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Original Article

The relationship of loneliness and attitude towards social deviances among nursing and health students during the coronavirus 2019 pandemic

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Abstract

Background and aims: Loneliness can increase stress, anxiety, and engagement in social deviances (SDs) among adolescents and youngsters. The present study was conducted to evaluate the relationship of loneliness and attitude towards SDs among nursing and health students during the coronavirus disease 2019 pandemic.

Methods: This cross-sectional descriptive-analytical study was conducted in 2020. Participants were 105 nursing and health students of Ramsar Faculty of Nursing, Mazandaran, Iran. Data were collected using the Revised UCLA Loneliness Scale and the Social Deviances Attitude Scale. Data were entered into the SPSS software (v. 16.0) and analyzed through the independent-sample *t*, Mann Whitney U, and Kruskal-Wallis tests, the analysis of variance, the Spearman's correlation analysis, and the multiple regression analysis.

Results: Most participants were female (73.3%) and single (90.5%) and studied nursing (55.2%). The mean scores of loneliness and attitude towards SDs were 40.19 ± 10.51 and 68.57 ± 8.32, respectively. The highest dimensional score of attitude towards SDs was related to the drug abuse dimension (15.31 ± 2.65). Loneliness had significant relationship with attitude towards SDs and all its dimensions ($P < 0.05$). The significant predictors of loneliness were attitude towards SDs, its aggression dimension, family income, father's occupation, and father's educational level ($P < 0.05$).

Conclusion: Students have low level of loneliness and negative attitude towards SDs. Attitude towards SDs, its aggression dimension, family income, father's occupation, and father's educational level are the significant predictors of loneliness. Health and education policy makers need to use strategies to reduce students' loneliness in order to reduce the risk of their engagement in SDs.

Keywords: Loneliness, Social deviances, Attitude, Student, Coronavirus disease 2019

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Introduction

Loneliness is an unpleasant feeling experienced when there is a gap between optimum and available social relationships (1,2). It is common among all age and cultural groups (3). Advances in technology and mechanization of life have turned loneliness into a highly prevalent global phenomenon. Statistics show that one fourth of people suffer from loneliness (4).

Many different factors can contribute to loneliness. Some personality traits such as timidity, social anxiety, low self-esteem, low social skills, dissatisfaction with social relationships, and excessive use of internet can reduce family relationships and social interactions and thereby, lead to loneliness (5-8). Studentship at university is also a major factor contributing to loneliness. University education is associated with distance from family and family members' social and emotional support and hence, most students experience doubt, bafflement, and anxiety, while close relationships with people other than family members cannot prevent such feelings. Moreover, some students may experience loneliness due to factors such as educational problems, disinterest in their field of education, dormitory life, and inability to cope with educational problems (6).

Frequent experience of loneliness can be associated with destructive physical, mental, and emotional effects. Loneliness is associated with stress, anxiety, depression, low self-confidence, poor academic performance, truancy, drop out, high-risk behaviors such as cigarette smoking, drug abuse, and suicide, social deviances (SDs) (6-10), and cognitive, emotional, and behavioral mal-adaptation (2). A study showed that loneliness and self-alienation had significant relationship with SDs (11). Another study also reported a significant relationship between loneliness and tendency towards drug abuse (12).

SDs refer to behaviors which endanger personal health, such as cigarette smoking, alcohol consumption, and unsafe sexual relationships, or behaviors which endanger others' health such as robbery, aggression. The most common SDs are excessive alcohol consumption, drug abuse, unsafe sexual relationships, risky driving, extreme sport activities, gambling, and illegal activities (4). Despite great efforts in recent two decades to improve public awareness of SDs, the prevalence of SDs is progressively

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increasing, particularly among adolescents and young individuals (13). A study reported that the most prevalent SDs among adolescents in Tehran, Iran, were tendency towards the opposite gender, sexual relationships, alcohol consumption, cigarette smoking, and drug abuse (14). Another study also reported the high prevalence of high-risk behaviors among adolescents and youngsters (15,16).

Infectious diseases outbreaks, such as the coronavirus 2019 (COVID-19) pandemic, are one of the most important factors which can lead to loneliness and SDs. In March 11 2020, the World Health Organization reported COVID-19 as a public health emergency and an international concern and highlighted that it can turn into a pandemic due to the rapid spread of the disease worldwide (17). According to the latest reports of the World Health Organization, the number of patients with COVID-19 and COVID-19-related deaths by February 28, 2022 was respectively more than 435 million and around six million in the world and 7 040 467 and 136 631 in Iran (18). COVID-19 outbreak and its high communicability caused widespread fear, anxiety, and concerns (19) and necessitated home quarantine and closure of many educational and recreational centers (20), which in turn led to severe feeling of loneliness for many people (21). In pandemic conditions, most people may resort to maladaptive coping strategies and engage in high-risk behaviors such as cigarette smoking, alcohol consumption, and drug abuse (22). Moreover, encountering with COVID-19 and its related news may make individuals show unusual reactions and cause them psychological disorders. Accordingly, individuals with psychological disorders may experience symptom aggravation and suicidal thoughts during the COVID-19 pandemic (23). Moreover, the COVID-19 pandemic may lead to social aggression (24). The excessive use of social media to access and share information and strengthen virtual relationships during the pandemic can also lead to addiction to social networks (25).

A major prerequisite to the effective prevention of SDs is to study their coincidence and their inter-relationships (17). A clear understanding of behaviors, such as SDs, and their contributing factors is the basis for developing effective behavior modification programs (18). The present study was conducted to evaluate the relationship of loneliness and attitude towards SDs among nursing and health students during the COVID-19 pandemic.

Methods

Design

This cross-sectional descriptive-analytical study was conducted in 2020.

Participants and setting

Study population comprised all 210 students of Ramsar Faculty of Nursing in 2020. Eligible students were recruited to the study through a census. Eligibility criteria were studentship in the study setting and agreement for participation and exclusion criterion was history of depression and behavioral disorders. Because of the suspension of face-to-face educational activities during the COVID-19 pandemic in the study setting, sampling and data collection were performed online. In total, 105 eligible students participated in the study.

Instruments

Data were collected using the Revised UCLA Loneliness Scale and the Social Deviances Attitude Scale. The Revised UCLA Loneliness Scale, developed by Russel et al. in 1980, has ten positively-worded and ten negatively-worded items. Positively-worded items are scored on a four-point scale as follows: 1: "Never"; 2: "Rarely"; 3: "Sometimes"; and 4: "Always". Negatively-worded items (i.e., items 1, 5, 6, 9, 10, 15, 16, 19, and 20) are reversely scored. Therefore, the possible total score of loneliness was 20–80 with higher scores indicating greater loneliness. Scores more than 50 are interpreted as great loneliness and scores less than 50 are interpreted as low loneliness. The test-retest correlation coefficient of this scale was 0.89 (26). Studies on non-Iranian students (27,28) and Iranian students (29-31) confirmed the acceptable validity and reliability of the scale.

The Social Deviances Attitude Scale, developed by Aghaei and Taimurtash in 2009, assesses personal attitude towards some SDs with 42 items on robbery, aggression, drug abuse, sexual promiscuity, suicide, and running away from home. Items are scored on a five-point scale from 1 ("Completely disagree") to 5 ("Completely agree") and hence, the total possible score of the scale is 42–210 with higher scores showing more positive attitude towards SDs. Scores 42–85, 85–154, and 154–210 are interpreted as negative, relatively positive, and positive attitude towards SDs or no predisposition, relatively high predisposition, and high predisposition to SDs, respectively. Aghaei and Taimurtash found the acceptable criterion validity of this scale and reported that its Cronbach's alpha was 0.85 (32). Another study administered this scale to thirty individuals and found that its Cronbach's alpha was 0.80 (33). The validity and reliability of this scale were re-evaluated in the present study. Accordingly, fifteen experts commented on the grammar, wording, and allocation of the items. Moreover, they commented on the essentiality of each item on a three-point Likert scale (1: "Not essential"; 2: "Useful but not essential"; and 3: "Essential") and their rating scores were used to calculate the content validity ratio of each item. Results showed that except for item 40, all items had acceptable content validity ratio. Therefore, item 40 was deleted. Content validity index was also calculated based on fifteen students' verbal comments on item difficulty, relevance, and clarity. The content validity index of all items was more than 0.79. Then, impact score was calculated for each item to reduce the number of items. Items 38 and 42 had low item impact score (less than 1.5) and were deleted. For reliability assessment, thirty students who were not among study participants twice completed the scale with a two-week interval. Test-retest intraclass

correlation coefficient was 0.75. Cronbach's alpha of the scale was also 0.75.

Data analysis

The SPSS software (v. 16.0) was used to analyze the data. Statistical methods for data analysis were the independent-sample *t*, Mann Whitney U, and Kruskal-Wallis tests, the analysis of variance, the Spearman's correlation analysis, and the multiple regression analysis.

Results

The mean of participants' age was 21.86 ± 3.06 years in the 18–42 range. Most participants aged 20–25 years (87.6%), were female (73.3%) and married (90.5%), and lived in private house (92.4%) (Table 1).

The mean score of attitude towards SDs was 68.57 ± 8.32, indicating participants' negative attitude towards SDs. The highest dimensional score of attitude towards SDs was related to the drug abuse dimension (15.31 ± 2.65) (Table 2). The mean score of attitude towards SDs had significant relationship with history of drug abuse ($P = 0.007$) (Table 1).

The mean score of loneliness was 40.19 ± 10.51. The loneliness score of most participants (79%) was less than

Table 1. Participants' demographic characteristics and their relationships with loneliness and attitude towards social deviances

Characteristics		N	%	Loneliness		Attitude towards social deviance	
				Mean ± SD	*P* value	Mean ± SD	*P* value
Gender	Male	28	26.7	38.64 ± 9.42	0.550[b]	70.14 ± 9.62	*t* = 1.168[a] *P* = 0.2249
	Female	77	73.3	40.75 ± 10.89		68 ± 7.79	
Age (y)	<20	9	6.8	40.55 ± 8.80	0.897[b]	09.8 ± 44.68	F* (2.102) = 0.239 P = 0.778
	20–25	92	87.6	40.21 ± 10.81		68.70 ± 8.25	
	>25	4	3.8	38.75 ± 8.73		65.7 ± 3.86	
Field of education	Nursing	58	2.55	70.9 ± 13.41	0.154[b]	69.72 ± 8.64	t = 1.587[a] *P* = 0.116
	Health	47	8.44	.4411 ± .0239		67.14 ± 7.77	
Family income (Million Tomans)	<1	3	2.9	55.66 ± 15.69	0.027[b]	65.66 ± 10.96	F* (3.101) = 1.429 *P* = 0.239
	1–2	20	19	45.35 ± 11.36		71.20 ± 7.29	
	2–3	35	33.3	40.31 ± 10.32		66.71 ± 8.17	
	>3	47	44.8	37.10 ± 8.70		69.02 ± 8.59	
Father's occupation	Worker	10	9.5	54.70 ± 9.76	<0.001[c]	69.10 ± 8.31	F* (2.102) = 0.025 *P* = 0.975
	Employee	39	37.1	38.94 ± 9.09		68.43 ± 9.45	
	Self-employed	56	53.3	38.46 ± 9.69		68.57 ± 7.62	
Mother's occupation	Housewife	73	69.5	40.52 ± 11.01	0.725 P¥ =	69.23 ± 7.88	F* (2.102) = 1.084 P = 0.342
	Employee	24	22.9	39.29 ± 8.24		66.37 ± 9.94	
	Self-employed	8	7.6	39.87 ± 12.90		69.12 ± 8.32	
Father's educational level	Illiterate	5	4.8	48 ± 10.07	0.137[c]	66.20 ± 4.71	F* (3.101) = 1.066 P = 0.376
	Below diploma	21	20	43.14 ± 11.87		70.85 ± 6.66	
	Diploma	48	45.7	39.85 ± 10.77		68.85 ± 8.15	
	University	31	29.5	37.45 ± 8.35		66.96 ± 9.81	
Mother's educational level	Illiterate	5	4.8	54 ± 9.30	0.066[c]	3 ± 69	F* (3.101) = 0.730 *P* = 0.537
	Below diploma	30	28.6	40.43 ± 12.26		69.60 ± 7.25	
	Diploma	43	41	39 ± 9.87		69.06 ± 8.54	
	University	27	25.7	39.25 ± 7.99		66.55 ± 9.67	
Place of residence	Rented	8	7.9	38.50 ± 14.97	0.368[b]	70.62 ± 8.91	t = 0.724[a] *P* = 0.471
	Private	97	92.4	40.32 ± 10.15		68.40 ± 8.30	
Marital status	Single	95	90.5	40.62 ± 10.72	0.143[b]	68.73 ± 8.56	t = 0.986[a] *P* = 0.326
	Married	10	5.9	36.10 ± 7.48		66.160 ± 5.32	
Educational semester	1–4	42	40	42.07 ± 10.23	0.074[b]	69.71 ± 9.52	t = 1.150[a] *P* = 0.253
	>4	63	60	38.93 ± 10.59		67.80 ± 7.40	
Drug abuse	Yes	2	1.9	36.50 ± 23.33	0.760P ^ =	68.78 ± 7.94	t = - 2.752[a] *P* = 0.007
	No	103	98.1	40.26 ± 10.35		53 ± 16.97	
Mobile phone addiction	Yes	48	45.7	40.83 ± 10.95	-0.738[b]	68.75 ± 8.88	t = 0.201[a] *P* = 0.841
	No	57	54.3	39.64 ± 10.19		68.42 ± 7.91	

* The results of the analysis of variance; [a] The results of the independent-sample *t* test;[b] The results of the Mann-Whitney U test; [c] The results of the Kruskal-Wallis test.

Table 2. Participants' attitude towards social deviances

Dimensions of attitude towards social deviances	Mean ± SD	Level, No. (%)		
		Negative	Relatively positive	Positive
Aggression	111.33 ± 2.93	92 (87.6)	12 (11.4)	1 (1)
Drug abuse	2.62 ± 15.31	32 (30.5)	71 (67.6)	2 (1.9)
Sexual promiscuity	13.61 ± 2.77	88 (83.8)	17 (16.2)	0 (0)
Suicide	10.17 ± 2.28	78 (74.3)	27 (25.7)	0 (0)
Running away from home	8.74 ± 1.56	70 (66.7)	35 (33.3)	0 (0)
Robbery	9.39 ± 1.36	58 (55.2)	47 (44.8)	0 (0)
Total	68.57 ± 8.32	34 (32.4)	71 (67.6)	0 (0)

50, denoting low level of loneliness. The mean score of loneliness had significant relationship with family income and father's occupation ($P < 0.001$) (Table 3).

The Spearman's correlation analysis showed that loneliness had significant positive correlation with attitude towards SDs and its dimensions. In other words, higher loneliness scores were associated with more positive attitudes towards SDs (Table 4).

The multiple regression analysis with the Stepwise method was used to evaluate the relationship of demographic characteristics and SDs with loneliness. Results showed that attitude towards SDs significantly predicted 15% of the loneliness variance, while its aggression dimension, family income, father's occupation, and father's educational level significantly predicted 41% of the loneliness variance (Table 5). Family income and attitude towards SDs were the strongest predictors of loneliness. Each one point increase in family income was associated with 0.396 point decrease in the mean score of loneliness and each one point increase in the mean score of attitude towards SDs was associated with 0.265 point increase in the mean score of loneliness.

Discussion

This study evaluated the relationship of loneliness and attitude towards SDs among nursing and health students during the COVID-19 pandemic. Findings revealed low levels of loneliness, negative attitude towards SDs, more positive attitude towards SDs in the drug abuse dimension, and significant correlation of loneliness with attitude towards SDs and all its dimensions among nursing and health students.

The mean score of loneliness in the present study was less than 50, denoting low level of loneliness among students. Studies on students in Ankara also reported the same finding (34,35). Students may experience loneliness due to problems such as disinterest in their field of education, dormitory life, educational problems, and inability to cope with educational problems (7). The COVID-19 pandemic was also associated with extensive home quarantine and closure of most educational and recreational centers and thereby, negatively affected individuals' mental health. Therefore, effective strategies are needed to reduce the effects of psychological problems.

Study findings also indicated that students' loneliness had significant relationship with their family income and father's occupation. In line with this finding, two studies found that loneliness had significant relationship with poor family financial status (36) and residence in a low- or middle-income country (34,36).

The mean score of participants' attitude towards SDs showed that they had negative attitude towards SDs. SDs refers to high-risk behaviors which endanger health and well-being. Youngsters, particularly during university studentship, are more at risk for engagement in high-risk behaviors due to their peer relationships, placement in more diverse social occasions, and more academic, financial, and social demands. Resort to SDs is a strategy to escape from effective coping with stressful situations (4). The highest dimensional mean score of attitude towards SDs in the present study was for the drug abuse dimension. Previous studies also reported the higher prevalence of drug abuse during the COVID-19 pandemic (35,37). A cross-sectional study on Indian during the COVID-19 pandemic reported that the prevalence is estimated at around 8.7% for alcohol abuse and 7.9% for tobacco abuse (38). The COVID-19 pandemic has been associated with employment loss, depressive symptoms, and psychological concerns. Anxiety and psychological concerns are the strongest predictors of self-quarantine

Table 3. Participants' level of loneliness

	N	%	Mean ± SD
Loneliness			40.19 ± 10.51
Low loneliness (Score less than 50)	83	79	35.95 ± 6.76
Great loneliness (Score more than 50)	22	21	56.18 ± 5.57

Table 4. The coefficients of the correlation of loneliness with attitude towards social deviances and its dimensions

Attitude towards social deviances	Loneliness	*P* value
Aggression	0.255	<0.01
Drug abuse	0.211*	<0.05
Sexual promiscuity	0.208*	<0.05
Suicide	0.195*	<0.05
Running away from home	0.213*	<0.05
Robbery	0.223*	<0.05
Total	0.356 **	<0.05

Table 5. The results of the multiple linear regression to predict loneliness based on demographic characteristics and attitude towards social deviances

Independent variables	Beta		Standard error	*t*	P value	95% Confidence interval	
	Non-standardized	Standardized				Lower limit	Upper limit
Constant	83.461	-	9.135	9.137	<0.001	65.337	101.586
Attitude towards social deviances	3.286	0.265	1.011	3.254	0.002	1.281	5.292
Family income	-0.279	-0.396	1.320	-4.756	0.000	-8.899	-3.660
Father's occupation	-0.938	-0.262	0.292	-3.213	0.002	-1.517	-0.359
Aggression	3.212	0.254	1.123	2.860	0.005	0.984	5.441
Father's educational level	-0.794	-0.201	0.311	-2.552	0.012	-1.411	-0.177

during the pandemic. However, vulnerable individuals with psychological problems during pandemic conditions may resort to maladaptive coping mechanisms such as cigarette smoking, alcohol consumption, and drug abuse to reduce their psychological pain. Pandemic conditions are more threatening for those with previous history of alcohol consumption and drug abuse. Evidence shows that unemployed individuals, those with actual or potential employment loss, those with fear over employment loss, and COVID-19 survivors are more at risk for cigarette smoking, alcohol consumption, and drug abuse. Meanwhile, the necessity of quarantine during the COVID-19 pandemic may limit individuals' access to psychological counseling. Therefore, effective strategies are needed to identify and assess mental health needs during the COVID-19 pandemic and prevent the incidence or recurrence of addictive behaviors (22).

The mean score of the suicide SD was 10.17 ± 2.28 and 25.7% of participants had relatively positive attitude towards suicide. This is in line with the findings of some previous studies (23,39). The COVID-19 pandemic has been associated with some levels of stress, job burnout, grief, mental fatigue, and mental disorders for different individuals from different age groups. Mental disorders increase the probability of suicidal thoughts and hence, afflicted individuals need to receive quality counseling services (25).

Our findings also revealed some levels of aggression among the participating students which is in agreement with the findings of a previous study (40). Another study also reported that the COVID-19 pandemic and home quarantine were associated with the increasing prevalence of domestic violence and social aggression and highlighted the necessity of educational and psychological aggression-reducing interventions to reduce anxiety and emotional and behavioral problems and strengthen interactions (24).

Our findings also revealed that some participants had relatively positive attitude towards robbery. Another study also found the increasing prevalence of robbery during the COVID-19 pandemic (41). In the COVID-19 pandemic, many occupations have been suspended and financial activities faced stagnation, resulting in the increasing prevalence of some criminal activities such as robbery.

Study findings also showed that loneliness had significant positive correlation with attitude towards SDs and its dimensions. Loneliness is an unpleasant feeling, negative emotional response, or perceived dissatisfaction with social relationships. It is a mental feeling about living without the necessary relationships or set of relationships (2). As a distressing problem, loneliness can lead to cognitive, emotional, and behavioral problems, particularly during adolescence. In fact, loneliness is considered as a precursor of high-risk behaviors (42). A study reported that most adolescents with loneliness experience psychological and emotional problems such as anxiety, strain, truancy (32), cigarette smoking (34,36), and drug abuse (12,32,43).

The significant predictors of loneliness in the present study were attitude towards SDs, its aggression dimension, family income, father's occupation, and father's educational level. The most significant predictors of loneliness were family income and attitude towards SDs. A previous study on students also showed a significant positive correlation between loneliness and attitude towards drug abuse (44). Another study reported the significant relationship of poor financial status and residence in a medium-income country with loneliness (36). Awareness, attitude, motivation, and response to stress are important personal predictors, while family, society, government, and culture are important social predictors of behavior modification. Understanding the most important predictors of behaviors is a cornerstone of understanding and modifying behaviors (45).

Limitations

Among the limitations of the present study were data collection through the self-report method, participants' concern over the confidentiality of their data, and small sample size.

Conclusion

This study shows low level of loneliness and negative attitude towards SDs, particularly drug abuse, among students during the COVID-19 pandemic. Moreover, attitude towards SDs, its aggression dimension, family income, father's occupation, and father's educational level are the significant predictors of loneliness. As students are the future managers, planners, and policy makers of societies, improving their coping skills and modifying their attitude towards SDs are essential to prevent health-related problems among them and improve their physical and mental health. Large-scale studies into students'

What does this paper contribute to the wider global clinical community?

- Students experience low levels of loneliness during the COVID-19 pandemic.
- Students have negative attitude towards SDs.
- Attitude towards SDs, its aggression dimension, family income, father's occupation, and father's educational level are the significant predictors of loneliness among students.
- Strategies, such as educational, counseling, and recreational services are needed to reduce students' loneliness, improve their coping skills, and modify their attitude towards SDs.

loneliness and SDs are recommended.

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Conflict of Interests

The authors declare no conflict of interests.

Ethical Approval

The Ethics Committee of Babol University of Medical Sciences, Babol, Iran, approved this study (No. IR.MUBABOL.HRI.REC.1399.029). We informed participants about the study aim and data confidentiality and obtained their informed consent.

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