

Multi-Country Survey on Ways of Coping with the Stress of the COVID-19 Pandemic: School-based Family Counselling Implications

Olufunke Olufunsho Adegoke^{1,2}, Brian A. Gerrard^{3,2}, Ilene Naomi Rusk^{4,2}, Emilia Suviala²

¹Department of Sociology, Faculty of the Social Sciences, University of Ibadan, Nigeria

²Disastershock Global Response Team, Institute for School-Based Family Counseling¹

³Western Institute for Social Research, Berkeley, California, USA

⁴Healthy Brain Program, Brain and Behaviour Clinic, Boulder Colorado

ABSTRACT

This multisite country pilot study investigated the variety of effective coping strategies used globally to reduce the stress of the COVID-19 pandemic. A total of 74 participants from 12 countries were given in-depth interviews using a mix of open-ended and close-ended questions. Frequency distributions and thematic analyses were done. The findings suggest that four factors (social isolation, restricted activities, illness/death of a close person, and negative effect on finances) appear as critical trigger events associated with major pandemic-related stress. In contrast, the study found several protective factors (contact with others and with pets/animals, keeping busy, exercise, and having multiple coping strategies) appear to be associated with reduced pandemic-related stress. A hypothetical model regarding the relationship between factors triggering and mediating pandemic-related stress for future research is suggested.

KEYWORDS

Multisite; effective coping; interviews; protective factors; pandemic-related stress

INTRODUCTION

The evidence that the COVID-19 pandemic has had negative mental health effects, such as social isolation, anxiety, depression, insomnia, fear about the future, job insecurity, adjustment disorder and PTSD, is well documented in surveys of front line health professionals (Cabarkapa et al., 2020; Lai et al., 2020; Li et al., 2020); the general public (Brooks et al., 2020; Rossi et al., 2020; Shevlin et al., 2020; Vindegaard et al., 2020); children and youth (Batra et al., 2020; Chai et al., 2021; Fasano et al., 2021; Jing et al., 2021; Shukla et al., 2020) and parents (Adams et al., 2020; Avery et al., 2021; Idsoe et al., 2021).

Reported factors associated with increased pandemic-related stress are: discontinued working activity, having a loved one die of COVID-19 (Rossi et al., 2020); having relatives who have contracted COVID-19 (Vindegaard et al., 2020); low

¹ CONTACT: Brian A. Gerrard, Disastershock Global Response Team, Institute for School-Based Family Counseling
Email: gerrardb@roadrunner.com

socioeconomic status (Li et al., 2021; Mattos dos Santos, 2020); being in quarantine (O’Sullivan et al., 2021); being concerned about the quality of COVID-19 information (Khumbhandani et al., 2020); financial loss (Brooks et al., 2020; Shevlin et al., 2020; Ogueji et al., 2021); having children at home, having a pre-existing health condition (Shevlin et al., 2020); being Black or Latinx (Stephenson, 2021); being female (Batra et al., 2020; Prowse et al., 2021; Vindegaard et al., 2020); social distancing (Williams et al., 2020); frequent social media use (Prowse et al., 2021); online schooling demands (Adams et al., 2020); family problems (Ramirez et al., 2021); fear of the unknown impact of the COVID-19 pandemic which results in anxiety and depression (Mahmud et al., 2020; Folayan et al., 2022).

Protective factors associated with decreased pandemic-related stress are: high level of confidence in doctors, perceived survival likelihood, low risk of contracting COVID-19, satisfaction with health information, ability to take personal precautionary measures (Wang et al., 2020); exercising, going outdoors, modifying routines, following public health guidelines, adjusting attitudes, staying socially connected (Finlay et al., 2021); doing family activities together, keeping in touch with family/friends virtually, keeping children on daily routines (Adams et al., 2020); problem-based coping (problem-solving) (Li et al., 2021); positive educational experiences, as well as practicing meditation and praying (Ramirez et al., 2021).

Towards the beginning of the pandemic, the Disastershock Global Volunteer Team (DGVTT) was formed to provide free psychological first aid globally. The team was subsequently renamed the Disastershock Global Response Team and its Ways of Coping Research Team was formed to assess the stress reduction and coping strategies used by people in different countries. The purpose of this pilot study was to collect data on the variety of effective coping strategies being used by adults around the world to reduce pandemic-related stress.

Studies on the mental health effects of the pandemic have been descriptive or correlational quantitative surveys documenting negative mental health impacts (Shamblaw et al., 2021; Gurvich et al., 2020). Relatively few studies have focused on positive coping strategies that can be implemented to manage pandemic-related stress. At the time this study was conducted we were only able to identify one study which focused on the coping strategies of parents during the pandemic (Adams et al., 2020). Therefore, we decided to conduct a mixed-methods hypothesis-generating study with both qualitative and quantitative components utilizing detailed interviews with a small convenience sample of adults in 12 different countries. A critical component of our research was a positive deviance research focus (Baxter et al., 2015) on coping strategies that seemed to differentiate persons coping well with the pandemic from persons experiencing high stress.

RESEARCH AIM AND QUESTIONS

The purpose of the study was to identify best practices that may be of use in coping with the COVID-19 pandemic. The main research questions were:

1. What are the most helpful approaches used by adults to cope with the COVID-19 pandemic?

2. What differences are there between the coping strategies used by persons experiencing low pandemic-related stress and persons experiencing high pandemic-related stress?

METHOD

This was a pilot study that took place between December 2020 and July 2021. Using mixed methods, twelve members of the Disastershock Global Response Team each interviewed 5-8 people in their home country using the *Ways of Coping with the COVID-19 Pandemic* interview questions. A convenience sample from an adult population comprising of colleagues, friends, and acquaintances (of the DGRT) was interviewed, with an intention to balance the gender of interviewees. Participants from the following countries were represented in the study: Argentina, Australia, Canada, China, Czech Republic, Finland, Germany, India, Italy, Nigeria, South Africa, and the USA. Due to the social distancing mandates during this part of the pandemic, interviews were conducted over Zoom, telephone, or in-person (considering safety issues such as wearing of face masks and social distancing). The interviewers wrote participants' responses directly on the research survey. All interviewers had received online video training on how to administer the survey prior to interviewing study participants. The training focused on how to elicit information from participants especially using prompts (questions typical of qualitative inquiry e.g., "Can you tell me more about that?" and "What about it was most helpful?"). The research questions were a mix of open-ended, closed-ended, and 4-point Likert scale questions. Questions were asked concerning how the pandemic affected level of stress and behaviour; what aspect of the pandemic had been most stressful, participant's level of stress during the onset of the pandemic and in recent time; what were the things that helped the most to cope with the pandemic; what the level of seriousness of the pandemic was, and what the participants found to be the most helpful of coping strategies they had adopted. In addition, we obtained socio-demographic data on the participants. Ethical approval was obtained from the Western Institute for Social Research, IRB.

Data analysis was both qualitative and quantitative. Quantitative data were analyzed at the univariate level giving a display of descriptive statistics which were presented in tables and charts. The qualitative data was content and thematically analyzed. Question 1 (How the pandemic affected level of stress and behaviour?) and Question 2 (What aspect of the pandemic had been most stressful?) were combined because of their overlapping answers. Question 3 (What things have helped you the most to cope with the pandemic) was kept separate in the analysis. The data were rated by two raters, blinded to each other's ratings, and interrater reliability using Kappa statistic was determined. Altogether, the Kappa correlations were very high, indicating an almost perfect or substantial agreement between the raters. In the combined questions 1 and 2, there were only two subcategories where the Kappa score fell below .70, still showing a moderate agreement. The Kappa scores for question 3 were all above .63 for all the categories (81% were above $k=.70$) except for the categories of "studying" and "following COVID prevention rules" where the Kappa scores were .58 and .61 respectively.

RESULTS

Table 1 below is a distribution of the participants (n=74) from twelve countries. The descriptive analysis highlights more females (63.5%) than males (36.5%). Also, there was a minimal representation (4.1%) in the most elderly population aged 80-89 years with more than a quarter representation (36.5%) in the age category of 20-39 years.

Table 1. Socio-demographic Characteristics of the Respondents

S/N	Country	No.	Male	Female	Age			
					20 - 39	40 - 59	60 - 79	80 - 89
1	Argentina	7	3	4	3	2	2	0
2	Finland	6	2	4	2	1	3	0
3	Canada	7	2	5	0	2	4	1
4	Germany	6	1	5	1	2	2	1
5	China	6	3	3	4	1	0	1
6	Italy	5	1	4	1	3	1	0
7	Nigeria	8	4	4	5	3	0	0
8	South Africa	4	1	3	1	3	0	0
9	Czech Republic	7	2	5	2	2	3	0
10	Australia	6	1	5	2	4	2	0
11	USA	5	3	2	1	0	4	1
12	India	7	4	3	6	0	1	0
Total		74	27	47	27	22	22	3

All the participants interviewed in South Africa (100%) indicated that a family member had become infected with COVID-19. This high incidence rate (85%) was also observed in Argentina, Czech Republic, and India. However, Finland (17%) and Canada (29%) had the least number of respondents indicating their family member was infected. Overall, 62% of participants had a family member who had COVID (Figure 1).

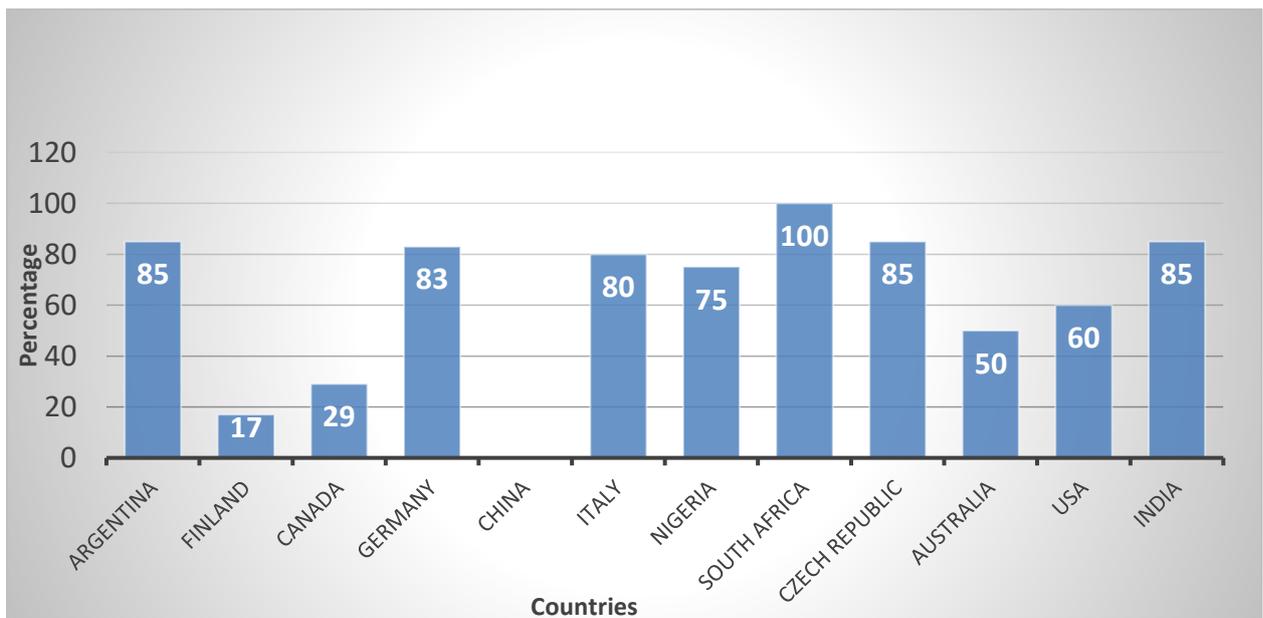


Figure 1. Percentage of Respondents with a Family Member who Contracted COVID-19

All the participants interviewed viewed the pandemic as very serious with Canada, Germany and USA indicating the impact to be very serious. Other countries similarly commented that the pandemic was moderately serious. Figure 2 below shows the bar chart presentation.

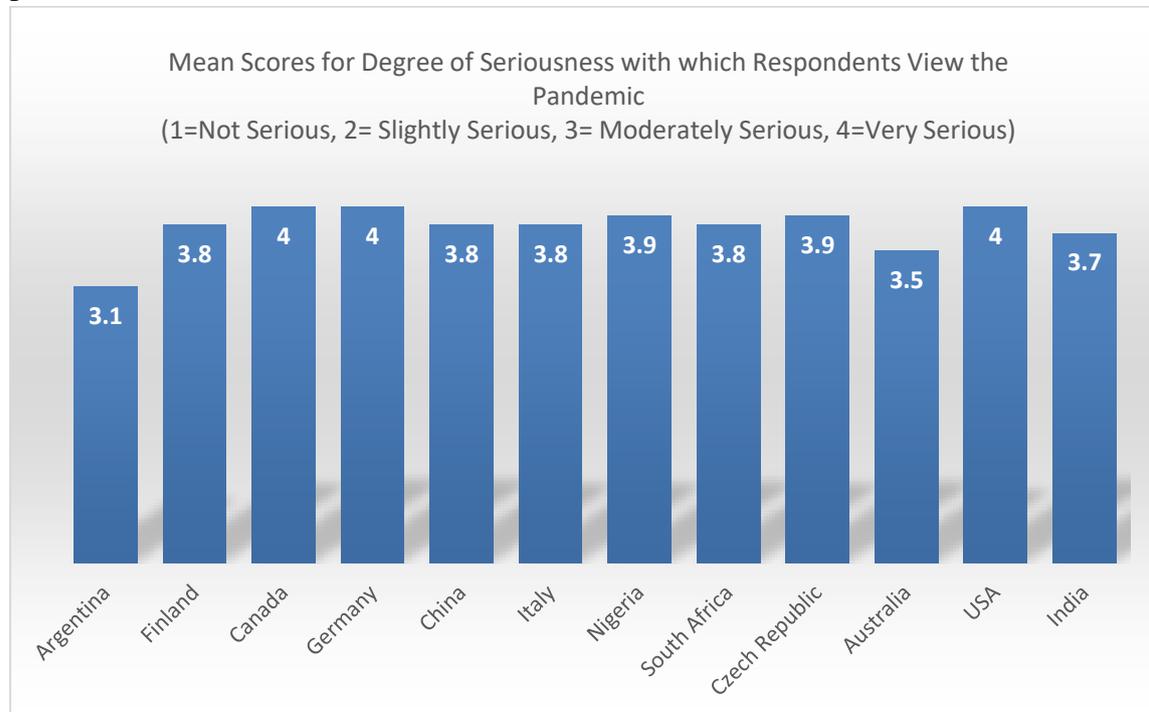


Figure 2. Participants Views on Degree of Seriousness of the Pandemic

Helpfulness of Coping Approaches

Helpful coping approaches were assessed by Likert scale questions and the analysis was done on a scale of 1= least helpful to 4= most helpful coping strategy (see Figure 3).

What ranked highest and as being most helpful in the coping approaches were talking to family member, listening to music and watching movies. Similar observation in previous research is documented on coping mechanism which ranked high such as listening to music, watching movie/Netflix (Laniton et. al., 2022). What scored least helpful on the coping approaches were talking to a religious leader and a mental health professional.

Participants' Experience of the COVID-19 Pandemic

To analyze how the participants experienced the pandemic, there was a recategorization under five categories: Stress, Activity, Contact, Health, and Work, which is shown in Figure 4 below. There were negative effects that were experienced by the participants and that which ranked highest was the negative emotions which induced stress and restriction in their activity, movement. There were issues with finances and some people lost their jobs. Fear of getting infected with COVID-19 or a family member getting infected were endorsed. Wearing face masks and finding protective equipment (category

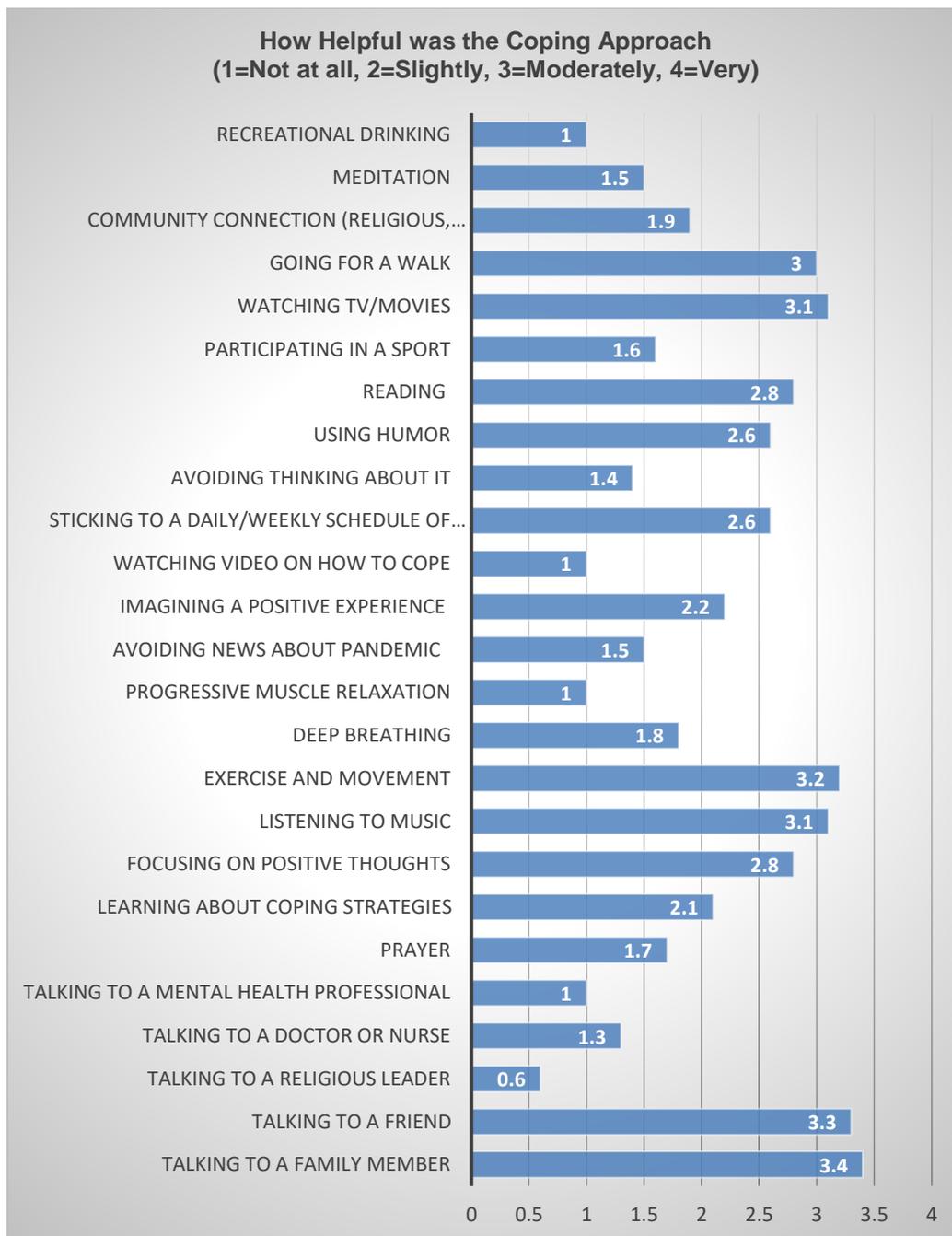


Figure 3. Mean Scores (1 to 4 scale) for Participants on Helpfulness of Coping Approaches

Masks) was stressful only for a small number of the participants. There were positive effects of the pandemic endorsed as well as such being able to spend time with family during the stay-at-home orders at the onset of the pandemic. The following are the most common categories for how the pandemic was experienced in greater detail along with illustrative quotes from the survey for each category. These excerpts were derived from open-ended questions on the research survey used to elicit narrative accounts.

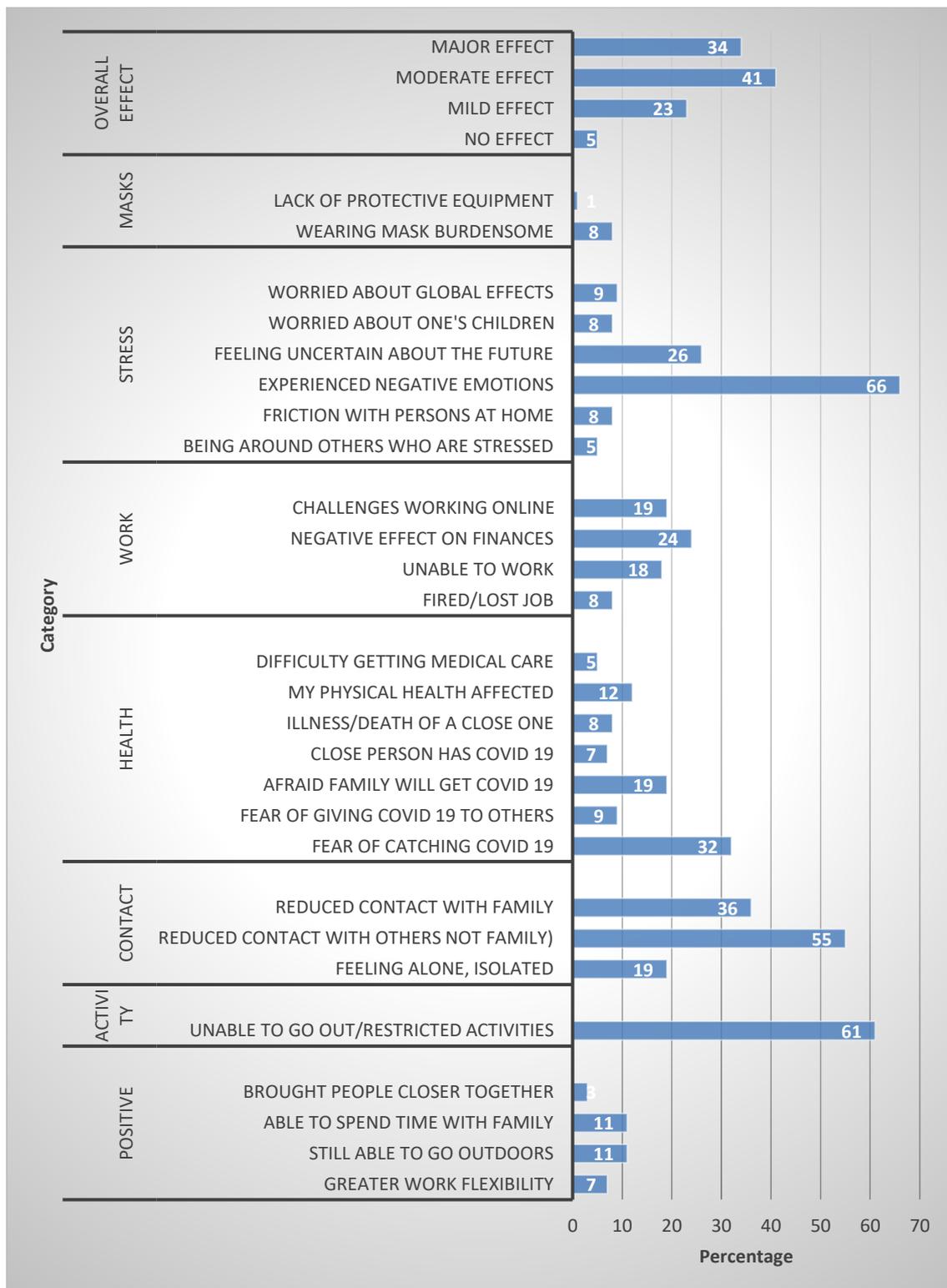


Figure 4. How the Pandemic was Experienced

Stress. A large number of the participants (66%) stated that they had experienced negative emotions, like irritation, depression, sadness, frustration and anxiety, during the pandemic.

In behavior, I have become an anxious person, my focus of attention lasts less time. For example: when I was studying I could hold my attention for 50 minutes, now I

can only hold my attention for 30 minutes. Being on the phone all the time, you become more impatient, more anxious, you expect an immediate response. (Female, 20-29yrs, Argentina)

Stress manifests in sadness, sense of loss, grieving for what I thought world was. Reality of pandemic — upset country, world of distressed, sadness in context of political scene. (Male, 70-79yrs, USA)

In addition, the uncertainty about the future created stress for few of the participants (26%).

I received a job offer overseas right before the pandemic, but I was not able to travel, and I had to turn down the offer. Now I have been unemployed for a while, and I am really worried about my future. (Female, 30-39yrs, China)

The general “not-knowing” about the future. I am a person who wants to plan. The total unpredictability [...] Is there a cure? (Male, 30-39yrs, Finland)

Activity. Many of the participants' (61%) source of stress was that they were unable to go out or their activities had been restricted in some way.

Primarily, I was unable to visit bank and ATM to deposit term payments and withdraw money for daily expenses. [...] I was not even able to go out for purchasing medicines due to police chasing away people on the roads. On the other hand, online purchases were also restricted, and no home deliveries were available. (Male, 20 - 29yrs, India)

I am especially affected by the restrictions of my freedom to move about in a number of ways. [...] I regularly played tennis, took part in cultural events (music, theatre etc.), had a weekly sauna routine, and cherish going out for dinner. All this is not possible and not clear when again it will be. (Male, 80-89yrs, Germany)

Contact. Over half of the participants (55%) stated that their reduced contact with others had been stressful for them.

I reduced contacts with people at work. I still avoid social relationships and have reduced almost totally contacts with friends. (Male, 60-69yrs, Italy)

Intensive and regular contact with family and friends almost disappeared [...] I miss contact with the world. (Male, 70-79yrs, Czech Republic)

Moreover, being apart from family members was a source of stress for some of the participants (36%).

Not seeing relatives on more frequent basis has been stressful, feeling of isolation is stressful. [...] Not having sit down meals with my sister, no more restaurants with family, big change. (Female, 40-49yrs, USA)

I was upset with the kids because every time I rang them, I burst into tears (adult kids), couldn't see them, felt isolated. No Easter, birthday, or Mother's day. (Female, 60-69yrs, Australia)

Health. A substantial number of participants (32%) had concerns for their health and fear of contracting the virus.

Fear of meeting someone new, for example a partner. Fear of intimacy due to mistrust, you do not know if the others take care of themselves. (Female, 50-59yrs, Argentina)

Increased my level of stress whenever I need to leave my home. During the first wave I would change my clothes after entering my home and took a lot of precautions. I am a lot more cautious when interacting with people, especially during the first 6 months of the pandemic. The fact that I could pick up the virus anywhere and spread It was always on my mind. Especially because there has been a large number of Covid-19 positive cases in my community. (Female, 20-29yrs, South Africa)

Work. Lastly, the pandemic inflicted challenges on some (24%) participants' life regarding their work and thus their finances.

The pandemic came with movement restrictions which halted my chances of going out to further my means of livelihood and engaging in my academic activities. All these had adverse implication on my mental health and essentially my finances. (Male, 20-29yrs, Nigeria)

I had just gotten engaged the week before everything locked down and had my dream job performing in a show. I had worked so hard to get to that point in my performing career and then suddenly the show closed, I was out of a job and moving upstate. (Female, 30-39yrs, Canada)

Ways of Coping Participants Found Most Helpful

Adaptive ways of coping with chronic stress, as is the case with a prolonged pandemic, has beneficial repercussions for physical health, mental health, education, and relationships. We asked participants to provide us with detailed descriptions of what helped them the most to cope with the stress of the pandemic, using standardized open-ended questions to gather data.

From our survey-based interview, we observed that participants found personal contact, physical movement, psychological resources, leisure activities, and home-based activities to be most helpful as coping strategies during the pandemic. We will go through each of these categories with some illustrative quotes from the participants. See Figure 5 below for a visual representation of our findings with the statistical distribution.

Personal contact. Contact with other people was observed as the most beneficial pandemic coping strategy. Participants found that connecting with others, either in person or online, was most stress-reducing. Participants coped best by being in contact with other people either family members or through online contact (42% and 44% respectively). This finding aligns with the research of Moore and March (2021) in Australia who observed the benefits of connecting via social media (Facebook, Instagram, Twitter etc.) and other forms of communication (phone calls, messaging), which would help mitigate the negativity of the pandemic. Participants also benefitted from community connections such as religious organizations or support groups.

In all other types of trauma, you have each other; we didn't have that with COVID; we had to use alternatives; more use of social media and texting family and friends; I sent lots of photos and chats; When I finally got to see my family it was soooo good! (Male, 50-59yrs., Australia)

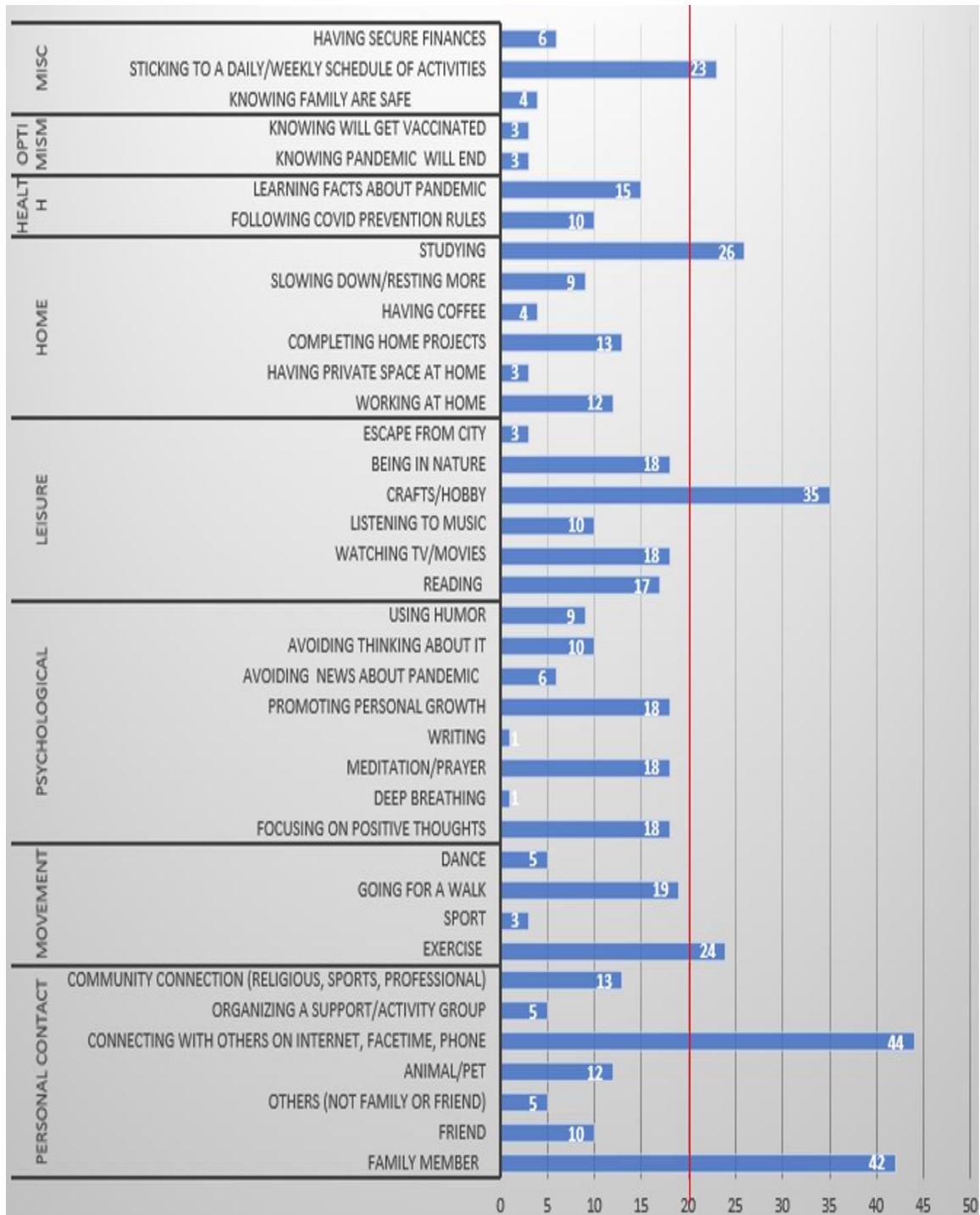


Figure 5. Percentage Distribution of Participants Who Found Specific Ways of Coping Most Helpful During Pandemic

The feeling of comfort with the mindset that one is not alone was therapeutic as recounted in the statements below:

Love ties. Be connected with the people I love, through social networks. Feeling close to the other, not feeling distance, feeling accompanied; feeling that the same thing happens to us all. (Female, 50-59yrs., Argentina)

Being able to reach out to loved ones. Speaking freely - heart to heart - helped me to realize again and again that I am not alone however I might feel. How interconnected we all are. (Female, 40-49yrs., Czech Republic)

Which further forestalls individuals from going into depression;

Staying in contact with my friends and family – sometimes I had to push myself to make contact to avoid falling into depression. Even if I did not feel like making contact with them I knew that it helped me and made me feel better. (Male, 20-29yrs., Czech Republic)

Physical Movement. Data from numerous other studies show that exercise not only benefits physical health, but it benefits mental health and is a beneficial part of an integrative health plan for people with anxiety, depression, and physical illness (Coyle, et. al. 2021; Smit & Merwin, 2021). Physical movement is known to be a mitigator of stress in people. In our survey, movement was indeed shown to be a valuable coping strategy for participants. In the category called “Movement” it was observed that 24% of the participants benefitted from exercise as physical movement, and 19% of the participants said that going for a walk was a helpful coping strategy for reducing their stress. Some of the participants indicated that combined exercise and being with others was a helpful strategy. The excerpts below highlights this;

...And right from the very beginning, I thought, OK, what do I do about this? ... You know, I am not an island and I can't live all by myself for the next year or whatever. So, I organized a walking group. A walking, hiking, golfing and snowshoeing group. Oh wow, it took me through all of the seasons. (Female, 70-79yrs., Canada)

I did a daily routine of physical exercise and when I could, I started riding my bike (alone or with my dad). I have always done physical exercise. It has helped me physically and mentally. It is a ground wire. It clears my mind and it helps me relax. When I exercise, it is a time to think about physical activity and not something else. It helps me to renew and continue. (Male, 20-29 yrs., Argentina)

Psychological Coping Strategies. Across the world, participants reported that they utilized psychological strategies to cope with the stress of the pandemic. Our data provide evidence that 18 % of participants used this pandemic time to focus upon positive thoughts, on personal growth, on meditation and prayer. Interestingly, very few participants benefitted from deep breathing or writing as coping strategies. These findings support previous research on the use of psychological strategies to enhancing behavioural and positive well-being (Kanekar & Sharma, 2020; Ogueji et. al., 2021)

As illustrative examples, an older man said he benefitted from meditation:

...meditation to experience the calming, of (the) heart, non-resistance. Mental clarity to allow things to be as they are, allowing things to come and go without expectation or judgment. It was time for me to come home to myself. (Male, 70-79 yrs., USA)

In another part of the world, a middle-aged man said:

Psychological stability; try to keep calm via praying, self-talk, and meditation. (Male, 40-49 yrs., China)

Meditation turned out to be beneficial all over the world and this Canadian woman incorporated it into part of her daily routine, which is one of the other beneficial stress mitigating strategies common within our sample.

I have a strong belief in setting up my day with meditation to focus on bringing myself peace and awareness. Each morning I awaken, make myself a coffee and take the time to smell and enjoy it. Then I spend 15 mins meditating in my designated corner in my room. When I was feeling most stressed during the quarantine...it took a lot of work to get myself from a state of depression and anxiety to being functional. I would use guided meditations ... to calm and centre myself. (Female, 30-39 yrs., Canada)

And a man in the Czech Republic also found meditation to be a good coping strategy for social isolation. In fact, participants in most of the countries in our sample referred to meditation and prayer as being psychological resources, the following quotes illustrates that.

Having experience as a long-term meditator with retreats and (social) isolation. (Male 70-79 yrs., Czech Republic)

God...the praying attitude has improved my well-being during the pandemic. Prayers made life easy. Positive thinking. (Male, 40-49 yrs., Nigeria)

Leisure Activities. Many participants found leisure activities, both inside and in nature, helpful stress-reducers as they coped with the pandemic. A significant number of the participants (35%) responded that engaging in crafts or hobbies helped them cope. It's important to note that cooking was folded into the category of crafts and leisure, and many participants benefitted from cooking. Other people enjoyed reading (17%) watching movies (18%) listening to music (10%) and being in nature (18%). Other studies demonstrated that leisure and social activities helped mitigate mental stress during the pandemic in an elderly population (Rivera-Torres et. al., 2021); improving family life and the amount of time spent on indoor activities (Chin et. al., 2020).

Work on the chalet and the cultivation of flowers, fruits and vegetables in my garden in the spring, summer and autumn seasons. (Female, 60-69 yrs., Czech Republic)

I initially did funny things like wear accessories for a semblance of normality, I baked bread, started painting and registered for art therapy. Reading the Quran. (Female 40-49 yrs., South Africa)

...walking along the shoreline... and sitting on a boulder and watching the sea. Taking empowering photos of the nature and of me in nature... to watch how different (the sea) is every time you see it. The churning sea. The connection to

nature. During the summertime spending many weeks in the countryside. Going to sauna and swimming in the lake. (Female, 50-59 yrs., Finland)

Whatever I did, I listened to all kinds of music. When I wasn't working, I did the house cleaning and cooking, listening to music from the eighties. So often we ate very late because everyone danced with me, including my dog! (Female, 50-59 yrs., Italy)

Home-Based Activities. Much of the world experienced shelter-at-home orders, and many people were home-bound during portions of the pandemic. Many places of work were closed as were recreation facilities and most non-essential services. Participants in this survey represented 12 countries where many activities centered around the home. Over a quarter of participants in the survey benefitted most from studying as a coping strategy. Other helpful ways to cope were completing home-based projects and being able to work at home, spending quality time with the family and experiencing milestones that would have been missed had they been working outside the home. Below are a few excerpts from the open-ended questions.

I made a systematic study plan to prepare for my interviews and to learn English. I scheduled my day by hours. I was able to focus on studying instead of paying too much attention (to) news of the pandemic. That helped to decrease my stress. (Male, 20-29yrs China)

Spending time with my sons and wife, preparing food, taking care of the house, talking with them. (Male, 60-69 yrs., Italy)

The possibility to spend time with (my) family. If I were working in the office, I would have missed my son's first steps. That I will remember forever. (Male, 30-39 yrs., Finland)

I had a rare opportunity to spend more time and give focused attention to my only child. My son is 3 and half years old and had difficulties in speaking and suffered speech delay as part of his developmental milestones...This was also partly due to the parental neglect, the authoritarian treatment at crèche due to which he also experienced separation anxiety...ultimately, he did not speak at all till 3 years. ...during the pandemic period I could spend more time and give him a lot of speech stimulation. To our great surprise he started to utter babbling words...during the pandemic period. This gave us an immense relief. (Female 30--39 yrs., India)

Daily/Weekly Schedule. An additional coping strategy that almost a quarter of all participants found helpful was creating a daily and weekly schedule of activities. Lack of predictability can be stressful, especially during times of fear and uncertainty, and can lead to mental ruminations and feelings which perpetuate stress. Creating a daily routine is known to benefit people during times when there is not much certainty.

It is most helpful to simply do the next thing I have to do: I wake up, I cook, I do laundry, I go grocery shopping, and then read with a glass of wine at night. Keeping my normal daily routines, as much as possible, gives me comfort. After a while I started to go to the nearby forest. Yes, I take an hour long walk every day. (Male, 70-79 yrs., Germany)

Structure. I scheduled meetings early, with cameras on, to force myself out of bed. With my students we have identified that routine and structure are helpful. To get myself out of my initial depression, I paid a professional. (Female, 50-59 yrs., South Africa)

One of the ways in which this study was unique was that the coping strategies presented here are “self-initiated” by participants in 12 countries as they had to develop their own internally driven coping strategies without direction from social services organizations, governments, or medical institutions. Future research might collate and utilize data from this cohort to develop protocols for larger populations to benefit from some of the positive coping tools which are highlighted in this study. Information gathered from this study, and other data compiled over the pandemic, might benefit future efforts to offer stress-relief strategies to global communities experiencing disasters. Offering emotional and practical resources to educators and parents has the potential to benefit children and mitigate the effects of trauma transmission to future generations.

Comparison of Participants on Mild Effect versus Major Effects of the Pandemic

The qualitative responses to questions 1 and 2 dealing with how participants were affected by the pandemic were rated using a 1 to 4 scale (1= No Effect, 2= Mild Effect, 3= Moderate Effect, 4= Strong Effect). Inter-rater reliability using the Pearson correlation coefficient was $r=.84$ ($n=44$). A comparison was made between respondents experiencing a Mild Effect ($n=17$) and those experiencing a Major Effect ($n=25$). Participants in the middle range (Moderate Effect) were omitted from the analysis as well as 3 participants who indicated No Effect (because of the small number). A comparison between the Mild vs Major Effect participants on how they experienced the pandemic is shown in Figure 6 below.

The following quotes indicate typical Major Effect and Mild Effect responses.

Major Effect

The pandemic affected me 100%. Being locked down and alone. I had a baby and I couldn't adjust to this new stage of life. My allergies increased and I lost my hair. I didn't want to go outside. I didn't want my husband to go to work, and I didn't want anyone to come to our home. I was very scared. Now I am a little more relaxed, but if a new situation appears (for example a family member or friend got COVID) I go crazy, I drank a lot of bleach and alcohol. The pandemic affected my friendships. I felt fear of getting together. Very afraid. I don't want to take my baby out to the square, it scares me. I get mad when I see a lot of people. I am afraid but not for me, for my parents and my husband's parents who are people at risk. (Female, 20-29 yrs., Argentinian)

Mild Effect

Hasn't affected as much as it should have. In a way, I have been relieved what this has done to the environmental crisis. People don't fly as much as before. People have been forced to stop and think. When my own life challenging you feel that you

are not alone because everybody has challenging time. Has created a sense of belonging. (Female, 40-49 yrs., Finnish)

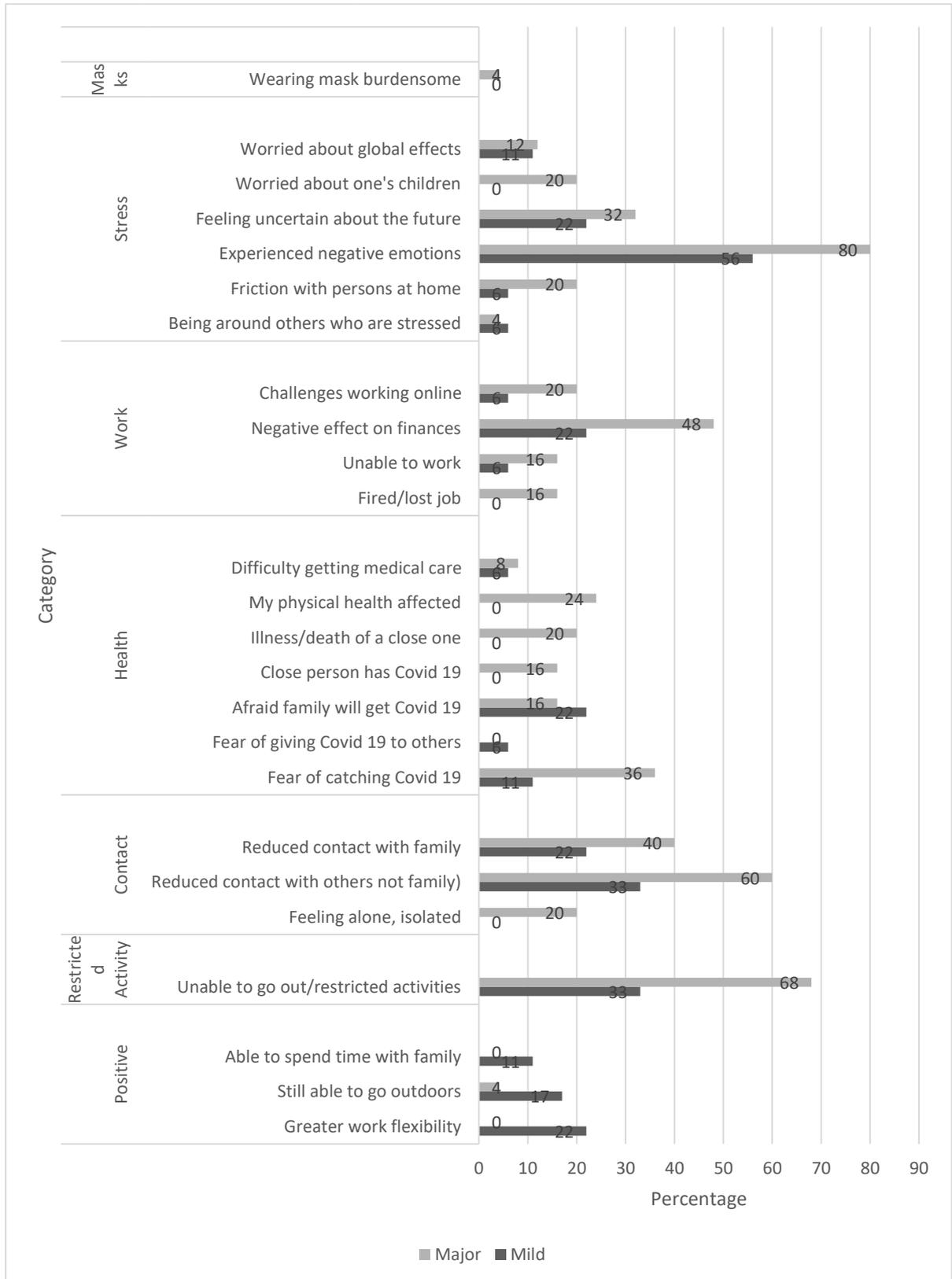


Figure 6: Comparison of Mild (n=17) vs Major (n=25) Effect of Pandemic

Table 2. Effects of the Pandemic for which Major Effect Respondents Scored 20% Greater than Mild Effect Respondents

Category	% Point Difference between Major vs Mild Effects
Unable to go out/restricted activities	35
Reduced contact with others (not family)	27
Negative effect on finances	26
Fear of catching COVID 19	25
Experienced negative emotions	24
My physical health affected	24
Illness/death of a close one	20
Worried about one's children	20
Feeling along/isolated	20

Because of the small sample size, statistical tests were not performed. Table 3 shows the categories for which there was at least a 20-percentage point difference between the Mild and Major groups. The Major group appears to be more strongly affected by restricted activities, reduced contact with others (not family), having a more negative effect on finances, and experiencing illness or death of a close person. Future research should investigate these four variables as likely independent variables. Fear of contracting COVID-19, experiencing negative emotions, worrying about one's children, feeling alone/isolated, and having one's health affected suggest stress-related symptoms that may be related to other independent variables such as those listed above in Table 2.

In Table 3, a comparison was done between the Mild and Major groups on the ways of coping used where there was at least a 15-percentage point difference between the groups.

Table 3. Comparison of Mild vs Major Effect Groups on Ways of Coping

Ways of Coping Strategy	% Point Difference	Group Scoring Higher
Exercise	23	Mild
Learning facts about the pandemic	22	Major
Connecting with family member	21	Mild
Connecting with others (not family/friends)	20	Mild
Home project	19	Mild
4 or more coping strategies	16	Mild
Reading	16	Major
Working from home	15	Mild

The Mild group differed from the Major group in using exercise, contacting others (not family or friends), contacting family members, having a home project, working from home, and having four or more coping strategies. This suggests the importance of exercise

(especially when one is confined at home), contact with others (to mitigate isolation), having work or home projects to keep one busy (a distraction from thinking about the pandemic), and having multiple strategies for coping. The findings regarding exercise and personal contact are similar to those in the Finlay et al., (2020) study. The Major group scored higher than the Mild group on “Learning facts about the pandemic”. This is similar to the finding in the Khubchandani et al., (2020) study which suggests that being exposed to too much information about the pandemic can be a source of stress. The Major group also scored higher on reading, which is a more passive activity than working or having a home project. Because of the small sample size, these observations may or may not indicate significant differences between the two groups. The implications of these findings will be discussed in the next section, and this would benefit further research.

CONCLUSION

Based on the abovementioned findings, the following model was developed which has embedded our hypotheses for future research (Figure 7). In our findings, social isolation, restricted activities, illness/death of a close person, and negative effect on finances appeared to be critical trigger events associated with high stress. In contrast, contact with others (and with pets/animals), keeping busy, exercising, and having multiple coping strategies appeared to be associated with low stress. An individual’s personality in terms of extraversion/introversion may also be an important mediating variable. This observation is supported by a recent study investigating links between personality and stress mediators as crucial for building an efficient intervention in stress management during a pandemic (Lui et. al., 2021). For example, the prediction is that introverts would be more comfortable with social isolation and restricted activities than would extroverts. These are hypotheses for further research, but there is some evidence that people who tended towards extroversion and neuroticism experienced higher levels of perceived stress during the pandemic.

Interestingly, what were labelled “psychological approaches” to stress reduction did not differentiate between the Mild and Major groups (there was an average of only 3.75% separating the two groups). A possible reason for this is that there is a difference between traditional disasters (i.e., a tsunami or earthquake) which have sudden maximum stress that declines over time and chronic disasters like the COVID-19 pandemic which slowly increase in intensity and stay at a moderate level over extended time periods (Figure 8). Persons experiencing chronic disasters may benefit more from activities that are easily implemented on a daily basis as part of a daily routine and those which distract them from the constant disaster stress.

A school-based family counseling (SBFC) approach involves linking family and school mental health interventions to help children succeed academically and personally. An SBFC approach to a disaster, such as a pandemic, involves the provision of disaster-related coping skills to parents, families, children, and school personnel. The potential

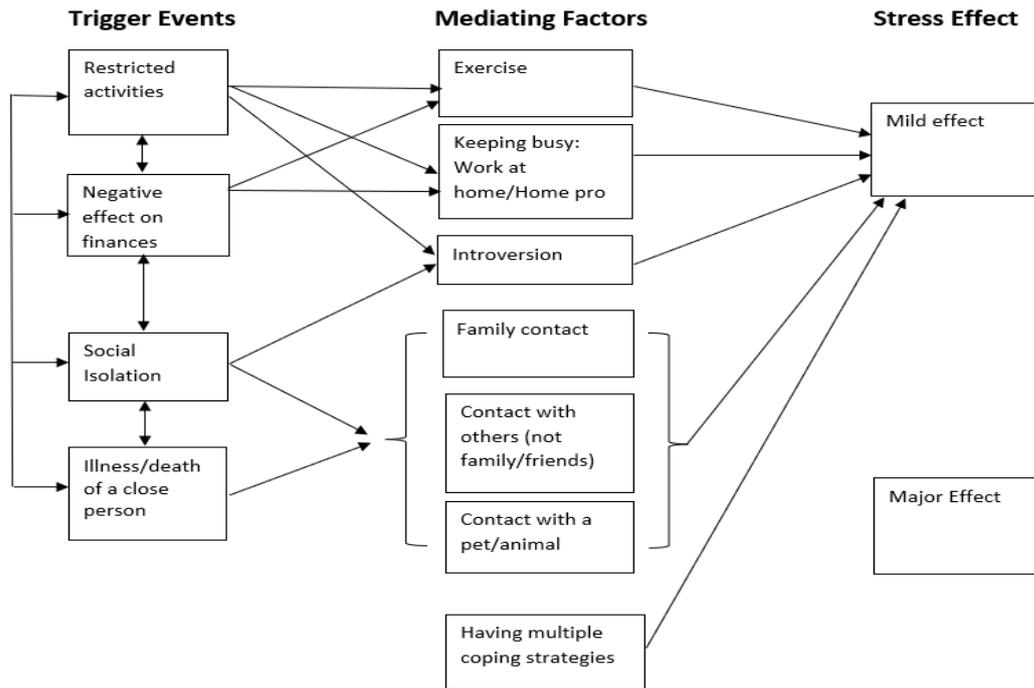


Figure 7. Hypothetical Model Regarding Relationships Between Factors Affecting and Mediating Pandemic Related Stress

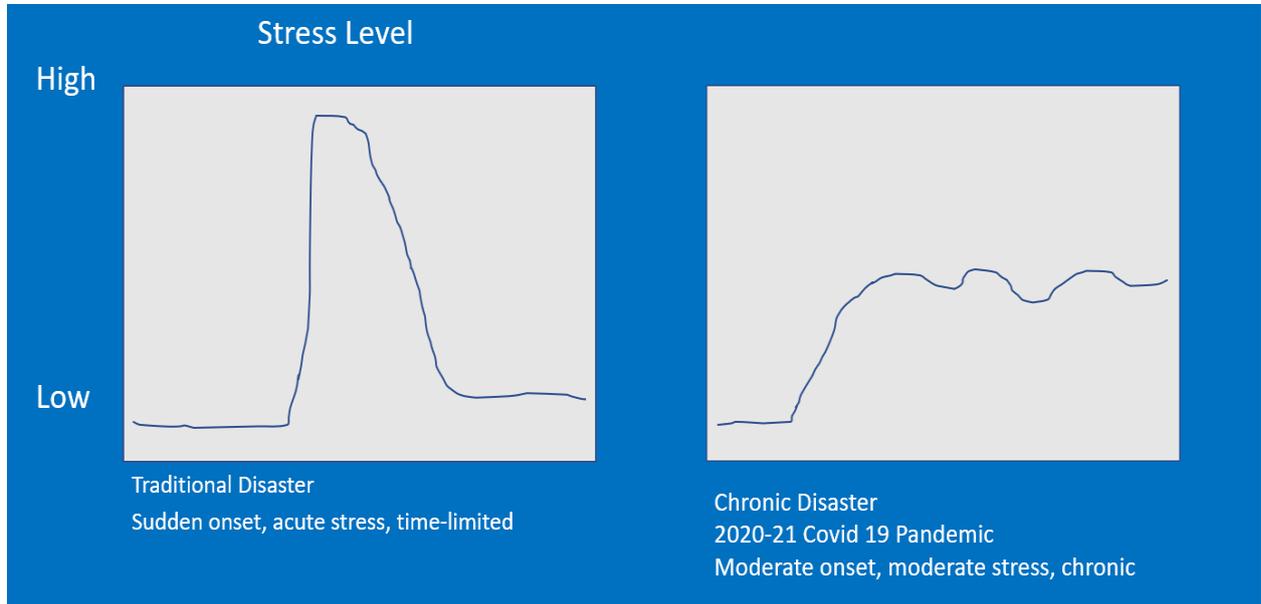


Figure 8. Comparison of Stress Caused by Traditional and Chronic Disasters

SBFC implications of our research are that families with children that are experiencing the trigger events in Figure 7 may need additional coping resources that mental health professionals could deliver directly to the family or through the school. For example, the SBFC disaster coping manuals: *Disastershock: How to Cope with the*

Emotional Stress of a Major Disaster (available in 26 languages) (Gerrard et al. 2020) and *Disastershock: How Schools Can Cope with the Emotional Stress of a Major Disaster* (Gerrard et. al. 2020) are available as free E-copies on the website Disastershock.com. Both manuals contain over 20 practical suggestions (mostly evidence-based) for helping children and adults to reduce disaster-related stress.

One of the most significant differences between the Mild and the Major Effect groups in our study was the high percentage of persons in the Major Effect group (80%) experiencing emotional stress compared with the Mild Effect group (56%). The *Disastershock* manuals were written specifically to address these kinds of strong emotional reactions. Our findings also suggest that during chronic disasters additional coping strategies such as exercise, detailed projects that have a distraction effect and are easily incorporated into one's schedule, maintaining social contact, and employing multiple coping strategies may be very important.

Although the sample did not include children, the inclusion of helpful coping strategies identified by our study with adults, such as meditation, physical movement, and being in nature, should be investigated with children, as these strategies can easily be incorporated into students' class schedules following a disaster.

This was a pilot study using small convenience sampling in 12 countries. The study was intended to be a preliminary action research project that was hypothesis-generating. Based on these limitations we are not prepared to generalize our findings which are only preliminary at this time. Phase 2 of our research involves assessing the relationship between predicted independent, mediating, and dependent variables (presented in Figure 7) in a larger sample in different countries. We recommend more extensive research be done on coping strategies that can be employed by families, children, and educators, as well as health care professionals to mitigate the effects of pandemic-related stress.

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