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## ORIGINAL ARTICLE

# Stress Coping Strategies Among Secondary School-Aged Students in Government Schools in Northern West Bank/Palestine

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## ABSTRACT

**Background or Objectives:** All humans by nature cope with stressors by using productive and non-productive coping strategies. Adolescents and students in particular experience stress mainly due to academic examinations but the strategies adopted by students in the West Bank/Palestine are largely unknown and understudied. This study examines stress-coping strategies adopted by general secondary school-aged students in government schools in Northern West Bank.

**Methods:** This is a quantitative designed study of 334 students selected from 39 schools utilizing a stratified random sampling method. A self-reporting questionnaire composed of Brief Coping Orientation of Problems Experienced (COPE) was used to identify stress management methods among the students. A scale consisting of 14 domains representing 28 coping methods was created with the following 4-likert-scale response choices: 1) "I haven't been doing this at all," 2) "I've been doing this a little bit," 3) "I've been doing this a medium amount," and 4) "I've been doing this a lot." Respondents reported their views scoring them from 1-4; the mean for each method was calculated and ranged from scores 2-6.

**Results:** In all, religion ( $6.30 \pm 1.6, 1$ ) and planning ( $6.11 \pm 1.35$ ) methods were the predominant domains of coping methods used by majority of the students. Problem-focused and emotion-focused coping methods were used more than the "less-useful" coping methods more among females than by their male counterparts. The "use of instrumental support," "denial," and "behavioral disengagement" were methods used more by students in the humanities than their counterparts in the scientific branches.

**Conclusion and Implications for Translation:** Almost all of the students have different levels of stress with different effects. The useful (i.e., "problem-focused" and "emotion-focused") coping methods were mostly used by students, and the "less useful" coping once were used a "little bit." Religion and planning were the predominant coping methods used by students. It is recommended that schools should emphasize on the use of useful evidence-base coping methods to deal with their stress.

**Keywords:** Stress • Coping • Coping methods • Secondary schools • Students

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## I. Introduction

### 1.1 Background of the study

Childhood and adolescence is an important transitional period in the development of coping mechanisms for stress. The ability to cope with stress is considered a central feature of human development. Naturally, all humans are confronted with threatening and challenging events in their daily life that need for action and readjustment.<sup>1</sup> Adolescents might face problems in coping with stress, and they need new educational programs in schools to learn how to cope with stress.<sup>2</sup> Most students face different problems, challenges, obstacles and situations that can produce or increase stress. The different level of stress and or poor management of stress may affect the academic performance and achievements of students. Managing and coping with these stressors are the cornerstones to pass any transitional period. Identifying how students cope with stress in their daily life is a crucial issue as maladaptive and poor management will inversely affect students' future. The results of this study might help to take effective steps to reduce stressors among students through designing related training programs for all staff caring for school-aged children and adolescents.

### Coping and coping strategies

Coping is defined as the ability to deal with an attempt to overcome problems and difficulties.<sup>3</sup> Carver and Connor-Smith define coping as efforts to prevent or diminish threat, harm, and loss or to reduce associated distress.<sup>4</sup> Coping strategies also refer to specific efforts, both behavioral and psychological, that people employ to master, tolerate, reduce, or minimize stressful events.<sup>5, 6</sup> Three types of coping strategies have been identified by Xiao<sup>7</sup> and Chen.<sup>8</sup> The first is the passive coping strategies that include withdrawal, imagining, ignoring, waiting, and catharsis. The second is the maintenance coping strategies which include self-adjustment, self-restraint, and replacement. Thirdly, active coping strategies and include problem-solving, seeking support, cognitive reconstruction, and comparison.

According to Carver et al.,<sup>9</sup> coping strategies are categorized into three categories. First is the

“problem-focused coping” which includes active coping, planning, and suppression of competing activities, restraint coping and seeking of instrumental social support. The second is the “emotion-focused coping” which contains seeking of emotional social support, positive reinterpretation (positive reframing), acceptance, denial, and turning to religion. The third category is the “less useful” one and includes focus on and venting of emotions (venting), behavioral disengagement, mental disengagement (self-distraction), humor, and substance use. Other two forms of coping were developed by Lazarus & Folkman,<sup>10</sup> the-problem-focused coping and emotional-focused coping.

Using the problem-focused coping strategy, individuals develop more skills to help them cope with other situations in the future.<sup>11</sup> It includes four steps: 1) Define the problem, 2) Generate alternative solutions, 3) Learn new skills to deal with stressors, 4) Reappraise and find new standards of behaviour.”<sup>12</sup> Alternatively, using the emotion-focused coping, individuals change their emotional response to the stressor by diminishing the negative emotion such as embarrassment, fear, and frustration that is associated with stress. It includes different responses, such as self-soothing, expression of negative emotion, and attempts to escape stressful situations.<sup>4</sup> It involves gaining strategies for regulating stress such as 1) Avoiding (I am not going to school), 2) Distancing (yourself from the stress, ‘it doesn’t matter’), 3) Acceptance (I failed that exam, but I have 4 other subjects), 4) Seeking medical support, 5) Turning to alcohol.<sup>12</sup>

### Education system in palestine

Until the year 2019, the education system in Palestine was divided into two phases. The first phase constitutes the basic phase from the first to 10<sup>th</sup> grade, and the second phase includes the 11<sup>th</sup> - 12<sup>th</sup> grade. Thus, the total number of study years in school is 12 years. By the end of 10<sup>th</sup> grade, regular students can select the study branches based on their grades; these branches are scientific, the humanities, and commercial branches.<sup>13</sup> At the end of the academic year, the 12<sup>th</sup> grade, students sit for the General Secondary Schools Examination (Tawjihi

Exam), which is a unified examination according to each study branch.

This examination is crucial for most students as they considered it a gateway to study at university. In this period, many students expend vast efforts to achieve as highly as they can. Based on their total marks, they can gain admission to the college and specialty; the higher the total marks, the better the opportunity to select from among the most prestigious faculty/school. For example, a student who wants to study medicine or pharmacy requires a total mark in his or her Tawjihi exam of not less than 95%. In the Palestinian community, most students suffer from tension and stress due to the culture prevailing in society. Students who achieve high grades can select between the medicine, engineering or pharmacy which are considered the highest specialties and so they earn respect among their families, community and society. In general, it is widely known that students in all academic years are distressed regardless of country or its educational system. In Palestine, no studies have explored the nature of the stressors or the coping methods to overcome them. This study will highlight the most predominant methods used by Palestinian students and provide options on how to potentially help them.

### 1.2 Objectives of the study

This study aimed at identifying the coping strategies used by general secondary students in governmental schools in the North West Bank. For this study, we hypothesized that there are no significant differences in the domains of coping strategies used by students according to gender. We also hypothesized that there would be no significant difference in the domains of coping strategies used by students according to study branch.

## 2. Methods

Our dependent variable was coping methods, while our independent variable was gender and study branch. The Brief Coping Orientation of Problem Experienced (COPE) scale developed by Carver<sup>15</sup>, was used to identify methods used by students in managing stress. COPE includes 14 domains represented by 28 coping methods. Each

item composed of statement with four Likert scale choices: "I haven't been doing this at all," "I've been doing this a little bit," "I've been doing this a medium amount", and "I've been doing this a lot" with scoring method 1 to 4 respectively. Each response was given a point from 1-4 respectively, and the total mean was then calculated for each coping method. The independent t-test was used to test the hypothesis utilizing the Statistical Package for Social Sciences Program (SPSS) version 20. To ensure the reliability and validity of the questionnaire tool, back translation from English to Arabic and from Arabic to English was conducted by expert translators, and then the questionnaire was reviewed by a panel of experts in the academic and psychological fields. A pilot study was carried out on 10% of a sample size between 4<sup>th</sup> and 6<sup>th</sup> October, 2015. The reliability coefficient Cronbach alpha was (0.801) and for the original (COPE) scale it ranged from (0.50-0.82).<sup>14</sup>

### 2.1 Ethical approval

A formal consent form was signed by the parents of students; in addition, the study was approved by the Institutional Review Board (IRB) of An-Najah National University and Palestinian Ministry of Education. Due to a limitation in time, efforts, and money the study was confined to only governmental schools and to only two study variables (gender and study branch).

## 3. Results

### 3.1 Sociodemographic characteristics

Table 1 shows that 61.4% of participants were female. Of this number, about 69.2% studied in the humanities branch. Table 2 shows that 46.7% of the students reported that they have a little bit of stress, but it did not affect their general functioning, and 4.2% of them reported that they don't feel any stress. It also showed that the prevalence rate of stress among female students was 61.4% and among students who studied in the humanities branch was 69.2%.

Table 3 represents the distribution of the percentage of students regarding the coping strategies that were used. It was found that religion and planning strategies were the domains of coping strategies that

**Table 1: Distribution of percentage of students regarding their socio-demographic data**

Variables	Categories	Nablus		Jenin		Tulkarm		Qalqilya		Total	
Gender	Male	64	19.2	17	5.1	25	7.5	23	6.9	129	38.6
	Female	102	30.5	32	9.6	41	12.3	30	9	205	61.4
	Total	166	49.7	49	14.7	66	19.8	53	15.9	334	100
Study Branch	Scientific	46	13.8	18	5.4	26	7.8	13	3.9	103	30.8
	Humanities	120	35.9	31	9.3	40	12	40	12	231	69.2
	Total	166	49.7	49	14.7	66	19.8	53	15.9	334	100

**Table 2: Distribution of percentage of prevalence of stress among students**

Categories	Gender						Study Branch					
	Male		Female		Total		Scientific		Humanities		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
I do not feel any stress	7	2.1	7	2.1	14	4.2	7	2.1	7	2.1	14	4.2
I have a little bit of stress, but it doesn't affect my general functioning	69	20.7	87	26.0	156	46.7	51	15.3	105	31.4	156	46.7
I have stress that affects my general functioning	41	12.3	98	29.3	139	41.6	36	10.8	103	30.8	139	41.6
I have too much stress	12	3.6	13	3.9	25	7.5	9	2.7	16	4.8	25	7.5
Total	129	38.6	205	61.4	334	100	103	30.8	231	69.2	334	100

**Table 3: Distribution of students according to coping strategies utilized**

Domain	Mean±Std.	Interpretation	Rank
Self-distraction	5.35±1.47	Doing this a medium amount	7
Active Coping	5.799±1.42	Doing this a medium amount	4
Denial	3.79±1.51	Doing this little bit	12
Substance use	2.90±1.77	Doing this little bit	14
Use of emotional support	5.34±1.53	Doing this a medium amount	8
Use of instrumental support	5.63±1.74	Doing this a medium amount	6
Behavioral disengagement	3.52±1.36	Doing this little bit	13
Venting	5.16±1.44	Doing this a medium amount	10
Positive reframing	5.90±1.43	Doing this a medium amount	3
Planning	6.11±1.35	Doing this a lot	2
Humor	4.70±1.93	Doing this a medium amount	11
Acceptance	5.793±1.45	Doing this a medium amount	5
Religion	6.30±1.61	Doing this a lot	1
Self-blame	5.18±1.83	Doing this a medium amount	9

were used a lot by students with a mean score of  $6.30 \pm 1.61$ , and  $6.11 \pm 1.35$ , respectively. Students who used the least coping strategies were using “denial,” “behavioral disengagement” and “substance use” as coping strategies with mean scores of  $3.79 \pm 1.51$ ,  $3.52 \pm 1.36$ , and  $2.90 \pm 1.77$ , respectively.

### 3.2 Covariates

Table 4 illustrated the differences among students in using coping strategies in relation to gender by using two-independent t-test. It showed that the mean scores of religion,  $6.64 \pm 1.43$ ; positive

reframing,  $6.05 \pm 1.44$ ; use of instrumental support,  $5.80 \pm 1.80$ ; self-distraction,  $5.55 \pm 1.44$ ; and venting,  $5.38 \pm 1.42$  strategies were higher among females than male students, with statistically significant differences ( $p < 0.05$ ). It also showed that humor,  $5.03 \pm 2.01$ ; substance use,  $3.79 \pm 2.27$ ; and behavioral disengagement,  $3.72 \pm 1.43$  were strategies adopted more by male students than female students. The differences between the two groups were statistically significant ( $p < 0.05$ ).

In addition, our results indicate that the mean scores of planning as a coping strategy was  $6.15 \pm 1.39$ ; active coping was  $5.90 \pm 1.36$ ; acceptance was  $5.79 \pm 1.47$ ; use of emotional support was

$5.44 \pm 1.53$ ; and self-blame was  $5.24 \pm 1.80$ . These strategies were higher among female students than male students but were not statistically significantly different. The use of denial as a coping strategy was  $3.89 \pm 1.45$ , and was utilized more by male students than female students, although the differences were not statistically significant ( $p > 0.05$ ) (Table 4).

Table 5 shows the differences among students in using coping strategies in relation to study branch using two-independent t-test. The use of instrumental support, denial, and behavioral disengagement were used more by students in the humanities branch than those in the scientific, with mean scores of  $5.77 \pm 1.70$ ,  $3.92 \pm 1.54$ , and  $3.63 \pm 1.43$ , respectively.

**Table 4: Distribution of coping strategies among students according to gender**

Domains	Variables	No.	Mean±Std.	t	P-value
Self-distraction	Male	129	5.0543±1.47007	-3.038-	0.003
	Female	205	5.5512±1.44628		
Active coping	Male	129	5.6279±1.49515	-1.754-	0.080
	Female	205	5.9073±1.36705		
Denial	Male	129	3.8915±1.45903	0.970	0.333
	Female	205	3.7268±1.54143		
Substance use	Male	129	3.7984±2.27204	7.950	0.000
	Female	205	2.3415±1.04341		
Use of emotional support	Male	129	5.1938±1.51594	-1.457-	0.146
	Female	205	5.4439±1.53490		
Use of instrumental support	Male	129	5.3643±1.61989	-2.231-	0.026
	Female	205	5.8000±1.80793		
Behavioral disengagement	Male	129	3.7209±1.43601	2.101	0.036
	Female	205	3.4000±1.30834		
Venting	Male	129	4.8140±1.40183	-3.584-	0.000
	Female	205	5.3854±1.42897		
Positive reframing	Male	129	5.6512±1.39559	-2.539-	0.012
	Female	205	6.0585±1.44727		
Planning	Male	129	6.0465±1.29820	-0.717-	0.474
	Female	205	6.1561±1.39854		
Humor	Male	129	5.0310±2.01532	2.454	0.015
	Female	205	4.5024±1.85140		
Acceptance	Male	129	5.7907±1.41793	-0.027-	0.978
	Female	205	5.7951±1.47428		
Religion	Male	129	5.7519±1.72767	-5.126-	0.000
	Female	205	6.6488±1.43949		
Self-blame	Male	129	5.0930±1.90165	-0.753-	0.452
	Female	205	5.2488±1.80184		

**Table 5: Distribution of coping strategies among students according to study branches**

Domains	Variables	No.	Mean±Std	t	P value
Self-distraction	Scientific	103	5.2136±1.53169	-1.208-	0.228
	Humanities	231	5.4242±1.44527		
Active coping	Scientific	103	5.7379±1.31329	-0.527-	0.598
	Humanities	231	5.8268±1.47010		
Denial	Scientific	103	3.4854±1.39230	-2.484-	0.013
	Humanities	231	3.9264±1.54322		
Substance use	Scientific	103	2.6602±1.43864	-1.681-	0.094
	Humanities	231	3.0130±1.90076		
Use of emotional support	Scientific	103	5.2524±1.64923	-0.756-	0.450
	Humanities	231	5.3896±1.47580		
Use of instrumental support	Scientific	103	5.3010±1.79779	-2.324-	0.021
	Humanities	231	5.7792±1.70898		
Behavioral disengagement	Scientific	103	3.2816±1.16667	-2.178-	0.030
	Humanities	231	3.6320±1.43515		
Venting	Scientific	103	5.2621±1.46167	0.824	0.411
	Humanities	231	5.1212±1.43649		
Positive reframing	Scientific	103	5.7670±1.35186	-1.139-	0.256
	Humanities	231	5.9610±1.47538		
Planning	Scientific	103	6.0874±1.39401	-0.237-	0.813
	Humanities	231	6.1255±1.34707		
Humor	Scientific	103	4.5825±1.95300	-0.784-	0.434
	Humanities	231	4.7619±1.92230		
Acceptance	Scientific	103	5.5922±1.35355	-1.697-	0.091
	Humanities	231	5.8831±1.48594		
Religion	Scientific	103	6.2524±1.62528	-0.377-	0.706
	Humanities	231	6.3247±1.61333		
Self-blame	Scientific	103	5.2816±1.89642	0.616	0.538
	Humanities	231	5.1472±1.81659		

These differences were statistically significant ( $p < 0.05$ ). Results indicated that the mean scores of religion, planning, positive reframing, acceptance, active coping, self-distraction, use of emotional support, humor, and substances use strategies were higher among the humanities branch students than the scientific branch students. The mean scores were  $6.32 \pm 1.61$  for religion;  $6.12 \pm 1.34$  for planning;  $5.96 \pm 1.47$  for positive reframing;  $5.88 \pm 1.48$  for acceptance;  $5.82 \pm 1.47$  for active coping;  $5.42 \pm 1.44$  for self-destruction;  $5.38 \pm 1.47$  for use of emotional support;  $4.76 \pm 1.92$  for humor; and  $3.01 \pm 1.90$  for substance use, although the differences were not statistically significant ( $p > 0.05$ ). We also found that

venting and self-blame as coping strategies used more by the scientific branch students compared to the humanities branch students, with mean scores  $5.26 \pm 1.46$ , and  $5.28 \pm 1.89$ , respectively but not statistically significantly different ( $p > 0.05$ ).

## 4. Discussion

### 4.1 Discussion

According to the Palestinian Ministry of Education, females students who constitute 58.1% of those who studied in 12<sup>th</sup> and 65.5% were in the humanities branch for the academic year 2015/2016.<sup>16</sup> Most of the students (88.3%) have different levels of stress

with different effects, and less than tenth 7.5% of them have excessive stress. Other studies found some differences in the prevalence of stress among secondary school students. In Melaka, Malaysia, the prevalence of distress among students was 47.6%,<sup>17</sup> while it was 32.8% among students in Kota Bharu.<sup>18</sup> In Iran, stress among male adolescents from selected government schools was 17.99% (SD=6.02).<sup>19</sup> Moreover, the World Health Organization (WHO) reported that 20% of the world's adolescents have mental disorders or problems.<sup>20</sup> This rate of stress in our study may be related to the education system in Palestine, and in most Arab countries, that require students to give complete attention for the last year in the secondary level, which is the key to their future.

In our study, the most used coping strategies were religion,  $6.30 \pm 1.61$ , and planning,  $6.11 \pm 1.35$ , while the lowest used coping strategies were denial,  $3.79 \pm 1.51$ ; behavioral disengagement,  $3.52 \pm 1.36$ ; and substance use,  $2.90 \pm 1.77$ . In comparison, the main domain of coping strategies that were used the most by Malaysian secondary school students was religion,  $6.29 \pm 1.54$ ; while other strategies, including humor were  $3.88 \pm 1.56$ ; behavioral disengagement,  $3.58 \pm 1.50$ ; denial,  $3.45 \pm 1.40$ ; and substance use,  $2.10 \pm 0.62$  were the lowest used coping strategies.<sup>16</sup> This was similar in Iran where religion, active coping, positive reinterpretation, planning, and use of instrumental support were the main coping strategies used by high school students.<sup>21</sup> In addition, planning with  $13.00 \pm 2.59$  was the most used strategy among Iranian adolescents in secondary school, while behavioral disengagement,  $7.12 \pm 2.24$  was the least once used.<sup>22</sup> These study results indicate that the students tended to use the useful problem-focused and emotion-focused coping strategies in dealing with stressors more than the less useful coping strategies with some differences that might be related to differences in cultures, lifestyles, and other environmental factors.

The results of the study indicated that there were significant differences between gender and use of coping strategies. Religion, positive reframing, instrumental support, self-distraction, or venting were used more among female students than among

males, while strategies such as humor, substance use, or behavioral disengagement, were used more by the male students than female students. While in Iran there were significant differences between gender (the mean score was higher among female than male) in using coping strategies, like seeking emotional support  $11.8 > 10.46$ , denial,  $8.25 > 7.37$  or emotional discharge (venting),  $9.4 > 8.3$ , respectively.<sup>22</sup>

In Spain, female students had higher mean scores than male students in the use of emotional ( $13.19 \pm 6.25 > 11.55 \pm 5.69$ ) and avoidance ( $10.09 \pm 3.11 > 9.02 \pm 3.19$ ) coping styles, with statistically significant differences.<sup>23</sup> Male students had higher mean scores than female students in the use of rational ( $25.06 \pm 6.14 > 23.15 \pm 6.21$ ) and detachment ( $11.61 \pm 4.86 > 10.61 \pm 4.64$ ) coping styles, with statistically significant differences.<sup>23</sup> The female students in Hawai'i tended to use adaptive coping strategies more than male students ( $3.17 \pm 0.85 > 2.91 \pm 0.86$ ) ( $p < 0.001$ ), while male students tended to use maladaptive ( $1.60 \pm 0.71 > 1.52 \pm 0.57$ ) and avoidance ( $2.39 \pm 1.10 > 2.27 \pm 1.06$ ) coping strategies more than female student ( $p < 0.05$ ).<sup>24</sup>

These differences might be related to differences in cultures, and the tools used to measure different types of coping strategies, or it might be due to the fact that Palestinians have been under occupation for a long period of time which has led to political, social and economic problems that affect peoples' lives, especially youth and students. Regarding the differences between the study branches, the findings illustrated that the use of instrumental support  $3.92 \pm 1.54 > 3.48 \pm 1.39$ , denial,  $5.77 \pm 1.70 > 5.30 \pm 1.79$ , and behavioral disengagement  $3.63 \pm 1.43 > 3.28 \pm 1.166$  coping strategies were higher among the humanities branch students than the scientific branch students with significant differences ( $p < 0.05$ ).

A study in India revealed a significant difference between sciences and arts students in using problem-focused and avoidance coping strategies. In that study, problem-focused coping strategy was used more among sciences students ( $60.45 \pm 6.54 > 56.54 \pm 8.53$ ), while the use of avoidance coping strategy was higher among arts students ( $28.99 \pm 6.08 > 26.34 \pm 5.53$ ) with

a statistically significant difference. But in that study, there was no significant difference between arts and sciences students in using emotion-focused coping strategies.<sup>25</sup>

#### 4.2 Limitations

Due to a limitation in time, efforts, money and difficulty movements in all Palestinian districts, the study was confined to only governmental schools in the four cities in Northern West Bank and in the examination of only two study variables, namely gender and study branch. The inclusion of more variables would have provided more information from the study.

### 5. Conclusion and Implications for Translation

The prevalence rate of stress among the students in the study was high. The majority (88.3%) of students have different levels of stress with different effects, and less than one-tenth (7.5%) of them have too much stress. Stress was higher among females than males (61.4% vs 38.6%), and among the humanities branch students than the scientific branch students (69.2% vs 30.8%) with no statistically significant differences. Problem-focused and emotion-focused coping methods were mostly used by students. Female students and humanities branch students tended to use useful coping strategies more, while male and scientific branch students tended to use venting and self-blame strategies. Moreover, cultural influences play a role in the use of different coping methods as religion was the most one used in this study population. Identifying how students cope with stress in their daily lives is a crucial issue as maladaptive and poor management which will inversely affect students' future. So the results of this study might help to take effective steps to reduce stressors among students through the design of related training programs for all staff caring of students.

#### Compliance with ethical standards

**Conflicts of Interest:** The authors declare that they have no conflict of interest. **Financial Disclosure:** The authors are employees of the Ministry of Education and Higher Education. **Funding/Support:** There was no

funding support for the study. **Ethics Approval:** The study was approved by both the IRB from An Najah National University and the Ministry of Education, in addition to the agreement of school's headmasters and parents of the students. **Acknowledgments:** The authors thank the Ministry of Education and school headmasters for their support of this study, and all students for their participation.

#### Key Messages

- It is important for students to use the useful coping methods in the management of their stress.
- Parents and teachers could play important roles in supporting the students in coping with stress which is apparently high among the study population.
- School-based Psychological specialists could play a significant role in supporting student with important strategies to manage their stress.

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