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Institution efficiency satisfaction and emotional responses to the COVID-19 pandemic in Arab citizens of Israel: An exploratory cross-sectional study

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ABSTRACT

The COVID-19 pandemic has led to the emergence of various stressors among people around the world. However, rare are the studies that investigate stressors by employing institution evaluations as their predictors in ethnic minorities. The goal of the current study was to examine the association between satisfaction with the efficiency of institutions’ work on mitigation of the COVID-19 spread, and stressors - emotional responses to the pandemic: worry of the COVID-19 spread, and fear of being hurt by its spread. The study was conducted among Israeli Arab citizens (N = 697), who participated in an annual personal security index survey. Multinomial logistic regression was used for the multivariate analysis. The main finding suggests that satisfaction with efficiency of the emergency institutions performance was associated with a lower likelihood of being highly worried of COVID-19 spread, as well as with a lower likelihood of having a great fear of being hurt by its spread. Satisfaction with efficiency of societal institutions performance was associated only with lower likelihood of being moderately worried of the COVID-19 spread. The results imply that the institutions have an ability to reduce the stressors in population by means of efficient performance in mitigating the consequences of the pandemic. The results also imply that institutions differ in this ability. The main policy implication is that institutions, which efficiency satisfaction was unrelated to the stressors, should significantly improve such performance in order to reduce the magnitude of negative emotional responses in ethnic minorities.

1. Introduction

The current COVID-19 pandemic was caused by a new strain of coronavirus [1,2]. This virus was discovered in late 2019 [1], and since then has been rapidly transmitted around the world [2]. It continues to cause high morbidity and mortality all over the globe, with most confirmed cases registered in the U.S., India, Brazil, UK, and Russia, and the highest number of related death cases registered - in the U.S., Brazil, India, Mexico, and Peru [3]. Due to its highly negative impact on the world population’s health, the World Health Organization (hereinafter: WHO) declared a pandemic on March 11, 2020 [1]. To date, COVID-19 is still being defined as a pandemic. As a response to it, governments all over the world, albeit to varying extents, introduced restrictive policies aimed at mitigating the transmission of the virus, including closing of public places, imposing local or national lockdowns and more [4,5]. The restrictive measures are being lifted or abolished, and least part of them is brought back or becomes stricter again, as several countries have been experiencing more than one wave of elevated morbidity due to infection with various variants of the virus. This includes Israel, where three total lockdowns, corresponding to three major morbidity waves, were imposed: the first one – starting from March 25, 2020 till the beginning of its gradual lifting on April 19, 2020 [6]; the second one – from September 13, 2020 [7] till the beginning of its gradual lifting about a month later [8]; and the third one – from January 8, 2021 till the beginning of its gradual relaxing starting on February 7, 2021 [9].

Aside from the physical health aspects, the pandemic impacted mental health of many people around the world [10]. Feelings of anxiety, depression, and insomnia has become an integral part of life of many people during this period [11]. A systematic review found that the prevalence of depressive symptoms, outlined in the reviewed studies, was higher than the habitual one-year prevalence [12]. About 14% reported experiencing severe stress and about 16% reported experiencing severe symptoms of depression in one Saudi Arabian study [1]. About 57% reported any extent of fear of crowded places, and about 51% - of traveling in one Argentinian study [13]. Mental health issues and elevated emotional responses to the pandemic were also reported in

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Israel [2,6], Germany [14], Canada, U.S.A [15], China [11,16] and elsewhere.

In general, research on mental health and wellbeing during the COVID-19 pandemic is quite abundant nowadays. However, the main limitation of the studies in this domain is that they focused mainly on individual aspects, meaning they referred to COVID-19-related beliefs, emotions, attitudes and behaviors mostly with regard to oneself or to personal social networks. Rare are the studies which investigated the institutional aspects, i.e., the evaluation of state and societal institutions’ performance in mitigating the negative effects of the COVID-19 (for instance, in lowering the levels of stressors). Several studies employed institution-related variables, such as trust in government; however, they chiefly examined its association with individual behavior outcomes, such as adoption of health protective behaviors [17] and compliance with COVID-19-related governmental policy [18]. Furthermore, it is difficult to rely on trust as an indicator of institutional performance in specific contexts since it reflects a long-term and consolidated view of the institutions [8]. Trust represents a global assessment of institutions rather than experience driven evaluation of their performance and gratification received from them [19].

Two studies related to the institutional performance during the pandemic [8,20]. However, study by Mori et al. [20] which explored the communication between one Italian local government and citizens via Facebook, did not focus on the association between such communication (or its efficiency) and individual emotional responses to the pandemic. Study by Mizrahi et al. [8]; which predicted effectiveness of crisis management in Israel, did not refer to emotional responses to the pandemic. In addition, even when mental health issues or emotional responses to the pandemic were examined as phenomena, the predictors used were the extent of protective behaviors implementation [13], extent of social media exposure during the pandemic [16], or socio-demographic background [1]. Finally, the abovementioned studies focused on general populations while overlooking its specific categories, for example, ethnic minorities. The current study will address these gaps.

1.1. COVID-19 and stressors

Public health crises make people functioning difficult since stressing situations are sometimes hard to handle [21]. These situations may originate in various stressors. The literature on mental health differentiates between primary and secondary stressors [15]. Primary stressors are those that are arise directly from the crisis situations [22]. For example, Sznitman et al. [6] referred to worries about infecting or being infected by COVID-19 as primary stressors. Secondary stressors are those that indirectly related to a crisis or extreme event [22]. For example, Sznitman et al. [6] and Zheng et al. [15] referred to concerns about personal financial or occupational consequences of the pandemic as secondary stressors. The current study will refer to primary stressors as main sources of mental or emotional instability during a major health crisis.

Primary stressors were found to result in adverse mental health during the pandemic. For example, study by Zheng et al. [15]; which measured depressive symptoms in two different time points during the pandemic, found that sense of being threatened by COVID-19 was associated with greater depressive symptoms in the follow-up, over and above the depressive symptoms in the baseline measurement. Sznitman et al. [6] found that primary stressors were indirectly and positively associated with the reported increase in cannabis consumption since the beginning of the pandemic. However, in these studies, primary stressors were rather used as predictors than as predicted variables, underscoring the importance of research on their (institution-related) antecedents.

1.2. Evaluation of institution performance and stressors

Evaluation of institutions and entities is constantly performed by individuals. Part of the countries have even adopted a policy aiming at the constant evaluation of institutional performance [23]. In times of crisis like COVID-19 pandemic, these evaluations are even more important because they may determine the extent of cooperation with various institutions and the degree of legitimacy given to them, therefore being essential for a proper functioning of the society in times of major crisis [8].

Aside from the evaluations per se, they may correspond to varying levels of stressors. The underlying mechanism for the link between evaluation of institutional performance (efficiency satisfaction, as in the current study) and emotional responses in crisis times may pass through trust, crisis management evaluation, risk and uncertainty. Higher satisfaction with output of various institutions or entities typically results in greater trust in them [24]. Public trust, in turn, as demonstrated in study by Satran et al. [25] in regards to trust in health system, is negatively associated with stress. This is unsurprising, as trust is inversely associated with risks as was demonstrated in a e-government use study [26]. Risks, by themselves, are composed of uncertainty [26], which tends to increases stress [21]. Perceived crisis management effectiveness may play a role similar to that of trust, as it also has a potential to reduce risks and uncertainty [8]. In sum, greater satisfaction with institutional performance increases trust or perceived effectiveness/efficiency in crisis management and reduces the risk about them, contributing to lower level of uncertainty and, consequently, to lower levels of individual worries and fears.

1.3. COVID-19 consequences and institutional performance evaluation in Arab population in Israel

The Arab minority in Israel comprises 21% of the Israeli population [27]. Although they are citizens [28], they experience major disadvantage relative to the Jewish population in a myriad of domains of life [27, 29,30], thus situating in the bottom of the ethnic stratification system of the Israeli society [28]. The roots of their disadvantage originate in the policy of separation, inequality and control applied in relation to them (for the detailed description of this policy - see Ref. [31]).

Arab society in Israel has been impacted by COVID-19. One of the main and immediate impacts was on a socio-economic level, as the rate of Arabs who were dismissed from their jobs following the lockdown measures was greater than of Jews [32]. In the wellbeing domain, Kimhi et al. [2] found that during the initial stages of the COVID-19 pandemic, Arabs demonstrated higher levels of distress, higher levels of a sense of danger, and a lower sense of wellbeing, as compared to Jews. In the health domain, in the beginning of the pandemic, being Arab was associated with lower likelihood of morbidity [29]. However, the situation reversed in the second half of 2020, when COVID-19-related death rates were significantly higher in Arab compared to Jewish population [33]. Although the vaccination rates in the country are quite impressive, putting Israel in list of the top five countries in a number of doses injected, these rates in Arab society were, at least in the end of 2020, below the national average [34]. This represents another source of vulnerability for the Arab population and may contribute to an increase in primary stressors, also given the constant emergence of new (and potentially more dangerous than previously discovered) variants, such as Delta or Epsilon [35].

Arab citizens tend to evaluate and trust public, state and social institutions to a lower extent than Jews [36–38], demonstrating a similar behavior to that of ethnic minorities in other countries [39]. This is true in regards to satisfaction with Israel police and its perceived legitimacy [37], as well as trust in government, Knesset or political parties [36], with reversed figures in case of trust in healthcare system [38] as probably the only exception from this rule. The origins of this lower evaluation are argued to situate in the institutionalized exclusionary and discriminatory policy experienced by Arab society as a whole and its members in particular [27]. Arab citizens suffer from underprovision of services, including healthcare, to their localities [30], and are subject to
discriminating routine social treatment based on their ethnicity [27]. However, Arab citizens were also found referring to institutions to a different extent. For example, Arab participants in study by Lisitsa [36] exhibited higher trust in government than in the political parties. In study by Pinchas-Mizrachi et al. [38]; the percentage of Arab participants who reported high level of trust in healthcare system was higher than the percentage of their counterparts who reported having high trust in juridical system.

1.4. The current study

The abovementioned findings provide a justification for demanding deeper insights into the link between satisfaction with the efficiency of performance by institutions (hereinafter: efficiency satisfaction) and stressors in times of major health crisis. In the current study, the stressors, serving as outcome variables, reflect emotional responses to the pandemic as reported by Arab citizens - worry of the COVID-19 spread and fear of being hurt by its spread. Efficiency satisfaction, serving as the main predictor of the abovementioned stressors, refers to the reported satisfaction with the efficiency of work performed by institutions, which is aimed at reduction of the COVID-19 spread in the country. It is hypothesized that greater efficiency satisfaction will be associated with lower likelihood of experiencing the elevated levels of worry of COVID-19 spread, and with lower likelihood of experiencing the elevated levels of fear of being hurt by it. Based on the abovementioned notion of varying levels of public evaluation of institutions, the study differentiates between their types (see Measures in Methods) for examination of possible differences in the magnitude of the hypothesized association. Nevertheless, due to limited prior research regarding this association or similar ones (with respect to COVID-19 or any other pandemic), this hypothesis should be viewed as exploratory, as should the entire study.

Studying this association is important, since various state and societal institutions have the power to provide welfare, support, and, ultimately, improve the emotional state and wellbeing of people, particularly in these extraordinary times. The COVID-19 pandemic and stressors caused by it have led to increased substance use [6,40], gambling [41], and other disruptive behaviors. Therefore, understanding the contribution of COVID-19-related institution satisfaction on emotional reactions to the pandemic will assist in improving the efforts of these institutions. Ultimately, such understanding will assist in prevention or mitigation of disruptive behaviors, which may originate in poor emotional responses to the pandemic, and which may burden the public healthcare and welfare systems, as well as local communities, and society as a whole.

2. Method

2.1. Data and sample

The data for the current study were obtained from the annual survey on the individual and community security index of the Arab population in Israel, which was conducted in November–December 2020. As in every year since 2018, the survey questionnaire included nearly 110 items on victimization, violence, treatment of violence by social institutions, satisfaction with the work of the police in various domains in Arab society, and more. In 2020, several COVID-19-related items were included. Almost all of them were used for construction of the study’s outcome variables and their predictors.

The study participants were Arab citizens of Israel, except for residents of East Jerusalem and the Golan Heights. The sampling was performed in two stages. In the first stage, 28 localities, a representative cross-section of the Arab localities in terms of geographical area, size, municipal status, socio-economic cluster, and religious and ethnic composition, were sampled. A quota of interviewees was assigned for each locality in accordance with its size. In the second stage, respondents were randomly sampled in all the localities included in the sample from the Ministry of the Interior’s Registry of Residents. In total, roughly 900 participants were contacted for participation in the survey. Of those, 723 participated in the survey which was conducted face-to-face in Arabic language in participants’ homes. Most of the non-response stemmed from technical reasons (i.e. incorrect home address provided, potential respondent works outside the locality of residence, potential respondent was diagnosed with COVID-19), and a very small number of participants consciously refused to participate in the survey. Of the survey participants, 697 respondents provided valid responses to the two abovementioned emotional responses to the pandemic.

2.2. Measures

2.2.1. Dependent variables

Worry of COVID-19 spread. An original item asked: "To what extent are you worried about the COVID-19 spread?". The responses were: ‘1’ = ‘not worried at all’, ‘2’ = ‘to a low extent’, ‘3’ = ‘to a moderate extent’, ‘4’ = ‘to a high extent’, and ‘5’ = ‘to a very high extent’. It was recoded into a three-category item (categories ‘1’ and ‘2’ were merged into one to form a ‘low worry’ category (reference), and categories ‘4’ and ‘5’ were merged to form a ‘high worry’ category). Almost 70% of the respondents were highly worried, nearly 19% were moderately worried, and the rest reported low worry about the COVID-19 spread.

Fear of being hurt by COVID-19 spread. An original item asked: "To what extent do you fear of being hurt by the COVID-19 spread?". The responses were: ‘1’ = ‘have no fear at all’, ‘2’ = ‘to a low extent’, ‘3’ = ‘to a moderate extent’, ‘4’ = ‘to a high extent’, and ‘5’ = ‘to a very high extent’. It was recoded into a three-category item (categories ‘1’ and ‘2’ were merged into one to form a ‘low fear’ category (reference), and categories ‘4’ and ‘5’ were merged to form a ‘high fear’ category). Almost 72% of the respondents reported being highly fearful, approximately 18% reported being moderately fearful, and the rest reported low fear of being hurt by the COVID-19 spread.

2.2.2. Independent variables

Main state institutions efficiency satisfaction was measured as the mean of scores on three items assessing the extent of feeling satisfied with the efficiency of work on mitigation of the COVID-19 spread performed by the following entities: Israel Police, judicial system, and the government (Cronbach’s α = 0.89). The scores ranged on a scale from ‘1’ (Not satisfied at all) to ‘5’ (Very satisfied). Higher scores represented greater satisfaction with the efficiency of the work performed by these institutions.

Emergency institutions efficiency satisfaction was measured as the mean of scores on three items assessing the extent of feeling satisfied with the efficiency of work on mitigation of the COVID-19 spread performed by the following entities: Ministry of Health, Home Front Command, and Arab Emergency Committee (Cronbach’s α = 0.82). Higher scores represented greater satisfaction with the efficiency of the work performed by these institutions.

Societal institutions efficiency satisfaction was measured as the mean of scores on three items assessing the extent of feeling satisfied with the efficiency of work on mitigation of the COVID-19 spread performed by the following entities: religious institutions, mass-media, and Arab society leadership (Cronbach’s α = 0.74). Higher scores represented a greater satisfaction with the efficiency of the work performed by these institutions.

2.2.2.1. Generation of independent variables. A total of 14 items in the questionnaire were dedicated to the evaluation of COVID-19-related institution satisfaction. Factor analysis, using Varimax rotation, was performed, and four factors were extracted. However, three items should have been eliminated until proper structure has been received (‘local authority’ item loaded on two factors in the first analysis (Factor
explaining 70.78% of the variance. Four items loaded on the first factor in the third analysis, which included 11 items, three factors were extracted, explaining 70.78% of the variance. Four items loaded on the first factor (main state institutions): juridical system (0.83), the government (0.82), Israel Police (0.81), and the Knesset (0.78). Three items loaded on the second factor (emergency institutions): Home Front Command (0.87), Ministry of Health (0.77), Arab Emergency Committee (0.73), and educational system (0.51). Three items loaded highly on the third factor (societal institutions): mass-media (0.83), religious institutions (0.75), and Arab society leadership (0.73). Before moving to reliability analysis, the ‘education system’ item has been eliminated, as it exhibited much lower loading than the other items and in fact, the loading of 0.51 can be considered as a borderline one. The reliability analysis of each factor revealed that ‘the Knesset’ item should be eliminated from Factor 1, as the item-scale-if-deleted procedure revealed higher Cronbach’s Alpha value once it is eliminated from the analysis. The final analysis, which used nine items (three for each factor, as explained above), confirmed this three-factor structure, with 74.65% of the explained variance. Its results are presented in Table 1, together with the items definitions and updated item loadings.

**Table 1**

| Questionnaire Items | Factor loading |
|---------------------|----------------|
|                       | 1   | 2   | 3   |
| **Factor 1 – Main state institutions** |     |     |     |
| Juridical system      | .87 | .22 | .13 |
| Israel Police         | .85 | .27 | .15 |
| Government            | .83 | .28 | .17 |
| **Factor 2 – Emergency institutions** |     |     |     |
| Home Front Command    | .25 | .86 | .16 |
| Arab Emergency Committee | .25 | .76 | .17 |
| Ministry of Health    | .26 | .76 | .21 |
| **Factor 3 – Societal institutions** |     |     |     |
| Mass-media            | .19 | .17 | .84 |
| Religious institutions | .07 | .34 | .76 |
| Arab society leadership | .37 | .05 | .74 |
| Cronbach Alpha (final)| .89 | .82 | .74 |

Note. N = 696. The extraction method was principal axis factoring with an orthogonal (Varimax) rotation. Factor loadings above 0.50 appear in bold.

**2.2.3. Control variables**

*Gender* was measured as a binary variable, with women as the reference category. *Age* was measured in years. *Level of education* was measured dichotomously, with respondents having any degree lower than a bachelor one as the reference category. *Marital status* was measured by a binary variable, with unmarried (single, divorced, or widowed) as the reference category.

**2.3. Data analysis**

Since the original items assessing both outcomes were ordinal in nature, ordered regression analysis was performed at first [42]. Each model was tested on the parallel lines assumption, using the Brant test [43]. Although both models were significant and fitted the data well, the Brant test of parallel lines was significant in the model assessing the worries ($\chi^2(21) = 37.25, p = 0.016$), indicating that ordinal regression technique was not the best solution to assess this outcome. Therefore, multinomial regression analysis was chosen, and each one of the outcome variables have been recoded into categorical ones, as described in the Measures section. All the analyses were performed in SPSS V.23.

### 3. Results

#### 3.1. Sample statistics

The statistics of all variables used in the study are provided in Table 2.

The percentages of male and female responses were relatively similar. The mean age of the respondents was about 40 years ($SD = 15.3$). Most of the respondents (about 66%) had non-academic degrees. Most of the respondents reported being married (about 66%). As to the main predictors, respondents demonstrated varying mean level of satisfaction with work of institutions on COVID-19 spread mitigation. The highest mean satisfaction ($M = 3.3, SD = 0.9$) was with the efficiency of the performance by emergency institutions, the lowest – with the efficiency of the performance by main state institutions ($M = 2.7, SD = 0.9$). The mean satisfaction with the efficiency of the performance by societal institutions stood in between these figures ($M = 2.99, SD = 0.8$). As for outcome variables, the respondents tended to demonstrate high levels of worry about the COVID-19 spread (69.9%), whereas much lower percentage reported moderate level of worry (18.5%) and even lower percentage – low levels of worry (11.6%). The respondents also tended to report high levels of fear of being hurt by the COVID-19 spread (71.6%), whereas much lower percentage reported moderate level of fear (18.4%) and even lower percentage – low levels of fear (10%).

#### 3.2. Predicting the level of worry of the COVID-19 spread

Table 3 shows the results of the multinomial regression analysis predicting the likelihood of being worried about COVID-19 spread. The model was statistically significant ($\chi^2(14) = 44.94, p < 0.001$) and fitted the data well (Pearson $\chi^2(1350) = 1392.83, p = 0.204$).

The results show that, controlling for other variables in the model, societal institutions efficiency satisfaction was negatively associated with a moderate worry ($b = -0.48, p = 0.024$). Each additional unit in the level of such satisfaction reduced the likelihood of being moderately worried regarding the COVID-19 spread by about 38%. In addition, emergency institutions efficiency satisfaction was found to be negatively associated with a high level of worry ($b = -0.81, p = 0.001$). At the same time, being female was associated with a lower level of worry ($b = -0.37, p = 0.001$). The results are presented in Table 3, together with the items definitions, updated item loadings, and Cronbach Alpha values.
associated with a high worry (b = -0.57, p = 0.002). Each additional unit in the level of such satisfaction reduced the likelihood of being highly worried regarding the COVID-19 spread by about 43%.

Among sociodemographic variables, gender was found to be associated with a high worry (b = -0.57, p = 0.025). Males were found about 43% less likely than females to be highly worried regarding the COVID-19 spread. Finally, level of education was significantly associated with a high worry (b = 0.6, p = 0.041). Respondents with academic education were found 1.82 times more likely to be highly worried about the COVID-19 spread, as compared to respondents with non-academic education.

3.3. Predicting the level of fear of being hurt by the COVID-19 spread

Table 4 shows the results of the multinomial regression analysis predicting the likelihood of having a fear of being hurt by the COVID-19 spread. The model was statistically significant ($\chi^2(14) = 45.75, p < 0.001$) and exhibited a good fit to the data (Pearson $\chi^2(1350) = 1406.41, p = 0.139$).

It was found that emergency institutions efficiency satisfaction was negatively associated with a high fear of being hurt by the COVID-19 spread (b = -0.53, p = 0.008). Each additional unit in the level of such satisfaction reduced the likelihood of reporting a high fear of being hurt by the COVID-19 spread by about 41%. Among sociodemographic variables, only level of education was found to be associated with a high fear (b = 0.63, p = 0.045). Respondents with academic education were 1.89 times more likely to report high levels of fear of being hurt by COVID-19 spread as compared to people with non-academic education.

4. Discussion

The goal of the study was to examine the association between satisfaction with the efficiency of work by state and societal institutions on mitigating the COVID-19 transmission, and stressors, reflecting the expressions of worry concerning the COVID-19 spread and fear of being hurt by it among the Israeli Arab population, the discriminated and disadvantaged minority in a myriad of domains [27,30].

First, mean efficiency satisfaction differed between the types of institutions. The highest was with that of emergency institutions and the lowest – with that of the main state institutions. This corresponds to the findings of the international studies where different evaluations and levels of trust in institutions were found. For example, large variation was found with respect to trust in various entities in Nepal [24] and Turkey [39], and to credibility of spokespersons representing various public institutions in Israel during the initial stages of COVID-19 [44]. This also corresponds to the findings by Lissitsa [36] and Pinchas-Mizrachi et al. [38] which found the variations in trust in various entities in the Arab society in Israel. Gaps may exist between various entities in the Arab society in Israel. Gaps may exist between citizens and institutions on how the crisis, caused by the pandemic, should be handled and is actually handled [8]. These gaps may differ between the institutions themselves because of their varying role in crisis management as well as resources available for them in successful implementation of this role and more. The results suggest that these gaps are not of the same size for various institutions, resulting in varying evaluation of their efficiency in the mitigation of COVID-19 spread.

Second, most of the respondents reported high levels of worry about COVID-19 spread and fear of being hurt by it. This corresponds to similar findings by Kimhi et al. [2]. These levels of the stressors may correspond to a disadvantaged situation of the Arab society in general [27,29,30] and specifically – in relation to the current pandemic [2,32,33]. Seems that study participants have internalized the threat of the pandemic as well as their being disadvantaged relatively to the majority population in face of this threat. This internalization is expressed, for example, in lower levels of resilience than in Jews [2]. It is also possible that at least
part of them or someone of their social networks were actually hurt by the pandemic or its consequences. In the economic domain, it is highly possible, as almost every third employed Arab citizen experienced dismissal in this period [32], and 42% of Arab households found themselves below the poverty line [7]. It is also highly possible in the health domain. Note that the survey was conducted in the period of excessive morbidity and mortality, all of which were higher in Arab than in general or Jewish population [33]. Therefore, even if the respondents or someone from their social networks did not hurt by the COVID-19, it still represents a large threat, fueled by the relevant reports from traditional and new media, to which the respondents may be exposed to some extent (either directly or indirectly). Also note that the overwhelming majority of Arab population resides in disadvantaged localities [27], most of which situate in the bottom of the socio-economic strata [29]. Therefore, the scarcity of resources, including health-related ones, may also contribute to a high worry and fear, as this scarcity may contribute to a low confidence in successful coping with the pandemic.

Third, the main findings of the study suggest that institution-related efficiency satisfaction significantly reduces the likelihood of experiencing elevated levels of COVID-19-related stressors. It seems that institutions have an ability to contribute to reduced levels of stress in population by their better performance. As suggested, this may be done by minimizing the risks and reducing the uncertainty [26], which largely characterizes the current pandemic [8]. However, as the results of the study show, this does not apply to all types of institutions to the same extent. Emergency institutions seem to be the most successful in this regard, as satisfaction with the efficiency of their performance was found associating with a lower likelihood of being highly worried regarding the COVID-19 spread and highly feared of being hurt by it. Satisfaction with societal institutions’ performance efficiency was found to be associated only with a lower likelihood of being moderately worried regarding the COVID-19 spread. In contrast, satisfaction with the efficiency of performance by main state institutions was unrelated to the study outcomes. These results correspond with similar ones from the study by Mizrahi et al. [8] which found that satisfaction with public sector, but not with healthcare services, was associated with higher perceived effectiveness in crisis management. Again, this corresponds to the notion of gaps between the expected and actual crisis management. Seems than emergency institutions act more effectively than others, thus leaving less room for uncertainty in Arab society, ultimately reducing the likelihood of experiencing high levels of stress by its members.

The results of the study also imply that institutions have a great potential, and must perform in order to improve psychological wellbeing in times of adversity. This is highly important since minority populations tend to be vulnerable in this period, as the COVID-19-related excess morbidity and mortality figures in Arab sector have shown [33]. Such satisfaction may even contribute to a greater community and national resilience of Arabs in Israel. Both of these types of resilience were found to be weaker in Arab population than in the Jewish population [2]. Ultimately, by increasing satisfaction with COVID-19-related performance, institutions, especially main state ones, may contribute to a better overall view of them and to increase the attachment to the state. This is of high importance since institutional satisfaction [37], trust in institutions [36,35,39] and attachment to the country [47] are lower in ethnic minorities than in the majorities.

With regard to socio-demographic background, the findings regarding gender corresponds to the known differences between males and females in various responses to the COVID-19, including risk perceptions [5], anxiety [11], and psychological distress [13]. In all of these parameters, women scored higher than men. This may be explained by the notion that women are socialized to express emotions [11] - as seen also in times of uncertainty and adversity. Another possible explanation suggests that men typically hold more stable job positions, and are less likely than women to be exposed to severe economic consequences of the pandemic [12]. The association of level of education may be explained in that people with academic education typically hold better occupational positions, frequently with higher income [45]. Their loss due to the restrictions posed by governments as a response to the pandemic may impact their wellbeing to a much higher extent than that of people with a lower level of formal education, due to the typically higher living standards people with higher education and income have.

4.1. Strengths and limitations

This study seeks to contribute to understanding of stressors caused by the pandemic by employing institutional attitudes. In general, public evaluations of institutional performance were rarely addressed by the COVID-19 literature, both as predictors of other social phenomena and as phenomena by themselves [8]. This study has shown that public evaluation of efficiency of institutional performance during the pandemic represents a considerable factor impacting emotional responses to the pandemic. Additional contribution of the study is its focus on the minority population. This is important since various pandemic-related phenomena, including mental health issues, have been studied mainly in general populations [1,13]. This left the understanding of stressors and their factors in vulnerable populations largely overlooked. Finally, large sample was used, so that the findings of the study may be generalized to the entire Arab minority population in the country. However, limitations of the study should also be mentioned. Firstly, due to its cross-sectional design, causal associations cannot be established. Therefore, it is impossible to conclude that people are less likely to experience elevated levels of worry of the COVID-19 spread and fear of being hurt by it because of the institutions’ efficiency satisfaction. Secondly, the association of other variables, for example, social media exposure, which was found to impact mental health during the pandemic [16,21], was not measured. Thirdly, the role of satisfaction with the efficiency of institutional performance regarding other types of stressors, for example any secondary stressors [6,15], was not examined. In addition, only two primary stressors were investigated, although many more may exist. This was mainly because the blocks of items, in which the outcome variables were asked, referred to similarly asked questions in regards to other phenomena (i.e. worrying about various phenomena or fearing of being hurt by them). Fourthly, it was impossible to reveal which specific actions performed by institutions led to reduction in the extent of the studied outcomes. Fifthly, we did not use validated inventories to assess the outcome variables, in contrast to other studies [11,13]. All of this was due to the fact that the relevant items were not included in the survey questionnaire. To conclude, each one of these limitations may serve as a direction for future studies.

5. Conclusions

This study has shown that better evaluation of institutional performance is related to lower levels of stressors, meaning less severe emotional responses in times of major health crisis. This means that state and society institutions are able to improve the mental health and psychological wellbeing of the minority population during the pandemic by reducing the level of stressors. Future studies should explore this issue further. For example, qualitative studies should investigate the specific domains of institutional satisfaction relevant to the minority population. This is important due to a fragile relationship between, for example, Arab society and state institutions in Israel, whereas discriminatory policies restrict Arab citizen’s rights, opportunities in the labor market, and political representation [46]. In addition, future studies should focus on a greater array of stressors, and examine the association between them and various institutional satisfaction domains.

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Consent for participation

Informed consent was obtained from all individual participants included in the study. The participants cannot be identified in any way via the manuscript, and the authors have fully anonymized them.

Data availability statement

The data will be provided upon request.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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