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CONTENTS

THE MEDIATING ROLE OF EMOTIONAL INTELLIGENCE IN THE RELATIONSHIP BETWEEN PERCEIVED SOCIAL SUPPORT AND CYBERBULLYING VICTIMIZATION AMONG ADOLESCENTS IN EGYPT

Abstract: Emotional intelligence and social support are important variables in handling and preventing cyberbullying. Few studies have examined the mediating role of emotional intelligence in the relationship between perceived social support and cyberbullying victimization among adolescents. A total of 120 (62.5% males, and 37.5% females) adolescents five middle schools from West El Mahalla, El Gharbeya. They ranged in age from 12 to 15 years (M = 13.88, SD =1.24). For the purpose of this study, quantitative survey research was employed. For collecting data, Schutte Self Report Emotional Intelligence Test, (Schutte et al. 1998), The Cyber Victimization Experiences Scale (Betts and Spenser2017), and Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al. 1988) were used. Descriptive statistics, inter-correlations and regression were employed for data analysis. The findings confirmed that emotional intelligence moderated the associations between cyberbullying and perceived social support. In this regard, the findings extend our knowledge on the association between cyberbullying and perceived social support by investigating the emotional intelligence of cyberbullies. Findings were discussed and conclusion was included.

Keywords: emotional intelligence, perceived social support, cyberbullying victimization, adolescents

Ayman Abdelgalil M. Elkady, PhD
Assistant Professor
Psychology Department
Faculty of Arts
Tanta University
Egypt
Psychology Department
College of Education
Jazan University
Kingdom of Saudi Arabia
Contact:
E-mail: Ayman.elkady@gmail.com

INTRODUCTION

In a world which is characterized by huge and rapid increase in digitalism, there appears a serious psychosocial problem. It is called cyberbullying (Palermiti, Servidio, Bartolo and Costabile (2017). Cyberbullying can be regarded as an aggressive behaviour which is seen as repetitive and intentional acts carried out by an individual or a group of people using internet and mobile phones against another person (or a group of people). Those people are called victims who are not able to protect or defend themselves (Peter et al., 2008). Cyberbullying is different from face–to-face bullying in that there is no physical exposure to an action.

Adolescents in our society, like most of their ages around the world, are engaged in virtual activities such as sharing and messaging (Cho and Yoo 2016). Many researchers have reported several problems caused by cyberbullying. It has various negative effects on individuals (Hoff and Mitchell 2009; Olweus and Breivik 2014; Patchin and Hinduja 2006). Cyber victimization pushes people to lead negative life conditions and they may have suicidal tendencies (Hinduja and Patchin 2008). Cyberbullying may lead to emotional and social disturbance and adjustment in victims (Elipe, Mora-Merchan, Ortega-Ruiz, and Casas 2015).

Raskauskas and Stoltz (2007) indicated that cyberbullying has negative effects on the victims such that it made them sad, hopeless, depressed and emotionally distressed. It is said that there are some variables that may help lessen the severity of cyberbullying among adolescents such as emotional intelligence and perceived family support.

EMOTIONAL INTELLIGENCE AND CYBERBULLYING

Emotional intelligence is the ability to express, perceive, understand and manage emotions (Mayer and Salovey 1997). Emotional intelligence, according to Mayer, Roberts and Barsade (2008), is composed of four branches: recognizing or perceiving emotions, i.e., the capacity to perceive emotions in oneself and others efficiently; using emotions to facilitate thinking; understanding emotions; and managing emotions. People who can handle and process the emotionally relevant information during the events that are supposed to be stressful are more likely to function positively and to have positive relationships with others (Rey et al., 2018). Emotional intelligence is variable that has shown growing evidence indicating its potential role as a buffer against negative effects of cyberbullying (Extremera, Quintana-Orts, Mérida-López and Rey 2018).

It was revealed that adolescents with emotional intelligence are in the position of regulating and handling their emotions and others' negative emotions, and this leads to the improvement of their life, that is, happiness and psychological well-being, and thus preventing them from leading a maladjusted psychological life (Rey et al., 2018).

Moreover, students with higher levels of emotional intelligence are less likely to be exposed to cyberbullying by peers and are likely to experience more positive social behaviors (Elipe, Mora-Merchan, Ortega-RuizJose and Casas 2015). On the other hand, those who are victims of cyberbullying have a higher ability to attend emotions and at the same time they have a lower ability to understand or regulate their emotions (Elipe et al. 2015).

Peláez-Fernández, Extremera and Fernández-Berrocal (2014), among others, revealed that perceived emotional intelligence helps explain aggressive conduct over and above the effect of age, sex, and personality traits. It moderated the relationship between aggression and personality.

PERCEIVED SOCIAL SUPPORT AND CYBERBULLYING

Being loved, appreciated, and valued by parent, peer, teacher or other significant person in one's environment is said to be the main source of social support. One needs to feel that his environment supports him whenever he needs help. In this study social support is limited to perceived family support.

Adolescents who are exposed to cyberbullying or who are cyberbullying victims have difficulties in relationship with their classmates and are more likely to be isolated and socially rejected from their peers and this in its turn may contribute to maintaining the cyberbullying behaviour (Odaci and Kalhan 2010).

Ortega-Barón et al. (2019) reported that adolescents who were involved in cyberbullying as perpetrators or victims avoided communication

with their parents compared to those who were not involved in cyberbullying. Additionally, victims of cyberbullying had lower feelings of affiliation with their classmates. These findings gave insight into the important role of family and peers in the prevention and eradication of the growing problem of cyberbullying.

Heiman, Olenik-Shemesh and Eden (2015) reported that those who are exposed to cyberbullying experienced greater feelings of emotional loneliness and a lower belief in their social self-efficacy. Nerveless, students who have close relationship with their parents are less likely to be cyber victims (Accordino and Accordino 2011).

PROBLEM STATEMENT

Egypt has a new digital educational system. According to this system, students in the first-year secondary has been given tablets to be used at any setting. e.g. at school, at home, at cafes etc. Though students at this stage and the preparatory one too are technological individuals, as they were born and developed in a digital age, this will help them be in-depth- digital individuals. They may use social networks intensely. As a result, they may spread their personal information unintentionally and in an uncontrolled manner. In consequence of these reported wishes and tendencies, they may be exposed to negative behaviours of cyber experiences, something that is called cyberbullying.

THIS STUDY POSES FOLLOWING HYPOTHESES

Hypothesis 1: Cyberbullying Victimization is negatively associated with Perceived Social Support.

Hypothesis 2: Emotional Intelligence is positively associated with Perceived Social Support.

Hypothesis 3: Emotional Intelligence is negatively associated with Cyberbullying Victimization.

Hypothesis 4: Emotional Intelligence mediates the link between Cyberbullying Victimization and Perceived Social Support.

METHOD

DESIGN

For the purpose of this study, quantitative survey research was employed. The independent variable is perceived social support, cyberbullying victimization is the dependent variable and emotional intelligence is the moderating variable.

PARTICIPANTS

For the purpose of this study, convenient sampling method was used to recruit the participants. The researcher selected five middle schools from West El Mahalla, El Gharbeya. After obtaining the informed consent from the school and all students involved, a total of 120 (62.5% males, and 37.5% females) adolescents participated in this study. They ranged in age from 12 to 15 years (M = 13.88, SD =1.24). The researcher told those students that although he hoped that all students could continue with him till the end of this study, they were free to refuse or discontinue participation at any time. The researcher told those students that any information they would provide would be top secret and confidential. It would not be revealed to anyone.

INSTRUMENTS

Schutte Self Report Emotional Intelligence Test, (Schutte et al., 1998). It is 33 items with a 5-point Likert scale from 1 (completely disagree) to 5 (completely agree). The scale takes only 5 minutes to complete. The English version of the scale was translated into Arabic by the researcher. Total scores typically range from 33 – 165. High scores on all items collectively indicate high levels of emotional intelligence. The reliability of the scale in terms of internal consistency was assessed by Cronbach's α. The items demonstrated a satisfactory level of internal consistency reliability (α = 0.89). For convergent validity of emotional intelligence scale correlation with Al Kholi's (2002) emotional Intelligence Scale was significant [r(60) =0.61, p <0.0l).

The Cyber Victimization Experiences scale (Betts and Spenser2017). This scale comprises 15 items across three subscales: threats (6 items), sharing images (5 items), and personal attack (4 items).

Participants responded to the items using a six-point scale ranging from 1 (Never) to 6 (Everyday) the extent to which they had experienced the behaviour described in the item over the last three months. High scores indicated great Cyber victimization experiences. The coefficient of internal consistency of the total scale was found to be 0.85. The test-retest reliability value was 0.75. For convergent validity of The Cyber Victimization Experiences scale, correlation with the cyber bullying scale (Hisham, 2018) was significant (r= 0.71, p< .01).

Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, Gordon 1988). It is a 7-point Likert- Type Scale. It consisted of 12 items comprising three factors, namely family (Fam), friends (Fri) and significant other (SO). The scale ranged *from very strongly disagree* (1), to very strongly agree (7). Internal Reliability Estimates were: 0.90 for family factor, 0.89 for friends, 0.83 for significant other, and 0.92 for total scale. For convergent validity of Multidimensional Scale of Perceived Social Support, correlation with Al Sersi and Abdul Maksoud's Social Support Scale (2001) was significant [r(60) =0.64, p <0.0l).

PROCEDURES

Prior to administering the scales, parents were notified and given the option of refusing to allow their adolescent 's participation in the study. Students were informed about purpose of the study and voluntarily completed a consent form. They were instructed not to look at their classmates' documents while responding to the scale's items. To ensure that the respondents responded to the items honestly and sincerely, they were told not to identify themselves in any way on the scale paper. They were also informed that they should not be concerned with anything concerns their participation in the study and their responses are for research purposes only and would be kept confidential. Each questionnaire took about 15-20 minutes to complete. All data were entered in an SPSS file.

DATA ANALYSIS

Pearson correlation and moderated hierarchical multiple regression analyses were conducted to test the hypothesis of the study.

RESULTS

Descriptive data and inter-correlations

Table 1. shows the means, descriptive statistics and inter-correlations of emotional intelligence, cyberbullying and Perceived Social Support. Table 1 shows that there are significant correlations between cyberbullying and Perceived Social Support. cyberbullying correlates negatively with Perceived Family Support (r = -0.57). On the other hand, emotional intelligence was found to be positively correlated with Perceived Social Support (r = 0.53) and negatively with cyberbullying (r = - 0.41).

Table 1. Descriptive statistics and inter correlations of emotional intelligence, cyberbullying and Perceived Social Support

Variables	1	2	3
emotional intelligence	1.00		
cyberbullying	- 0.41**	1.00	
Perceived Social Support	0.53**	-0.57**	1.00
Mean	129.95	69.51	61.53
Standard deviation	7.92	8.15	5.21
** P <.01			

Testing the mediating role of emotional intelligence in the relationship between cyberbullying and perceived social support

From tables 2-4, it is clear that R^2 = 0.677, Adjusted R^2 = 0.669, which means that the independent variable, emotional intelligence, explains 66.9% of the variability of the dependent variable, cyberbullying. The regression model is statistically significant, F= 9.867, p = 0.002. This indicates that, overall, the model applied can statistically significantly predict the dependent variable, cyberbullying.

From tables 5-7, it is clear that R^2 = 0.677, Adjusted R^2 = 0.669, which means that the independent variable, emotional intelligence, explains 66.9% of the variability of the dependent variable, perceived social support. The regression

model is statistically significant, F= 9.869, p = 0.002. This indicates that, overall, the model applied can statistically significantly predict the dependent variable, perceived social support.

Table 2. The regression results of the relationship between emotional intelligence and cyberbullying. Model Summary b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change statistics				
					R Square change	F Change	Df1	Df2	Sig. F change
1	0.478a	0.677	0.669	11.73011	0.677	9.867	1	118	0.002

a. Predictors (constant), EI
b. Dependent variable: Cyb.

Table 3. The regression results of the relationship between emotional intelligence and cyberbullying. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1Regression	1357.703	1	1357.706	9.867	0.002a
Residual	16236.260	118	137.595		
Total	17593.967	119			

a. Predictors (constant), EI
b. Dependent variable: Cyb.

Table 4. The regression results of the relationship between emotional intelligence and cyberbullying. Coefficients a.

Model	Unstandardized coefficients		Standardized coefficients	T	sig
	B	Std error	Beta		
1 (constant)	114.304	14.298	-.278	7.994	.000
EI	-.349	.111		-3.141	.002

b. Dependent variable: Cyb.

Table 5. The regression results of the relationship between emotional intelligence and Perceived Family Support. Model Summary b.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change statistics				
					R Square change	F Change	Df1	Df2	Sig. F change
1	0.478a	0.677	0.669	8.71891	0.677	9.869	1	118	0.002

a. Predictors (constant), EI
b. Dependent variable: PSS

Table 6. The regression results of the relationship between emotional intelligence and Perceived Family Support. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1Regression	750.211	1	750.211	9.869	0.002a
Residual	8970.289	118	70.019		
Total	9720.500	119			

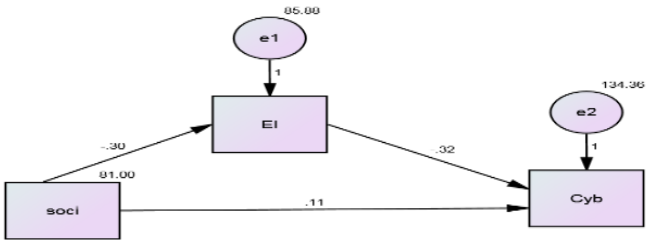
a. Predictors (constant), EI
b. Dependent variable: PSS

Table 7. The regression results of the relationship between emotional intelligence and Perceived Social Support. Coefficients a.

Model	Unstandardized coefficients		Standardized coefficients	T	sig
	B	Std error	Beta		
1 (constant)	91.542	10.628	-.278	8.614	.000
EI	0.295	0.083		3.141	.002

b. Dependent variable: PSS

Figure 1: Regression model of the mediating role of emotional intelligence



According to table 8, as for the effect of social support on emotional intelligence, the probability of getting a critical ratio as large as 3.155 in absolute value is 0.002. In other words, the regression weight for soci in the prediction of EI is significantly different from zero at the 0.01 level (two-tailed). As to the effect of emotional intelligence on cyberbullying, the probability of getting a critical ratio as large as 2.787 in absolute value is 0.005. In other words, the regression weight for EI in the prediction of Cyb is significantly different from zero at the 0.01 level (two-tailed). When the mediator (emotional intelligence) mediates between socai; support and cyberbullying, the probability of getting a critical ratio as large as 0.915 in absolute value is 0.360. In other words, the regression weight for soci in the prediction of Cyb is not significantly different from zero at the 0.05 level (two-tailed). This means that the relationship between independent variable (social family support) and dependent variable (cyberbullying) became insignificant. This also means that emotional intelligence is a mediator between social support and cyberbullying, and this mediation is complete one.

Table 8. Regression Weights: (Group number 1 - Default model).

			Estimate	S.E.	C.R.	P
EI	<---	soci	-.298	.094	-3.155	.002
Cyb	<---	EI	-.320	.115	-2.787	.005
Cyb	<---	soci	.112	.123	.915	.360

DISCUSSION

The study investigated the moderating role of emotional intelligence in the relationship between cyberbullying and perceived social support. The findings confirmed that emotional intelligence moderated the associations between cyberbullying and perceived social support. In this regard, the findings extend our knowledge on the association between cyberbullying and perceived social support by investigating the emotional intelligence of cyberbullies.

These findings are in the same line with Oluyinka and Erhabor (2013) who reported that emotional intelligence attenuated the influence of personality factors on the tendency to perpetrate cyberbullying. Also, with the findings of Elipe et al. (2015) which supported the idea that perceived emotional intelligence as a moderator, affects the relationship between cyber-victimization and emotional impact. Emotional intelligence in general is more likely to improve people's subjective well-being (Paulo et al., 2011) and hence they can stand in the face of cyberbullying acts, as they tend to experience less emotional distress when they face a stressful situation, like cyberbullying, and so they increase positive affect (Gohm, Corser and Dalsky 2005).

Findings also indicated that emotional intelligence contributed significantly to prediction of cyberbullying. One can presume that what distinguishes the cyber bullies from others and so sets them apart of all is that they are unable control their impulsiveness and their lack of understanding other's feelings. Accordingly, they are more likely to abuse relationships. It can be assumed that individuals with higher levels of total emotional intelligence and got higher level of social support from their families as well as peers, are more likely to have lower scores in cyber-victimization or at least their cyber-victimization lessens. This means that they are able to be resilient in the face of cyberbullies.

Social support can be a protective and adequate factor that give adolescents tools for coping with stressful events, like cyberbullying (Arriaga, Garcia, Amaral and Daniel 2017). This finding goes in the same line with Mehmet, Sinan and Halil (2018) who reported that perceived family support when social support decreased, cyberbullying

behaviours increased and vice versa. They found a moderate and negative correlation between students' cyberbullying levels and their perceived levels of family support. On the other hand, when climate is negative in the family there will be persistence in the dynamics of cyber-victimization (Cuesta, Cristina, Lady and Sayana 2018), and vice versa, if there is positive communication between the adolescent and his family, there will be resistance to cyberbullying.

CONCLUSION

In conclusion, the present study provided evidence that perceived social support influence cyber bullies' tendency to perpetrate cyberbullying. Further, emotional intelligence moderated the association between cyberbullying and perceived social support. Exposing the cyberbullying damages the social relationships. However, when an individual gets social support from parents, peers, teachers, or from any other avenues, the impact of this damage is lessened. Social support is more likely to buffer the effect cyberbullying damages. Emotional skills can be an important protective factor against cyberbullying victimization and its negative consequences.

Finally, the findings have implications for prevention of cyberbullying among adolescents in Egypt. Therefore, policy makers are invited to combat cyberbullying among students. This they can be through teaching students about emotional intelligence and inviting parents to inform them about how perceived social support influence cyber bullies' tendency to perpetrate cyberbullying. The results of this study pointed to the importance of including the family and others, and emotional intelligence in cyberbullying prevention programs.

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MINDFULNESS AND RESILIENCE AS PREDICTORS OF JOB BURNOUT AMONG NURSES IN PUBLIC HOSPITALS

Abstract: The purpose of this study was to investigate the combined effects of two variables, namely, mindfulness and resilience on one outcome measure, namely, job burnout, as well as investigating the relative contribution of mindfulness and resilience to job burnout among nurses in public hospitals. Additionally, the aim was to find out if there were relationships between and among mindfulness, resilience and job burnout in nurses in public hospitals. The sample was composed of 130 nurses (all of them were females). The average age was 26.4 years (SD=8.23). Quantitative survey research was employed. The independent variables are mindfulness and resilience, while the dependent variable is job burnout. The Freiburg Mindfulness Inventory (FMI) (Walach et al., 2006), The Connor Davidson-Resilience Scale (CD-RISC). (Connor & Davidson, 2003), and Maslach Burnout Inventory (1996- 2016) were employed for data collection. Findings indicated that there were significant correlations between mindfulness, resilience and job burnout. On the other hand, job burnout was found to be negatively correlated with resilience. The two independent variables (mindfulness and resilience) when put together yielded a coefficient of multiple regression (R) of 0.764 and a multiple correlation square of 0.621. This shows that 62.1% of the total variance in job burnout of those who participated in the study is accounted for by the combination of mindfulness and resilience.

Keywords: mindfulness, resilience, job burnout, nurses, public hospitals

Ayman Abdelgalil M. Elkady, PhD
Assistant Professor
Psychology Department
Faculty of Arts
Tanta University
Egypt
Psychology Department
College of Education
Jazan University
Kingdom of Saudi Arabia
Contact:
E-mail: Ayman.elkady@gmail.com

INTRODUCTION

The burnout syndrome has become a serious problem in modern working environments and as it increased substantially nowadays. It is widely well- known that the healthcare industry is stressful as there are manpower shortage as well as high demands (Wei, Arul, Shu and Matthew 2014). Burnout can be defined as "person's feeling of exhaustion physically, emotionally and mentally (Schaufeli and Greenglass, 2001, 501). McCormack and Cotter (2013, 17) see burnout as something that causes changes on behaviours, emotions, thoughts and health. Burnout is considered to be someone's feelings of hopelessness, difficulties in dealing with work and doing his/her job in an effective way. The most widely used scale is Maslach, Schaufeli and Leiter's (2001) who presented burnout as a construct consisting of three dimensions: emotional exhaustion, depersonalization, and low personal accomplishment. Nurses, compared to other healthcare professionals, suffer from higher levels of burnout (Aiken et al. 2001).

Nurses have the greatest share of stress and burnout. This is because other healthcare professionals such as doctors do not spend enough time with patients. Nurses are at the forefront of dealing directly with patients. Accordingly, they spend the most time with patients and are liable to emotional strains that result from dealing with the sick and dying. Such stressful incidents may lead to burnout (Bloniasz 2011).

This may lead to some negative consequences, such as making clinical errors increasingly as well as patient may be dissatisfied with their care and staff turnover (Lyckholm 2001).

MINDFULNESS AND JOB BURNOUT

Mindfulness is used for to addressing job burnout. For example, Fortney, Luchterhand, Zakletskaia, Zgierska, and Rakel (2013) found that burnout decreased in primary care physicians as a result of participating in an 8-week Mindfulness Based Stress Reduction intensive training course. Goodman and Schorling (2012) had similar findings concerning job burnout after participating in mindfulness training with health care providers that included physicians, nurses, psychologists, and social workers.

As for nurses, Bazarko, Cate, Azocar, and Kreitzer (2013) implemented a Mindfulness Based Stress Reduction Course They administered the program in sessions through group telephone. Nurses who participated in this study demonstrated decrease in job burnout in post – testing (after eight weeks) and at follow-up stage (after four months). Irving, Dobkin, and Park (2009) reviewed and examined the benefits of using mindfulness-based stress reduction (MBSR) programs for enhancing well-being and coping with stress in clinicians. They found that clinicians benefited from their participation in mindfulness-based stress reduction in physical and mental health. Moreover, Michelle and Amanda (2016) found that the use of mindfulness practice reduced job burnout among health care professionals and teachers.

Jung and Myung (2015) found a positive influence between job satisfaction and mindfulness. However, job stress and burnout could be considered negative influences. It was concluded that mindfulness had a positive impact, but job stress and burnout had a negative impact, on job satisfaction.

Jing, Xiaohui and Hui (2019) surveyed nurses working in a tertiary Chinese hospital (n = 763), using mindfulness (i.e. acting with awareness, describing, and non-judging of experiences), burnout (i.e. emotional exhaustion, depersonalization, and personal accomplishment). Those who scored high on the three facets of mindfulness scored less on emotional exhaustion and depersonalization. Acting with awareness was the highest in regression coefficients. Personal accomplishment correlated positively with acting with awareness and describing and negatively with to non-judging of experiences.

RESILIENCE AND JOB BURNOUT

Some researchers (e.g. Mealer et al. 2014; Moon, Park, and Jung, 2013) came to investigate the correlation between resilience and burnout. They showed that resilience is the resource anybody can use to get away in a productive way from experiences that are traumatic or stressful. Resilience is regarded as one's ability to adapt coping strategies to lessen distress, and it is thought to help people in their endeavour to alleviate moral distress and burnout (Antanaitis, 2015).

Resilience was found to be a protective factor against work-related stress and an important variable for nurses' well-being as well as mental and physical health (McDonald, Jackson, Wilkes, and Vickers, 2013). Resilience among nurses is a necessary quality in order for them to overcome the negative effects of the places where they work. They acquire adversity and challenges by developing personal strengths (Tusaie and Dyer 2004).

Yu-Fang, Yuan-hui, and Jing (2018) found that nurses who participated in their study experienced severe burnout symptoms. Nevertheless, their level of resilience was moderate. The three components of burnout correlated negatively with the composite score of resilience.

PROBLEM STATEMENT

Findings of different research studies (Karanikola and Papathanassoglou, 2013; Leka, Hassard and Yanagida 2012; Hamaideh 2011; Currid 2009; Lautizi, Laschinger and Ravazzolo, 2009) concluded that work related stress has been in acceleration, which in turn, may lead to burnout among medical professionals, especially nurses. Nurses are exposed to the greatest stress and complex emotional demands because, as we know, it is a profession that involves offering helpings and close interpersonal working relationships with others, doctors and patients (Breen and Sweeney, 2013). All these episodes expose them to what is called burnout. While every person is considered to be an individual case, the effects of these stressors have a negative impact on the quality of the rendered care by nurses.

This study poses the following questions:
1 - Are there relationships between and among mindfulness, resilience and job burnout among nurses in public hospital?
2 - What are the combined effects of mindfulness and resilience on job burnout among nurses in public hospital?
3 - What is the relative contribution of mindfulness and resilience to job burnout among nurses in public hospital?

SIGNIFICANCE OF THE STUDY

This study could contribute to the literature on burnout among nurses working in public hospitals in Egypt. It can be said that awareness of burnout among nurses working in public hospitals in Egypt can be raised to the high level. Findings from this study can also inform policy makers about the prevalence of burnout in nurses as well as other employees, so they can adopt well valid and reliable scales to address burnout among nurses and other employees.

HYPOTHESES

Hypothesis 1: There is a negative correlation between mindfulness and job burnout.
Hypothesis 2: There is a negative correlation between resilience and job burnout.
Hypothesis 3: There is a positive correlation between mindfulness and resilience.
Hypothesis 4: There are combined effects of mindfulness and resilience on job burnout.
Hypothesis 5: Mindfulness and resilience contribute to job burnout.

METHOD

DESIGN

For the purpose of this study, quantitative survey research was employed. The independent variables are mindfulness and resilience, while the dependent variable is job burnout.

PARTICIPANTS

A convenient sampling method was used to recruit the participants. They were from different departments in the public hospitals El Mahalla El Kobra General Hospital, Chest Hospital, and El Mabrah hospital and Mahalla Fever Hospital selected: internal medicine, digestive medicine, neurology, nephrology, rheumatology, cardiology, pneumology, oncology, haematology, reception, and intensive care. The sample was composed of

130 nurses (all of them were females). The average age was 26.4 years (SD=8.23). The researcher told them that although he hoped that all of them could continue with him till the end of this study, that they were free to refuse or discontinue participation at any time. There are some exclusion criteria which consisted of medical condition or any other circumstances that would may or likely hinder or interfere with the ability and wish to participate in the study. The researcher told them that any information they would provide would be top secret and confidential. It would not be revealed to anyone.

INSTRUMENTS

The Freiburg Mindfulness Inventory (FMI). (Walach et al., 2006). It is a short form scale with 14 items. Each item was evaluated using a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Cronbach alpha coefficients was 0.90. For convergent validity of The Freiburg Mindfulness Inventory (FMI), correlation with The Five Factor Scale of Mindfulness (Al Beheri, Al Dabei, Teleb and Al Awamla,2014) was significant (r= 0.65, p< .01).

The Connor Davidson-Resilience Scale (CD-RISC). (Connor and Davidson, 2003). It is a 5-point Likert scale was used (0=not true at all, 4=true all the time). The scale is 25 items over three subscales (tenacity, strength and optimism). Respondents (here nurses) are asked to rate each item with reference to the previous month. Cronbach alpha coefficients were 0.93 for the composite score, 0.87, 0.85 and 0.90 for the three subscales. Using factor analysis procedure, the scale items loaded on the same three factors: tenacity, strength and optimism. For convergent validity of The Connor Davidson-Resilience Scale (CD-RISC), correlation with The Five Factor Scale of Resilience (Othman 2009) was significant (r= 0.60, p< .01).

Maslach Burnout Inventory (1996- 2016). It is 22 items with a 6-point Likert scale from 1 (never) to 6 (every day). The inventory consists of three subscales: emotional exhaustion, depersonalization, and personal accomplishment. Maslach Burnout Inventory Human Services Scale-Medical Personnel was designed to assess various aspects of burnout in health care workers, especially nurses and physicians. Those who had higher scores on both emotional exhaustion, depersonalization but lower scores for personal accomplishment are suffering from burnout. Total scores typically range from 22 – 132. The reliability of the scale in terms of internal consistency was assessed by Cronbach's α. The items demonstrated a satisfactory level of internal consistency reliability for the three subscales: emotional exhaustion, depersonalization, personal accomplishment and the scale as a whole (α = 0.89, 0.88, 0.90, and 0.92) respectively. For convergent validity of The Maslach Burnout Inventory Human Services Scale-Medical Personnel, correlation with the Burnout scale (Adel, 1994) was significant (r= 0.64, p< .01).

PROCEDURES

Prior to administering the scales, nurses were informed about purpose of the study and voluntarily completed a consent form. To ensure that the respondents responded to the items honestly and sincerely, they were told not to identify themselves in any way on the scale paper. They were also informed that they should not be concerned with anything concerns their participation in the study and their responses are for research purposes only and would be kept confidential. Each questionnaire took about 25 minutes to complete. All data were entered in an SPSS file.

DATA ANALYSIS

The data were analysed with Pearson correlation and multiple regression. Multiple regression was used to explore the relative contributions of both mindfulness and resilience to the prediction of job burnout among nurses in public hospital.

RESULTS

Descriptive data and inter-correlations

Table 1 shows the means, descriptive statistics and inter-correlations of mindfulness, resilience and job burnout. Table 1. shows that there are significant correlations between mindfulness, resilience and job burnout. Mindfulness correlates negatively with job burnout (*r* = -0.586), and

positively with resilience (r = 0.611). On the other hand, job burnout was found to be negatively correlated with resilience (r = -0.633).

Table 1. Descriptive statistics and inter-correlations of mindfulness, resilience and job burnout

Variables	1	2	3
Mindfulness	1.00		
Resilience	0.611**	1.00	
job burnout	-0.586**	-.633**	1.00
Mean	40.22	80.22	109.54
Standard deviation	8.63	7.19	7.29
** P <.01			

Mindfulness and Resilience as Predictors of Job Burnout

Results presented in table 2 show that the two independent variables (mindfulness and resilience) when put together yielded a coefficient of multiple regression (R) of 0.664 and a multiple correlation square of 0.621.

This shows that 62.1% of the total variance in job burnout of those who participated in the study is accounted for by the combination of mindfulness and resilience.

The table also indicates that the analysis of variance of the multiple regression data produced an F-ratio value significant at 0.05 level (F(2, 127) = 6.279; P < 0.01).

Table 2. The regression results of the Predictor Variables (mindfulness and resilience) and the Outcome Measure (job burnout). Model Summary b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change statistics				
					R Square change	F Change	Df1	Df2	Sig. F change
1	0.300a	0.664	0.621	18.20103	0.090	6.279	2	127	0.003

a. Predictors: (Constant), Resi, Min
b. Dependent Variable: JB

Table 3. Summary of Multiple Regression Analysis between the Predictor Variables (mindfulness and resilience) and the Outcome Measure (job burnout). ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	4160.269	2	2080.134	6.279	0.003a
Residual	42072.231	127	331.277		
Total	46232.500	129			

a. Predictors: (Constant), Resi, Min
b. Dependent Variable: JB.

As for results displayed in table 4, each of the two independent variables made significant individual contributions to the prediction of job burnout. The results indicated that the following beta weights which represented the relative contribution of the independent variables to the prediction were observed. Mindfulness (b = -0.840, t = -3.313; P < 0.01) and resilience (b = 0.414, t = 1.921, P < 0.05). Although the two variables made significant relative contribution to the prediction of job burnout, mindfulness is a more potent predictor.

Table 4. Relative Contribution of the Independent Variables to the Prediction of job burnout.

Coefficients a

Model	Unstandarized coefficients		Standarized coefficients	t	sig
	B	Std error	Beta		

1 (constant)	54.963	8.246		6.666	.000
Min	-0.840	0.253	-0.287	-3.313	0.001
Resi	0.414	0.215	0.166	1.921	0.057

a. Predictors: (Constant), Resi, Min
b. Dependent Variable: JB.

Figure 1. Regression Standardized Residual

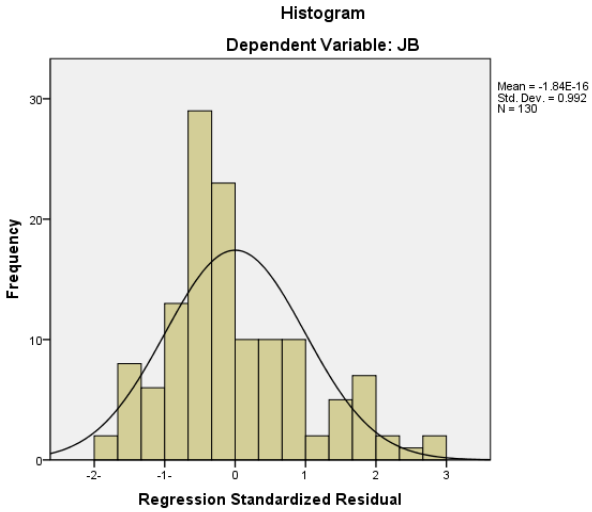


Figure 2. Normal P-P Plot of Regression Standardized Residual

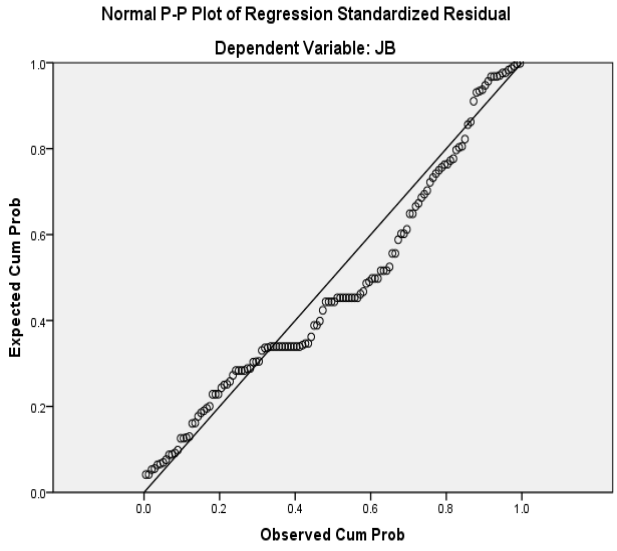
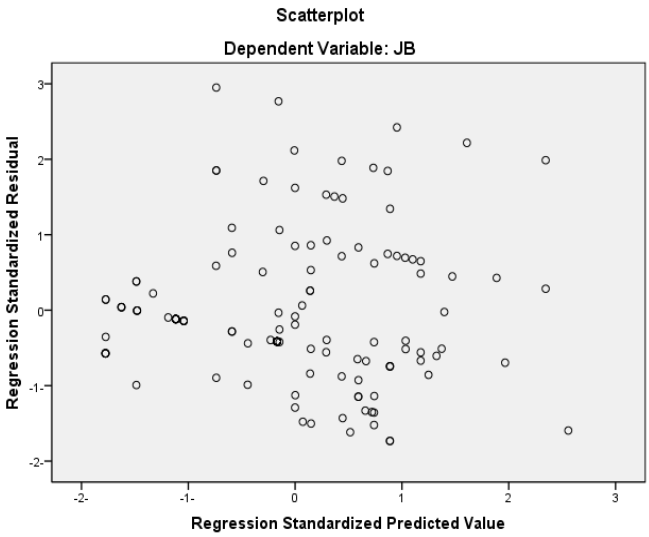


Figure 3. Scatterplot

As is shown in figure 1., the histogram of the residuals with a normal curve superimposed. The residuals look close to normal. The normal probability plot of the residuals as shown in figure 2.is approximately linear. This supports the condition that the error terms are distributed in a normal way. Overall, as shown in figure 3, the residual plot (see below) shows the residuals and a histogram with a normal distribution overlay.



DISCUSSION

The purpose of this study was to investigate the combined effects of two variables, namely, mindfulness and resilience on one outcome measure, namely, job burnout, as well as investigating the relative contribution of mindfulness and resilience to job burnout among nurses in public hospital. Additionally, the aim was to find out if there were relationships between and among mindfulness, resilience and job burnout in nurses in public hospitals. In this regard, the findings extend our knowledge on the association between mindfulness, resilience and job burnout in nurses in public hospitals.

Findings from table 1. indicated that there are significant correlations between mindfulness, resilience and job burnout. Mindfulness correlates negatively with job burnout and positively with resilience. Mindfulness is among many other factors that may facilitate well-being and buffer against stress and burnout in healthcare professionals such as emotional intelligence,

empathy, self-compassion, mindfulness and resilience (Satterfield, Swenson and Rabow 2009).

On the other hand, job burnout was found to be negatively correlated with resilience. This finding is in the same wine with Satterfield, Swenson and Rabow's (2009) who found that physician empathy and emotional intelligence were not significantly correlated with burnout or resilience. Self-compassion and mindfulness were positively associated with resilience and inversely associated with burnout. And with Sarah et al. (2017) who concluded that dispositional mindfulness was supported as a protective factor against burnout.

Table 4. showed that two independent variables made significant individual contributions to the prediction of job burnout. The results indicated that the following beta weights which represented the relative contribution of the independent variables to the prediction were observed. Although the two variables made significant relative contribution to the prediction of job burnout, mindfulness is a more potent predictor.

Nurses are exposed to high stress levels more than others in the healthcare profession and this in turn can lead to decreased job satisfaction and perhaps their increased intent to leave nursing practice altogether (Rushton, Batcheller, Schroeder and Donohue, 2015) Nurses who possess the ability to respond to life and career challenges mindfully and resiliently can stand in the face of burnout. They have the ability to turn stressful events into opportunities for personal growth and benefit, as indicated by Santhosh and James (2013).

One can presume that what distinguishes those nurses who are able to handle their job burnout from others is that they are characterized by mindfulness and resilience. It can be assumed that individuals with higher levels of total mindfulness and resilience, are more likely to have lower scores in job burnout or at least their job burnout decreases.

CONCLUSION

In conclusion, the present study provided evidence that the two independent variables made significant individual contributions to the prediction of job burnout. Burnout scores are significantly higher for hospital nurses than for other healthcare professionals. However, when an individual (nurse, here) is able to be mindful and resilient, the impact of job burnout is lessened. Mindfulness and resilience are more likely to buffer the negative effect of job burnout. They can be important protective factors against job burnout and its negative consequences.

Finally, the findings have implications for prevention of job burnout among nurses in Egypt. Therefore, policy makers are invited to combat job burnout among nurses and other healthcare professionals. This they can be through teaching them how to be mindful and resilient. The results of this study pointed to the importance of including mindfulness and resilience in job burnout prevention programs.

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MISUNDERSTANDINGS ABOUT AND MISAPPLICATIONS OF PLAGIARISM TECHNIQUES

Abstract: Plagiarism is regarded as the act of "taking credit for or benefitting from somebody else's ideas, words, concepts, formulations, etc. without giving due credit by means of referencing or quoting, and presenting work for personal benefit which does not contain individual authorship (Brown University Writing Centre 2015). In this paper, I will present to you some misunderstandings about and misapplications of plagiarism techniques. And how some journals and universities use tools to detect something they call "Citations Ratios" instead of plagiarism.

Keywords: misunderstandings, misapplications, plagiarism, techniques

Mahmoud A. Mansy, PhD
Full Professor of Educational Psychology
Faculty of Education
Alexandria University
Egypt
Contact:
E-mail: dr.mmansy@yahoo.com

Mourad Ali Eissa Saad, PhD
Full Professor of Special Education
Vice president of KIE University
Kie University
Egypt
Contact:
E-mail: profmouradali@gmail.com

INTRODUCTION

Plagiarism can take different forms including: “copy and paste” without quotes and acknowledging the source; patch-writing; providing wrong or incomplete citation or references; presenting or citing the secondary source as a primary source; ghost-writing; purloining; and contract cheating (Ellis, Zucker and Randall 2018; Zafarghandi, Khoshroo and Barkat 2012).

Plagiarism occurs when someone: 1) uses words, ideas, or work products; 2) attributable to another identifiable person or source; 3) without attributing the work to the source from which it was obtained; 4) in a situation in which there is a legitimate expectation of original authorship; 5) in order to obtain some benefit, credit, or gain which need not be monetary (Jerebet al. 2018).

HOW PEOPLE MISUNDERSTAND AND MISAPPLY PLAGIARISM MEANING

I witnessed some vague and strange acts by, I can say, some scientific journals in certain countries. Those people, unfortunately, misunderstand plagiarism meaning. Let's state the definition of plagiarism here again with certain focus on certain ponts in this definition:

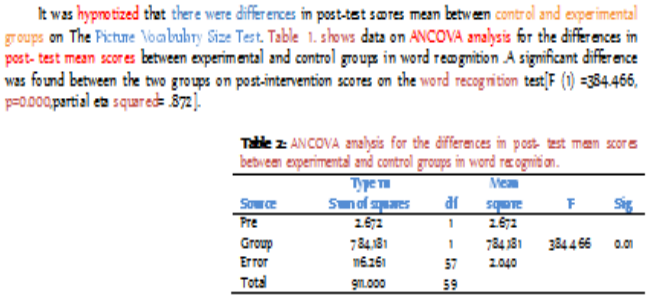
"Taking credit for or benefitting from somebody else’s ideas, words, concepts, formulations, etc. without giving due credit by means of referencing or quoting, and presenting work for personal benefit which does not contain individual authorship"

From the above-mentioned definition, quoting somebody else’s ideas, words, concepts, formulations, etc. with giving due credit by means of referencing or quoting cannot be plagiarism. I think it is illegal to write sentences and attribute them to someone else that he/she did not say them this way. What is considered to be plagiarism is taking credit for or benefitting from somebody else’s ideas, words, concepts, formulations, etc. without giving due credit by means of referencing or quoting, not the opposite.

EXAGGERATION IN PLAGIARISM

Some journals exaggerate in checking what they call" Plagiraism" to appear as if they color each word the author has written, as in the following exerpt:

Example 1.



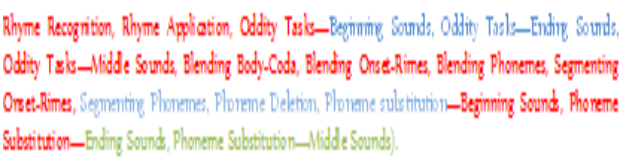
It was hypnotized that there were differences in post-test scores mean between control and experimental groups on The Picture Vocabulary Size Test. Table 1. shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in word recognition .A significant difference was found between the two groups on post-intervention scores on the word recognition test[F (1) =384.466, p=0.000,partial eta squared= .872].

Table 2: ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in word recognition.

Source	Type III Sum of squares	df	Mean square	F	Sig.
Pre	2.672	1	2.672		
Group	784.181	1	784.181	384.466	0.01
Error	116.261	57	2.040		
Total	911.000	59			

The following excerpt is from plagiarism checking by a journal. The author presented the dimensions that the original author used in his scale. The author adopted and referred to the original author when he described the scale. However, the journal team coloured each word as follows:

Example 2.

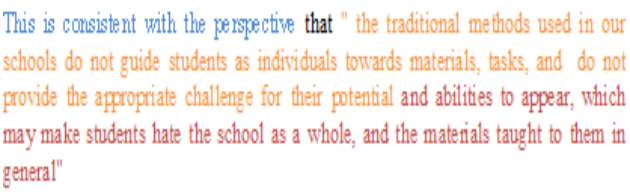


Rhyme Recognition, Rhyme Application, Oddity Tasks—Beginning Sounds, Oddity Tasks—Ending Sounds, Oddity Tasks—Middle Sounds, Blending Body-Coda, Blending Onset-Rimes, Blending Phonemes, Segmenting Onset-Rimes, Segmenting Phonemes, Phoneme Deletion, Phoneme substitution—Beginning Sounds, Phoneme Substitution—Ending Sounds, Phoneme Substitution—Middle Sounds).

SELF - PLAGIARISM

It said " when the author has added research on a previously published article, book, contributed chapter, journal, and presents it as a new without acknowledging the first article or taking permission from the previous publisher". (Yam Bahadur Roka, 2017). Although some authors have permissions from the publishers of their previously published works, and they refer to this in their current articles to be published, some educational systems (those who are responsible for checking pagiarism in certain countries) regard writing someone's own ideas and thoughts to be plagiaism, and write this under "Self Plagiarism"

Example 3.



This is consistent with the perspective that " the traditional methods used in our schools do not guide students as individuals towards materials, tasks, and do not provide the appropriate challenge for their potential and abilities to appear, which may make students hate the school as a whole, and the materials taught to them in general"

Preventing a person from using his/her words, thoughts, and observations on the grounds that this plagiarism is unacceptable.

WE ARE TEACHING STUDENTS AND RESEARCHERS TO PLAGIARIZE

Paraphrasing. Paraphrasing is a common type of plagiarism in which students/author/researcher comes to alter a few words but retaining the same sentence structure the original author used. Sometimes, it goes undetected. In my opinion it is "The hidden defect" because, in order to avoid plagiarism, students/author/researcher resort to this method. In our Arab world, for instance, each underlined word from detecting tool is counting.

Mosaic Plagiarism. Mosaic Plagiarism happens when a new author uses the previous article text by replacing, reordering or rephrasing the words or sentences to give it new look without acknowledging the original author (Yam Bahadur Roka, 2017). In my opinion, this is a dishonest act as students/author/researcher uses words to deceive and convince the readers that he has not stolen another authors central idea, or inspires others that this is his original ideas.

FINAL REMARKS

- Although iThenticate® is one of the common plagiarism detection program that has access to nearly 226,000 journals, detects major copies, articles where the text has been rephrased or substituted by synonyms (known as Rogeting after Roget's Thesaurus), it may fail to detect the copies (Yam Bahadur Roka 2017). Students need to be learnt to be honest in giving due credit the others' ideas, words, concepts, formulations, etc. by means of referencing or quoting.

- Plagiarism is not and cannot be synonymous to citation ratio. Some systems consider giving due credit the others' ideas, words, concepts, formulations, etc. by means of referencing or quoting plagiarism. Accordingly, they teach researchers and students to steal and plagiarize without their awareness, where students paraphrase sentences to appear differently from the original source and if it carries the meaning intended by the original author in order to avoid citation ratio. All this is considered unethical unless students /researchers write the ideas in their own words depending on their understandings of the text.

- In the Islamic sciences, such as the science of prophetic Hadith, it is impossible for the researcher to change what the Prophet (peace and blessings of Allaah be upon him) said, so he/she may fall under the weight of the large percentage of the quotation, and his/her research is exposed to be rejected accordingly.

- In the educational sciences, the researcher may follow a specific model for one of the authors. Therefore, he may write all parts of the model, especially if that model carries the training aspect. What can the researcher do? The researcher will be shocked by the so-called plagiarism or what we call the error rate of quotation, hence his effort and effort are in vain.

- We need to re-consider the concepts, especially the difference between plagiarism and the concept of quotation ratio, and if what the researcher wrote is plagiarism and when it is not so.

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ATTENTION-DEFICIT/HYPERACTIVITY DISORDER: INSIGHTS FROM DSM-5

Abstract: Attention Deficit Hyperactivity Disorder is a common neurodevelopmental disorder. This article examines attention-deficit/hyperactivity disorder. The focus is on the Diagnostic Criteria in DSM-5, age of onset, gender differences diagnostic features, prevalence, differential diagnosis, risk and prognostic factors and comorbidity are discussed.

Keywords: attention-Deficit/Hyperactivity Disorder, DSM-5 Diagnostic criteria, gender differences, prevalence, differential diagnosis, risk and prognostic factors

Adel El Saied El Banna, PhD
Full Professor of Psychological Measurement and Evaluation
Former Dean of Education College
Damanhour University
Egypt
Contact:
E- mail: adel.elbanna@edu.dmu.edu.eg

Mourad Ali Eissa Saad, PhD
Full Professor of Special Education
Vice president of KIE University
Kie University
Egypt
E-mail: profmouradali@gmail.com

INTRODUCTION

The American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM) is a classification of mental disorders with associated criteria designed to facilitate more reliable diagnoses of these disorders (Mourad Ali, 2018). Attention deficit hyperactivity disorder (ADHD) is a disorder characterized by difficulties paying attention, poor impulse control, and hyperactive behaviours. ADHD starts in early childhood and persists in adulthood in 40–60% of cases (Stéphanie et al., 2018). According to the DSM-5, diagnosis of ADHD requires a persistent pattern of inattention and/or hyperactivity and impulsivity that interferes with function and development. The symptoms of ADHD negatively impact many aspects of individuals' lives, families, and society, including but not limited to, educational and social outcomes, strained parent-child relationships, and increased utilization of and spending on healthcare services (Yuyang et al., 2019).

DIAGNOSTIC CRITERIA IN DSM-5

To be diagnosed with ADHD, a person needs to fulfil the following criteria (American Psychiatric Association 2013, P.59-60):

A. persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development, as characterized by (1) and/or (2):

1. Inattention: Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities:

Note: The symptoms are not solely a manifestation of oppositional behaviour, defiance, hostility, or failure to understand tasks or instructions. For older adolescents and adults (age 17 and older), at least five symptoms are required.

a. Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or during other activities (e.g., overlooks or misses details, work is inaccurate).
b. Often has difficulty sustaining attention in tasks or play activities (e.g., has difficulty remaining focused during lectures, conversations, or lengthy reading).
c. Often does not seem to listen when spoken to directly (e.g., mind seems elsewhere, even in the absence of any obvious distraction).
d. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., starts tasks but quickly loses focus and is easily side-tracked).
e. Often has difficulty organizing tasks and activities (e.g., difficulty managing sequential tasks; difficulty keeping materials and belongings in order; messy, disorganized work; has poor time management; fails to meet deadlines).
f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (e.g., schoolwork or homework; for older adolescents and adults, preparing reports, completing forms, reviewing lengthy papers).
g. Often loses things necessary for tasks or activities (e.g., school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).
h. Is often easily distracted by extraneous stimuli (for older adolescents and adults, may include unrelated thoughts).
i. Is often forgetful in daily activities (e.g., doing chores, running errands; for older adolescents and adults, returning calls, paying bills, keeping appointments).

2. Hyperactivity and impulsivity: Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities:

Note: The symptoms are not solely a manifestation of oppositional behaviour, defiance, hostility, or a failure to understand tasks or instructions. For older adolescents and adults (age 17 and older), at least five symptoms are required.

a. Often fidgets with or taps hands or feet or squirms in seat.
b. Often leaves seat in situations when remaining seated is expected (e.g., leaves his or her place in the classroom, in the office or other workplace, or in other situations that require remaining in place).
c. Often runs about or climbs in situations where it is inappropriate. (Note: In adolescents or adults, may be limited to feeling restless.)
d. Often unable to play or engage in leisure activities quietly.
e. Is often "on the go," acting as if "driven by a motor" (e.g., is unable to be or uncomfortable being still for extended time, as in restaurants, meetings; may be experienced by others as being restless or difficult to keep up with).
f. Often talks excessively.
g. Often blurts out an answer before a question has been completed (e.g., completes people's sentences; cannot wait for turn in conversation).
h. Often has difficulty waiting his or her turn (e.g., while waiting in line).
i. Often interrupts or intrudes on others (e.g., butts into conversations, games, or activities; may start using other people's things without asking or receiving permission; for adolescents and adults, may intrude into or take over what others are doing).

AGE OF ONSET

The age of onset criterion (onset of symptoms before or at 7 years of age) is difficult for adults to meet, since many do not recall their functioning before 7, and parent retrospective recall has limited accuracy and may not be available (Lily et al., 2011).

GENDER DIFFERENCES IN THE MANIFESTATION

ADHD is more frequently identified in boys than girls (Barkley, 2014). According to DSM-5, the male-to-female ratio ranges from 2:1 in children and 1.6:2 in adults (American Psychiatric Association, 2013).

DIAGNOSTIC FEATURES

Attention-deficit/hyperactivity disorder (ADHD) is marked by an ongoing pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development. *Inattention* manifests behaviourally in ADHD as wandering off task, lacking persistence, having difficulty sustaining focus, and being disorganized and is not due to defiance or lack of comprehension. *Hyperactivity* refers to excessive motor activity (such as a child running about) when it is not appropriate, or excessive fidgeting, tapping, or talkativeness. In adults, hyperactivity may manifest as extreme restlessness or wearing others out with their activity. *Impulsivity* refers to hasty actions that occur in the moment without forethought and that have high potential for harm to the individual (e.g., darting into the street without looking). Impulsivity may reflect a desire for immediate rewards or an inability to delay gratification. Impulsive behaviours may manifest as social intrusiveness (e.g., interrupting others excessively) and/or as making important decisions without consideration of long-term consequences (e.g., taking a job without adequate information) (American Psychiatric Association 2013)

PREVALENCE

ADHD is among the most common psychiatric disorders with a prevalence rate of 3–5 %. The prevalence of ADHD in adults across twenty countries was recently estimated at 2.8%, with a range between 1.4 - 3.6% (Kooij et al. 2019).

DIFFERENTIAL DIAGNOSIS

- ADHD frequently co-occurs with oppositional defiant disorder (ODD), conduct disorder (CD), anxiety disorders (e.g. generalized anxiety disorder, social anxiety), and depressive disorders (e.g. major depression) (Irene et al., 2016).
- *Intellectual disability (intellectual developmental disorder).* Symptoms of ADHD are common among children placed in academic settings that are inappropriate to their intellectual ability. In such cases, the symptoms are not evident during non-academic tasks. A diagnosis of ADHD in

intellectual disability requires that inattention or hyperactivity be excessive for mental age. (American Psychiatric Association 2013)

- *Autism spectrum disorder.* Individuals with ADHD and those with autism spectrum disorder exhibit inattention, social dysfunction, and difficult-to-manage behaviour. The social dysfunction and peer rejection seen in individuals with ADHD must be distinguished from the social disengagement, isolation, and indifference to facial and tonal communication cues seen in individuals with autism spectrum disorder. Children with autism spectrum disorder may display tantrums because of an inability to tolerate a change from their expected course of events. In contrast, children with ADHD may misbehave or have a tantrum during a major transition because of impulsivity or poor self-control. (American Psychiatric Association 2013).
- *Anxiety disorders.* According to the DSM-5, anxiety disorders involve anticipation of a future threat and the accompanying emotional, behavioural, and physiological symptoms (American Psychological Association, 2013).
- *Depressive disorders.* According to the DSM-5 (2013), common features of depression include sad or irritable mood accompanied by somatic and cognitive changes that impact functioning. Individuals may experience fatigue and sleep disturbance.
- *Personality disorders.* In adolescents and adults, it may be difficult to distinguish ADHD from borderline, narcissistic, and other personality disorders. All these disorders tend to share the features of disorganization, social intrusiveness, emotional dysregulation, and cognitive dysregulation.
- *Neurocognitive disorders.* Early major neurocognitive disorder (dementia) and/or mild neurocognitive disorder are not known to be associated with ADHD but may present with similar clinical features. These conditions are distinguished from ADHD by their late onset (American Psychological Association, 2013).
- *Specific learning disorder***.** Children with specific learning disorder may appear inattentive because of frustration, lack of interest, or limited ability. However, inattention in individuals with a specific learning disorder who do not have ADHD is not impairing outside of academic work (American Psychological Association, 2013).
- *Oppositional defiant disorder*. Individuals with oppositional defiant disorder may resist work or school tasks that require self-application because they resist conforming to others' demands. Their behaviour is characterized by negativity, hostility, and defiance (American Psychological Association, 2013).

INTRODUCTION RISK AND PROGNOSTIC FACTORS

- *Temperamental.* ADHD is associated with reduced behavioural inhibition, effortful control, or constraint; negative emotionality; and/or elevated novelty seeking.
- *Environmental.* Very low birth weight (less than 1,500 grams) conveys a two- to threefold risk for ADHD, but most children with low birth weight do not develop ADHD. Although ADHD is correlated with smoking during pregnancy, some of this association reflects common genetic risk. Exposure to environmental toxicants has been correlated with subsequent ADHD, but it is not known whether these associations are causal.
- *Genetic and physiological.* ADHD is elevated in the first-degree biological relatives of individuals with ADHD. The heritability of ADHD is substantial. While specific genes have been correlated with ADHD, they are neither necessary nor sufficient causal factors. Visual and hearing impairments, metabolic abnormalities, sleep disorders, nutritional deficiencies, and epilepsy should be considered as possible influences on ADHD symptoms (American Psychiatric Association 2013, P.62)

COMORBIDITY

ADHD is often associated with other disorders. Children with ADHD often exhibit comorbid conditions, such as depression, anxiety, and oppositional defiant disorder (ODD), with psychiatric comorbidity rates around 50% (Nour et al. 2017). Personality disorders in adults including Antisocial Personality Disorder and Borderline Personality Disorder, as well as substance abuse disorders are commonly associated with ADHD (Simon et al. 2017). Sleep disorders are another

comorbidity that affect children with ADHD at a much higher level than normally developing children. Furthermore, these sleep disturbances can further aggravate the symptoms of ADHD such as inattention and motor skill dysfunction (Simon et al., 2017). Obesity has been linked with ADHD both in childhood and adulthood in several major longitudinal studies and meta analyses, making it one of the most common comorbidities of ADHD with males being more afflicted with the condition. ADHD was one of the most common risk factors for impulsive internet use and Internet Gaming Disorder (IGD) (Simon et al. 2017). Adult ADHD Hyperactive Impulsive presentation is highly correlated with problematic gambling and had the highest rates of video game addiction (Romo et al. 2015). Addictive behaviours are among the most prominent behavioural tendencies associated with the disorder which can lead to pathological comorbidities such as various types of addictions and dependencies (Simon et al. 2017).

CONCLUSION

Attention-deficit/hyperactivity disorder (ADHD) is a chronic neurodevelopmental disorder with core symptoms of inattention, hyperactivity, and impulsivity. with the introduction of DSM-5, it is no longer classified as a childhood disorder but as a chronic lifelong disorder. ADHD is associated with significant impairment of cognitive, emotional, and psychosocial functioning (i.e., self-esteem, academic performance, and social acceptance, parent–child and family relationships). It is associated with at-risk behaviours and comorbid psychiatric disorders and affects several areas of life, such as psychosocial functioning, school, work, and health care access and health care use (Stéphanie et al. 2018). A wide range of comorbid behavioural and psychiatric conditions are associated with ADHD, including learning disabilities, language disorders, mood disorders, anxiety, and conduct/oppositional disorder. These comorbid problems can complicate both diagnosis and treatment of ADHD (Yuyang et al. 2019). In adulthood, ADHD is associated with poor functional out-comes, including lower rates of professional employment, more frequent job changes and more difficulties at work, lower socioeconomic status, higher rates of separation and divorce, more traffic violations and accidents, more convictions and incarcerations, more risky sexual behaviour and unwanted pregnancies and higher rates of psychiatric comorbidity (Lily et al. 2011).

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