

IR-RAPPORT TAL-METODOLOGĠJA

IR-RAPPREŻENTAZZJONI U R-RISPONS

Il-popolazzjoni fil-mira għal dan l-istharrig kienet tikkonsisti f'nies ta' bejn it-18 u t-80 sena li huma ċittadini Maltin u li joqogħdu fi djar privati. B'kollox kienu eligibbli biex jipparteċipaw 320,335 ruħ. L-ewwel u t-tieni tabella t'hawn taht juru t-tqassim skont is-sess u l-età tagħhom, u skont is-sess u r-reġjun.

Tabella 1. It-tqassim tal-popolazzjoni skont is-sess u l-età

Età	Sess					
	Irgiel		Nisa		Total	
	Nru	%	Nru	%	Nru	%
18 - 24 sena	16,101	10.0	15,377	9.6	31,478	9.8
25 - 54 sena	82,572	51.5	80,161	50.1	162,733	50.8
55 - 80 sena	61,578	38.4	64,546	40.3	126,124	39.4
Total	160,251	100.0	160,084	100.0	320,335	100.0

Tabella 2. It-tqassim tal-popolazzjoni skont is-sess u r-reġjun

Reġjun	Sess					
	Irgiel		Nisa		Total	
	Nru	%	Nru	%	Nru	%
In-Naħa t'Isfel tal-Port il-Kbir	29,557	18.4	29,543	18.5	59,100	18.4
In-Naħa ta' Fuq tal-Port il-Kbir	46,985	29.3	47,017	29.4	94,002	29.3
Ix-Xlokk	24,671	15.4	24,625	15.4	49,296	15.4
Il-Punent	22,844	14.3	22,666	14.2	45,510	14.2
It-Tramuntana	24,116	15.0	24,465	15.3	48,581	15.2
Għawdex (u Kemmuna)	12,078	7.5	11,768	7.4	23,846	7.4
Total	160,251	100.0	160,084	100.0	320,335	100.0

F'dan l-istħarriġ ittjieħed kampjun b'mod randomizzat u stratifikat (mingħajr sostituzzjoni). B'dan il-metodu ta' teħid tal-kampjuni skont il-probabbiltà, il-popolazzjoni tinqasam f'sottogrupperi li ma jithalltux flimkien, imsejha 'strata', u minnhom jittjieħed kampjun randomizzat indipendenti biex kull kampjun jitqassam indaq b'rabta ma' għadd ta' karatteristiċi li jkunu ntgħażlu minn qabel. F'dal-każ, is-sottogrupperi tal-popolazzjoni tqassmu skont is-sess, l-età, l-impjeg u d-distrett.

Barra minn hekk, fil-fażi tal-ġbir tal-informazzjoni ntużaw il-kwoti biex jintgħażel l-għadd ta' parteċipanti meħtieġ għal kull sottogrupp. Il-vantaġġ ewlieni tal-kwoti hu li jagħtik numru adegwat ta' parteċipanti f'kull kampjun ta' kull sottogrupp, anke għal dawk li jkunu żgħar ħafna u li jkollhom probabbiltà żgħira li jintgħażlu meta tqabbilhom ma' oħrajn. Billi l-mekkanizmu tal-għażla tal-parteċipanti kien randomizzat, bis-saħħa tal-kwoti ma nqisux li hemm xi preġudizzju sinifikanti.

B'kollox, għal dan l-istħarriġ ġew ikkuntattjati 2,082 ruħ, u pparteċipaw 1,025 persuna. Tabella 3, hawn taħt, turi l-firxa tal-kampjun gross skont it-tip ta' rispons li kien hemm. Fejn hemm indikat 'Mhux eliġibbli' qed ninkludu d-982 persuna li sar kuntatt magħhom imqar darba, imma li kien għalxejn, u li mbagħad ma reġġhux ġew ikkuntattjati għax il-kwoti kienu ntleħqu. Dan wassal għal rata ta' rispons effettiva netta ta' 93.2 fil-mija.

Tabella 3. It-tqassim tal-kampjun (gross) skont it-tip ta' rispons

Deskrizzjoni	Nru	%	Nru (Effettiv)	% (Effettiv)
i) Twegibiet tajbin	1,025	49.2	1,025	93.2
ii) Irrifjutaw	53	2.5	53	4.8
iii) Oħrajn (Ma weġbux, eċċ.)	22	1.1	22	2.0
iv) Mhux eliġibbli	982	47.2	-	-
Total	2,082	100.0	1,100	100.0

Tabella 4 turi t-tqassim tal-kampjun nett skont is-sess u l-età u Tabella 5 turi t-tqassim tal-kampjun nett skont is-sess u r-reġjun.

Tabella 4. It-tqassim tal-kampjun (nett) skont is-sess u l-età

Età	Sess					
	Irġiel		Nisa		Total	
	Nru	%	Nru	%	Nru	%
18 - 24	162	31.7	159	30.9	321	31.3
25 - 54	178	34.8	179	34.8	357	34.8
55 - 80	171	33.5	176	34.2	347	33.9
Total	511	100.0	514	100.0	1,025	100.0

Tabella 5. It-tqassim tal-kampjun (nett) skont is-sess u r-reġjun

Reġjun	Sess					
	Irġiel		Nisa		Total	
	Nru	%	Nru	%	Nru	%
In-Naħa t'Isfel tal-Port il-Kbir	77	15.1	76	14.8	153	14.9
In-Naħa ta' Fuq tal-Port il-Kbir	134	26.2	134	26.1	268	26.1
Ix-Xlokk	75	14.7	75	14.6	150	14.6
Il-Punent	76	14.9	78	15.2	154	15.0
It-Tramuntana	75	14.7	75	14.6	150	14.6
Għawdex (u Kemmuna)	74	14.5	76	14.8	150	14.6
Total	511	100.0	514	100.0	1,025	100.0

IL-ĠBIR TAL-INFORMAZZJONI

L-informazzjoni ngabret b'Telefonati Assistiti mill-Kompjuter (CATI) bejn id-9 ta' Novembru u l-4 ta' Dicembru 2020. F'dawn l-intervisti, għalkemm isir kuntatt telefoniku, jintużawil-kompjuters biex tiddaħhal id-data li tinkiseb mingħand il-partecipanti. Aspett importanti ieħor ta' stharrig bħal dan, b'dawn it-tip ta' intervisti, huwa li l-partecipanti jitqassmu b'mod

randomizzat fost dawk li jagħmlu l-intervisti, u għalhekk il-preġudizzju tal-intervistaturi jkun mill-inqas.

IL-KONTROLL TAL-KWALITÀ

Biex il-kwalità tal-istħarriġ tkun għolja, giet implimentata sensiela ta' miżuri. Dawn kienu jinkludu ċekkjaturi tal-kwalità u regoli tal-validità fil-programm tal-ġbir tal-informazzjoni biex ikunu limitati n-nuqqasijiet mhux marbutin mat-teħid tal-kampjuni. Il-programm li fih tiddaħħal l-informazzjoni kellu integrati fih għadd ta' validazzjonijiet ħalli l-iskemi tal-għażla biex tinqabeż mistoqsija jaħdmu kif kien ippjanat u t-tweġibiet ikunu f'firxa speċifika. Barra minn hekk, is-superviżjoni kostanti li kien hemm matul il-proċess tal-ġbir tal-informazzjoni żgurat li l-proċess ikun armonizzat.

Problema komuni ta' kull stħarriġ hija l-informazzjoni nieqsa, jiġifieri meta l-parteċipanti ma jwegħbu xi mistoqsija. Għalhekk intużat it-teknika tal-'imputazzjoni' biex jimtlew it-tweġibiet li jkunu thallew vojta mill-parteċipanti ħalli l-informazzjoni tkun kompluta u tkun tista' tiġi analizzata b'mod sħiħ. F'dan l-istħarriġ intuża l-metodu 'hot-deck' li bih it-tweġibiet neqsin setgħu jimtlew b'risposti bbażati fuq mistoqsijiet simili. L-osservazzjonijiet tqassmu fi gruppi skont id-demografija rilevanti u mistoqsijiet oħra. Il-mod tal-kategorija rispettiva mbagħad ittieħed għat-tweġiba li tkun trid tiddaħħal.

L-informazzjoni kompliet tiġi ċċekkjata fl-istadju tal-editjar biex tinqabad id-data li kienet għadha mhix korretta jew li kienet loġikament qarrieqa.

IL-KEJL TAR-RIŻULTATI

L-informazzjoni tal-istħarriġ giet analizzata biex jiġu kkoreġuti xi preġudizzji li jaf kien hemm fil-kampjun finali tal-parteċipanti minħabba rati ta' tweġibiet differenti osservati f'kategoriji differenti. Dan serva biex ikun jista' jsir l-ingrossar tal-istimi tal-kampjuni mad-distribuzzjoni bħala punt ta' riferiment, f'termini ta' sess, età, l-ogħla livell ta' edukazzjoni miksub, u d-distrett.

NUQQASIJET

L-istharrig kien sugġett għal żewġ sorsi ewlenin ta' nuqqasijiet, teknikament imsejħin *Nuqqasijiet tal-Kampjun* u *Nuqqasijiet mhux tal-Kampjun*. Filwaqt li n-nuqqasijiet attribwiti lil kull kwantità stmata mill-kampjun jistgħu jiġu kkalkulati, irridu noqogħdu attenti meta mbagħad inqabblu dawn in-numri stmati mal-popolazzjoni.

Il-varjazzjoni fl-istatistika hija ta' interess partikolari għax tikkostitwixxi nuqqas fil-kampjun. Il-varjazzjoni fl-istatistika tikkwantifika incertezza fir-riżultat ta' stharrig u toħroġ l-ammont ta' nuqqasijiet fil-kampjun fir-riżultati tal-istharrig. Dan normalment ikun marbut ma' livell statistiku ta' kunfidenza b'tali mod li jagħmilha possibbli nikkalkulaw intervalli ta' kunfidenza tat-tip *stima ± varjazzjoni fl-istatistika*. Minħabba f'hekk, *il-varjazzjoni fl-istatistika relattiva* hija sempliciment il-varjazzjoni espressa bħala percentwal tal-kwantità li tirreferi għalih.

Fit-Tabella 6, hawn taħt, tista' tara l-istimi ta' preċiżjoni għal firxa ta' rati ta' percentwali derivati (p) u n-numru ta' djar (N) korrispondenti (meqjusin) li fuqhom ġew ikkalkulati r-rati.

Tabella 6. Stimi ta' preċiżjoni

Rata ta' percentwali (p)	Numru ta' Persuni (N)						
	42,994	195,250	230,614	236,338	284,253	296,616	317,304
1	1.7%	0.8%	0.8%	0.7%	0.7%	0.6%	0.6%
3	3.0%	1.3%	1.3%	1.2%	1.1%	1.1%	1.0%
6	4.2%	1.8%	1.9%	1.7%	1.6%	1.5%	1.5%
10	5.3%	2.3%	2.4%	2.1%	2.0%	1.9%	1.8%
20	7.0%	3.1%	3.2%	2.8%	2.6%	2.5%	2.5%
40	8.6%	3.8%	3.9%	3.4%	3.2%	3.1%	3.0%
50	8.8%	3.8%	4.0%	3.5%	3.3%	3.2%	3.1%
60	8.6%	3.8%	3.9%	3.4%	3.2%	3.1%*	3.0%
70	8.1%	3.5%	3.6%	3.2%	3.0%	2.9%	2.8%
80	7.0%	3.1%	3.2%	2.8%	2.6%	2.5%	2.5%
90	5.3%	2.3%	2.4%	2.1%	2.0%	1.9%	1.8%

Ngħidu aħna, il-percentwal ta' dawk li jaraw (isegwu) programmi ta' grajjiet kurrenti fuq it-televixin u l-aħbarijiet bil-Malti kien biss ta' 64.3%. Dan ġie kkalkulat min-numru totali ta' 296,616-il persuna eligibbli. Mit-tabella t'hawn fuq, dan jista' jiġi stmat bl-użu tad-data għal

$p=60$. F'dal-każ, l-istatistika tvarja bi 3.1%. Għalhekk, jekk inqisu l-valur stmat, l-intervall ta' kunfidenza ta' 95% ikun il-firxa ta' bejn 67.4% u 61.2%, jiġifieri $64.3\% \pm 3.1\%$.

Tajjeb ngħidu li ċifri bbażati fuq varjazzjoni fl-istatistika relattiva ta' 30 fil-mija jew aktar, jew li huma kkalkulati fuq numru żgħir ta' djar (pereżempju 30 jew inqas), għandhom jitqiesu b'kawtela għax jaf ma jkunux statistikament rappreżentattivi minħabba l-percentwal għoli ta' nuqqasijiet li jkun gie assenjat magħhom. Dawn l-okkorrenzi huma muriġa bil-griz fit-tabella t'hawn fuq.

METHODOLOGICAL REPORT

COVERAGE AND RESPONSE

The target population for this survey consisted of persons aged between 18 and 80 years, who are citizens of Malta living in private households. A total of 320,335 persons were eligible to participate in the survey. Tables 1 and 2 below illustrate the distribution of persons by sex and age group and the distribution of persons by sex and region.

Table 1. Distribution of population by sex and age group

Age	Sex					
	Male		Female		Total	
	No.	%	No.	%	No.	%
18 - 24 years	16,101	10.0	15,377	9.6	31,478	9.8
25 - 54 years	82,572	51.5	80,161	50.1	162,733	50.8
55 - 80 years	61,578	38.4	64,546	40.3	126,124	39.4
Total	160,251	100.0	160,084	100.0	320,335	100.0

Table 2. Distribution of population by sex and region

Region	Sex					
	Male		Female		Total	
	No.	%	No.	%	No.	%
Southern Harbour	29,557	18.4	29,543	18.5	59,100	18.4
Northern Harbour	46,985	29.3	47,017	29.4	94,002	29.3
Southern Eastern	24,671	15.4	24,625	15.4	49,296	15.4
Western	22,844	14.3	22,666	14.2	45,510	14.2
Northern	24,116	15.0	24,465	15.3	48,581	15.2
Gozo (and Comino)	12,078	7.5	11,768	7.4	23,846	7.4
Total	160,251	100.0	160,084	100.0	320,335	100.0

A stratified random sampling process (without replacement) was employed for this survey. This probability sampling method entails the partitioning of the population into non-

overlapping sub-groups known as 'strata', from which an independent random sample is selected to ensure a uniform distribution of the sample relative to a number of pre-selected characteristics of the population. In this case, sub-groups were constructed relative to sex, age group, employment status and district.

In addition to this, quotas were used throughout the data collection phase to ensure that the required number of persons from each sub-group is selected. The main advantage of using quotas is to ensure that an adequate number of units are sampled from every sub-group, even in very small ones for which the probability of selection is relatively small compared to other groups. Since the mechanism of selecting persons was made in a random manner, no significant bias is introduced by applying such quotas.

A total of 2,082 persons were contacted for this survey where 1,025 participated. Table 3 below shows the distribution of the gross sample by type of response. Ineligible cases take into account of 982 persons who were contacted at least once to no avail and were eventually not contacted again due to exhausted quotas. This resulted in a net effective response rate of 93.2 per cent.

Table 3. Distribution of effective (gross) sample by type of response

Description	No.	%	No. (Effective)	% (Effective)
i) Good responses	1,025	49.2	1,025	93.2
ii) Refusals	53	2.5	53	4.8
iii) Other (No replies, etc.)	22	1.1	22	2.0
iv) Ineligibles	982	47.2	-	-
Total	2,082	100.0	1,100	100.0

Table 4 illustrates the distribution of the net sample by sex and age group and Table 5 illustrates the distribution of the net sample by sex and region.

Table 4. Distribution of (net) sample by sex and age group

Age	Sex					
	Male		Female		Total	
	No.	%	No.	%	No.	%
18 - 24	162	31.7	159	30.9	321	31.3
25 - 54	178	34.8	179	34.8	357	34.8
55 - 80	171	33.5	176	34.2	347	33.9
Total	511	100.0	514	100.0	1,025	100.0

Table 5. Distribution of (net) sample by sex and region

Region	Sex					
	Male		Female		Total	
	No.	%	No.	%	No.	%
Southern Harbour	77	15.1	76	14.8	153	14.9
Northern Harbour	134	26.2	134	26.1	268	26.1
Southern Eastern	75	14.7	75	14.6	150	14.6
Western	76	14.9	78	15.2	154	15.0
Northern	75	14.7	75	14.6	150	14.6
Gozo (and Comino)	74	14.5	76	14.8	150	14.6
Total	511	100.0	514	100.0	1,025	100.0

DATA COLLECTION

Data was collected by means of Computer Assisted Telephone Interview (CATI) between 9 November and 4 December 2020. In CATI, although respondents are contacted by telephone, computers are used to enter the data obtained from respondents during the interview. In addition, another important aspect of CATI surveys is that each sampling unit is

randomly assigned among interviewers, and hence reduces interviewer bias to a bare minimum.

QUALITY CONTROL

A series of measures were implemented to certify that optimum quality was achieved in this survey. These consisted of quality checks and in-built validation rules in the data collection program to limit the occurrence of non-sampling errors. The data-entry program had a number of in-built validations so that skip patterns are executed exactly as intended while responses are within a specific range. In addition, constant supervision during the data collection stage ensured a harmonised data collection process.

Missing data are often a problem in surveys, arising when sampled units do not respond to a particular question. A technique known as 'imputation' was used whereby missing values were filled in to create a complete dataset that can then be analysed to the full. A Hot-deck imputation method was used. Observations were grouped according to relevant demographics and other questions. The mode of the respective category was then taken as the imputed value.

The dataset was further subject to a series of other checks during the data-editing stage in order to identify any remaining incorrect or logically misleading data.

WEIGHTING OF RESULTS

Survey data was weighted to correct for any biases present in the final sample of participating units arising from different response rates observed in different categories. This served to align and gross-up sample estimates with the benchmark distribution in terms of sex, age group, highest level of education successfully completed, and district.

ERRORS

The survey was subject to two main sources of errors, technically referred to as *Sampling* and *Non-Sampling errors*. While the errors attributed to each quantity estimated from the

sample may be calculated, care must be taken when comparing such estimated figures with the population.

Of particular interest is the *margin of error*, which constitutes sampling error. The margin of error quantifies uncertainty about a survey result and expresses the amount of sampling error in a survey's results. This is normally associated with a statistical level of confidence in such a way as to make it possible to calculate confidence intervals of the form *estimate ± margin of error*. Consequently, the *relative margin of error* is simply the margin of error expressed as a percentage of the quantity to which it refers.

Table 6 below illustrates estimates of precision for a range of derived percentage rates (*p*) and the corresponding (weighted) number of households (*N*) over which the rates are computed.

Table 6. Estimates of precision

Percentage rate (<i>p</i>)	Number of Persons (<i>N</i>)						
	42,994	195,250	230,614	236,338	284,253	296,616	317,304
1	1.7%	0.8%	0.8%	0.7%	0.7%	0.6%	0.6%
3	3.0%	1.3%	1.3%	1.2%	1.1%	1.1%	1.0%
6	4.2%	1.8%	1.9%	1.7%	1.6%	1.5%	1.5%
10	5.3%	2.3%	2.4%	2.1%	2.0%	1.9%	1.8%
20	7.0%	3.1%	3.2%	2.8%	2.6%	2.5%	2.5%
40	8.6%	3.8%	3.9%	3.4%	3.2%	3.1%	3.0%
50	8.8%	3.8%	4.0%	3.5%	3.3%	3.2%	3.1%
60	8.6%	3.8%	3.9%	3.4%	3.2%	3.1%*	3.0%
70	8.1%	3.5%	3.6%	3.2%	3.0%	2.9%	2.8%
80	7.0%	3.1%	3.2%	2.8%	2.6%	2.5%	2.5%
90	5.3%	2.3%	2.4%	2.1%	2.0%	1.9%	1.8%

For example, the percentage of persons who watch (follow) current affair television shows and news in Maltese only stood at 64.3%. This is calculated out of a total number of 296,616 eligible persons. From the table above, this may be estimated using data for *p*=60. In this case the margin of error equals 3.1%. Thus, if the estimated value is considered, the 95% confidence interval is the range 67.4% to 61.2%, i.e. 64.3% ± 3.1%.

It must be emphasised that figures based on a relative margin of error of 30 per cent or more or which are calculated on a small number of reporting households (for example 30 or less) must be treated with caution as they may not be statistically representative due to a large percentage of error assigned. These occurrences are shaded in the table above.