internet populations	Web surveys with incomplete lists of the target population
	Probability-based web surveys of the general population	Web surveys based on lists collected by self-selection
	Probability-based online panels	Non-probability online panels
Non-list-based surveys	Probability web intercept surveys	Unrestricted web surveys (self-selection)

- Rivers (2015)
 - RDD recruitment, Quota sampling, Sample matching

Weighting Adjustments for Selection Bias

- Post-stratification or weighting class adjustments
 - Raking or rim weighting
 - Generalized regression (GREG) modeling
 - Propensity score adjustment (PSA)
 - Pre-recruited panels of full population
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- (Greenacs 2016; Castro-Martin et. al. 2020 etc)

4. Discussion

- Impact of Covid-19 to survey research
 - Data collection mode
 - Mode effects
 - Inference based on mixed-mode data
- Moving to the “New Normal”? (UN 2020)
 - Transition of data collection methods
 - Integrating survey data with other data sources