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Using a Facebook survey
to assess the socioeconomic
conditions of Palestinians
after the May 2021 conflict

A METHODOLOGICAL NOTE

DECEMBER 15, 2021

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WORLD BANK GROUP



This report was produced by the World Bank Poverty and Equity Global Practice. The Task Team Leaders were Alia Aghajanian (Economist, EMNPV) and Eduardo A. Malásquez (Economist, EMNPV). The core team was comprised of Tao Tao (IEGFS), Mohamad Chatila (EPVGE), Zeina Afif (EPVGE – eMBeD), and Laura De Castro Zoratto (EPVGE – eMBeD).

A summarized version of this report has appeared in the Gaza Rapid Damage Needs Assessment (RDNA) published in July 2021 (World Bank, EU, and United Nations 2021).

ABSTRACT

The World Bank launched the Rapid Web-based Survey on the Impact of the Conflict (RWSIC) on June 9, 2021, covering key topics such as access to basic services, labor outcomes, mental health, and coping strategies. The survey was conducted over Facebook, using targeted advertisements based on gender, age and location to achieve a balance similar to the general population. 3,210 questionnaires were collected in over 2 weeks, providing much needed information on the living conditions of Palestinians. This study builds on the existing Facebook survey experience by targeting advertisements at a relatively local level and adjusting sampling weights based on the likelihood of the user seeing and responding to the survey's advertisement before calibrating the weights to known parameters of the population. While this study offers some methods for alleviating the potential biases to representativeness, there could remain unobservable characteristics that make respondents systematically different to the rest of the population.

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Introduction

The lack of high frequency and timely data has hindered our understanding of the immediate needs of a population living in, or in the aftermath of, conflict. This is ever more pertinent to a context like the West Bank and Gaza, which has seen decades of violence and emergency situations. In May 2021, after eleven days of riots and armed conflict, the international community aimed to respond to and raise funds for the immediate needs of the Palestinians through a Rapid Damage and Needs Assessment (RDNA).¹ Given the urgency of the data requirements and the difficulty of accessing households on the ground, the World Bank's Poverty team implemented a novel method using Facebook to collect a survey amongst Palestinians living in the West Bank and Gaza. This note exemplifies an application of the rapid web-based Facebook survey, providing a template for researchers to harness social media to capture the micro-dynamics of conflicts. This note reports the results of the Rapid Web-based Survey on the Impact of the Conflict (RWSIC) and brings attention to the main concerns and needs of the population in the West Bank and Gaza.

The rapid expansion of access and use of internet has given web-based surveys the potential to become a powerful tool in survey research (Zagheni and Weber 2015). An online survey can provide some advantages over traditional face-to-face surveys. First, in areas with universal access they can be more inclusive, allowing further reach than postal or phone surveys or direct interviews. Second, web-based surveys are relatively cheaper to carry out, making it easier to recruit large numbers of participants or to collect data repeatedly. Third, with increasing non-response rates in major face-to-face surveys (Schneider and Harknett 2019), web-based surveys offer a less burdensome data collection approach, as the questionnaire can be completed when convenient for the respondent. Further, data are captured directly in electronic format, avoiding the data entry phase before starting with data analysis (thus, minimizing data digitation errors). Web surveys also allow the rapid updating of questionnaire content and question ordering according to user responses. For instance, in the RWSIC, after observing a low completion rate in the first day of implementation, we were able to adjust our questionnaire by shortening its length.

However, as this note thoroughly discusses, there are limitations to the representativeness of web-based surveys. While there might be a larger reach to respondents less likely to respond to traditional survey methods, there is still a selection bias in terms of who is able and willing to

¹ The Rapid Damage and Needs Assessment estimated the total damage and losses incurred in Gaza at between US\$ 290-380 million (World Bank, EU, and United Nations 2021).

respond to a Facebook advertised survey. Internet coverage is low in the West Bank and Gaza compared to other countries where web-based surveys have been conducted. While this study proposes some methods for alleviating the potential bias using sampling weights adjusted to the likelihood of responding to the survey, we cannot correct for unobservable characteristics that make respondents systematically different to the rest of the population.

The World Bank has recently used Facebook based surveys to capture information on perceptions and hesitancy towards vaccines. By using targeted advertisements, the surveys reach a balance of respondents similar to the population of interest which can then be calibrated using post-stratification weights. This study builds on the existing Facebook survey experience by targeting advertisements at a relatively local level and adjusting sampling weights based on the likelihood of the user seeing and responding to the survey's advertisement before calibrating the weights to known parameters of the population.

The World Bank launched the RWSIC on June 9, 2021, covering key topics such as access to basic services, labor outcomes, mental health, and coping strategies. The survey was conducted over Facebook, using targeted advertisements based on gender, age and location to achieve a balance similar to the general population. 3,210 questionnaires were collected in over 2 weeks, providing much needed information on the living conditions of Palestinians.²

The survey finds that around **half of respondents from Gaza have been displaced** by the recent conflict, even if only for a short period of time. Most displaced stayed with friends or family, followed by staying in a school or public building. **46 percent of Gazan respondents report a worsening supply of water**, and 84 percent of Gazans report concerns with the quality of water (although less than half of these report a worsening water quality since the events began). **Almost all Gazans reported that their main electricity source is not operable or faced daily interruptions. Almost half of Gazan respondents did not receive medical care when they needed it**, mainly as they were not able to afford the care. With regards to working conditions, **33 percent of Gazans and 48 percent of the West Bank residents have been able to return to work** since the ceasefire went into effect on May 21, 2021. The main reason the West Bank workers reported being unable to return to work is that they face difficulties at checkpoints into Israel or Israeli settlements. In Gaza, the main limitation has been the closing of workplaces. **Close to 70 percent of Gaza residents and 57 percent of the West Bank residents show symptoms consistent with the clinical diagnosis of post-traumatic stress disorder.** This is more common amongst women and those displaced by the events. **Households in Gaza are very likely to resort to negative coping strategies** such as reducing the number and the portions of meals. Finally, the **main concern reported by respondents in the West Bank and Gaza are food prices and the availability of food**, followed by earning an income in the next 2 weeks, the outbreak of further violence, exposure to COVID-19, and mental health (of the respondent's or of their children).

2 2,159 of the completed questionnaires were from Gaza and 1,051 from the West Bank.



Context

In April of 2021, Palestinian families living in the Sheikh Jarrah neighborhood of Jerusalem were threatened with forced evictions through the Israeli courts' application of the Absentee Property Law. As the court case came to a head, protests erupted in Jerusalem, in the West Bank and in Gaza in support of the Palestinians who were losing their homes. Rising tensions and clashes between Palestinians and the Israeli Defense Forces culminated in an armed conflict between Israel and militants in Gaza on the May 9, where 1,500 missiles struck Gaza (World Bank, EU, and United Nations 2021). The 11-day escalation of violence resulted in the loss of 260 lives in Gaza and 12 in Israel, in addition to the riots and violence experienced in the West Bank and cities in Israel with large Arab populations.

Gaza is one of the most densely populated areas in the world, with a population of 2.1 million individuals living under blockade on a strip of 365 square kilometers. In 2016, every second Gazan lived below the national poverty line, with access to water, electricity and services remaining a high concern (PCBS 2018). The poverty rate in the West Bank was 13.9 percent in 2016, but, amongst other obstacles, the local economy is stifled by limited market access due to Israeli army checkpoints (van der Weide et al. 2018).

Overlaying 33 localities of Gaza that were subject to the heaviest level of strikes during the conflict, together with the poor population, reveals a concerning picture that implies an even more dire situation for the people of Gaza (see Figure 1).

Within this context, the World Bank's Poverty team launched the RWSIC to understand the extent of the effects of the violence, and the immediate needs of Palestinians.

FIGURE 1 - Number of conflict incidents and the number of poor people in Gaza



Source: *Poverty mapping of the West Bank and Gaza using the Palestinian Expenditure and Consumption Survey (PECS 2016) and the Population Census of 2017, combined with data obtained from the Armed Conflict Location & Event Data Project (ACLED).*

Note: ACLED collects real time data on the location, date, actors and types of data based on a review of dozens of English and Arabic language media sources. Given the sensitivity of the crisis and potential bias in reporting, ACLED have developed a dedicated methodology for reviewing input sources in the West Bank and Gaza.



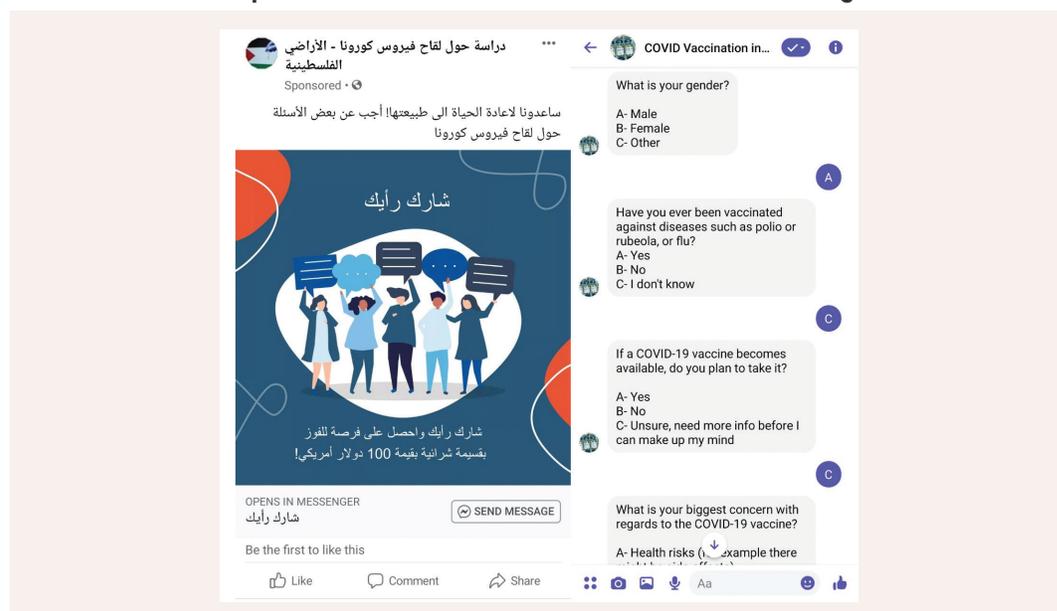
Implementing the RWSIC

The RWSIC was conducted using Facebook Messenger in partnership with Virtual Lab.³ Participants were targeted based on their demographic characteristics (particularly age, gender and location) through advertisements on Facebook and directed to a chatbot in Facebook Messenger where they completed the survey (the Facebook user will interact with platforms similar to those shown in Figure 2). Advertisements are sent to a random selection of Facebook accounts (what effectively constitute the sample) in the West Bank and Gaza and stratified by governorate, age and gender using the proportions of each subgroup found in the Socio-Economic and Food Security Survey (SEFSEC) of 2018⁴.

As the survey is rolled-out, an algorithm targets the advertisements to subgroups that are below their expected population share (e.g., male, above 50, from Khan Yunis). The advertisement budget is reallocated as surveys are completed, to optimize the share of respondents in each subgroup while achieving the total desired sample and remaining within budget.⁵

The survey consisted of 45 questions, including questions to identify respondent demographics (age, gender, education, location, refugee status, and income level); access to basic services (water and electricity) and shelter; measuring the exposure to conflict; and assessing the impact on employment, wellbeing, and food security.

FIGURE 2 - User experience - Facebook advertisement and survey chatbot.



Source: West Bank & Gaza Vaccine Hesitancy Survey 2021

- 3 ACLED collects real time data on the location, date, actors and types of data based on a review of dozens of English and Arabic language media sources. Given the sensitivity of the crisis and potential bias in reporting, ACLED have developed a dedicated methodology for reviewing input sources in the West Bank and Gaza.
- 4 Virtual lab is an opensource platform for conducting surveys and research using digital ad platforms such as Facebook and Google.
- 5 The desired sample was around 2,000 observations in Gaza and 1,000 in the West Bank.



Characteristics of the respondents

In 2018, 83 percent of Palestinians in the West Bank and 62 percent of Palestinians in Gaza had access to the internet (PCBS and FFS 2018). However, the share of those with Facebook accounts is likely to be lower. Those who are able and willing to complete the survey are likely to have observable and unobservable differences compared to those who do not complete the survey. This section explores the characteristics of the RWSIC respondents and compares this to known characteristics of the population.

Since the survey uses a chat-based platform, responses from all questionnaires are collected even if the respondent did not complete the entire questionnaire. This means that different modules and questions could have different response rates (see Table 1). While 6,167 started the survey, 4,987 respondents completed the main background information at

the start of the questionnaire and 3,210 completed the entire questionnaire.

From Figure 3 to Figure 8 we show the demographic backgrounds of the respondents (orange bars). They are more likely to live in Gaza, be male, have secondary or tertiary education, be a refugee and be married. When comparing to the nationally representative SEFSEC 2018 (the dark blue bars at the left in each of the figures below), younger age groups, women, and less educated individuals are underrepresented. This is to be expected from convenience samples relying on Computer Assisted Web-based Interviewing (CAWI) approaches.

The next section explains how some of the bias seen in the representativeness of the sample can be corrected using sampling weights.

TABLE 1 - RWSIC - Response rate by module

MODULE	WEST BANK AND GAZA		WEST BANK		GAZA	
	RESPONSE RATE (%)	RESPONSES	RESPONSE RATE (%)	RESPONSES	RESPONSE RATE (%)	RESPONSES
I. Background	81	4987	91	1968	90	3018
II. Access to services	69	4233	73	1589	79	2644
III. Exposure to conflict	64	3975	68	1473	74	2502
IV. Labor force	62	3837	64	1387	73	2450
V. Wellbeing	58	3579	58	1267	69	2312
VI. Food security	52	3225	49	1055	65	2170
VII. Follow up	52	3210	48	1051	64	2159

Source: World Bank staff calculations using RWSIC.

FIGURE 3 - Location RWSIC and SEFSEC

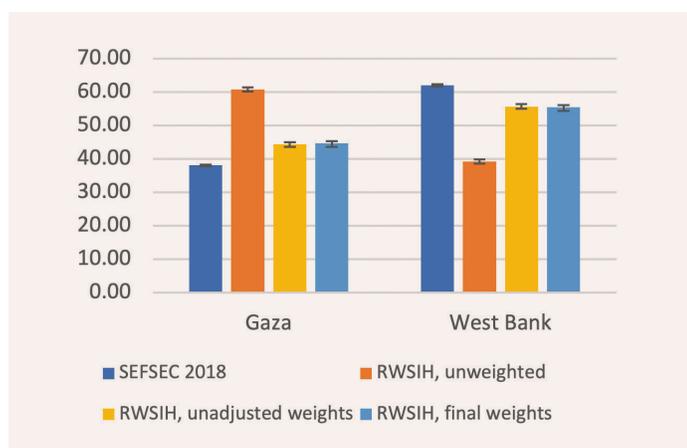


FIGURE 4 - Gender, RSWIH and SEFSEC

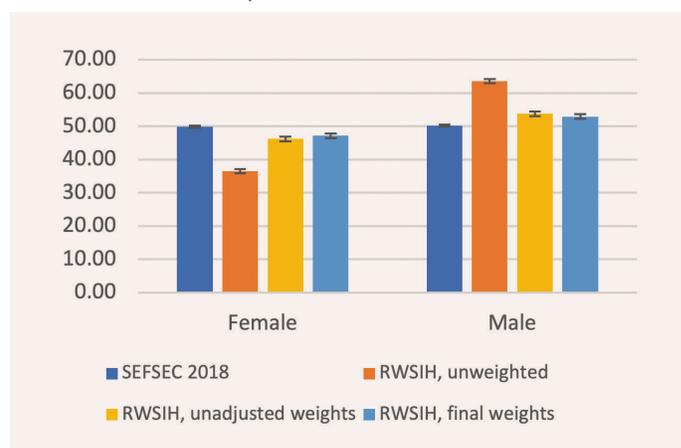


FIGURE 5 - Education, RWSIC and SEFSEC

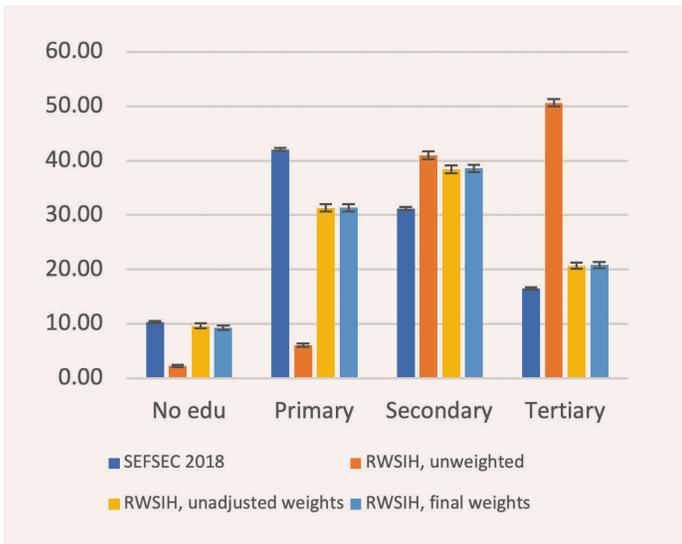


FIGURE 6 - Refugee status, RWSIC and SEFSEC

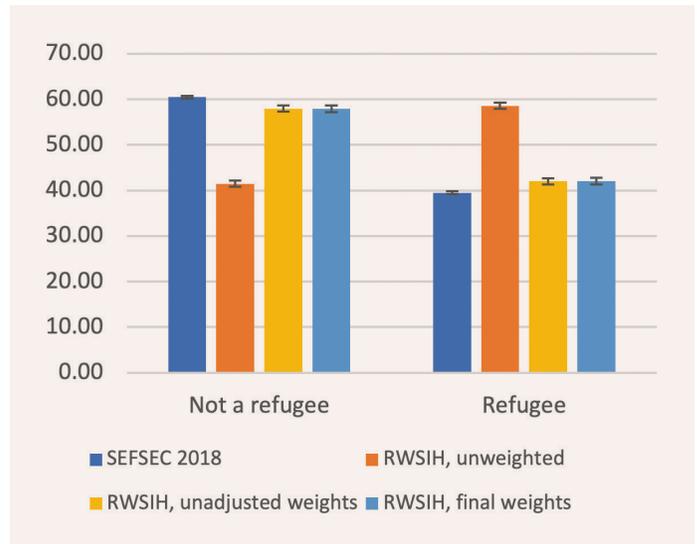


FIGURE 7 - Marital status, RWSIC and SEFSEC



FIGURE 8 - Household size, RWSIC and SEFSEC

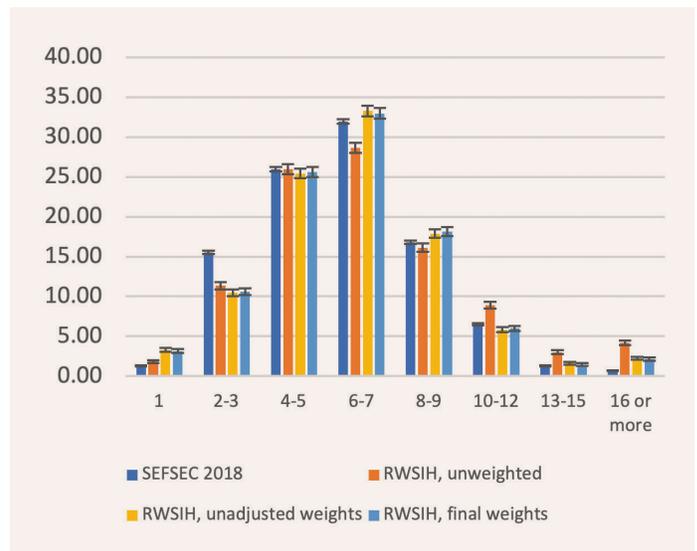
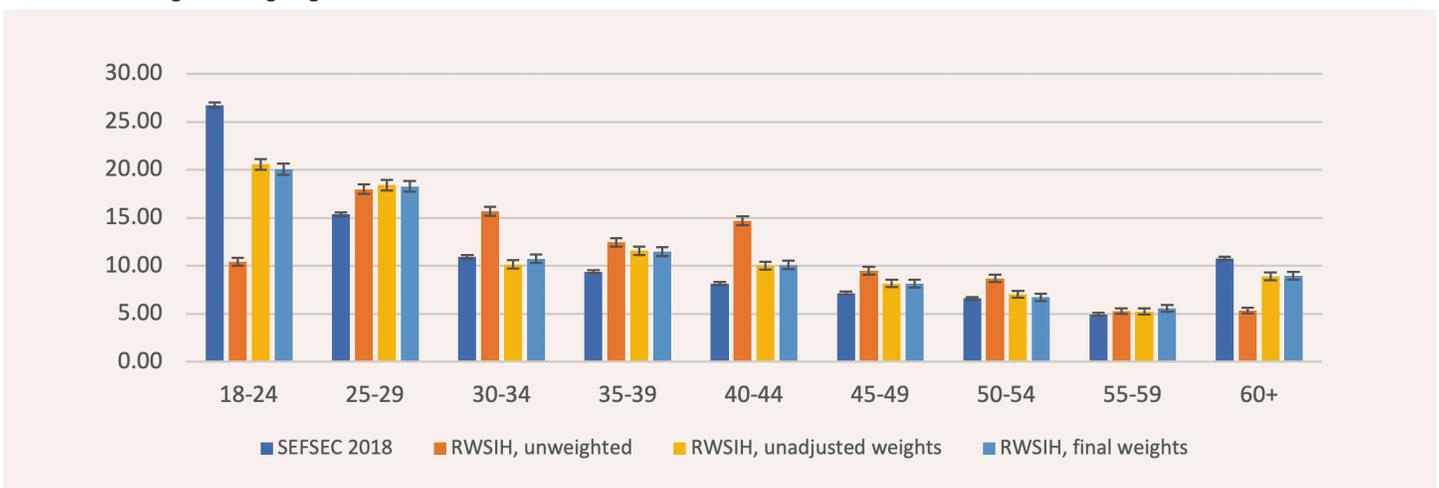


FIGURE 9 - Age category, RWSIC and SEFSEC





Correcting for respondent bias

The approach adopted in this report aims to address potential biases by adjusting the sampling weights to reflect the probability of selection. To alleviate some of the observable bias related to the characteristics of the respondents who have participated in the Facebook survey, sampling weights have been constructed following the formula:

$$W_{final} = W_{smp} \times W_{nr} \times W_{ps}$$

W_{smp} is the inverse of the selection probability, or the sampling weight. W_{nr} is the weight correcting for non-response, and W_{ps} is the post-stratification weight. Below, we discuss in more detail each of the three elements that compose the final weight:

1. Sampling weight: While this survey is a non-probabilistic sample (similar to a quota sample), we follow the methodology used by the web-based needs and perception survey conducted following the August 4, 2020 Beirut explosion by assuming that the realized sample can be likened to a random sample drawn without replacement in a way that might be independent (World Bank 2020).⁶ Using this assumption, we construct a sampling fraction for each exclusive subgroup of the population that was used for targeting Facebook advertisements. The subgroups are based on a combination of the following characteristics: age group, gender and governorate. The sampling fraction is the ratio of the advertisement “reach” to the population in each subgroup according to the SEFSEC 2018 (the latest available nationally representative survey).⁷ The reach represents the number of unique individuals who viewed the advertisement and can be interpreted as the “sample target” from standard household surveys. Building on from the vaccine hesitancy literature, this study proposes three new adjustments to the sampling fraction that could correct for differences in the probability of selection:

a. More than one individual per household responds to the questionnaire: It is possible that more than one individual from the same household responds to the survey. This would imply that observations are

not independent. When asked if other individuals in the household had completed the questionnaire, 79 respondents reported that this was the case. To avoid double counting responses from such households, the sampling weights of these 79 respondents are halved.

b. Internet coverage: For each subgroup of the population we calculate the proportion of individuals belonging to a household with internet access according to the SEFSEC 2018. This proportion ranges from 47 percent to 96 percent. As the proportion of internet coverage increases, the probability of selection into the sample also raises, since respondents from these subgroups with higher internet coverage are more likely to access the online survey. The sampling fraction is multiplied by this proportion.

c. Frequency of Facebook usage: The RWSIC asks respondents how often they access Facebook, with the following 7 options: Every hour or all the time; More than twice a day but not every hour; Once or twice a day; A few times a week; Once every few weeks; Once a month; and Less than once per month. Each of these responses is assigned a value starting from 1 to 7 as Facebook usage decreases. To reflect the higher likelihood of selection as Facebook usage is higher, these values are divided by 7 and multiplied by the sampling fraction. In this way, those that use Facebook less will see their sampling fraction lowered to reflect their probability of selection. While the measure of frequency of Facebook usage is crude, it still offers a method of correcting for this potential bias.

We define the sampling weight as the inverse of the adjusted sampling fraction.

2. Non-response weight: To account for the selection bias into responding to the survey, we construct a proxy response rate for each segment of the population. This is the ratio of the number of respondents who completed

6 Users are not able to complete the survey more than once.

7 The reach is the number of unique individuals who viewed the advertisement at least once but have not necessarily clicked on the advertisement to start the interview.

the background section of the survey divided by the reach of the advertisements.⁸ This is constructed separately for each segment defined by age, gender and governorate to account for any difference in response by these characteristics. The non-response weight is then the inverse of the response rate.

3. Post-stratification weight: Following best practices in web-based surveys (Zagheni and Weber 2015), after multiplying the design weight and the non-response weight, we calibrate the weights to known characteristics of the population. We consider gender, educational attainment, refugee status, marital status and household size from the SEFSEC 2018 to calibrate the Facebook survey weights.⁹ While income could be considered, household income is likely to have changed significantly since the SEFSEC 2018 and is not comparable to the crude measure of income from the Facebook survey. The post-stratification weights imply that observations that have characteristics closer to the population characteristics are given a higher weight than those that are dissimilar to the population. The calibration across the different characteristics is done using the *maxentropy* command in Stata.

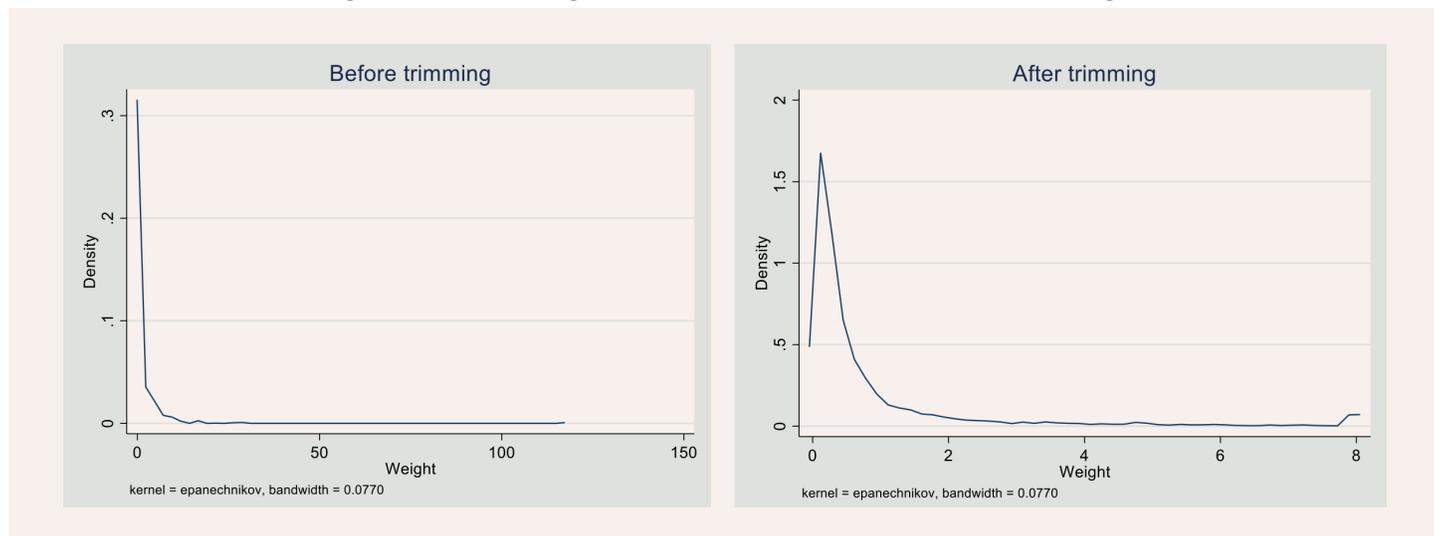
Finally, to avoid outlier weights after these adjustments, the weight values in the bottom 2 percent and the top 98 percent are replaced by the weight at the 2 percent percentile and

98 percent percentile. Figure 10 shows the distribution of the weights before and after trimming the outliers.

In Figure 3 to Figure 9 of the previous section, the characteristics of the weighted sample are compared to the unweighted sample and the SEFSEC 2018. The yellow bars are based on sampling weights that do not include the internet coverage and Facebook frequency adjustment, while the light blue bars do include this adjustment to the sampling weight. In both cases, the characteristics of respondents converge closely to those seen in the population, providing validity to the results presented. While the demographic characteristics without using the internet coverage and Facebook frequency weight adjustment are not significantly different when using the final weights, we still include this adjustment in case correlated with other outcomes.¹⁰ As a robustness check we assess how well the weight calibration performs when excluding a set of characteristics. Using all comparable characteristics is the best option for converging with the SEFSEC 2018 characteristics, but after leaving out one set of characteristics the calibration still provides a more representative sample (Annex A).

By estimating survey weights to rebalance the sample to match the SEFSEC 2018, we attempt to make the profiles of respondents more representative of the Palestinian population. As shown in the yellow bars of Figure 3 to Figure 9, the balance of the weighted sample is significantly improved.

FIGURE 10 - Kernel density estimate of weight distribution before and after trimming outliers



Source: World Bank staff calculations based on the RWSI.

8 Ideally the response rate would include those who did not start the survey, but it is impossible to capture this information using the existing data systems and metadata.
 9 Some categories in these calibration variables are aggregated to allow for sufficient sample size when calibrating the weights. This helps to avoid situations where very few observations have a large weight to match with the SEFSEC distribution.
 10 While not reported here, we find that internet coverage and Facebook usage make a significant difference to mental health outcomes, implying that adjusting for these factors could reduce this self-selection bias.



Remaining limitations

While the targeting and the weighting procedures aim to achieve a more representative sample, using weights only corrects for observable bias. Four key concerns remain:

- First, there is potential self-selection bias since those more affected by the recent events could be more motivated to respond to the Facebook advertisements inviting them to participate in the survey. The survey weights do include a correction for non-response, but we have limited information on those who did not respond.
- Second, even if Palestinians living in Gaza or the West Bank have a Facebook account, they are more likely to see and respond to the advertisement for the survey if they spend more time on Facebook. While we don't have a perfect continuous measure of how much time the respondents spend on Facebook, the weighting procedure attempts to correct for this by giving more weight to individuals who report spending less time on the platform.
- Third, Palestinians who have been most affected by the conflict, particularly those still displaced in Gaza, could have less access to Facebook and be less likely to respond.
- Fourth, while the sampling weights are adjusted for the fact that two individuals in the same household responded to the survey separately, there could be more than two respondents per household and simply dividing the sampling weight by half would not be sufficient. Further, 33 percent of respondents were not aware of others in the household responding to the survey.

It is worth keeping in mind other limitations of using CAWI methods of data collection. Since the questionnaire is self-administered, it is not possible to provide clarifications to the respondent when needed. In addition, enumerators are unable to verify the responses. Finally, the questionnaire needs to be designed in a way that all questions have categorical (and exclusive) options, with a maximum of thirteen options.

Keeping these caveats in mind, the survey provides valuable data in the immediate aftermath of the recent events. Another valuable piece of information are the comments provided by Facebook users in response to the advertisement itself. To reflect the perspectives of Palestinians as much as possible, we have included select comments in text boxes throughout the report.



Results

The results are organized into five subsections around: a) access to basic services and shelter, b) labor and income, c) symptoms of Post-Traumatic Stress Disorder, d) coping strategies, and e) main concerns.

ACCESS TO BASIC SERVICES AND SHELTER

The eleven days of aerial bombardment devastated Gaza. The RDNA has already demonstrated the extent of the physical damage from the 11 days of conflict (World Bank, EU, and United Nations 2021), but the repercussions for how Palestinians were coping in the immediate aftermath was only captured through the Facebook survey. The RWSIC asks respondents if they have been displaced due to the recent events. 53.9 percent of Gazans and 6.4 percent of the West Bank residents report having been displaced. While this number is high, it probably captures temporary displacement to safer areas during the 11-day armed conflict that included more than 1,500 missile strikes in Gaza.¹¹

FIGURE 11 - Where you displaced by the recent events?



Most of the displaced Gazans stayed with friends or family, followed by those renting an apartment and staying in a school or public building (Figure 12). Of the displaced West Bank residents, most have rented a different apartment. Poorer households are more likely to rely on friends and family, while richer households have been able to rent another house or apartment (Figure 13).

11 UN Office for the Coordination of Humanitarian Affairs

FIGURE 12 - Residence of displacement, by region

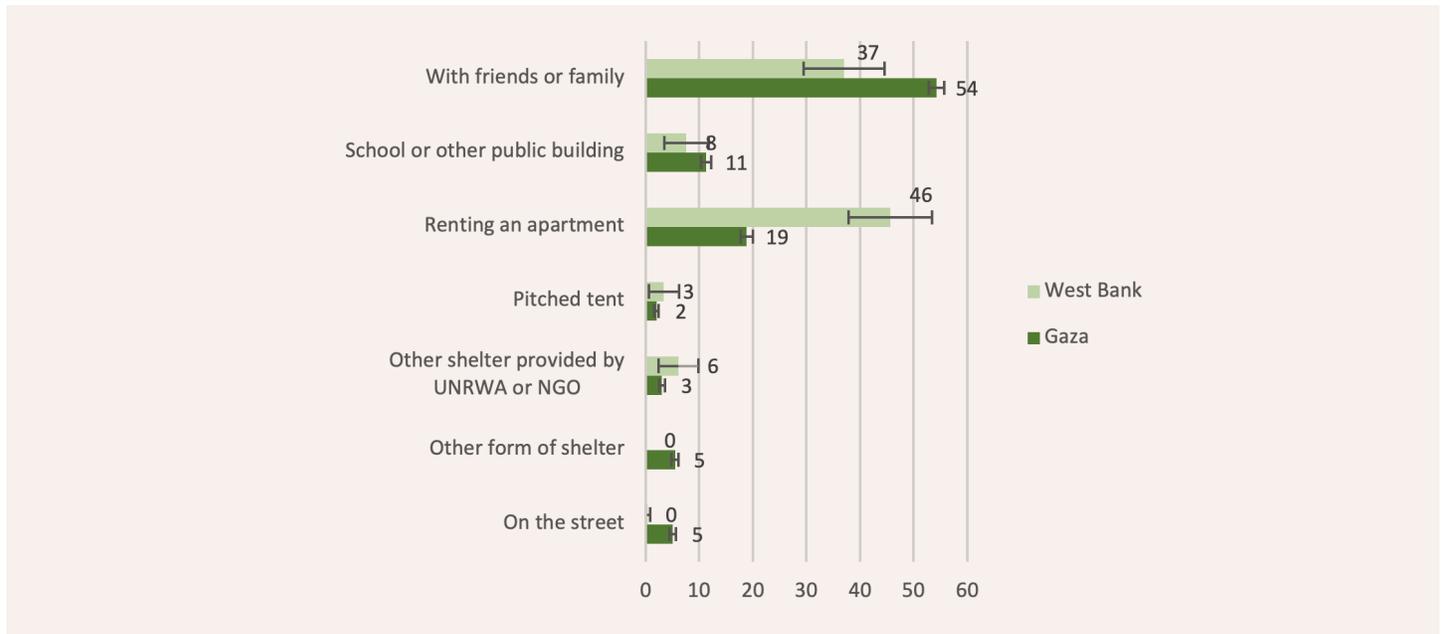
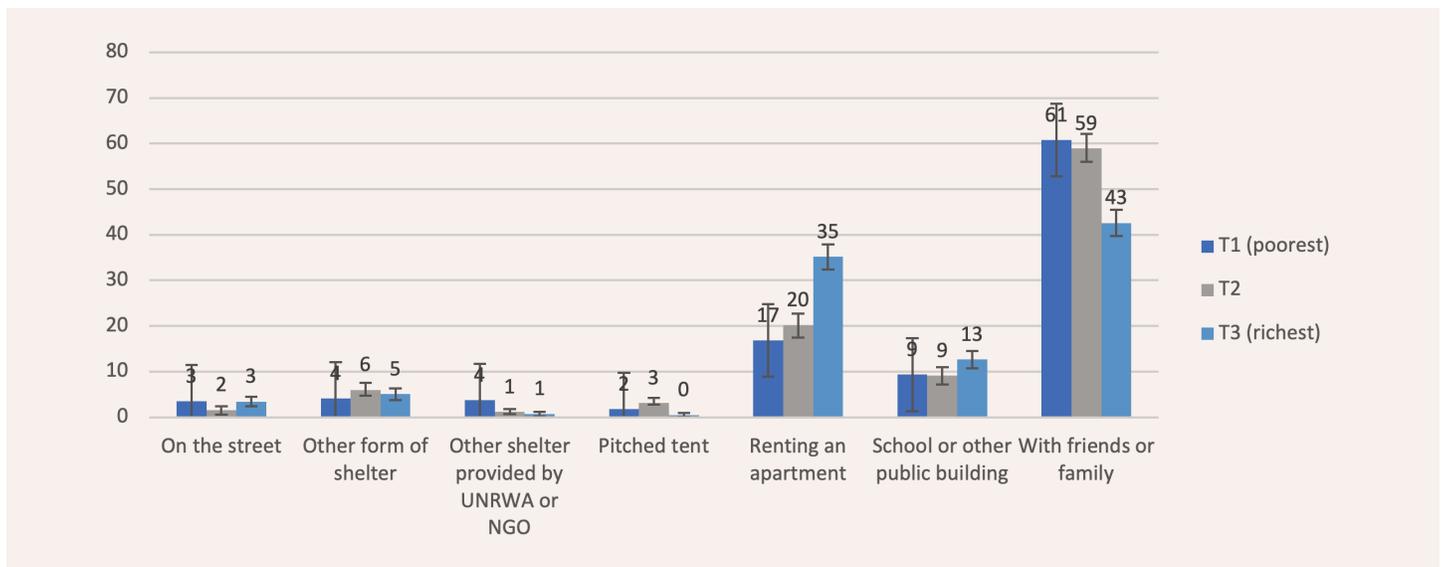


FIGURE 13 - Age category, RWSIC and SEFSEC



Source: RWSIC. Standard errors in brackets.

Note: Wealth terciles are created by dividing self-reported total household income (prior to the conflict) by household size. As the survey only allows for categorical questions, household income is imprecise. Terciles are created by dividing the population into three equal groups by increasing ranking of per capita household income. This is done separately for the West Bank and Gaza due to the divergence of living conditions.

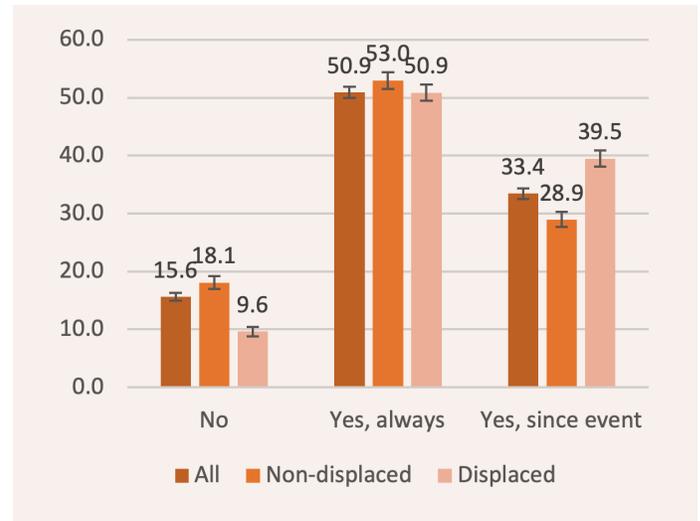
While it is expected that Gaza suffered major disruptions to services, results show that the living conditions were already poor to begin with. When asked about the supply of water, 46 percent of Gazan respondents reported a deterioration in the supply (Figure 14). This is slightly higher for displaced Gazans, where more than half report a worsening supply of

water. 84 percent of Gazans report having concerns with the quality of drinking water, however most of these concerns with water quality have existed long before the events (Figure 15). Displaced respondents are more likely to report a concern with water quality since the recent events.

FIGURE 14 - Is the water supply better, worse or the same as before the recent events? (Gaza respondents only)



FIGURE 15 - Are you concerned about the quality of the drinking water that you currently use? (Gaza respondents only)

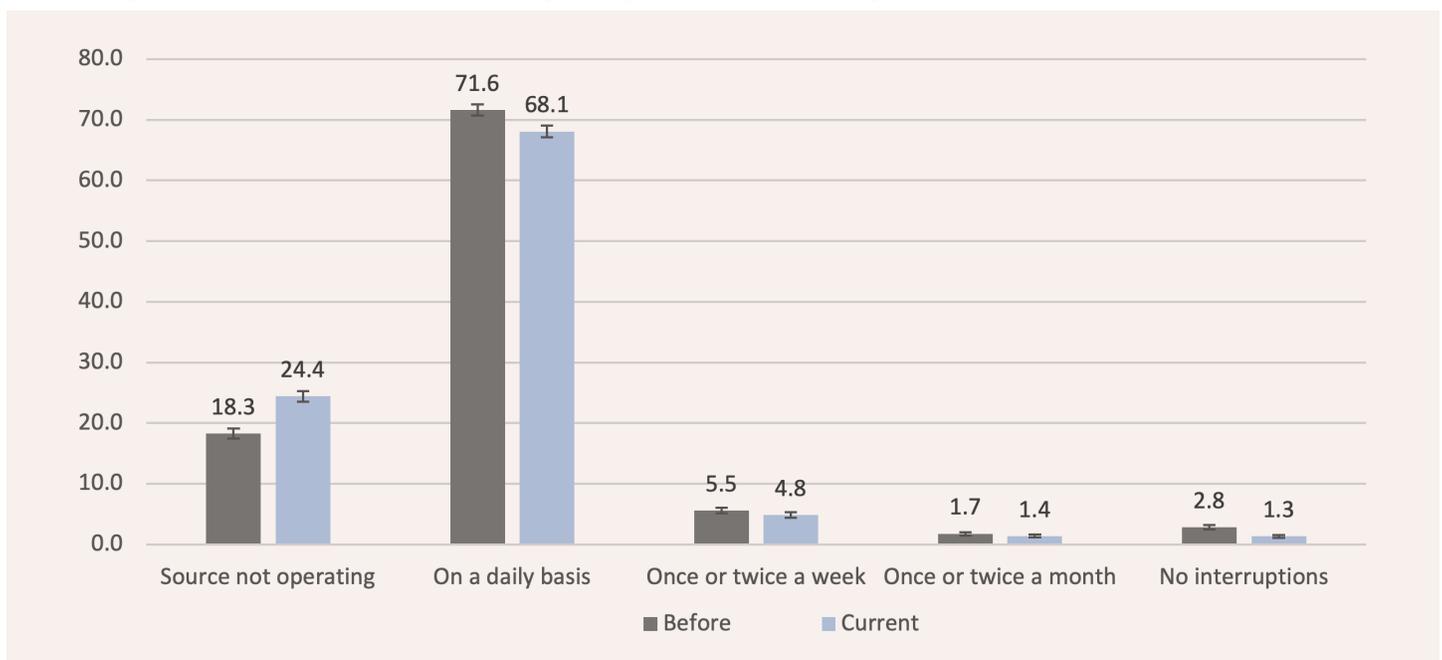


Source: RWSIC. Standard errors in brackets.

In terms of access to electricity, most Gazans report daily interruption to services before and after the events. However,

24 percent of Gazans report their main electricity source as not working in Figure 16, up from 18 percent before the events.

FIGURE 16 - Were there any interruptions in the supply of electricity from your household's main source of electricity before the events and currently? (Gaza respondents only)

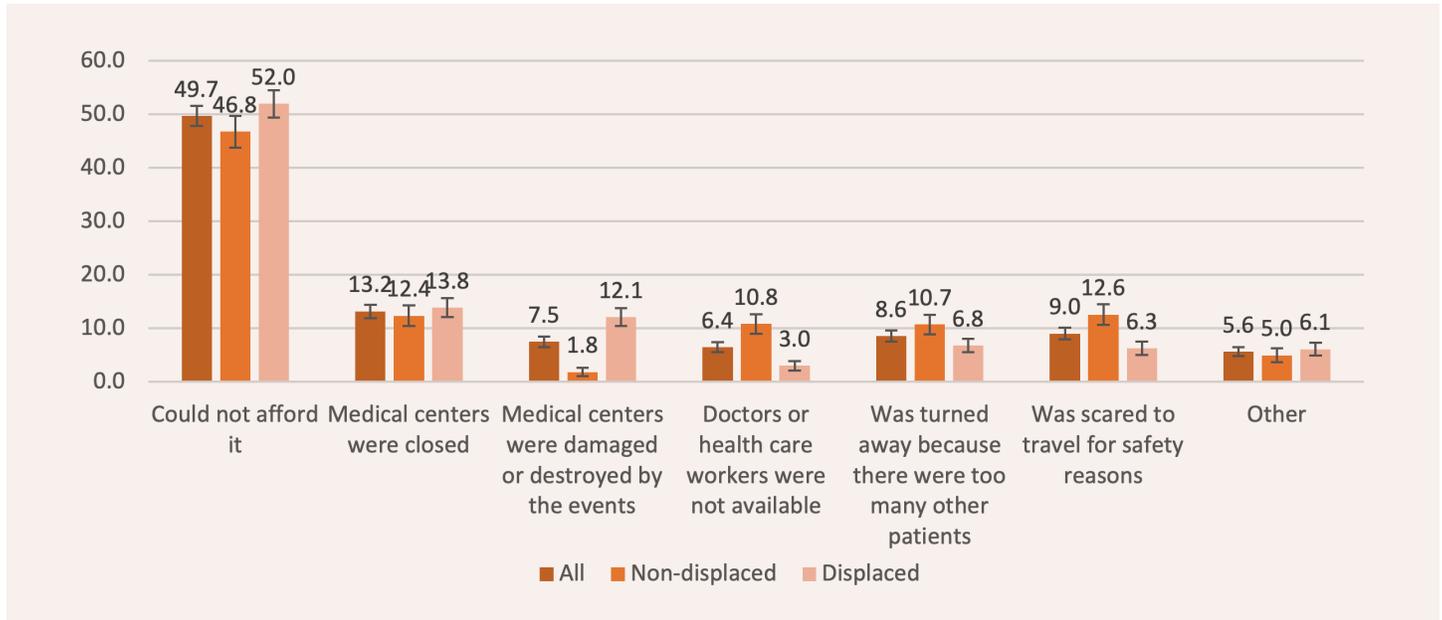


Source: RWSIC. Standard errors in brackets.

Less than half of respondents from Gaza reported that a member of their household received medical care if needed. For those who needed medical care but were unable to receive it, respondents were asked the main reason for this. In half of these cases the reason was because they could not afford it. Inability to afford medical services is even worse among

displaced respondents in need of medical care, 52 percent of whom could not afford it. 13 percent of Gazans were unable to receive medical care if needed because the medical centers were closed. In addition, 12 percent of displaced respondents in need of medical care are unable to receive it because medical centers were damaged or destroyed by the events.

FIGURE 17 - If there were any sick or injured household members able to receive medical care, what was the reason?



Source: RWSIC. Standard errors in brackets.

LABOR AND INCOME

Around 60 percent of respondents report working before the conflict began. When asked if they have been able to return to work since the ceasefire was agreed on May 20th, of those who were previously working, 33 percent of Gazans and 48 percent of the West Bank residents had returned to work at the time of the survey (Figure 18).

The main reason for not being able to return to work varies by location (Figure 19). In Gaza, the main reasons for not returning to work is the closure or destruction of the workplace due to the events. Among workers from the West Bank, the challenges to cross checkpoints into Israel or Israeli settlements represent the main reason for being unable to return to work. As shown in Figure 20, this is more relevant for male than female workers, who are more likely to work in construction in Israel or the settlements.

كل شيء تآثر
بشكل عنيف كأنه زلزال ٧
الى ٨ ريختر يضرب مدينة
غزة الله المستعان

"Everything was affected violently, as if the earthquake of Richter 7 to 8 hit the city of Gaza, God help us."

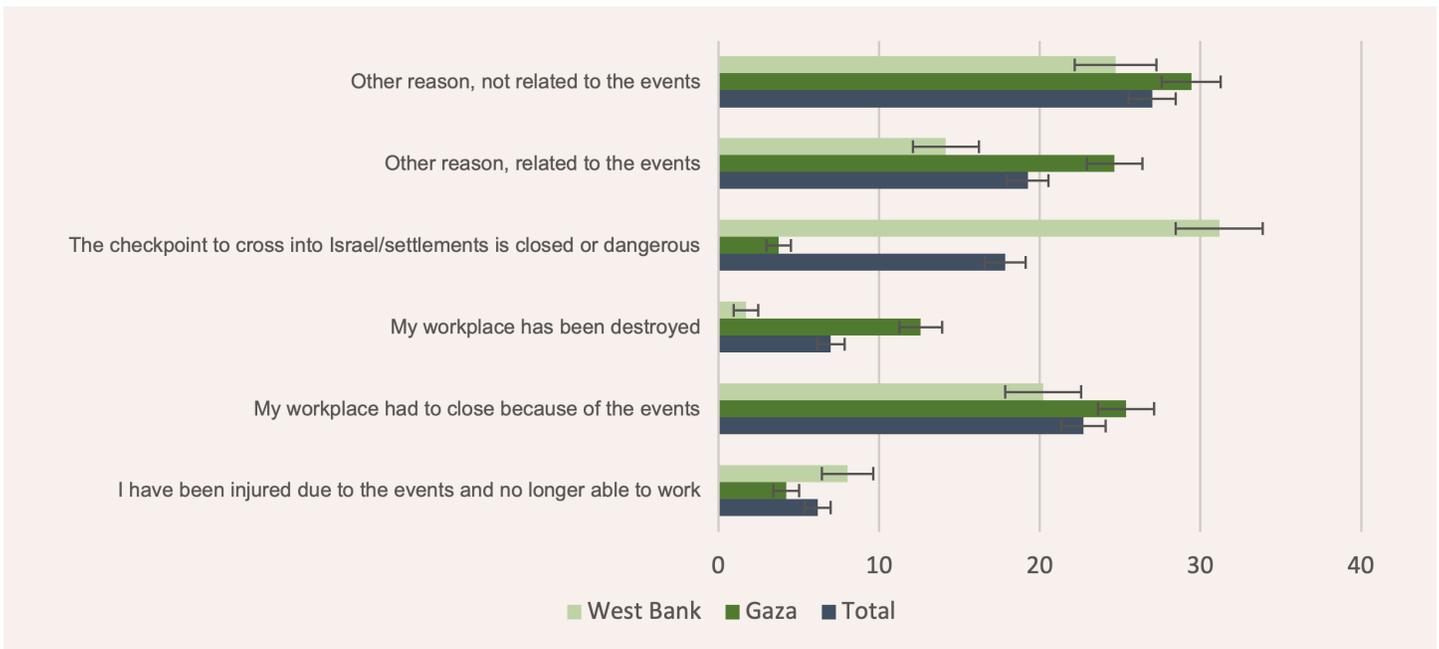
— RWSIC respondent

FIGURE 18 - If working before the events, have you been able to return to work?



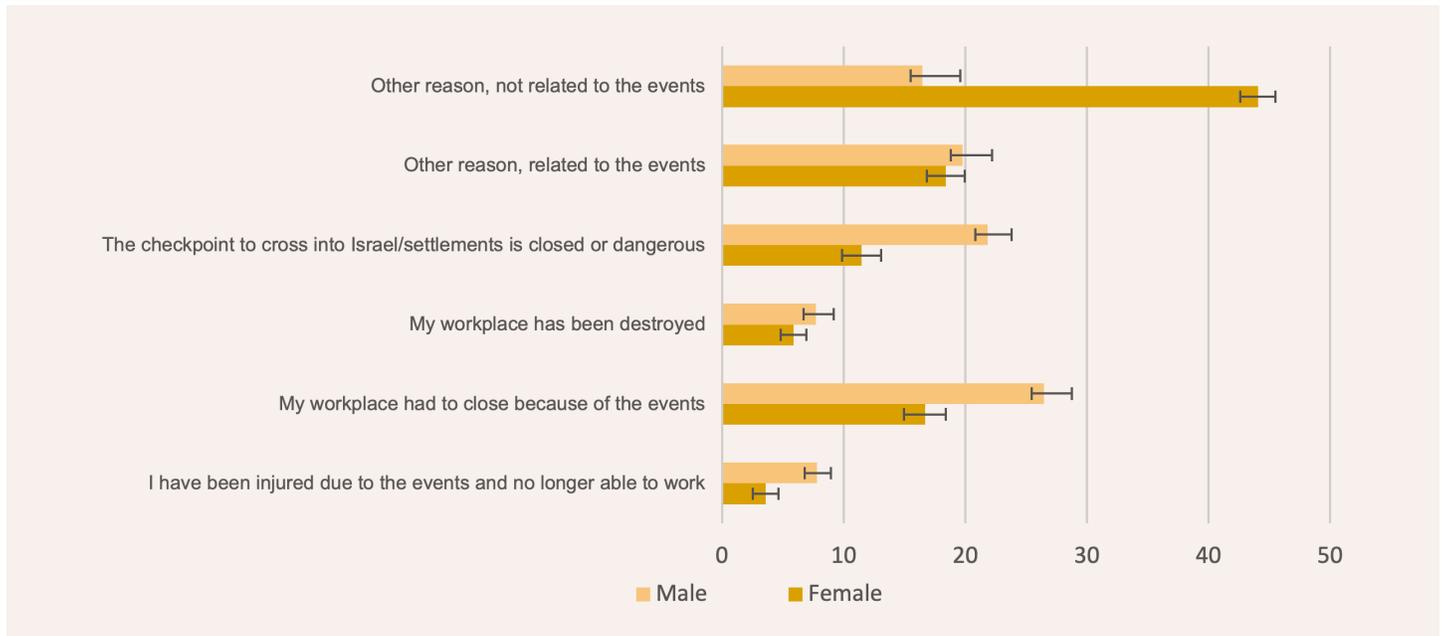
Source: RWSIC. Standard errors in brackets

FIGURE 19 - If unable to return to work, what is the main reason you are unable to return to work? By region



Source: RWSIC. Standard errors in brackets

FIGURE 20 - If unable to return to work, what is the main reason you are unable to return to work? By gender



Source: RWSIC. Standard errors in brackets

Figure 21 and Figure 22 report the economic sector of employment for those working in the West Bank and Gaza respectively. Agriculture is the most important sector in Gaza while construction is more significant in the West Bank. Of

those who were unable to return to work, they work mostly in agriculture and services (in Gaza), and public administration and construction (in the West Bank).

المعيشه عندنا صعبه ياريت تساعدونا هناك الوضع صعوبه كبيره حصار و بطاله في قطاع غزة

"Our lives are difficult. I hope you can help us. There is a very difficult situation due to the siege and the lack of employment in the Gaza Strip."

— RWSIC respondent

FIGURE 21 - Main activity of the enterprise working at by return to work status. Gaza

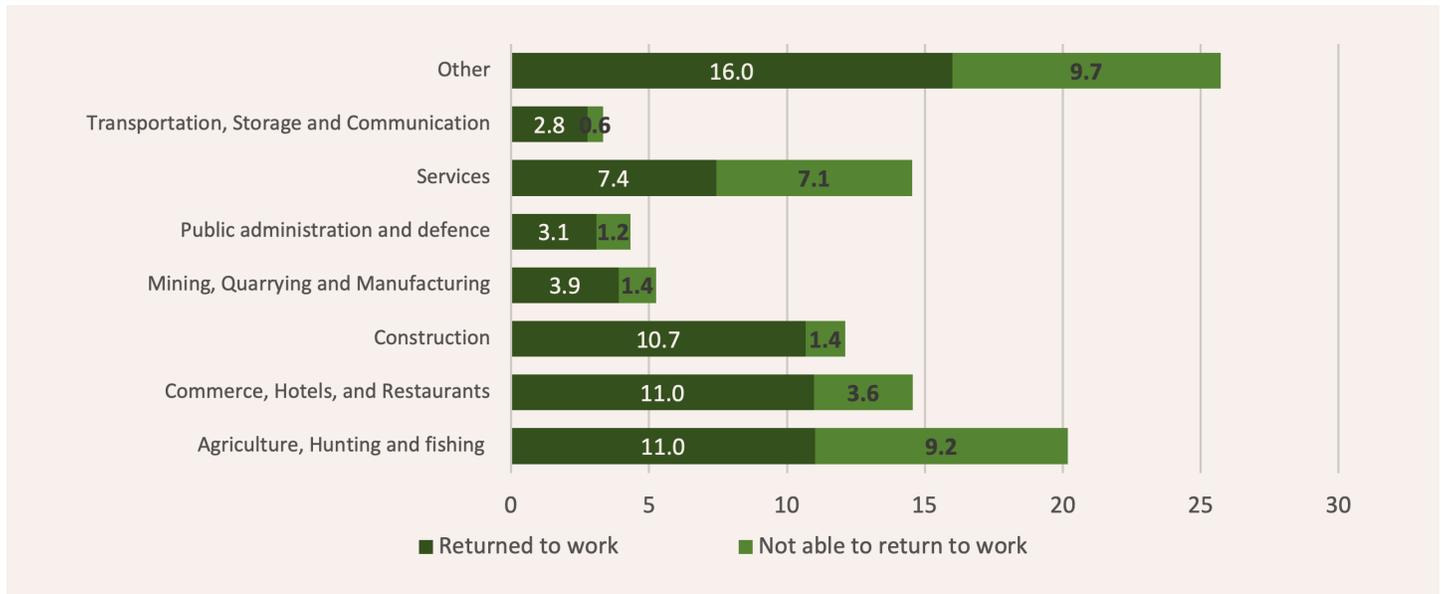
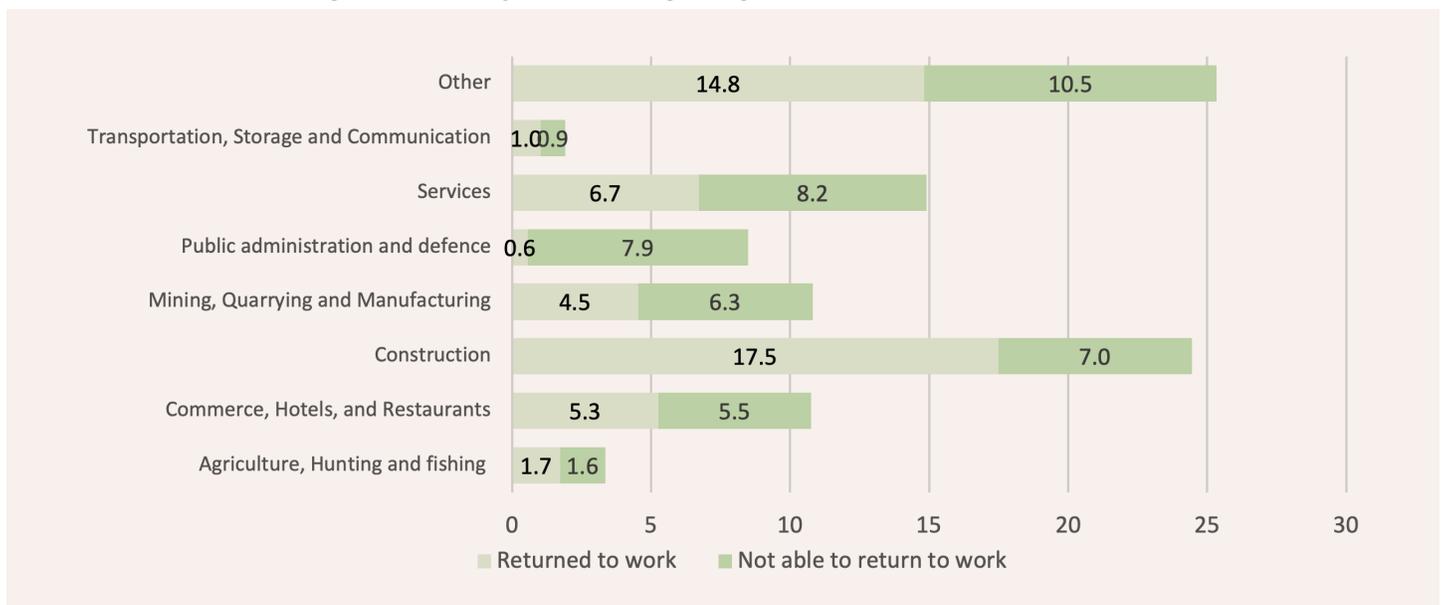


FIGURE 22 - Main activity of the enterprise working at by return to work status. The West Bank



Source: RWSIC.

SYMPTOMS OF POST-TRAUMATIC STRESS DISORDER

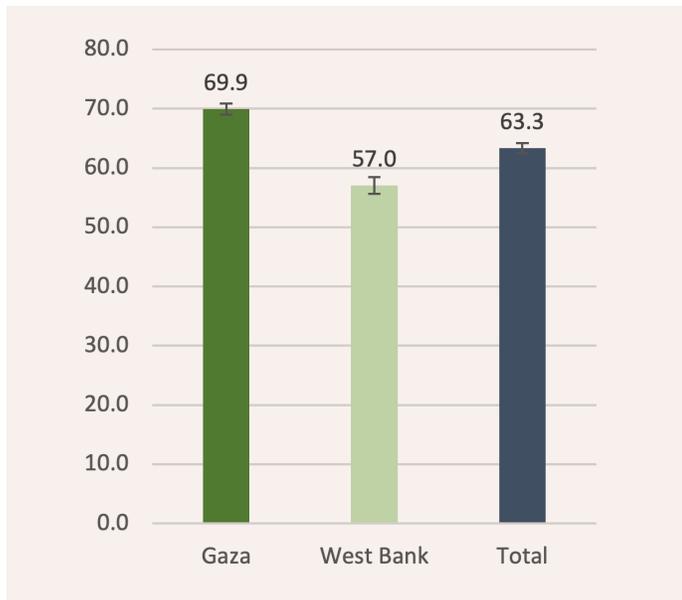
The mental health and wellbeing of Palestinians in the West Bank and Gaza has received much attention in the news,¹² and most comments to the Facebook survey's advertisement were related to mental health and psychological trauma. To identify the extent of post-traumatic stress disorder (PTSD) in the West Bank and Gaza, the World Bank survey relied on the Harvard Trauma Questionnaire (see Annex B for details on this index). In the figures below we report on the percentage of respondents with symptoms consistent with PTSD disaggregated by location, gender and displacement status.

Almost 70 percent of Gazans and 57 percent of West Bank residents report symptoms of post-traumatic stress disorder (Figure 23). This is a concerning figure and reflects the trauma that Palestinians are exposed to in Gaza as well as the West Bank.¹³ Palestinians in Gaza were subjected to eleven days

and nights of missile strikes in May 2021, which is only one of several similar episodes in recent history. Palestinians in the West Bank are subject to the constant occupation that limits many aspects of their economic, social and daily lives. Since the threat of forced evictions in Sheikh Jarrah, there has been an increase in tension and violence.

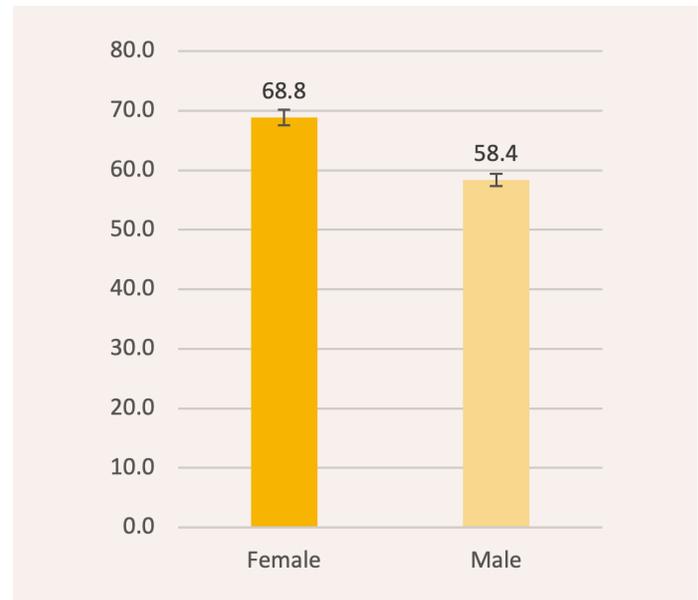
Women are more likely to have PTSD symptoms, at 69 percent of Palestinian women, compared to 58 percent of Palestinian men (Figure 24). There is also a significant difference by displacement status, 78 percent of the displaced report symptoms of PTSD compared to 59 percent of those not displaced (Figure 25). On the other hand, there is no significant difference in the proportion reporting symptoms of PTSD when comparing wealth terciles (Figure 26).

FIGURE 23 - Percentage of respondents reporting symptoms consistent with PTSD, by region.



Source: RWSIC. Standard errors in brackets

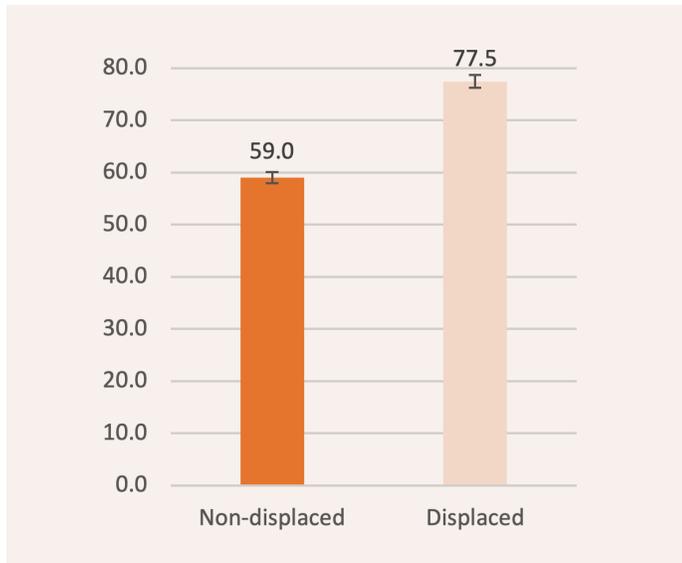
FIGURE 24 - Percentage of respondents reporting symptoms consistent with PTSD, by location.



12 See for example <https://www.aljazeera.com/opinions/2021/6/14/trauma-and-mental-health-in-gaza> and <https://www.aljazeera.com/news/2021/9/23/palestinian-children-left-traumatised-by-israeli-home-invasions>

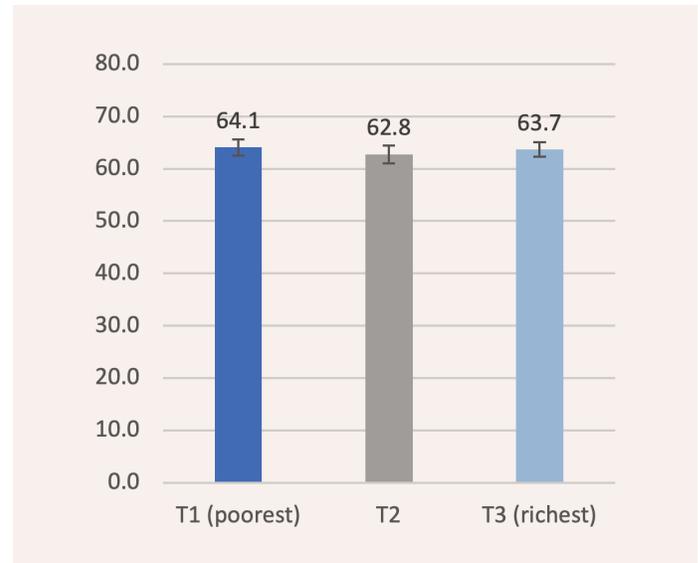
13 To put this in context, an online survey in Syria showed 60% of students have PTSD and/or problematic anger. Studies on Syrian refugees in Lebanon, Iraq and Turkey show even higher rates and need for mental health support. However, it is worth noting that self-reported symptoms tend to overestimate mental health symptoms. Kaka-je, A., Al Zohbi, R., Hosam Aldeen, O. et al. Mental disorder and PTSD in Syria during wartime: a nationwide crisis. *BMC Psychiatry* 21, 2 (2021). <https://doi.org/10.1186/s12888-020-03002-3>

FIGURE 25 - Percentage of respondents reporting symptoms consistent with PTSD, by displacement status.



Source: RWSIC. Standard errors in brackets

FIGURE 26 - Percentage of respondents reporting symptoms consistent with PTSD, by wealth tercile.



COPING STRATEGIES

This section reports on the strategies adopted by households in face of the recent events. Most respondents, especially in Gaza, resort to borrowing money to cover their basic needs (Figure 27). Respondents were also asked a series of questions regarding food coping strategies. These results were combined to create the reduced coping strategies index (Maxwell and Caldwell 2008).¹⁴ The reduced coping strategy index is greater in Gaza than in the West Bank (Figure 29) indicating worse food security, and as expected it is largest for poorest households (Figure 30). The index can be comparable to the results from the SEFSEC 2018, where we see a significant increase as households resort to reducing the number of meals, quality of food and portion sizes.

نعم ما فيه شغل مافي أسواق
مافيه اي عمل انعدمت
مقومات الحياه بالاضافه إلى
مرض الكورونا واخطاره

"Yes, there is no job, there is no market, there is no work, the necessities of life are lacking, in addition to the corona disease and its dangers."

— RWSIC respondent

¹⁴ The full methodology for creating this index can be found in Annex A.

FIGURE 27 - Have you ever had to borrow money to buy food or necessary commodities (health, education) since the events started? By region



FIGURE 28 - Have you ever had to borrow money to buy food or necessary commodities (health, education) since the events started? By wealth tercile

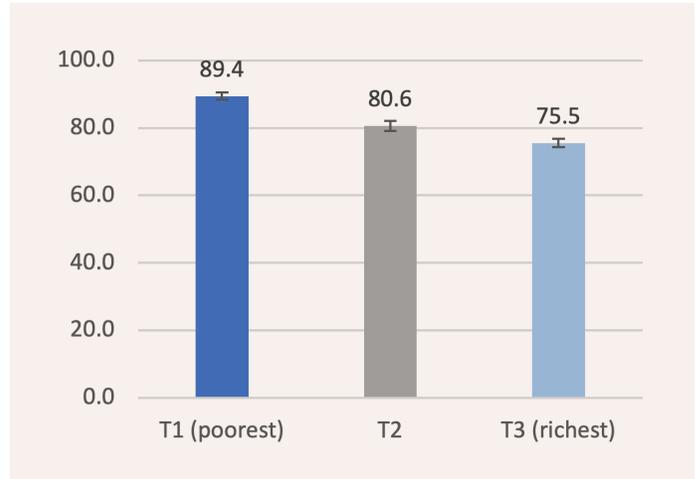
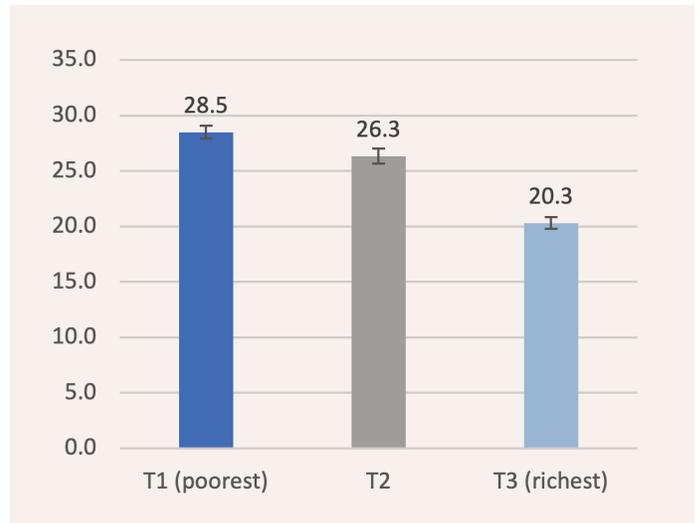


FIGURE 29 - Reduced Coping Strategy Index by region



FIGURE 30 - Reduced Coping Strategy Index by wealth tercile



Source: RWSIC. Standard errors in brackets.

بدل ما ندخر استدنا

"Instead of saving, we borrow."

— RWSIC respondent

MAIN CONCERNS

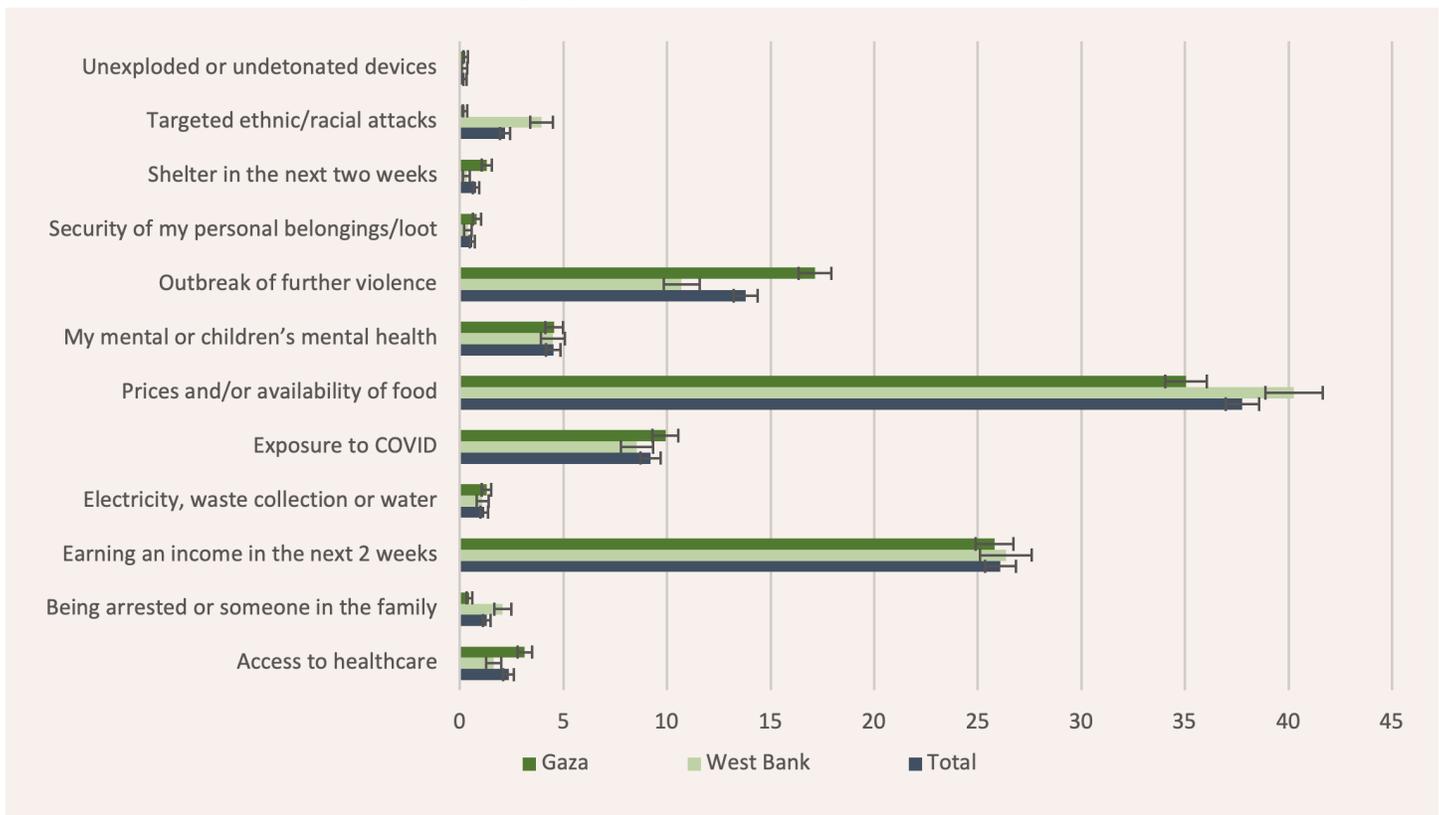
This section discusses the main immediate concerns identified by respondents (out of 12 options).¹⁵ Food prices and availability of food is the most important concern with 35 percent of Gazans and 40 percent of West Bank residents identifying it as the most pressing (Figure 31). This concern is followed by earning an income in the next 2 weeks, outbreak of further violence (particularly for Gazans), exposure to COVID-19 and mental health (of the respondents or their children). The order of concerns is similar in both the West Bank and Gaza. Figure 32 shows that there are statistically significant differences in the most important concern by wealth tercile. Richer households are more likely to be concerned with outbreak of further violence and exposure to Covid, compared with poorer respondents who are more likely to be concerned with food and earning and income.

تأثرنا معنويا ونفسيا وماديا ما حد في
العالم بشوف ال بنشوفه الارض مافيها
وسع لنا عايزين نعيش في كوكب ثاني
علشان نحس بالامان عالم ظالم برغم اذ
يتغنى بالديمقراطية

"We are emotionally, psychologically and financially affected. No one in the world can see what we have seen. The earth has no space for us. We want to live on a second planet to feel safe. An unjust world even though it sings about democracy."

— RWSIC respondent

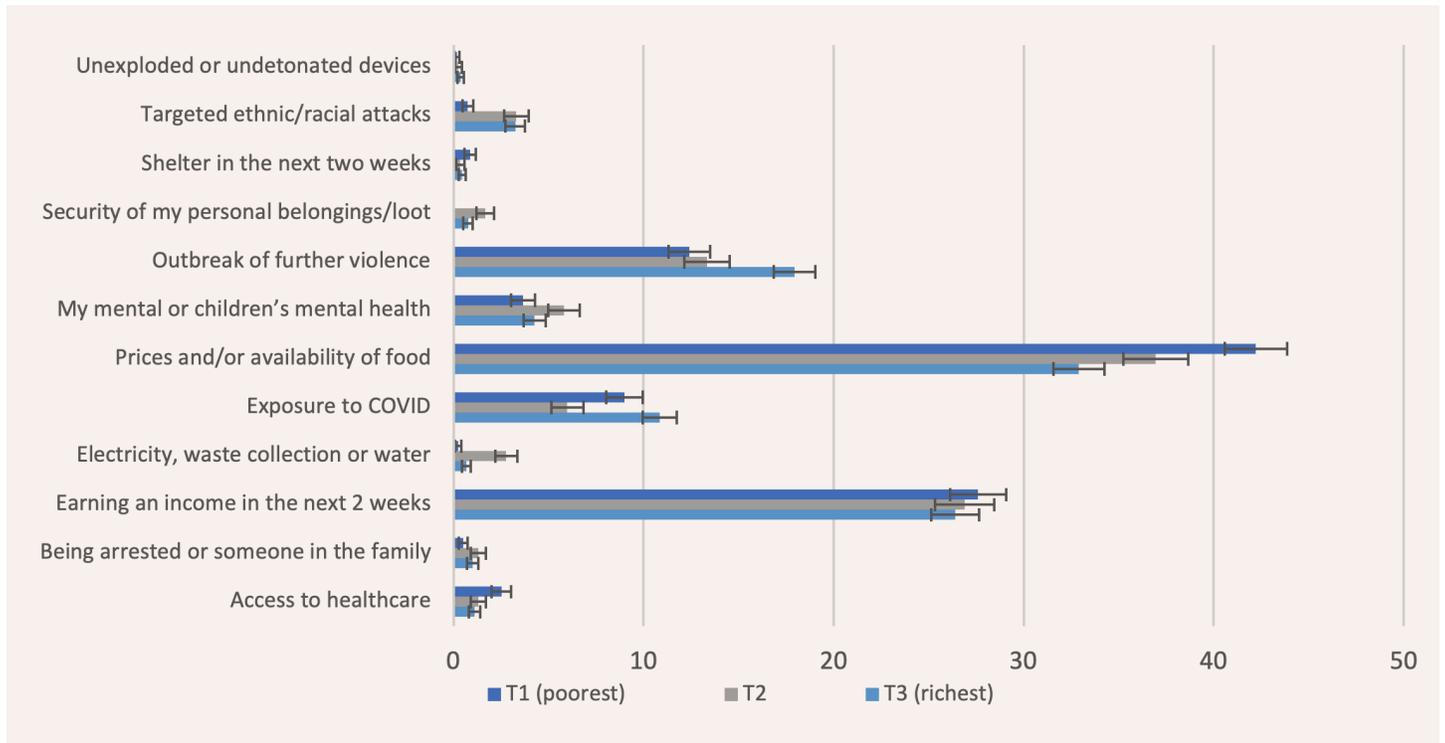
FIGURE 31 - Most immediate concern, by region



Source: RWSIC. Standard errors in brackets.

¹⁵ The options include: Food prices and/or availability of food; Exposure to COVID-19; Outbreak of further violence; Earning an income (in the next 2 weeks); Access to healthcare (including access to medications); Unexploded or undetonated devices; Shelter (in the next two weeks) or forced evictions; Targeted ethnic/racial attacks; Security of my personal belongings/looting/theft; Electricity, waste collection or water contamination; My mental or children's mental health; and, Being arrested or someone in the family being arrested.

FIGURE 32 - Most important concern, by wealth tercile



Source: RWSIC. Standard errors in brackets.

طيب ولما تعرفو شو حالة الناس هل عندكم الحل ولا استبيان والسلام بدنا نعيش بامن وامان
واستقرار بدنا نعيش بكرامة وحرية بدنا حياة كريمة شغل وفتح حدود ومعايير ما بدنا شعارات وهمية

"Ok, and when you know what is the situation of people, do you have a solution or a questionnaire? We want to live in security, safety and stability. We want to live with dignity and freedom. We want a decent life, work, open borders and standards. We do not want fake slogans."

— RWSIC respondent



Conclusion and lessons learnt

The results paint a concerning picture for Palestinians in the West Bank and Gaza. While Gaza fares worse in terms of damage to infrastructure and access to services, Palestinians living in the West Bank have also been affected by the recent conflict. The mental health results are worrying for Palestinians in both the West Bank and Gaza and indicate that immediate support is needed. Palestinians in the West Bank are still unable to return to work because of the closure of checkpoints, pointing to the vulnerability of these households to external events out of their control. Finally, Palestinians living in both the West Bank and Gaza have indicated that the availability and affordability of food is their top priority even as they are trying to rebuild their lives. This report aims to highlight immediate needs and priorities, but the next step will be to address these needs, building back better and more dignified lives for Palestinians in the West Bank and Gaza.

This study proposes a novel approach to collecting data in the aftermath of a conflict or disaster. While using Facebook surveys or other web-based surveys is not new, applying it in a setting of low internet coverage poses additional challenges. By preparing sampling weights that are based on the probability of belonging to a subgroup with high internet coverage as well as frequency of Facebook usage, and then calibrating the sampling weights so that the sample is a closer match to the general population, some of the potential sources of bias are alleviated. While several issues remain when using this method (such as bias caused by unobservable characteristics), it still offers a cheap, reliable and timely source of information in settings where data is scarce and immediate action is needed.

This exercise provides some important lessons to bear in mind if conducting similar work. A Facebook survey can be administered quickly, and a large sample size can be achieved in a relatively short period of time. In our case, the survey was “live” a week after the ceasefire and data collection was completed in less than three weeks. There are limitations to the representativeness of the sample, some of which can be alleviated through sampling weights. For this, data should be collected on frequency of Facebook usage, whether others in the household had responded to the questionnaire, and potentially supplemented using information on internet penetration in the country. Ideally, information of Facebook usage and other variables used to calibrate weights should be collected at the beginning of the survey, keeping in mind the attrition observed over the course of the questionnaire. Beyond the initial background information module, the order of the remaining modules could be randomized to ensure a more even distribution of responses.

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Annex A. Calibrating weights

In this section we report the results of a “leave one out” scenario to test the reliability of the weight calibration method. By design, it is expected that explicitly using a set of characteristics will yield a comparable balance of these characteristics. However, even when excluding one group of characteristics at a time, Figure 33 to Figure 39 show that there is still a better convergence to the nationally representative population. The yellow bars show the results when that characteristic is excluded from the calibration model, which are significantly closer to the green bars (SEFSEC 2018 results) than the blue bars (the unweighted data).

FIGURE 33 - Location RWSIC and SEFSEC

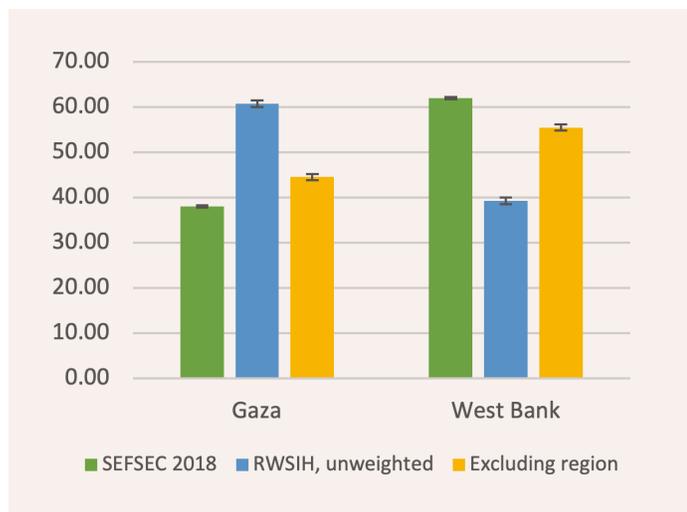


FIGURE 34 - Gender, RWSIC and SEFSEC

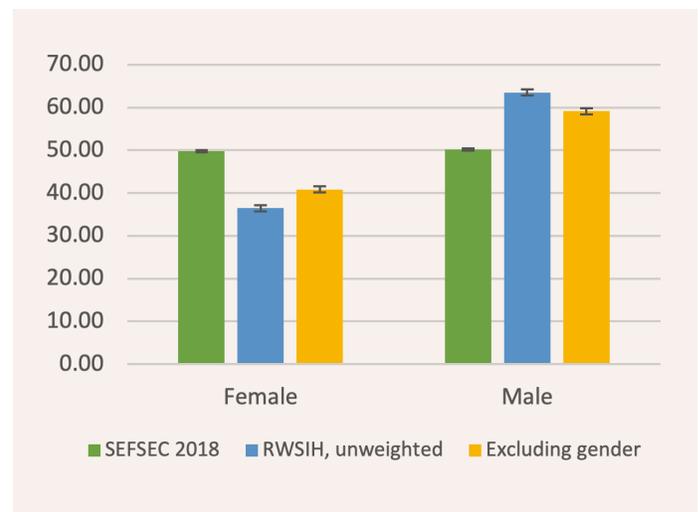


FIGURE 35 - Education, RWSIC and SEFSEC

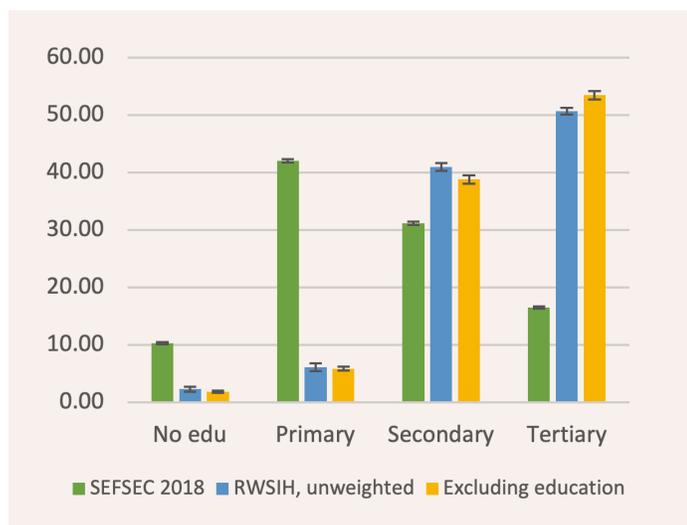


FIGURE 36 - Refugee status, RWSIC and SEFSEC

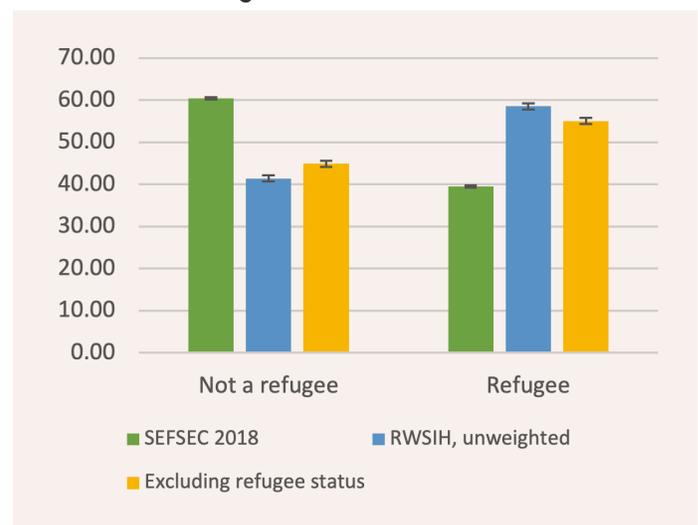


FIGURE 37 - Marital status, RWSIC and SEFSEC

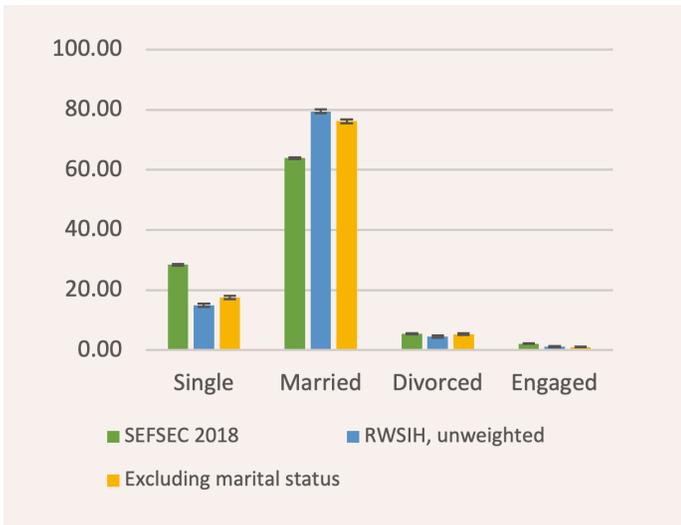


FIGURE 38 - Household size, RWSIC and SEFSEC

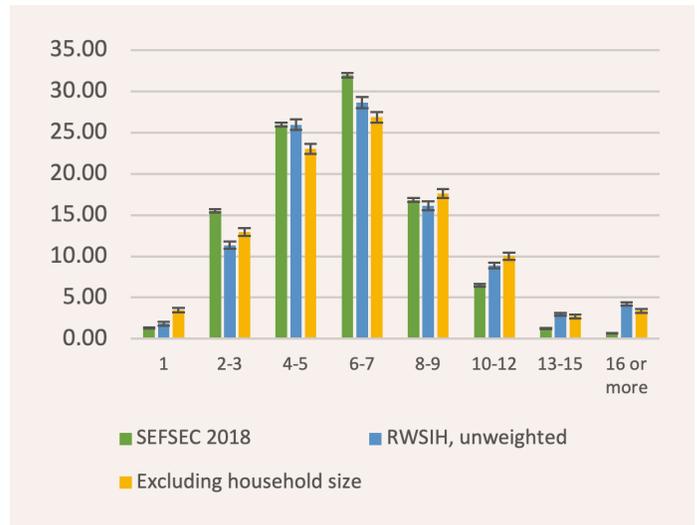
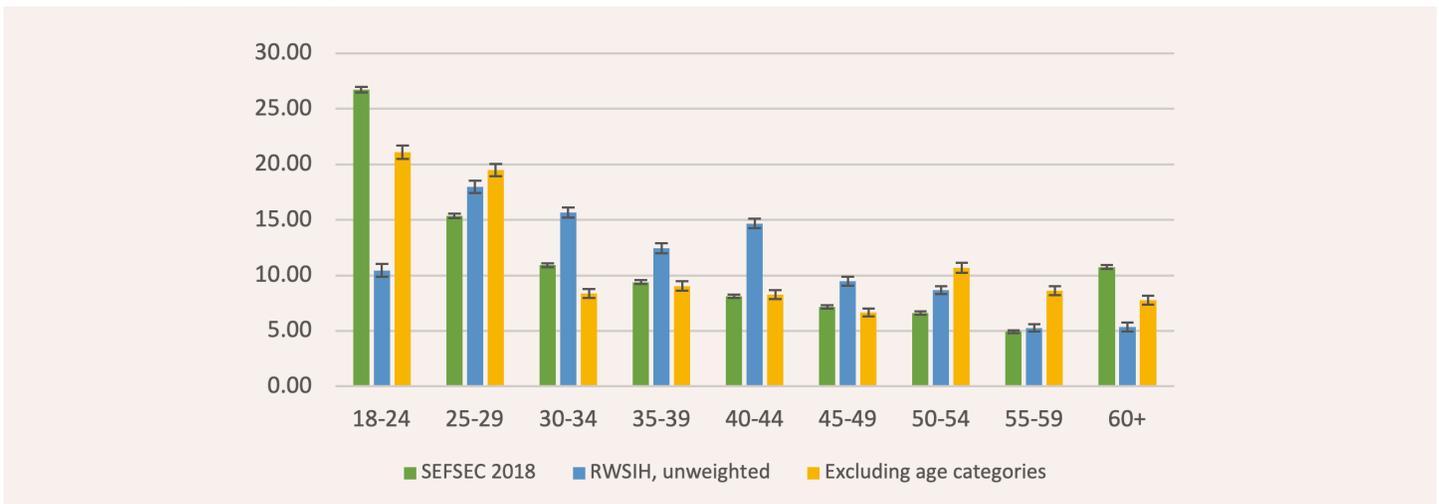


FIGURE 39 - Age category, RWSIC and SEFSEC



Source: World Bank staff calculations based on the RWSIC and SEFSEC 2018. Standard errors in brackets.

Annex B. Constructing Post-Traumatic Stress Disorder Index

The Harvard Trauma Questionnaire includes a set of eight questions which ask the respondent how often (not at all, rarely, sometimes or most of the time) they have been bothered by the following issues:

1. Recurrent thoughts or memories of the event.
2. Feelings as though the event is happening again.
3. Recurrent nightmares about the event.
4. Sudden emotional or physical reactions when reminded of the event.
5. Avoiding activities that remind you of the event.
6. Avoiding thoughts or feelings associated with the event.
7. Feeling jumpy, easily startled.
8. Feeling on guard.

The responses are scored with 'not at all' as 1 point, 'rarely' 2 points, 'sometimes' 3 points, and 'most of the time' 4 points. Responses are summed across the 8 questions and then divided by 8. A mean score of 2.5 is considered to indicate that symptoms are present that may be consistent with the clinical diagnosis of PTSD (Berthold et al. 2019).

Annex C. Constructing the Reduced Coping Strategy Index

The Reduced Coping Strategy Index (RCSI) is an indicator for food security that relies on a short number of simple questions. It can be correlated with more complex measures of food security (Maxwell and Caldwell 2008). The index is based on how often respondents adopt a series of coping strategies. The severity of each coping strategy depends on the context and is usually determined through extensive consultations with country experts. For this report we have adopted the severity weights developed by the Food and Agriculture Organization (FAO) and World Food Programme (WFP) in the West Bank and Gaza. The list of questions and their severity weight can be found in Table 2.

TABLE 2 - Components of reduced coping strategy index (RCSI)

DURING THE LAST 7 DAYS, IF THE HOUSEHOLD DID NOT HAVE ENOUGH FOOD OR MONEY TO BUY THE FOOD, HOW MANY DAYS DID YOU:	SEVERITY WEIGHT
Refrain from consuming expensive and resort to alternatives?	1.0
Borrow food or rely on help from family and friends?	2.0
Reduced portion of food for adults in favor of children's?	1.0
Reduced the quantity of meals eaten by adults in favor of children's?	3.0
Reduced the number of meals for all household members per day?	1.0





