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The Effectiveness of Short-Term Counselling in the Treatment of Mass Traumatic Events: A Comparison of Cases Related and Unrelated to COVID-19
L'efficacité du counseling à court terme dans le traitement des événements traumatiques de masse : une comparaison des cas liés et non liés à la COVID-19

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ABSTRACT
A great deal of concern exists over the impact of COVID-19 on people's mental health, with many employees experiencing anxiety over their health and safety and that of their loved ones. The viability of short-term counselling to treat mental health cases related to COVID-19 was explored. Two hypotheses were tested: 1) the short-term counselling component of employee and family assistance programs is equally effective in the treatment of cases related to COVID-19 as it is in the treatment of cases unrelated to COVID-19; 2) after a certain number of counselling sessions, the improvement in outcomes greatly diminishes for short-term counselling cases. Results showed positive outcomes for both case types, related or not to COVID-19. In addition, a diminishing return was found as the number of treatment sessions increased. From a clinical perspective, the results supported the viability of short-term counselling as a treatment option for cases related to COVID-19, thus suggesting short-term counselling is an effective approach for mental health issues stemming from mass traumatic events.

RÉSUMÉ
L'impact de la COVID-19 sur la santé mentale des personnes suscite de vives inquiétudes, de nombreux employés étant préoccupés par leur santé et leur sécurité, ainsi que par celles de leurs proches. La viabilité du counseling à court terme pour traiter les cas de santé mentale liés à la COVID-19 a été étudiée. Deux hypothèses ont été testées : 1) la composante de counseling à court terme des programmes d'aide aux employés et aux familles est aussi efficace pour traiter les cas liés à la COVID-19 que

les cas non liés à la COVID-19; 2) après un certain nombre de séances de counseling, l'amélioration des résultats diminue considérablement pour les cas de counseling à court terme. Les résultats ont montré des résultats positifs pour les deux types de cas, liés et non liés à la COVID-19. En outre, un rendement décroissant a été constaté au fur et à mesure que le nombre de séances de traitement augmentait. Sur le plan clinique, les résultats confirment la viabilité de la consultation à court terme en tant qu'option de traitement pour les cas liés à la COVID-19, suggérant ainsi que la consultation à court terme est une approche efficace pour les problèmes de santé mentale découlant d'événements traumatiques de masse.

A great deal of concern exists about the impact of COVID-19 on mental health. Public health actions such as physical distancing, although necessary to reduce the spread of COVID-19, can make us feel isolated and lonely, leading to increased stress and anxiety (Bzdok & Dunbar, 2022). Since the beginning of the pandemic, Canadians have self-reported a decline in their mental health. Prior to COVID-19, 68% of Canadians age 15 and older reported very good or excellent mental health. Since the start of the pandemic, 54% reported very good or excellent mental health, a decrease of 14% (Findlay & Arim, 2020). Survey results have also found that health care workers have fared more poorly than the general population. A collaborative study between Statistics Canada and Health Canada found that 70% of health care workers reported worsening mental health. Only 33% of health care workers reported having very good or excellent mental health (Statistics Canada, 2021).

According to the American Psychiatric Association (2013), trauma is characterized as stressful events that threaten death, serious injury, or sexual violence. Some types of trauma, including mass traumas such as war and natural disasters, have been studied extensively. However, COVID-19 presents a new form of mass trauma (Horesh & Brown, 2020). Mass traumatic events and their effects are best understood by the impact they have on groups of the individuals/families and populations (Chrisman & Dougherty, 2014) who experience them.

Historically, infectious diseases have caused extraordinary rates of morbidity and mortality. While advances in medical technology have increased the rate of disease identification and potential treatments, pandemics and other infectious outbreaks, including HIV-1/AIDS, SARS, and H1N1, continue to result in psychological stressors (Morganstein et al., 2017). The difference between infectious events and other disasters is that infectious organisms are not visible but continue to have potentially lethal consequences. The nature of these events can result in escalating worry and distress (Morganstein et al., 2017). COVID-19 had the characteristics of a mass traumatic event; while unique in scale, the pandemic had high levels of anticipatory anxiety with fear placed on possible future events and not on past events (Horesh & Brown, 2020). It has been found that past natural

disasters have resulted in distress reactions, an increase in health risk behaviour, and the manifestation of psychiatric disorders that can be long-lasting (Esterwood & Saeed, 2020). Disasters can be described as events that result in significant destruction and frequent loss of life and that can have a lasting impact on the environment and the community (Halpern & Tramontin, 2007). According to Esterwood and Saeed (2000), pandemics are a unique form of natural disaster. While differences exist in how infectious diseases and other forms of natural disaster affect mental health, there are similarities. Both cause an abrupt change in daily life, a sense of uncertainty about the future, resource limitations, and fear for personal well-being (Esterwood & Saeed, 2020). In addition, the increased use of media and the spread of misinformation are also consistent in pandemics and in other forms of natural disaster (Esterwood & Saeed, 2020; Morganstein et al., 2017).

Like past traumatic events, the effects of COVID-19 include a high level of distress and increased prevalence of mental health symptoms among the general population, including symptoms of anxiety, depression, adjustment disorder, and post-traumatic stress disorder (Javakhishvili et al., 2020). Within social media, there is the risk of exposure to rumours, misinformation, and continuous news stories. Throughout the COVID-19 pandemic, social media platforms bolstered the possibility of fear, anxiety, and stress (Kumar & Nayar, 2021). Javakhishvili and colleagues (2020) suggested that a crisis could be occurring at a society-wide scale, creating the risk of cultural trauma. Cultural trauma can occur when a society is the subject of a horrendous event that leaves permanent marks on the group consciousness (Alexander, 2003). Consistent with Horesh and Brown (2020), it is our belief that COVID-19 has forced us to acknowledge pandemics as a new type of mass trauma, one that has highly unique characteristics, is global in scope, and whose impacts ripple into every aspect of society (Javakhishvili et al., 2020). Given the consistency between COVID-19 and other traumatic events, a trauma-informed response to post-pandemic social life is called for (Javakhishvili et al., 2020; Macedo et al., 2022).

The costs of poor mental health are felt by both the individual and the economy. Employer costs come in the form of absenteeism, presenteeism, and turnover. Public costs come in the form of public income support and social programs, lost tax revenue, underemployment, and costs incurred by caregivers (Mental Health Commission of Canada, 2015). The Global Burden of Disease project estimates that common mental health illnesses such as depression and anxiety are associated with 12 billion days of lost productivity per year, costing approximately USD$925 billion (Dobson et al., 2020). Employee and family assistance programs (EFAPs), sometimes known as employee assistance programs, have continuously evolved but have retained the goal of reducing the impact of mental health challenges on worker productivity (Azzone et al., 2009).

To minimize the trauma-related consequences on mental health, it is critical to implement trauma-informed policies, strategies, and interventions (Javakhishvili et al., 2020; Procter et al., 2017). Magruder and colleagues (2017) argue that preventing exposure to trauma is an obvious public health strategy, and they lay out the numerous ways in which efforts such as education about high-risk drinking are already in place to prevent exposure. When exposure prevention is not possible, evidence indicates that the use of prevention intervention to build resilience and to reduce the likelihood of adverse effects following traumatic events is effective (Magruder et al., 2017).

EFAPs have demonstrated the ability to produce improvement both in individuals' clinical symptoms and in work performance (Attridge, 2019). Short-term counselling, which has long been a staple of EFAPs, offers individuals a limited number of mental health sessions with a counsellor that aims to keep an individual functioning in the workplace (Sharar, 2008). The Treasury Board of Canada, Secretariat (2020, p. 3) identified EFAPs as a key tool to assist employees with mental health challenges, stating that employees may experience "uncertainty, worry, anxiety and stress about the health and safety of their loved ones, and how COVID-19 (coronavirus) may disrupt their work and personal lives." In addition to the support provided by existing EFAP programs, the Government of Canada created Wellness Together Canada to provide online mental health resources and free counselling to all Canadians. This service is similar to EFAP services in that it provides single-session therapy or one-at-a-time counselling and short-term counselling services (Wellness Together Canada, 2021).

We hypothesized that the short-term counselling component of EFAP programs is equally effective at treating cases related to COVID-19 as it is at treating cases unrelated to COVID-19. If this hypothesis is true, the implication is that short-term counselling is an effective tool for treating individuals who are experiencing mental health challenges resulting from a mass traumatic event. We used data from Homewood Health's EFAP service to compare short-term counselling outcomes of individuals seeking help for cases related to COVID-19 and for cases unrelated to COVID-19. Second, we hypothesized that beyond a certain number of sessions, the improvement in outcome greatly diminishes for short-term counselling cases.

We expect diminishing returns in later sessions based on cases requiring a high number of treatment sessions being more likely to require a targeted treatment approach. It is our view that patients experiencing complex trauma or co-occurring issues would be better served in a program that uses a wide range of mental health assessments tied to measurement-based care. This form of care provides both patient and clinician an indication of progress and the ability to direct treatment better (Lambert et al., 2003; Morris & Trivedi, 2011).

Methods

Sample

The sample was collected from Homewood Health's EFAP short-term counselling cases. The cases selected were closed, short-term counselling cases with a minimum of one treatment session and one goal attainment score (GAS) between March 1, 2020, and January 31, 2021. For Homewood Health's short-term counselling cases, a GAS is recorded for each session. Counsellors and participants work together to determine goals and progress made toward each goal at the end of every counselling session. The GAS is measured using a 5-point scale from deterioration (1) to resolved (5).

The starting date of March 1, 2020, was selected based on the average number of days between the opening and the closing of a short-term counselling case. At the time of data collection, the average number of days between case opening and case closing was 85. A starting date of March 1, 2020, was used to ensure the majority of cases related to COVID-19 would be included in the dataset. Data collection ended on January 31, 2021, the last full month of data available at the time. Cases with no GAS were removed, as were cases with an excess of eight treatment sessions, leaving 67,242 cases. Of the 67,242 cases, 28,967 (43.7%) were labelled as related to COVID-19, and 37,311 (57.3%) were labelled as unrelated to COVID-19. For the number of sessions, 72.81% of cases had two or more sessions with a GAS, 21.81% of cases had a single treatment session with a GAS, and the remaining cases had two or more treatment sessions but only one GAS. Cases with more than one session but a single GAS were used when we looked at the initial GAS only.

A research ethics board review was not required for this study, which relied exclusively on the secondary use of anonymized information with no potential to disseminate identifiable information (Government of Canada, Panel on Research Ethics, 2018). Individual consent was covered through Homewood Health's statement of practices regarding the use and disclosure of personal information, which states that secondary data may be used in research if individual identifiers have been removed (Homewood Health, 2021). Consent can be withdrawn by the individual, and the sample consisted of individuals who had not withdrawn consent at the time the dataset was obtained.

Measure

For Homewood Health's short-term counselling cases, the only available measure of participant progress is the GAS. The GAS used in Homewood's short-term counselling cases is a non-standard tool similar to the Goal Attainment Scale rehab measure.

Goal attainment scaling was first outlined by Kiresuk and Sherman (1968) and was developed to identify goals at the patient level and to evaluate the effect

of intervention based on individual goals. For each goal, a realistic scale is created ranging from two points below to two points above the most likely outcome (Kiresuk & Sherman, 1968).

The Goal Attainment Scale is a free assessment tool that measures both goal selection and goal scaling to calculate the extent to which a patient's goals are met. The tool is used to assess the severity of a wide range of mental health afflictions (Shirley Ryan AbilityLab, 2020). The benefit of the Goal Attainment Scale assessment tool is that the formalized process of goal setting and of defining and agreeing on expected levels of progress with patients means information is shared early in the clinical process and realistic goals are established (Turner-Stokes, 2009). Turner-Stokes (2009) states that, while goal attainment scaling is not standardized, it provides a useful yardstick for comparing different populations on a level platform and provides a useful reflection of outcomes in the context of an individual's own life.

Like goal attainment scaling, Homewood Health's short-term goals for counselling cases are at the individual level. Counsellors and participants work together to determine goals and progress made toward each goal at the end of every counselling session. The GAS is measured using a 5-point scale: *deterioration*, *no progress*, *some improvement*, *much improvement*, and *resolved*. A GAS is collected at the end of the first session and of each subsequent short-term counselling session, which allows both parties to track progress and to flag the risk of not meeting desired goals.

Examples of goals set between Homewood Health and EFAP clients include: "address feelings of shame and guilt," spouses' wish "to build trust between them again," "gain clarity and process her thoughts and feelings," and "reduced aggressiveness with sibling and other children."

GAS differences between first and final treatment sessions are calculated from the date of the first treatment session to the date of the last treatment session. If the GAS was 2 at the first attended session and 4 at the last attended session, the result would be an increase of 2. Likewise, a GAS of 2 at the first attended session and of 1 at the last attended session would result in a decrease of 1.

The number of treatment sessions is the number of attended treatment sessions. If a session is scheduled but the individual either cancels or fails to attend the session, that session is not included in the number of attended sessions.

Data Collection

The dataset was used with the permission of Homewood Health. The dataset contained treatment session and aggregated case level details of short-term counselling, including case identifier, case close date, case length, case status, number of sessions, number of cancelled sessions, days between first and final treatment GAS, first GAS, last GAS, and COVID-19 flag. The initial dataset was comprised of 69,003 cases. The final treatment GAS was collected using the last treatment

session with a GAS. The COVID-19 flag was coded using the following English and French keywords in counsellor session notes: *COVID*, *COVID-19*, *Corona*, *pandemic*, *pandémie*, *epidemic*, *social distancing*, *isolement social*, *physical distancing*, *isolement physique*, *quarantine*, and *quarantaine*.

Data Analysis

Quantitative analysis was completed using the R statistical programming language. To gain an understanding of the data, the distribution of GAS and the number of sessions were computed for cases related to COVID-19 and for cases unrelated to COVID-19. The mean GAS was also calculated by case type, as was the change in GASs between first and final sessions. Independent *t* tests were used to test for statistical significance of differences in results between case types, while paired *t* tests were used to test for statistical significance in the difference between first and the final treatment sessions. Regression models were used to look at the relationship between outcome and the number of treatment sessions.

Quantitative Analysis

Prior to analysis, cases with missing GAS or with scores of 6 (not applicable) were removed from the dataset. To address outliers in the number of treatment sessions, cases having had more than eight treatment sessions were excluded. It was decided that cases with more than eight treatment sessions were not truly short-term counselling cases. This decision was made based on the results of a previous study that found that EFAP cases in the United States and Canada had a mean number of annual sessions of 2.5 per year (Attridge et al., 2013) and because individuals participating in trauma-specific treatment programs at Homewood Health received an average of 10 treatment sessions. In total, 964 cases were removed for having greater than eight sessions, and 1,761 cases were removed for not having a GAS. The number of cases remaining was 66,278. The high number of remaining cases was relied upon to ensure that *t* tests and linear regression models were sufficiently robust to violations of the assumptions of parametricity.

The following steps were used to assess the two hypotheses that (a) the short-term counselling component of EFAP programs is equally effective at treating cases related to COVID-19 as it is to treating cases unrelated to COVID-19 and that (b) beyond a certain number of sessions, the improvement in outcome greatly diminishes for short-term counselling cases.

(1) Descriptive Statistics. Descriptive statistics were used to determine the distribution of GAS at the first and final treatment sessions by cohort, the central tendency of the number of sessions per case by cohort, and the change in GAS outcome by session number.

(2) Independent and Paired *t* Tests. Independent *t* tests were used to compare the cohort of cases related to COVID-19 to the cohort of cases unrelated

Table 1
Change in GAS Distribution Between First and Final Sessions

	Cases unrelated to COVID-19			Cases related to COVID-19		
	First GAS	Final GAS	Delta	First GAS	Final GAS	Delta
Deterioration	0.16%	0.49%	+0.33%	0.14%	0.66%	+0.51%
No progress	20.13%	11.56%	-8.57%	19.71%	8.01%	-11.70%
Some improvement	71.69%	58.56%	-13.13%	73.11%	55.56%	-17.54%
Much improvement	6.52%	21.30%	+14.79%	6.02%	26.49%	+20.47%
Resolved	1.51%	8.09%	+6.59%	1.01%	9.28%	+8.26%
% with improvement	79.72%	87.95%		80.14%	91.33%	

to COVID-19. Paired *t* tests were used to compare the change in outcome from the first to the final treatment sessions within each cohort. A Cohen's *d* score of >= 0.8 indicates a large clinical effect size, a score of *d* >= 0.5 and < 0.8 indicates a moderate clinical effect size, and a score of *d* >= 0.3 and < 0.5 indicates a small clinical effect size (Cohen, 1988). Bonferroni's correction was used to control for Type I error rate across the series of *t* tests (Sedgwick, 2014).

(3) Regression Analysis. A linear regression model was used to look at the relationship between the outcome and the number of treatment sessions for cases related to COVID-19 and for cases unrelated to COVID-19. However, descriptive statistics of the change in GAS by number of treatment sessions suggested the existence of a curvilinear relationship between the variables. Therefore, polynomial regression was used to model the relationship between the outcome and the number of treatment sessions.

Results

GAS Distribution (Single and Multiple Treatment Session Cases)

As shown in Table 1, the majority of first treatment session GAS for cases related to COVID-19 (80.14%) and for cases unrelated to COVID-19 (79.72%) had an outcome of *some improvement* or better. For both groups, however, the mean GAS is closer to *deterioration*, cases related to COVID-19 (2.881), cases unrelated to COVID-19 (2.891). The first session GAS for cases related to COVID-19 had 19.71% *no progress*, compared to 6.02% *much improved* and 1.01% *resolved*. The first session GAS for cases unrelated to COVID-19 had 20.13% *no progress* compared to 6.52% *much improved* and 1.51% *resolved*.

The distribution of the final GAS shifted from *deterioration* to *resolved* for cases related to COVID-19 (3.348) and for cases unrelated to COVID-19 (3.25). For

the final treatment session, 91.33% of cases related to COVID-19 and 87.95% of cases unrelated to COVID-19 had a GAS of *some improvement* or better. A large change occurred in the number of cases reporting *some improvement*: for cases related to COVID-19, the percentage decreased from 73.11% to 58.56%, and for cases unrelated to COVID-19, the percentage decreased from 71.69% to 58.56%. For cases related to COVID-19, the proportion of cases with a GAS of *resolved* increased by 8.26%, of *much improved* increased by 20.47%, and of *no progress* decreased by 11.70%. For cases unrelated to COVID-19, the proportion of cases with a GAS of *resolved* increased by 6.59%, of *much improved* increased by 13.13%, and of *no progress* decreased by 8.57%. For both case types, there was a small increase in the proportion of cases with a GAS of *deterioration*.

Overall, both case types had positive outcomes. The tendency toward positive outcomes for cases related to COVID-19 and for cases unrelated to COVID-19 supports the hypothesis that short-term counselling is equally effective at treating EFAP cases related to COVID-19 as it is at treating cases unrelated to COVID-19.

Difference Between First and Final Session GAS (Multiple Treatment Session Cases)

For cases with more than one GAS, the mean difference between first and final treatment sessions for cases related to COVID-19 was 0.60, while the mean difference for cases unrelated to COVID-19 was 0.53. A paired t test of first and final treatment session GAS for cases related to COVID-19 was statistically significant, (t (23036) = 109.15, $p < .001$), and had a moderate clinical effect size ($d = 0.72$). A paired t test of first and final GAS of cases unrelated to COVID-19 was also statistically significant, (t (25221) = 103.20, $p < .001$), with a moderate clinical effect ($d = 0.65$).

A comparison of the change between first and final treatment session GAS for cases related to COVID-19 (mean = 0.60) and for cases unrelated to COVID-19 (mean = 0.53) using a two-sample t test found the difference between the two groups statistically significant (t (48257) = 9.20, $p < .001$). There was no difference in clinical effect between the two case types ($d = 0.09$).

The results suggest that short-term counselling provides positive outcomes for cases related to COVID-19 and for cases unrelated to COVID-19. Short-term counselling had a moderate clinical effect for both case types. When the effect size was compared between the two case types, no difference in effect size was evident. These findings suggest that short-term counselling related to traumatic events can be clinically beneficial. Further supporting the clinical benefit of short-term counselling was that cases related to COVID-19 have better outcomes upon completion of treatment than cases unrelated to COVID-19. Both sets of results support the hypothesis that short-term counselling is equally effective at treating cases related to COVID-19 as it is at treating cases unrelated to COVID-19.

Table 2
Central Tendency of Actualized Sessions by Sample Group

	Min	Q1	Median	**Mean**	Q3	Max	SE
Cases related to COVID-19	1	2	3	**3.35**	4	8	0.01
Cases unrelated to COVID-19	1	1	3	**2.86**	4	8	0.01

Number of Treatment Sessions

To explain the difference in outcomes between cases related to COVID-19 and cases unrelated to COVID-19, the number of treatment sessions was compared. As presented in Table 2, the mean number of treatment sessions for cases related to COVID was 3.35, and the mean number of treatment sessions for cases unrelated to COVID-19 was 2.86. A study of EFAP programs in the United States and Canada found the mean number of sessions to be 2.5, slightly higher than the median of 2.4 (Attridge et al., 2013). Compared to cases related to COVID-19 and to cases unrelated to COVID-19, the study's results had both a lower median and mean.

A two-sample *t* test showed the difference in treatment sessions between cases related to COVID-19 and cases unrelated to COVID-19 to be significant, (t (66276) = 38.55 and $p < .001$), with a small clinical effect of $d = 0.33$. This suggests that the higher number of treatment sessions was a small contributing factor in the observed better outcomes for cases related to COVID-19.

To look at the effect of both the number of treatment sessions and the case type (i.e., related or unrelated to COVID-19), we applied linear regression modelling. Three regression models were used to evaluate the difference in GAS between first and final treatment sessions. Model 1 looked at case type, Model 2 at the number of treatment sessions, and Model 3 at both case types and the number of treatment sessions. As shown in Table 3, case type and the number of treatment sessions were both statistically significant predictors across all three models. These results are consistent with the proposition that the higher number of treatment sessions for cases related to COVID-19 contributed to better outcomes.

Relationship Between Outcome and Number of Treatment Sessions

Table 4 shows that as the number of treatment sessions increases, the mean difference between first and final treatments diminishes. These results are consistent with our second hypothesis, that beyond a certain number of sessions the improvement in outcome greatly diminishes. Table 4 shows a sharp increase after one session, followed by two modest increases. After the fourth sessions,

Table 3
Regression Results: Changes in GAS Between First and Final Treatment Sessions

	Estimate	SE	95 % CI		P
			LL	UL	
Model 1					
Intercept	0.53	0.01	0.52	0.54	$p < .001$
Cases related to COVID-19	0.07	0.01	0.05	0.08	$p < .001$
Model 2					
Intercept	0.37	0.01	0.35	0.40	$p < .001$
Treatment sessions	0.05	0.00	0.05	0.06	$p < .001$
Model 3					
Intercept	0.35	0.01	0.33	0.38	$p < .001$
Cases related to COVID-19	0.05	0.01	0.04	0.08	$p < .001$
Treatment sessions	0.05	0.00	0.04	0.05	$p < .001$

Table 4
Mean Difference Between First and Final GAS by Treatment Sessions by Case Type

	1	2	3	4	5	6	7	8
Cases related to COVID-19	0.00	0.45	0.56	0.65	0.67	0.69	0.66	0.62
Cases unrelated to COVID-19	0.00	0.40	0.49	0.60	0.58	0.62	0.67	0.63
All cases	0.00	0.42	0.52	0.63	0.63	0.66	0.66	0.63

the rate of increase in the difference between first and final GASs levels off. These results suggest that the initial treatment session is critically important to overall treatment success, since this is where the largest improvements are seen. When the mean difference in GAS is compared between cases related to COVID-19 and cases unrelated to COVID-19, however, the results show a larger and more prolonged increase in the difference between first and subsequent sessions for cases related to COVID-19.

The positive difference between cases related to COVID-19 and cases unrelated to COVID-19 from first to final treatment sessions is consistent with prior results. The more prolonged increase in improving outcomes was not expected. A possible explanation is that short-term counselling for trauma cases yielded improvement in outcomes for a greater number of sessions than that of other presenting issues.

Figure 1 demonstrates the proportion of case outcomes by the number of treatment sessions provided, illustrating the initial increase in positive outcomes,

Figure 1
Proportion of Case Outcomes by the Number of Treatment Sessions Provided

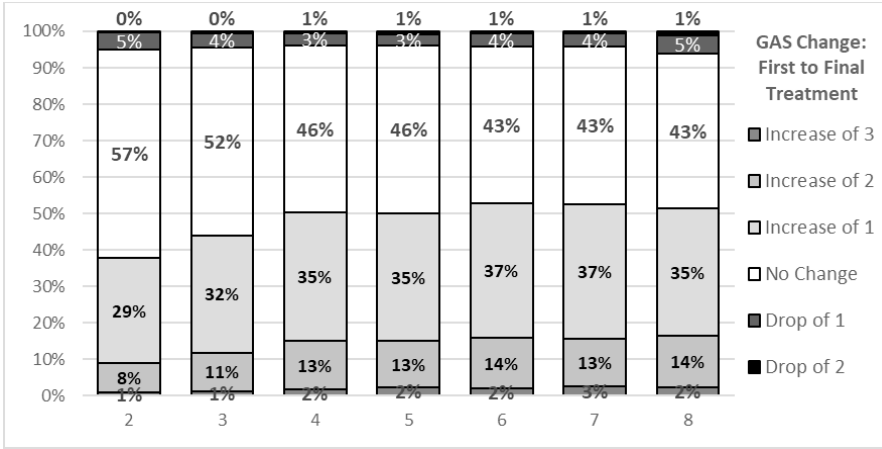


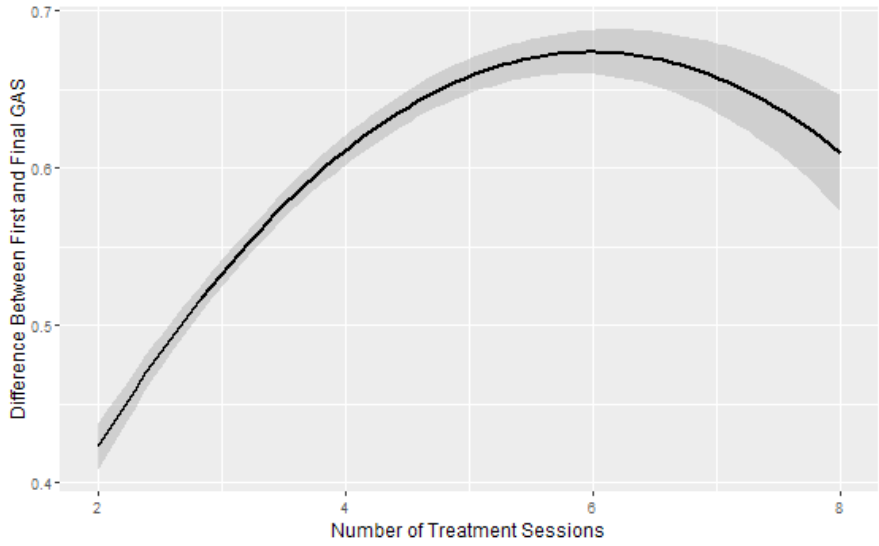
Table 5
Polynomial Regression: Effect of Treatment Sessions on Outcome

	Estimate	SE	95 % CI		P
			LL	UL	
Model 4					
Intercept	0.11	0.03	0.06	0.16	$p < .001$
Treatment sessions	0.19	0.01	0.17	0.21	$p < .001$
Treatment sessions^2	-0.02	0.00	-0.02	-0.01	$p < .001$

followed by stagnation, then by decline. The pattern presented in Table 5 and Figure 1 suggests a polynomial relationship between the difference in GAS and the number of treatment sessions, a relationship characterized by an initial increase in slope followed by a slow levelling and by a decrease at the end.

As shown in Table 5, when a polynomial regression model was used to test the effect of the number of sessions on the difference in GAS between first and final GAS, the results of Model 4 were statistically significant and supported the hypothesis that, beyond a certain number of sessions, the improvement in outcome diminishes for short-term counselling cases. Presented in Figure 2, the polynomial regression curve fits better than the linear model when we look at the effect of number of treatment sessions on patient outcome. The results again show an upward initial slope followed by a downward trend at the end.

Figure 2
Polynomial Regression Curve for Differences in GAS by the Number of Treatment Sessions



Discussion

The positive outcomes for employees who utilize EFAP services have been demonstrated (Jacobson et al., 2011). Short-term counselling, a staple of EFAP programs, offers a limited number of mental health counselling sessions that helps keep an individual in the workplace. We hypothesized that short-term counselling is as effective at treating EFAP cases related to COVID-19 as it was at treating cases unrelated to COVID-19. Defining the COVID-19 pandemic as a traumatic event, we further suggested that finding EFAP short-term counselling programs successful in treating cases related to COVID-19 would place short-term counselling as an effective treatment tool when people encounter very traumatic events in the future.

Separate paired *t* test results comparing the difference in first and last session GASs for cases related to COVID-19 and for cases unrelated to COVID-19 produced statistically significant results in the direction of higher GAS. In addition, the linear regression results for Model 1 and Model 3 presented in Table 3 show significant differences in a positive direction between first and last treatment session GASs for cases related to COVID-19 compared to cases unrelated to COVID-19. Therefore, not only did both case types have significant increases in

GAS, but cases related to COVID-19 had a significantly larger increase compared to cases unrelated to COVID-19. Taken together, the null hypothesis was rejected and the hypothesis that short-term counselling is as effective at treating cases related to COVID-19 as it is at treating cases unrelated to COVID-19 is accepted.

As detailed in the methods section, a GAS is determined when clinicians and clients discuss treatment goals during each session and rate their progress toward those goals at the end of the session. For cases related to COVID-19 as well as for cases unrelated to COVID-19, the mean final GAS was closer to *resolved* and the majority of cases were in the *some improvement* or higher categories. At first treatment session, 80.14% of cases related to COVID-19 and 79.72% of cases unrelated to COVID-19 had a GAS of *some improvement* or higher. At final treatment session, 91.25% of cases related to COVID-19 and 87.87% of cases unrelated to COVID-19 had a GAS of *some improvement* or higher. The positive outcomes toward improvement are consistent with the findings of Jacobson et al. (2011) that EFAP is an effective program. For both cohorts, the mean GAS increased between first and final treatment sessions. Although it began with a lower mean GAS, the final GAS for cases related to COVID-19 was higher than for cases unrelated to COVID-19. The increase in GAS for both case types was statistically significant with medium clinical effect, and the cases related to COVID-19 had a larger increase in GAS from first to final treatment session than cases unrelated to COVID-19. Again, the results support past findings on the benefit of EFAP short-term counselling (Attridge, 2019). Moreover, the results demonstrated that short-term counselling produces successful results when it addresses a mass traumatic event.

Research has indicated that workplace counselling is effective in reducing symptoms of workplace stress, particularly over four to six sessions (Elder et al., 2018). In general, evidence has shown that the majority of clients who complete at least some degree of psychotherapy benefit and that change is enduring (Whiston & Sexton, 1993; Elder et al., 2018). The mean number of sessions for cases related to COVID-19 and for cases unrelated to COVID-19 was lower than the four to six sessions reported by Elder and colleagues (2018). Cases related to COVID-19 had a mean of 3.348 and cases unrelated to COVID-19 had a mean of 2.856. While the averages for both groups were lower, the higher mean session count for cases related to COVID-19 suggests a need for a greater number of sessions in trauma-related cases.

Results also indicated that the largest improvements in GAS occurred at the start of treatment, regardless of the presenting issue, demonstrating the critical importance of initial sessions in the treatment process. Results for the change in mean scores for cases related to COVID-19 from first to subsequent sessions also showed a more sustained increase than cases unrelated to COVID-19. While short-term counselling remained an effective tool, the more sustained GAS improvement supports the longer case duration for trauma-related cases. For both

case types, however, progress was not evident beyond the sixth session. The stop in progress suggests that short-term counselling is beneficial in the majority of cases. Nonetheless, the dataset also contained a small number of cases that had session counts well above the mean and that required a longer, more directed treatment program.

Research on past infections and other forms of natural disasters suggests a multitude of stress responses to the pandemic. Responses include the development of a new disorder in individuals with a predisposition to a psychiatric disorder, an acute exacerbation of a disorder in individuals who already have such a disorder, the development of trauma- or stressor-related disorders or adjustment disorders, and the development of a symptomatic stress response that does not meet the diagnostic criteria of a psychiatric disorder (Esterwood & Saeed, 2020). The increasing risk of mental health problems resulting from COVID-19 is the weakening of social supports, given that having fewer social supports has been linked to increased risk following a traumatic event (Gordon & Borja, 2020). Moreover, approximately 10% of individuals exposed to past disasters have been found to have long-term problems with mental illness (Gordon & Borja, 2020). The potential for 10% of individuals exposed to trauma being inflicted with long-term mental health challenges is concerning given COVID-19's status as a global pandemic. Concerns exist over the short- and long-term health impacts of social events, such as the impact on both parents and children of missed education and of the need to continue with school work during school closures (Fong & Iarocci, 2020). With evidence showing that the majority of individuals benefit from completing at least some amount of psychotherapy and that benefit is enduring (Whiston & Sexton, 1993), short-term counselling should provide some degree of enduring benefit.

Our results demonstrate that short-term counselling is an effective tool to help people who have been impacted by a mass traumatic event. After one session, 80.14% of cases related to COVID-19 had a GAS of *some improvement* or higher; after multiple sessions, the result was 91.25%. The results were found to be statistically significant with a moderate clinical effect. Consistent with Elder and colleagues' (2018) assertion that there are situations that require resources beyond those available through short-term counselling programs, the decreasing slope of the difference in GAS per session beyond six sessions suggests that for a minority of individuals a transition to a more rigorous form of treatment is required. One such possibility is the transition from short-term counselling to a longer-term treatment option that may include cognitive behavioural therapy (CBT). Studies have shown that current best practices for treating anxiety, depression, and post-traumatic stress disorder include a proper course of CBT, sometimes in conjunction with medication (Butler et al., 2006).

Clinical Implications

The results show that outcomes for individuals treated for issues related to COVID-19 were positive in a short-term counselling program. The comparable results for cases related to COVID-19 and cases unrelated to COVID-19 demonstrate the effectiveness of short-term counselling to deal with traumatic events. While a proportion of individuals experiencing complex trauma or co-occurring issues may require a longer-term treatment approach such as an intensive outpatient or in-patient treatment program, which often uses a wider range of mental health assessments tied to measurement-based care to help guide the treatment path (Lambert et al., 2003; Morris & Trivedi, 2011), short-term counselling appeared to be an effective method of intervention, potentially mitigating more severe psychological strain.

Implications for Future Research

Some limitations of this study include the use of quantitative data only. Qualitative data would enable a deeper understanding of the benefits that EFAP treatment provides and potentially provide context for clients who have more sessions with decreasing benefit. Future research would help identify and understand which cases are suitable for a short-term counselling model and which would be served better by a longer-term trauma program. A follow-up qualitative study on the same two groups that looked at who did and did not improve in short-term counselling could provide insight into the selection of the most appropriate service for the individual. Future work could also include complex trauma, concurrent or comorbid disorders, or personality disorders to determine if short-term counselling is appropriate for these populations as well.

The strength of our study is that it was conducted in a natural environment. This type of applied research results in a bias-free study that tests empirical evidence for a specific need. We were able to test for one potential solution to help Canadians who needed support as a result of the COVID-19 pandemic.

In conclusion, this study revealed an improvement in GAS for cases related to COVID-19 and cases unrelated to COVID-19, with a moderate clinical effectiveness. It was also found that, while additional treatment sessions led to better outcomes, there was a point of diminishing returns. It is our belief that cases best served by a short-term counselling approach will have greater improvement early in treatment. As the number of treatment sessions progress and short-term counselling has fulfilled its intended purpose, the size of improvements will decrease, the short-term counselling case will end, and the individual will continue to apply learned skills outside of counselling. For cases with a large number of treatment sessions, the results showed a decrease in GAS for later sessions. In such cases, a timely transition from short-term counselling to a longer treatment plan is critical to ensure an optimum outcome for the patient. For a timely transition between

treatment models to occur, it is imperative that both clinicians and patients are engaged in the goal-setting process and that clinicians use the GAS outcomes to direct treatment.

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