

## Measuring Life Orientation, Suicidal Ideation and Attempts in Young People

Nareman Aly Mohamed<sup>1</sup>, Nagwan Mohamed Madbouly<sup>2</sup> & Sayeda Ahmed A. Latief<sup>3</sup>

<sup>1</sup> Lecturer of Psychiatric Mental Health Nursing, Faculty of Nursing, Cairo University, Egypt.

<sup>2</sup> Assistant Professor of Psychiatry, Faculty of Medicine, Cairo University, Egypt.

<sup>3</sup> Professor of Psychiatric Mental Health Nursing, Faculty of Nursing, Cairo University, Egypt.

### Abstract

**Background:** Suicide is a serious mental health problem. Younger people, especially students, are having more suicidal thoughts. It is important to identify protective factors as life orientation for suicide in young people. **Aim:** To measure life orientation, suicidal ideation and attempts in young people. **Methods:** Cross-sectional design was adopted. **Subjects:** A convenient sample of 3684 young people of nursing and medical university students, non-medical university students and school students were recruited through an internet-based survey. **Tools:** Data were collected through Socio-Demographic Data Sheet, Suicidal Opinionnaire and Life Orientation Test-Revised. **Results:** About (27.1%) of the participants had suicidal ideation, (7.3%) attempted suicide and (14%) had low optimism. (64.6%) of young people who had suicidal ideations in medical education. One of the most prominent causes for suicide was depression followed by family problems. There was highly statistically significant negative correlation between life orientation and suicide ideation and attempt. **Conclusion:** Suicidal behavior could be preventable in young people. Life orientation was identified as a protective factor. **Recommendations:** Periodical survey for young people who at risk for the early detection and management of any suicidal ideation.

**Keywords:** *Life orientation, Suicide ideation, Suicidal attempt & Young people.*

### Introduction

In the last two decades, the number of young people dying by suicide has significantly increased. However, suicides may be prevented with timely, effective and inexpensive interventions. In addition to the 703 000 suicides per year, many more people make suicide attempts. Over 77% of suicides worldwide in 2019 happened in low- and middle-income nations, making it the fourth most common cause of death for people aged 15 to 29 years **World Health Organization (WHO) (2021)**. Males die through suicide at a higher rate than females. However, the suicide fatality rate for females aged 15 to 24 increased over the period from 1999 to 2018. Bullying, social isolation, the rise of technology and social media, the increase of mental diseases and the economic stagnation may all be risk factors to the rise in suicides (**American Academy of Child & Adolescent Psychiatry, 2018**).

Life orientation is the overall expectation that one will have successful results in life, as well as an attitude or worldview that will help them interpret recent or prior experiences favorably. As time passes, people's views on the optimism-pessimism spectrum may change. This expectation serves as a behavioral predictor and motivates perseverance and effort toward goal-directed behavior (**Carver, Scheier & Segerstrom, 2010**). Optimism acted as a mediator between adverse life events and suicide

ideation/attempts, regardless of adversity in life, persons who were more optimistic tended to have lower levels of suicide ideation and attempts. Therefore, intervention strategies that encourage future orientation and a propensity to emphasize positive parts of one's life may inspire optimism and offer people the fortitude to cope with challenging situations and overcome suicidal thoughts (**Chang et al., 2017**).

Young adults are characterized by change, confusion and turmoil since their bodies are undergoing a variety of hormonal changes at this age. They must choose a career at this point in their lives. There is a significant desire for them to improve their performance due to rising competition and societal pressure. There are numerous distractions at the same time brought on by commerce, relationships, and lifestyle. Feelings of hopelessness, helplessness and worthlessness might result from one's inability to concentrate on the positive aspects of life. If these emotions are not addressed, they can result in suicidal thoughts and attempts (**Upadhyay & Agrawal, 2017**).

Prior to the commencement of stressful life events such as exams and the move to college, young people must establish self-regulation and coping techniques. Notably, the mean age of first suicide behavior was 15-16 years, implying that prevention programs in

secondary schools would be required to avoid this behavior (O'Neill et al., 2018).

### Significance of the study

Studies in Egypt tended to concentrate on the classic suicide risk factors and indicators, but there are scanty researchers focused on protective characteristics particularly in young people, so there was a need to fill this gap. Suicidality among adolescence has been rising according to the arbitrary statistics of the Poison Control Center, Cairo University and recurrence of suicidality has been detected (Mohamed et al., 2017). Ahmed, Omar & Abo Elamim (2016) reported that 12.75% of medical students had high suicidal ideations. Moreover, there were 34 cases of suicide among Egyptian students out of a total of 157 in the period January to August 2015. Egyptian students at the top of the list for the number of suicides, representing about 22% of suicides, or 1.9 student suicides per month (El Desokey, 2018). While some students may already have psychological problems, others may start having problems while they are in college. Early evaluation of mental health and wellbeing is essential to identify those who are at risk (Ward et al., 2022). Therefore, this study aimed to measure life orientation, suicidal ideation and attempts in young people.

### Research Questions

- Q1- What is the incidence of life orientation in young people?  
 Q2-What is the incidence of suicidal ideation/attempts in young people?  
 Q3- What is the relationship between life orientation, suicidal ideation and suicidal attempts in young people?

### Subjects and Methods:

**Study Design:** A cross-sectional internet-based survey was conducted to measure life orientation, suicidal ideation and attempts in young people.

**Sample:** Convenient sampling consisted of 3684 young people were included, in which, 1431 students from Faculty of Nursing- Cairo University, 1081 students from Faculty of Medicine - Cairo University, 738 students from non-medical faculties, 415 students from secondary schools, and 19 young people were graduated and working. Sample size of 566 was calculated using G\*power version 3.1.9.7. Assuming alpha error of 0.05, power of 0.8 and effect size of 0.08 that was detected from a previous study (Chang et al., 2017). Participants with missing data couldn't submit online questionnaire. The link to the survey questions was sent through social media (Facebook and WhatsApp groups). Each participant lasted (3-5 minutes) to complete the required data sheet. The survey was conducted from October 2019 to March

2020. A pilot study included 172 participants to investigate the feasibility of data collection tools for their content validity and clarity. Participants included in the pilot study were excluded from the actual study sample. Inclusion criteria: Egyptians aged 12-25 years old and who had mobile literacy. Exclusion criteria: participants who diagnosed with psychiatric illness.

**Tools of data collection:** Socio-demographic data sheet, Suicide Opinionnaire and Orientation to Life Test- Revised were used to gather the data.

**Socio-demographic and medical data sheet:** It was developed by the researchers, includes age, gender, type of education; medical university students, non-medical university students and school students, educational level and having psychiatric illness diagnosis.

**Suicide Opinionnaire:** It was developed by researchers after reviewing the related literature; Chang et al., (2017), Mamun, Rayhan, Akter & Griffiths (2020). It designed to measure presence of suicidal ideation and attempts. It consists of 10 questions. The questions divided into eight (yes and no questions) and two questions asking about student's opinion which had four choices. Suicidal ideation for an individual was considered positive when he/she responded positive on Q2 (Have you ever thought of committing suicide?) and Q3 (Have you tried to commit suicide?) for suicidal attempt. Content validity of the tool was done by a panel of three experts in the field of psychiatry and psychiatric mental health nursing to ensure appropriateness of the content.

**Life Orientation Test- Revised:** It was developed by Scheier & Carver (1985) – translated into Arabic and adjusted by Al-Ansari (1998). It measures optimism via general outcome expectancies of the respondent. These items emphasize on the positive aspect of the crisis and orientation towards life in general. The scale measures a tendency among people for positive evaluation of present events, as in uncertain times, one usually expects the best. It consists of ten statements; the answers were rated in five-degree likert scale: (1=Strongly Disagree to 5=Strongly Agree). The scale score ranges from 10 to 50. The cut point score is 30; the score above 30 means the high life orientation, the score less than 30 means the low life orientation. Cronbach alpha in Arabic version is 0.84.

### Pilot study

A pilot study was conducted before starting the study on fifty participants which was 10% of the required total subjects. They were randomly selected and excluded from the total population. Necessary modifications were done.

**Procedure**

Administrative Approval for the study was given by managers of data collection settings. The pilot study and the main study were carried out separately; the pre-field administration of the scales for clarity was done as a part of pilot study through online distribution for fifty participants. The study tools were developed through an online internet application using Google form platform. The survey link was open for six months from October 2019 to March 2020. through various social media groups and forums (generic Facebook pages, WhatsApp groups) of medical university students (Faculty of Nursing and Faculty of Medicine- Cairo University), non-medical university students (Faculty of Art, Law, Commerce, education) and school students.

**Ethical Considerations**

Administrative Approval for the study was given by managers of data collection settings. Complete clarification of the purpose and nature of study were provided. All participants were informed that participation is voluntary and the collected data will

be used only for the purpose of the study. Anonymity and confidentiality of each participant was assured. The consent was implied through questionnaire completion and submission.

**Statistical Analysis**

Data were entered and coded using the Statistical Package for the Social Sciences (SPSS) version 26 (IBM Corp., Armonk, NY, USA) . Quantitative variables were expressed using means and standard deviation, whereas categorical variables were expressed using frequencies (number of occurrences) and relative frequencies (percentages). Unpaired t tests were used for group comparisons. When comparing categorical data when the expected frequency is less than 0.5 an exact test was employed. The Pearson correlation coefficient was used to determine correlations between quantitative variables. In order to find independent predictors of life orientation, logistic regression was used. Statistics were considered significant for P-values under 0.05.

**Results:****Table (1): Percentage distribution of socio-demographic of the studied sample (n=3684)**

Items	No.	%
<b>Gender</b>		
Male	1513	41.1
Female	2171	58.9
<b>Type of education</b>		
Medical education	2512	68.2
Non-medical education	1172	31.8
<b>Faculty/school</b>		
Faculty of Nursing students	1431	38.8
Faculty of Medicine students	1081	29.3
Non-medical faculties students	738	20.0
School students	415	11.3
Graduated and working	19	0.5
<b>Year of education for faculty students</b>		
Early years (first 2 years)	2028	62.4
Late years ( $\geq 3^{\text{rd}}$ year)	1221	37.6
<b>Age</b>	20.35 $\pm$ 2.33	

**Table (2): Distribution of participants according to items of suicide opinionnaire (n=3684)**

Suicide Opinionnaire Questions*	No.	%
<b>1. Do you personally know adolescent who has tried to commit suicide?</b>		
Yes	917	24.9
No	2767	75.1
<b>2. Have you ever thought of committing suicide?</b>		
Yes	1000	27.1
No	2684	72.9
<b>3. Have you tried to commit suicide?</b>		
Yes	269	7.3
No	3415	92.7
<b>4. Do you think suicide is a serious problem among your friends?</b>		
Yes	2896	78.6
No	788	21.4

Suicide Opinionnaire Questions*	No.	%
<b>5. Has anyone of importance in your life ever committed suicide?</b>		
Yes	441	12.0
No	3243	88.0
<b>6. What do you think the most common reason for suicide in adolescents? *</b>		
Depression	2126	57.7
Family problems	762	20.7
Social problems	516	14.0
Sexual abuse	280	7.6
<b>7. Is adolescents suicide preventable ?</b>		
Yes	3326	90.3
No	358	9.7
<b>8. Is killing oneself a crime?</b>		
Yes	3383	91.8
No	301	8.2
<b>9. What are your views to minimize adolescent's suicide? *</b>		
Counselling/ going to psychiatrist	1323	35.9
Friend support	636	17.3
Telling family	587	15.9
Spread awareness	1138	30.9
<b>10. Do you think you can prevent suicide of another youngster?</b>		
Yes	2678	72.7
No	1006	27.3

Table (3): Correlation between suicidal ideation, attempt and prevention and both age & life orientation (n=3684)

Suicide Opinionnaire Questions	Age		P	Life Orientation		P
	M	SD		M	SD	
<b>Have you tried to commit suicide?</b>						
Yes	20.17	2.18	0.177	32.86	7.02	0.001**
No	20.36	2.34		35.73	5.88	
<b>Have you ever thought of committing suicide?</b>						
Yes	20.19	2.37	0.010*	33.81	6.24	0.001**
No	20.41	2.31		36.15	5.81	
<b>Has anyone of importance in your life ever committed suicide?</b>						
Yes	20.73	2.09	0.001*	35.38	6.39	0.611
No	20.30	2.35		35.54	5.96	
<b>Is adolescents suicide preventable ?</b>						
Yes	20.33	2.33	0.171	35.72	5.73	0.001**
No	20.51	2.29		33.60	8.06	

\*Significant at  $P < 0.05$

\*\*Highly significant at  $P \leq 0.001$

Table (4): Percentage distribution and correlation of suicidal ideation and attempts and (gender, type of education and year of education) (n=3684).

Study Variables		Suicidal Ideation				P	Suicide Attempts				P
		Yes		No			Yes		No		
		No.	%	No.	%		No.	%	No.	%	
Gender	Male	353	35.3%	1160	43.2%	< 0.001**	106	39.4%	1407	41.2%	0.564
	Female	647	64.7%	1524	56.8%		163	60.6%	2008	58.8%	
Type of education	Medical education	646	64.6%	1866	69.5%	0.004**	200	74.3%	2312	67.7%	0.024*
	Non-medical education	354	35.4%	818	30.5%		69	25.7%	1103	32.3%	
Year of education in faculty students	Early years (first 2)	547	64.4%	1481	61.7%	0.176	171	70.7%	1857	61.8%	0.006**
	Late years ( $\geq 3$ )	303	35.6%	918	38.3%		71	29.3%	1150	38.2%	

**Table (5): Logistic regression for predicting high life orientation, suicide prevention of another youngster, predicting suicidal ideation and suicide attempt (n=3684)**

	High life orientation				Suicide Prevention of another youngster			
	P value	OR	95% C.I.		P value	OR	95% C.I.	
			Lower	Upper			Lower	Upper
Age	0.000**	0.901	0.861	0.944	0.081	1.033	0.996	1.071
Gender(male)	0.717	0.964	0.791	1.175	0.837	0.983	0.839	1.152
Type of education (non-medical education)	0.004**	1.374	1.105	1.710	0.000**	1.979	1.665	2.351
Total of LOT scale					0.000**	1.062	1.048	1.075
	Suicidal ideation				Suicidal attempt			
	P value	OR	95% C.I.		P value	OR	95% C.I.	
			Lower	Upper			Lower	Upper
Age	0.116	0.971	0.936	1.007	0.015*	0.924	0.867	0.985
Gender(male)	0.000**	0.711	0.606	0.835	0.896	0.983	0.754	1.281
Type of education (non-medical education)	0.403	0.927	0.777	1.106	0.000**	1.904	1.377	2.634
Total of LOT scale	0.000**	0.939	0.927	0.951	0.000**	0.931	0.914	0.948

\*Significant at  $P < 0.05$ \*\*Highly significant at  $P \leq 0.001$ 

**Table (1):** Shows that the age of the study sample ranged from 12 to 25 years with a mean of  $20.35 \pm 2.33$ . Female subjects represented 58.9% of the participants. Most of the participants were at medical education. 62.4% of the participants were at early years of their faculties.

**Table (2):** Indicates that 27.1% of the participants had suicidal ideations while 7.3% had previous suicidal attempt. Most of the participants (91.8%) considered suicide a crime and 72.7% of participants believed that they can prevent suicide of another youngster. 24.9% of participants knew other young people who attempted suicide. The most common cause of suicide was depression (57.7%). Protective factors were counseling/ going to psychiatrist (35.9%) and spreading the awareness about the problem (30.9%).

According to life orientation scale, 86.1% showed high optimism ( $\geq 30$ ), compared to 13.9% who showed low optimism ( $\leq 30$ ).

**Table (3):** Shows that total score of life orientation scale, suicidal ideation, suicide attempt and suicide prevention were highly statistically correlated ( $p=0.001$ ). There was statistically significant correlation between age and suicidal ideation ( $p=0.010$ ), there was highly statistically significant correlation between age and committing suicide of important one in his/her life ( $P=0.001$ ).

**Table (4):** Illustrates that female participants expressed more suicidal ideations (64.7%) and attempts (60.6%) than male participants, denoting highly statistically significant correlation between gender and suicidal ideation ( $p=0.001$ ). Medical and

nursing students had more suicidal ideations (64.6%) and attempts (74.3%) compared to non-medical students, denoting highly statistically significant correlation between type of education and both suicidal ideation ( $p=0.004$ ) and attempts ( $p=0.024$ ). Students at early years of the faculty expressed high suicidal attempts (70.7%), denoting highly statistically significant correlation between suicidal attempts and year of education ( $p=0.006$ ).

**Table (5):** Reveals that there was a statistically significant main effect for age and type of education (non-medical education) on high life orientation ( $p=0.000$  &  $p=0.004$ , respectively). The probability of non-medical education participants was (1.374) time more likely to have high life orientation than participants with medical education. According to suicide prevention of another youngster, type of education and optimism was significantly associated with it ( $p=0.000$ ). The probability of non-medical education participants and optimists were (1.979 and 1.062) times more likely to prevent suicide of another youngster than medical education participants and pessimists respectively. Gender and optimism were significantly associated with suicidal ideation ( $p=0.000$ ) respectively where the probability of males and optimists were (0.711 & 0.939) times more likely to have suicidal ideations than females and pessimists respectively. In relation to suicidal attempts, age, type of education and optimism was significantly associated with suicidal attempt ( $p=0.015$ ,  $p=0.000$  &  $p=0.000$ , respectively). The probability of participants with non-medical education and optimists were (1.904 & 0.931) times more likely to have suicidal

attempts than participants with medical education and pessimists respectively.

There was also highly statistically significant positive correlation between suicide ideation and suicide attempt among participants ( $r= 0.357$ ,  $P= <0.001$ ). There was highly statistically significant negative correlation between life orientation and suicidal ideation ( $r= -0.173$ ,  $P<0.001$ ) and suicidal attempts ( $r= -0.125$ ,  $P <0.001$ ).

## Discussion

The current study aimed to measure life orientation, suicidal ideation and attempts in young people. The approach used in this study was chosen to elaborate the idea that suicide in this age group can be perceived as preventable, even by young people themselves. Answering research question No. 1; this work implies that optimism can be a protective factor against suicidal ideation in young people. Remarkably, 90.3% of the participants believed that suicide can be preventable in young people and 72.7% believed that they can prevent suicide in other youngsters where these findings are in the same vein, **Bérdi & Köteles (2010)** reported that college students were more optimistic than pessimistic. However, **Lukács et al. (2018)** revealed that Hungarian students were more pessimistic. One reason for the disparity could be different ideas about optimism and pessimism. Optimistic people appear to have improved physical and psychological functioning, even in the face of adversity, probably due to adoption of active adaptation techniques such as setting and accomplishing adequate and meaningful goals together with developing successful relations. When one person can create a positive outlook for the future and is encouraged to do that, he might minimize his sense of distress, thus, lowering the risk of suicide thoughts and behaviors (**Shanahan, 2018**).

Answering research question No. 2; These findings revealed that suicide ideation was reported by less than one-third of the participants and suicide attempts were reported by 7.3% of the participants were comparable to the prevalence estimates among nursing students in Ghana (**Baiden et al., 2019**). Also, **Mortier et al. (2018)** showed that less than one-third of individuals had suicidal ideation and a minority attempted suicide. However, this is contradicted the results of **Ivey-Stephenson (2020)**, who reported that 18.8 % of youths had considered attempting suicide. This observation may be attributed to the generally stressful nature of medical and nursing education (more than two-thirds of participants); admissions into training institutes pose pressure to compete continuously and to maintain high performance to avoid dismissal. Families of

medical students have high expectations for success and achievements. Students who show low resilience and lack support system may experience mental health challenges and suicidal tendencies (**Hakim et al., 2018; Evans Lacko & Thornicroft, 2019**). It should be noted that these data are based on self-reports, which may understate the true prevalence of suicidality.

Answering research question No. 3; regarding relations between life orientation, suicide ideation and attempt, the highly statistically significant negative correlation between life orientation and suicide ideation and attempt are consistent with **Yu and Chang (2016) & Clement et al. (2020)** who showed that optimism was negatively correlated with suicidal ideation. Additionally, current results found that life orientation had main effect on suicidal ideation; this agrees with (**Huffman et al. 2016; Chang et al., 2017**) who reported that high levels of self-reported optimism were associated with less likelihood of suicidal ideation. On the other side, **Shanahan (2018)** discovered that hopelessness, but not optimism, predicted suicidal ideation. This was based on some research that found that none of the studies analyzing the link between optimism and suicidal ideation in undergraduates has managed for the consequences of each hope and hopelessness, further, the researcher suggests that suicidal thinking may also require high quality expectancies about one's capabilities (i.e., hope) and more negative general expectancies (i.e., hopelessness).

Current findings also showed that age was a predictor to high life orientation and suicidal attempt; this is in line with **Bredala et al. (2017)** who illustrated that older age group reported less optimism than the younger group. Also, **Lukács et al. (2018)** reported that optimism had significant positive correlation with age. Current research results found that there was significant correlation between age and suicidal ideation. However, there was not significant correlation between age and suicidal attempts. This could be explained that there are other important factors associated with committing suicide such as depression and other life adversities.

The finding clarified that females showed higher suicidal ideation and attempt than their male correspondences with similar findings reported by **O'Neill et al., (2018)**. While, **Ivey-Stephenson et al. (2020)** showed that male preponderance in planning for suicide. The controversy between both results may emerge from the different level of pressures that young females in different cultures are subjected to, compared to males of the same age. Arab cultures usually hinder and inhibit females' expression of anger or aggression, as they are to be more rejected and retaliated if they express it. In such cases, their

aggression becomes directed inwards and suicidal thoughts are easily displayed as recurrent suicidal behavior. Furthermore, females are generally more likely to have higher risk of depression and post-traumatic stress disorder which impose additional risk for suicide (Clement, 2020). On the other hand, those cultures considered suicide among males as a sign of weak personality and passivity.

On another dimension, the study results identified male gender as being a considerable risk factor for predicting suicidal thoughts; however, age was the least significant predictor indicating suicidal ideation. On the contrary, Ibrahim et al. (2017) found that age was a predictor of suicidal ideation in males. The discrepancy between results could be due to gender differences in developmental maturity; women typically mature earlier than men. This may have an indirect impact on the variations in coping skills and problem solving between men and women.

The results showed the insignificant effect of gender on high life orientation which is consistent with the results of Bredal et al. (2017) who reported that no difference was found in the LOT-scores between male and female subjects. While, Hinz et al. (2017) discovered marginal gender variations was found within the LOT-R scores, however, concluded that they were negligible because of the small effect size. From researcher point of view, these gender interactions could be due to chance and should look forward to replication.

The finding revealed that young people in medical education expressed more suicidal ideation and attempts than those in non-medical education which is in settlement with other studies from different origins (Kosik et al., 2017; El Desoky, 2018; Geirsdottir, Mittendorfer-Rutz & Amin, 2021), denoting that medical students are recognized as a risk group for suicide all around the world. Furthermore, in developing countries, medical and nursing students face the double risk of stress as regards studying and clinical training. Committing suicide is uncommonly impulsive but preceded by suicidal ideation in most cases. Those students are more vulnerable to psychiatric stressors and therefore have alarming rates of anxiety, burnout and depression (Slavin, Schindler & Chibnall, 2014).

The finding clarified that young people in the early years of university expressed more suicidal ideation and attempts, when compared to students to the later years of education that is in line with findings reported by Goyal et al. (2012) of study was titled "Suicidal ideation among medical students".

Additionally, Mortier et al. (2018) reported that the risk for suicidal thoughts / behaviors was relatively low before 12 years old, then increased steeply up to the age of 17, with a moderate decline from 17 to 25

years. This observation may be attributed to the varying academic stress and examination pressure in different stages of studying and training (as it was shown in this study that the risk was even higher in the first year than the second year and later). Conversely, Ivey-stephenson et al. (2020) illustrated that there was increase in planning for suicide plan with increasing the grade.

#### **Strengths and Limitations of this work**

The main strength point in this work was the collection of data from a large sample of young people aiming to have good precision and draw adequate conclusions about the problem of suicide in this important age group. Limitations of this study; using the cross-sectional research design, possibly bias due to use of single-informant and self-report evaluation. There was also worry concerning about young people's nondisclosure of suicidality.

#### **Conclusion:**

Suicidal behavior is a challenging mental health problem in young people, especially in students in the early years of medical education. It has been linked to a variety of factors, including depressive symptoms and family troubles. However, it is perceived as preventable, even by young people themselves. Optimism is identified as a mighty protective factor. Future research is recommended to adopt longitudinal designs and include other risk and protective factors to support the psychological wellbeing of young people, especially during the medical and nursing education.

#### **Recommendations:**

- Periodical survey for young people who at risk for the early detection and management of any suicidal ideation.
- Developing hot line services for psychological support.
- Periodical workshops about stress management and emotional intelligence enhancement programs should be conducted at schools and universities.
- Educational curriculum should have actual objectives on the one hand the cognitive and on the other hand the personal and psychological aspect of the student.

#### **Acknowledgements**

We would like to extend our sincere appreciation to participants in the study.

#### **References**

- Ahmed, S, Omar, Q, & Abo Elamim, A. (2016): Forensic analysis of suicidal ideation among medical students of Egypt: A cross sectional study. Journal of Forensic and Legal Medicine, 44, 1-4.

- **Al-Ansari, M. (1998):** Optimism and Pessimism: Concept, Measurement, and Implications. Kuwait: Kuwait University Academic Publishing Council.
- **American Academy of Child & Adolescent Psychiatry. (2018):** Suicide in children and teens. Facts for Families, 10. [https://www.aacap.org/AACAP/Families\\_and\\_Youth/Facts\\_for\\_Families/FFF-Guide/Teen-Suicide-010.aspx](https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Teen-Suicide-010.aspx)
- **Baiden, P., Kuire, V., Shrestha, N., Tonui, B., Dako-Gyeke, M., & Peters, K. (2019):** Bullying victimization as a predictor of suicidal ideation and suicide attempt among senior high school students in Ghana: Results from the 2012 Ghana Global School-Based Health Survey. *Journal of School Violence*; 18, 2, 300–317. <https://doi.org/10.1080/15388220.2018.1486200>
- **Bérdi, M., & Köteles, F. (2010):** The measurement of optimism: the psychometric properties of the Hungarian version of the Revised Life Orientation Test (LOT-R). *Hungarian Psychological Review*, 65, 2, pp. 273–294.
- **Bredala, I.S., Heira, T., Skogstad, L., Bonsaksenc, T., Lerdald, A., Grimholte, T., & Ekeberge, O. (2017):** Population-based norms of the Life Orientation Test Revised (LOT-R). *International Journal of Clinical and Health Psychology*, 17, 216–224.
- **Carver, C., Scheier, M., & Segerstrom, S. (2010):** Optimism. *Clinical Psychology Review*, 30, 879–889. <https://doi.org/10.1016/j.cpr.2010.01.006>
- **Chang, E., Martos, T., Sallay, V., Chang, O., Wright, K., Najarian, A., & Lee, (2017):** Examining optimism and hope as protective factors of suicide risk in Hungarian college students: Is risk highest among those lacking positive psychological protection? *Cognitive Therapy and Research*, 41, 2, 278–288.
- **Clement, D., Wingate, L., Cole, A., O’Keefe, V., Hollingsworth, D., Davidson, C. & Hirsch, J. (2020):** The Common Factors of Grit, Hope, and Optimism Differentially Influence Suicide Resilience. *International Journal of Environmental Research and Public Health*, 17, 9588; <https://doi.org/10.3390/ijerph17249588>
- **El Desoky, A. (2018):** Forensic Assessment of Childhood Maltreatment and Its Relation to Suicidal Ideation among Some Currently Enrolled Medical Students in Cairo Governate in Academic Year 2016/2017. Unpublished master thesis in Forensic Medicine and Clinical Toxicology. Faculty of Medicine, Ain Shams University.
- **Evans-Lacko, S., & Thornicroft, G. (2019):** WHO World Mental Health Surveys International College Student initiative: Implementation issues in low-and middle-income countries. *International Journal of Methods in Psychiatric Research*, e1756. <https://doi.org/10.1002/mpr.1756>
- **Geirsdottir, G., Mittendorfer Rutz, E., & Amin, R. (2021):** Risk of suicide attempt and suicide in young adult refugees compared to their Swedish born peers: a register based cohort study. *Social Psychiatry and Psychiatric Epidemiology*, 56, 2163–2173.
- **Goyal, A., Kishore, J., Anand, T., & Rathi, A. (2012):** Suicidal ideation among medical students of Delhi. *Journal of Mental Health and Human Behavior*, 17, 1.
- **Hakim, J., Chidzonga, M., Borok, M., Nathoo, K. J., Matenga, J., Havranek, E., & Campbell, T. (2018):** Medical Education Partnership Initiative (MEPI) in Zimbabwe: Outcomes and challenges. *Global Health: Science and Practice*, 6(1), 82–92. <https://doi.org/10.9745/GHSP-D-17-00052>
- **Hinz, A., Sander, C., Glaesmer, H., Brähler, E., Zenger, M., Hilbert, A., & Kocalevent, R. (2017):** Optimism and pessimism in the general population: Psychometric properties of the Life Orientation Test (LOT-R). *International Journal of Clinical and Health Psychology*, 17, 161–170. <http://dx.doi.org/10.1016/j.ijchp.2017.02.003>
- **Huffman, J. (2016):** Relationship of optimism and suicidal ideation in three groups of patients at varying levels of suicide risk. *J Psychiatr Res.*, 77, 76–84.
- **Ibrahim, N., Amit, N., Din, N., & Ong, H. (2017):** Gender differences and psychological factors associated with suicidal ideation among youth in Malaysia. *Psychol Res Behav Manag.*, 10, 129–135. <https://doi.org/10.2147/PRBM.S15176>
- **Ivey-Stephenson, A. (2020):** Suicidal Ideation and Behaviors among High School Students — Youth Risk Behavior Survey, United States, 2019. *Supplements*, 69, 1, 47–55.
- **Kosik, R., Nguyen, T., Ko, I., & Fan, A. (2017):** *Neuropsychiatry*, 7, 1, 9–11.
- **Lukács, A., Sasvári, P., Varga, B., Kiss-Tóth, E., & Kiss-Tóth, E. (2018):** Measuring Life Orientation of University Students. *Journal for Health Sciences*, 8, 1, pp. 5–13.
- **Mamun, M., Rayhan, I., Akter, K. Griffiths, M. D. (2020).** Prevalence and Predisposing Factors of Suicidal Ideation among the University Students in Bangladesh: A Single-Site Survey. *International Journal of Mental Health and Addiction*. <https://doi.org/10.1007/s11469-020-00403-z>.
- **Mohamed, N., Abdel Latief, S., Madbouly, N., & Abdel Rashid, E. (2017):** Emotional Intelligence Enhancement Program and Its Effect on The Suicidal Ideation Among Attempted Suicide



- Adolescents International Journal of Research in Applied, Natural and Social Sciences, 5,11,111-120.
- **Mortier, P. (2018):** Suicidal Thoughts and Behaviors Among First-Year College Students: Results From the WMH-ICS Project. *Journal of the American Academy of Child & Adolescent Psychiatry*, 57, 4, 263-273.
  - **O'Neill, S., McLafferty, M., Ennis, E., Lapsley, C., Bjourson, T., Armour, C., Murphy, S., Bunting, B., & Murray, E. (2018):** Socio-demographic, Mental Health And Childhood Adversity Risk Factors For Self-Harm And Suicidal Behavior in College Students in Northern Ireland, *Journal of Affective Disorders*; <https://doi.org/10.1016/j.jad.2018.06.006>
  - **Scheier, M.F., & Carver, C.S. (1985):** Optimism, Coping, and Health: Assessment and Implications of Generalized Outcome Expectancies. *Health Psychology*, 4, 219 – 247.
  - **Shanahan, M. (2018):** Hope, Optimism, And Hopelessness: Conceptual Distinctions And Empirical Associations With Suicidal Ideation. Published Master Thesis. Faculty of Purdue University. P.P. 78-79
  - **Slavin, S.J., Schindler, D.L., & Chibnall, J.T. (2014):** Medical student mental health 3.0: Improving student wellness through curricular changes. *Acad. Med.*, 89(4), 573-577.
  - **Upadhyay, D., & Agrawal, M. (2017):** Youth, Mental Health, Well-Being and Development Issues. Bharti Publications, India. P.P.126-146
  - **Ward, C., (2022):** Suicidal behaviors and mental health disorders among students commencing college. *Psychiatry Res*, 307:114314. <https://doi.org/10.1016/j.psychres.2021.114314>.
  - **World Health Organization (WHO) (2021):** World Health Statistics. Retrieved from [http://www.who.int/gho/publications/world\\_health\\_statistics/2021/en/](http://www.who.int/gho/publications/world_health_statistics/2021/en/)
  - **Yu, E. & Chang, E. (2016):** Optimism/Pessimism and Future Orientation as Predictors of Suicidal Ideation: Are There Ethnic Differences?. *Cultural Diversity and Ethnic Minority Psychology*, 22, 4, 572–579