# Coping Mechanisms of Adolescents after Cancellation of School-Leaving Examinations during the COVID-19 Pandemic

# **Eeman Ahmad\***

Lahore Grammar School, Lahore, Pakistan

## Rabia Ahmad

Department of Pathology, Allama Iqbal Medical College, Lahore, Pakistan

## **Ahmad Saleem**

Department of Physiology, Allama Iqbal Medical College, Lahore, Pakistan

**ABSTRACT:** COVID-19 is an ongoing pandemic which is responsible for concerns regarding its psychological impact. Most adolescents, in particular, have not been exposed to such a stressor before, and their mental health is of great interest as it is directly linked with the cancellation of their examinations as well. The results of school-leaving examinations, such as A Levels, are not only seen as an indicator of academic achievement, but are also a major factor in successful progression to tertiary education institutions. Students have reported to be under stress due to university admissions, and there is evidence that this correlates to negative coping strategies, including substance use. This study investigates the new stressor being introduced in students' (n=184) lives: the cancellation of these exams, and the new methods being employed to assign and declare results for these qualifications. Various coping strategies were studied. It was encouraging to see that use of non-medical drugs was quite low overall (17.4% of total participants). Statistically significant relationships between denial and females ( $\chi 2=5.449$ , df=1, p<0.05), and between drugs of non-medical nature and males ( $\chi 2=10.302$ , df=1, p < 0.05) were found. It was concluded that females were more likely to use denial as a coping mechanism, whereas males were more likely to resort to drugs. About half of the participants (48.4%) reported to be using religious coping. The results of this study help mental health professionals to see that pre-existing characterisation of various coping strategies with regards to sex of the individual may not be helpful, as a combination of the "socialisation hypothesis" and "role constraint hypothesis" was observed.

**KEYWORDS:** COVID-19, Coping strategies, Adolescents, Examinations, Stress, Denial, Religious Coping, substance use, drugs.

## INTRODUCTION

Cancellation of school-leaving examinations in the summer of 2020 was a direct consequence of COVID-19. In several countries, notably the UK and Pakistan, the results of these examinations decide entry to tertiary education institutions. On numerous occasions, a positive correlation between stress and "college admissions" has been reported (Arce-Medina, et al. 2013). Negative outcomes of such stressful situations have also been recorded, including that by (Leonard et al. 2015), who found that the stress induced by the admissions process led students to resort to substance abuse.

\*Correspondence regarding this article should be directed to: eeman.ahmad2002@gmail.com

Even though these examinations were cancelled, another stressor was introduced: grades would still be awarded, but on the basis of internal assessment of school tests moderated earlier (Cambridge Assessment International Education, 2020; International Baccalaureate, 2020; Department for Education, Government of UK, 2020). Online protests followed, as students and parents complained about being worried that the qualifications they receive this summer would not be awarded on the basis of a standardized scale (Spiked, 2020). Some students explained their worries by suggesting that a "mock" test taken at school would not be a true reflection of academic ability and achievement, but now their results were dependent on the tests taken at school (New Strait Times, 2020). The tone of the students suggests that this new stressor may have worse implications on the mental health of these adolescents.

We realise the unique circumstances that this study was conducted in. The direct consequences of COVID-19 on human health are being considered worldwide, but this is one of the few efforts being made to investigate acute stress caused by direct and indirect consequences of the pandemic.

The methodology was such that it allowed us to analyse stress by considering self-reporting coping strategies using a double-blind questionnaire.

#### METHODS

The target group of the study was young adolescents who selfreported that their examinations had been cancelled. A web link to a Google-hosted online form was circulated, which acted as a self-administered questionnaire. The original questionnaire was designed specifically for the study, with questions set after thorough review of causes and effects of the factors identified and to establish relationships between certain factors and findings. This is explained further under the Instruments sub-heading.

Participants were explained the purpose of the questionnaire in the form description, and were ensured that their responses will be strictly confidential. Thereby, informed consent was recorded in this manner.

**SAMPLE:** A total of 187 responses were recorded, out of which 3 had to be discarded due to incorrect ages or invalid qualification being indicated by the respondent.

The inclusion criteria was that the individual's school-leaving exam had to be cancelled. The exclusion criteria were responses that provided incorrect or incomplete information, such as that indicated above.

**DEMOGRAPHIC INFORMATION:** Demographics were recorded as participants were asked to identify their age, country of residence, sex, and the qualification that they were appearing for. The responses allowed for these were open-ended, except for the one asking for qualifications, which was partially open-ended. Respondents could choose from A Levels, BTEC, HSSC, IBDP, or Other (where they could indicate the title of their qualification).

It has been seen that the dependence of tertiary education admissions on educational achievement in high school and the stress induced by it results in substance use in school-going adolescents. (Pascoe, et al. 2019). Hence, to review this relationship, participants were asked to indicate if their university admissions were dependent on the grades that they shall now receive, and the responses allowed were Yes and No, which were coded as 1 and 2 respectively in our statistical analysis.

**DENIAL:** Another question was included to determine if participants were in denial and had not accepted that their results were not to be determined via a final exam that they had been preparing for. The responses allowed were 1 (Yes) and 2 (No).

**RELIGIOUS COPING:** Another coping mechanism in times of acute stress and sudden events is religiousness. (Koenig, 2009). After September 11<sup>th</sup> 2001, 90% of Americans were reported to be coping with stress by "turning to religion" (Schuster, et al. 2001). An understanding of the fact that exam cancellation was caused due

to an ongoing pandemic can then be used to explain correlations, if any, of other variables with spirituality and religion.

Respondents were asked if they felt that their grades were now dependent on luck and if, as a result of this, they had turned more spiritual or religious by practicing religious activities or meditation. The responses were recorded as 1 (Yes) or 2 (No).

**USE OF NON-MEDICAL AND MEDICAL DRUGS:** Participants were asked if they had to resort to drugs of both medical and non-medical nature to cope with the acute stress they were facing. The questions for non-medical drugs and prescribed medical drugs were separate, and the responses allowed for each were 1 (Yes) and 2 (No).

**DATA PROCESSING AND ANALYSIS:** The data collected was entered in IBM SPSS Statistics Data Editor (Version 25.0) and statistical analyses were carried out. Each variable was compared using the cross-tabulation function.

Regression analysis was done to assess relationships via Pearson's Chi-Square ( $\chi^2$ ) test.

## RESULTS

The participants were young adults (n=184) whose ages ranged from 14 to 21 (mean=18.02, SD=0.87). Figure 1 shows the frequency of each age. 73.4% were female, whereas 26.6% were male.

The main representation was from Pakistan, our parent country, with 73.9% participants residing there. 1 participant each was from Mauritius, Oman, Switzerland, UAE, and Zimbabwe. The proportion of each country is represented in Table 1. 173 participants were enrolled in A Levels, whereas 1 each reported to be enrolled in IBDP, AP, and LOTE. The number and percentage of each are shown in Table 2.

Different coping mechanisms were studied, including denial, turning to religious and spiritual activities and self-perceived increase in religiousness, as well as usage of drugs of both medical and non-medical nature.

We see in Table 3 that 89 participants i.e. 48.4% of the sample size felt that they had become more religious.

Table 4 shows that 64.7% of the participants were in denial. Additionally, Table 5 shows that of the 119 participants in denial, 79.0% (94 participants) were female and 21.0% (25 participants) were male. The relationship between denial being used as a coping mechanism and sex of the participant was found to be statistically significant ( $\chi^2$ =5.449, df=1, p<0.05).

Furthermore, Table 6 displays a percentage of 14.7% resorting to drugs of non-medical nature. Likewise, only 17.4% of the participants were using prescribed drugs of medical nature.

Male participants were more likely to take non-medical drugs, as 28.6% of those who were male reported substance abuse, whereas only 9.63% of all females said they took drugs of non-medical nature. The frequency of respondents claiming to be administering such drugs to themselves is tabulated against their sex in Table 7. On this account, the relationship between use of non-medical drugs and sex was discovered to be statistically significant ( $\chi^2$ =10.302, df=1, p<0.05).



Figure 1. The frequency of each age.

 Table 1.

 Frequencies and percentages of participants from different countries.

Country	Frequency	Percent
KSA	2	1.1
Mauritius	1	0.5
Oman	1	0.5
Pakistan	136	73.9
Switzerland	1	0.5
UAE	1	0.5
UK	37	20.1
USA	4	2.2
Zimbabwe	1	0.5
Total	184	100

#### Table 2.

Frequencies and percentages of participants involved enrolled in different qualifications.

Qualification	Frequency	Percent
A Levels	173	94
IBDP	1	0.5
Higher Secondary School Certificate (Pakistan)	8	4.3
AP	1	0.5
LOTE (Language Exam other than English)	1	0.5
Total	184	100

Table 3.				
Have you become	more religious	or	spiritual?	

	Frequency	Percent
Yes	89	48.4
No	95	51.6
Total	184	100

## Table 4.

Do you feel that you are in denial?

	Frequency	Percent
Yes	119	64.7
No	65	35.3
Total	184	100

Table 5.
Cross-tabulation of denial against sex of the individual (p=0.020)

Are you in deniel?	Sex		Tatal	
Are you in demai?	Male	Female	iotai	
Yes	25	94	119	
No	24	41	65	
Total	49	135	184	

Table 6.

Use of drugs
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Drugs of non-medical nature			
	Frequency	Percent	
Yes	27	14.7	
No	157	85.3	
Total	184	100	
Prescribed drugs of medical nature			
	Frequency	Percent	
Yes	32	17.4	
No	152	82.6	
Total	184	100	

Table 7.

Cross-tabulation of use of drugs of non-medical nature against sex of the individual (p=0.020).

Lies of drugs of non-medical nature	Sex		Tatal	
Use of drugs of non-medical nature	Male	Female	TOLAI	
Yes	14	13	27	
No	35	122	157	
Total	49	135	184	

# DISCUSSION

(Malooly, et al. 2017) have revealed that they expected girls to be more likely to use denial and religious coping mechanisms as a result of the "unique" stressors that they encounter. Differences in coping strategies has also been explained with the socialisation theory, as women are socialised into an emotional role, whereas men are socialised into a dominant role (Prentice, et al. 2002). However, for the purposes of our study, the factor causing selfperceived stress was identical in both males and females, as well as their "role" as school-going students. Accordingly, our results should have been in line with the results of (Rosario, et al. 1988) who use the role constraint theory to hypothesize the absence of a relationship between the nature of coping strategies used by an individual and their sex, given that the stressor and roles are the same.

It should be noted, however, that support for a combination of the two hypotheses has been reported in the findings of (Datar, et al. 2017; Piko, 2001; Sigmon, et al. 1995) – certain strategies were used by both males and females, whereas others were used by one of the two only. Our study shows a similar trend.

Turning to religion was one of the coping strategies that was utilized by both males and females, as we failed to find a statistically significant relationship between the two variables: religious coping and sex. This reaffirms the results of previous research such as that by (Dakhli, et al. 2013), but is contrasting with the findings of (Waithaka, et al. 2017). This contradiction can be explained by the fact that exam cancellation was a direct result of the COVID-19 pandemic, and therefore, the stressor is uncontrollable. People have reported that religious coping has helped them during disasters, as shown by (Sipon, et al. 2014). There is evidence of a relationship between religious coping and positive health and mental health in various circumstances including illness, victimization, war, and the death of a loved one (Pargament, et al. 1995). Consequently, it is fair to conclude that participants in our study saw religious coping as an effective coping strategy, and thereby it was preferred by all people regardless of their biological sex.

Another coping strategy that was used was denial. This coping strategy has also been considered in other studies, and (García, et al. 2018)'s results established that females were more likely to use this avoidance-based strategy to cope with stress. Our results show and support a similar outcome.

Moving on, an expected outcome of the study was that males are more likely to resort to substance use in situations like these, as has been reported in studies of (Al-Dubai et al. 2011; Sreeramareddy et al. 2007). However, use of non-medical drugs was quite low overall (17.4% of total participants), and (Al-Dubai et al. 2011) suggests that this may be due to religious associations. Keeping in mind that almost half (48.4%) of the total participants in our study used religious coping, this explanation may be valid.

## CONCLUSION

We have seen that about a half of any target group should be expected to become more religious in the advent of an uncontrollable and negative event. Of those who do not, they may have religious affiliations and should be encouraged to use those, owing to the positive outcomes of religious coping that have been discussed above.

Carver, et al. has famously grouped similar coping strategies together into three categories, namely emotion focused, problem-focused, and dysfunctional coping strategies. Under the dysfunctional coping strategies category, denial and substance use one of the strategies listed. Similarly, Dakhli, et al. group denial and substance use together while reporting their results, and found males to be more likely to use both strategies. A unique aspect of our study is that we found that males were more likely to use drugs of non-medical nature, but females were more likely to use denial as a coping strategy.

The aforementioned studies talked about these strategies in this manner because their results suggested this to exist. Therefore, it is imperative for future research to be conducted in a manner that doesn't group coping strategies together, unless such a pattern is suggested in their results. This should also help psychiatrists and psychologists on duty, as they will be mindful of the fact that strategies from various "categories" may be employed by the same person, regardless of sex.

#### DECLARATIONS

The authors declare no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

#### REFERENCES

- Al-Dubai, S. A. R., Al-Naggar, R. A., Alshagga, M. A., & Rampal, K. G. (2011). Stress and coping strategies of students in a medical faculty in Malaysia. *Malays J Med Sci*, 18(3), 57.
- Arce-Medina, E., & Flores-Allier, I. P. (2012). Stress impact on applicants trying to gain entrance to public universities. *Procedia Soc Behav Sci*, 69, 1938-1944.
- Cambridge assessment international education. (2020). Novel coronavirus Information for schools about the COVID-19 (coronavirus) outbreak.
- Carver, C. S. (1997). You want to measure coping but your protocol'too long: Consider the brief COPE. Int J Behav Med, 4(1), 92.
- Dakhli, M., Dinkha, J., Matta, M., & Aboul-Hosn, N. (2013). The effects of gender and culture on coping strategies: an extension study. *Int J Soc Sci Res*, *8*(*1*), 87.
- Datar, M. C., Shetty, J. V., & Naphade, N. M. (2017). Stress and coping styles in postgraduate medical students: A medical college-based study. *Indian J Soc Psychiatry*, 33(4), 370.
- García, F. E., Barraza-Peña, C. G., Wlodarczyk, A., Alvear-Carrasco, M., & Reyes-Reyes, A. (2018). Psychometric properties of the Brief-COPE for the evaluation of coping strategies in the Chilean population. Psicol Refl Crít, 31(1), 22.

- Government of United Kingdom. (2020). Coronavirus (COVID-19): cancellation of GCSEs, AS and A levels in 2020.
- International Baccalaureate. (2020). COVID-19 (coronavirus) updates.
- Koenig, H. G. (2009). Research on religion, spirituality, and mental health: A review. Can J Psychiatry, 54(5), 283-291.
- Leonard, N. R., Gwadz, M. V., Ritchie, A., Linick, J. L., Cleland, C. M., Elliott, L., et al. (2015). A multi-method exploratory study of stress, coping, and substance use among high school youth in private schools. *Front Psychol*, 6, 1028.
- Malooly, A. M., Flannery, K. M., & Ohannessian, C. M. (2017). Coping mediates the association between gender and depressive symptomatology in adolescence. *Int J Behav Dev, 41(2),* 185-197.
- New Strait Times. (2020). A Level and IGCSE students speak out about exam cancellations.
- Pargament, K. I., Smith, B., & Brant, C. (1995). Religious and nonreligious coping methods with the 1993 Midwest flood. Paper presented at the Annual Meeting of the Society for the Scientific Study of Religion, St. Louis, MO, 1995.
- Pascoe, M.C., Hetrick, S.E., & Parker, A.G. (2020). The impact of stress on students in secondary school and higher education. *Int* J Adolesc Youth, 25(1), 104-112.
- Piko, B. (2001). Gender differences and similarities in adolescents' way of coping. *Psychol Rec*, 51, 223-235.
- Prentice, D. A., & Carranza, E. (2002). What women and men should be, shouldn't be, are allowed to be, and don't have to be: The contents of prescriptive gender stereotypes. *Psychol Women Q*, 26, 269–281.
- Rosario, M., Shinn, M., Morch, H., & Huckabee, C. B. (1988). Gender differences in coping and social supports: Testing socialization and role constraint theories. *J Community Psychol*, 16, 55–69.
- Schuster, M.A., Stein, B.D., Jaycox, L.H., et al (2001). A national survey of stress reactions after the September 11, 2001, terrorist attacks. N Engl J Med. 345(20), 1507–1512.
- Sigmon, S.T., Stanton, A.L. & Snyder, C.R. (1995). Gender differences in coping: A further test of socialization and role constraint theories. *Sex Roles*, 33, 565–587.
- Sipon, S., Nasrah, S. K., Nazli, N. N. N. N., Abdullah, S., & Othman, K. (2014). Stress and religious coping among flood victims. *Procedia Soc Behav Sci*, 140, 605-608.
- Sreeramareddy C.T., Shankar O.R., Binu V.S., Mujhopadhyay C., Ray B., Menezes R.G. (2007). Psychological morbidity sources of stress and coping strategies among undergraduate medical students in Nepal. *BMC Med Educ*, 7(26).

Spiked. (2020). Why it was wrong to cancel exams.

Waithaka, A. G., Gough, D. M. (2017). The Influence of Religion on Stress and Coping of College Students. *Int J Novel Res Education Learning*, 4(1), 27-40.