Original Article

The relationship between mental health and basic need fulfillment of university students

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Abstract

Objectives: This study was carried out in order to determine the mental health status and the level of basic need fulfillment in university students and the relationship between these two parameters in terms of certain sociodemographic variables.

Methods: Designed as a cross sectional study, this research study was conducted with 609 students studying at a foundation university in Istanbul. The data were collected using a sociodemographic questionnaire, the University Students Basic Needs Scale and the General Health Questionnaire(GHQ-12). Descriptive statistics, Mann-Whitney U test, Spearman correlation analysis and hierarchical multiple regression were used for the data analysis.

Results: The mean age of the students was 21.65±2.15, and 63.1% were female. The students' mean GHQ-12 score was 1.77±2.48, with the results from this scale showing that 38.9% of the students had psychological symptoms. Students who had a GHQ-12 score of less than 2 had higher scores on the subscales of survival, power, fun, love and belonging need and freedom than those of students whose GHQ-12 score was greater than 2. The results of the regression analysis revealed that the fulfillment of freedom, survival, fun, power needs, as well as economic status and smoking significantly affected the mental health of the university students.

Conclusion: The study found that students whose basic needs are fulfilled have better mental health.

Keywords: Basic needs; general health questionnaire; mental health; university students.

What is known on this subject?
- Mental health disorders are prevalent among university students.

What is the contribution of this paper?
- The study found that students whose basic needs are fulfilled have better mental health. Economic status and smoking significantly affect the mental health of university students.

What is its contribution to the practice?
- The results of this study demonstrated that the fulfillment of freedom, survival, fun, power needs, economic status and smoking were each significant predictors of the mental health of university students.

In psychological and biological terms, university students are a special group of individuals, insofar as they are in a period of transition from adolescence to adulthood. This period can be one of the most stressful times in a person's life,[1] as the university years constitute a stage of life when young people experience major changes.[2,3] Since this period coincides with the last stage of adolescence, which is a period of both social and biological transition, these years must be studied with care.[4] University life is a particularly demanding period in that it involves highly challenging responsibilities, more complex academic tasks, new and unfamiliar situations and countless future ambitions, and it is often the first time individuals will experience long-term separation from family and friends and life away from home. During these years, students take their first steps in undertaking complex tasks and responsibilities on their own, without the counsel of their families.[5,6]

Some university students develop effective coping skills to handle the problems they encounter in this period of transition, while others are unable at this time to effectively manage the developmental changes they experience and take on the roles demanded of them in their new environment and thereby have problems coping. Young people who cannot cope often experience depressive tendencies, increased general anxiety, behavioral disorders, academic failure, as well as communication and adaptation problems.[6] Mental health disorders are highly prevalent among university students,[7] with the most common mental health complaints being anxiety and depression.[1] According to the American Psychological Association (2013),[8] anxiety is the top presenting mental health complaint among college students (41.6%), followed by depression (36.4%) and relationship problems (35.8%). In a meta-analysis of studies conducted to identify psychiatric problems in Turkey, it was reported that depression rates among university students were between 20.6%–48%, and that rates of anxiety disorders were in the range of 4.2%–21.7%.[9]

Studies conducted in Turkey and abroad show that a significant percentage of university students suffer from psychological issues.[10–15] Throughout the world, university students regard happiness as an important asset in their lives.[16] Considering this and to ensure that university life is a healthy, happy and successful experience for young people, it is critical to understand the mental health of university students, including the factors that may affect their psychological state, and their basic needs.

The basic needs of human beings have been a popular topic of researchers for some time, particularly on account that people act in accordance with their needs. Maslow, in his examination of human needs, constructed a pyramid that is now known as "Maslow's hierarchy of needs" and it includes physiological needs, safety needs, belonging and love needs, esteem needs, and need for self-actualization.[17] At the center of human behavior is the motivation to meet these main needs. Survival is the basic physiological need to survive in life, and it includes our basic physical needs for food, water, air, safety, shelter, warmth, health, and sex. The need for love and belonging refers to the desire for satisfactory relationships with the important people and things in our lives, like friends, family members, pets and plants. The need for power includes being prestigious, worthy, successful, competitive, confidently vulnerable, and capable of talking and being heard by other people. Freedom constitutes a major need and can be defined as a need for independence and autonomy, being able to make choices, create, explore, and engage in freedom of expression, having sufficient space, being able to move around, not feeling obstructed by barriers in exercising choice, and free will. The need for fun relates to positive incidences of enjoyment, such as playing games, laughing, learning something new, having a sense of humor and realizing the positive sides of life.[18,19] According to choice theory, the most important component to the needs fulfillment of individuals is the elimination of the stress involved in managing those needs that are recognized as constituting a basic part of the genetic makeup of human beings, as this will contribute to achieving satisfaction and feeling a sense of happiness.[18–20] In other words, choice theory not only asserts that a positive mental state can only exist if an individual's basic needs are met within a realistic framework, but the point that is especially emphasized here in the context of basic needs is that the extent to which an individual is able to have his/her basic needs fulfilled is what contributes to that individual's feeling of wellbeing and happiness.[18,19] The major assumption of choice theory about basic needs is that happiness is felt only if the five basic needs can be fulfilled sufficiently, and that a person who is unhappy is not able to fulfill at least one of these five basic needs.[18–19]

The satisfaction of basic psychological needs can contribute to positive functioning and psychological well-being in various life domains, such as work, education, and health.[6–21] Conversely, failure to meet psychological needs, lack of self-confidence and negative feelings can lead to aggression.[22] In the case of university students, the satisfaction of their basic needs would arguably have a positive impact on their later professional productivity. Considering that good mental health is heavily influenced by the satisfaction of these basic needs, students who have had their needs fulfilled would more likely be happy, highly productive, mentally stable professionals after graduating. As these young people will serve as role models in society and contribute positively to its development, it is important to foster a suitable environment for university youth, one that has been created on the basis of data derived from determination of the basic needs of university students and identification of the factors that have an impact on the mental health of this group. The protection and development of the mental health of university students are evaluated within the context of community mental health. Within this said context, community mental health nurses have an important role in protecting and improving the mental health of university students and in the early diagnosis of mental problems. Before creating protective mental health promotion programs for university students, it is important that basic data about university students first be obtained. This study was conducted in this context to determine the mental health status of university students, their level of basic need fulfillment, and the relationship between their mental health, their level of basic need fulfillment and certain sociodemographic variables. This study differs from others in that it involves students from a number of faculties and departments at a foundation university.

The study sought answers to the following research questions:

i. What is the level of mental health of university students?

ii. What is the level of basic needs fulfillment of university students?

iii. Is there a relationship between the levels of basic needs fulfillment and mental health in university students?

iv. What are the factors affecting the mental health of university students?

Materials and Method

Research Design

This research was designed as a cross-sectional study.

Population and Sample

The research was conducted at a foundation university in Istanbul from March to June of 2014. The population of the study consisted of students (n=5800) enrolled in the Faculty of Science-Literature, the Faculty of Architecture, the Faculty of Arts and Sciences, the Faculty of Business Administration, the Faculty of Engineering, the Conservatory, the School of Nursing, the School of Health Sciences, and the School of Physical Education and Sports at a foundation university in Istanbul. To select the study sample, a formula applied for a known population was used. It was found from the calculation that a minimum of 596 people were needed in the sample at a confidence interval of 99%.[23] The research was completed with 609 students. The students to be recruited from each department were determined using the stratified random sampling method.

Criteria for inclusion in the study;

- Enrolled as a student in one of the four-year departments of the university,
- Voluntarily agree to participate in this study.

Exclusion criteria from this study;

- Refusal to participate in this study,
- Failure to fully complete the questionnaires.

Data Collection Tools

Data for the study were collected using a sociodemographic information form developed by the researchers, the General Health Questionnaire (GHQ-12), and the University Students Basic Needs Scale (USBNS).

Sociodemographic Information Form

The sociodemographic information form, which was prepared by the researchers, features 8 questions on the students' sociodemographic characteristics (department, class, year, age, economic status, residence, physical activity and smoking status). Physical activity was measured by using an adapted form of the Adolescent Life Style Profile II, on which the students were asked whether they engaged in 30–60 minutes of physical activity three times a week.[24]

The General Health Questionnaire 12 (GHQ-12)

The GHQ was developed by David Goldberg (1970) to identify acute mental illnesses that are frequently encountered in the community. The validity and reliability studies for the questionnaire in Turkey were conducted by Kilic et al.[25] (1997), and the form is currently used country wide to identify psychiatric cases. While the questionnaire is reported to be reliable in identifying symptoms of non-psychotic depression and anxiety, it is not recommended when working with psychotic and manic patients or with persons with chronic mental illness. The scale has 12-, 28-, 30- and 60-question versions. In this study, the 12-question version was used. Each question seeks to determine the symptoms experienced in the last few weeks and has four choices of response ("never, as many as usual, more frequent than usual, very often"). A method called the GHQ type of scoring is used in the scoring of the questionnaire, where the first two columns are scored as 0 and the last two columns as 1. Individuals receiving scores of over "2" are identified as having mental problems (anxiety or depression). The internal consistency coefficient (Cronbach's alpha) for the GHQ-12 was found to be 0.78, while the test-retest correlation was reported to be 0.84.[25] In this study, Cronbach's alpha coefficient for the GHQ-12 was 0.82.

University Students Basic Needs Scale (USBNS)

The USBNS, developed by Türkdoğan and Duru (2012b),[26] is a 33-item instrument designed to measure university students' fulfillment level of five basic needs on a 7-point Likert-type scale (1=strongly disagree, 7=strongly agree). The scale specifically looks at an individual's perception of the degree to which each need that is analyzed in the instrument is being satisfied. Statements on the scale read as such: "...I feel safe and secure," "...I have real friends," "...My thoughts are valued." The scale consists of 5 sub-scales, namely, survival, love and belonging, power, fun, and freedom. For the whole scale, the minimum score is 33 and the maximum score is 231. Higher scores on the subscales constituting the scale indicate that the related basic need is being fulfilled without problems. Cronbach's alpha coefficients of the subscales ranged from 0.76 to 0.84, while two-week test-retest correlations ranged from 0.77 to 0.85.[26] Cronbach's alpha values for the sub-scales in this study varied between 0.65–0.87 (survival: 0.65, power: 0.70, fun: 0.87, love and belonging: 0.85, freedom: 0.67).

Ethical Dimension of the Study

Before starting the study, necessary approval was obtained from the university administration, and permission to conduct the study was granted by the Institutional Review Board of the university. The students were informed by the primary investigators about the nature of the study and were told that participation was voluntary, that any information gathered during the course of the study would remain confidential and anonymous, and that the results from the study would be used for scientific purposes only. The participants were further informed that they could withdraw from the study at any time. Verbal consent to participate in the study was received from the students. The questionnaire was administered to the students in an observed classroom setting.

Evaluation of the Data

Data were analyzed using the SPSS 16.0 (SPSS, Inc., Chicago, IL, USA) package. The comparison of data with normal distribution was evaluated using the One-Sample Kolmogorov Smirnov test, and since the significance values were lower than 0.05, non-parametric tests were used in advanced analysis. Descriptive statistics (percentages, means, standard deviation, minimum, maximum) were used to analyze the demographic characteristics of the student. To test for differences in the levels of basic need fulfillment in terms of GHQ-12 scores of less than 2 and GHQ-12 scores of 2 and greater, the Mann-Whitney U test was used. Spearman correlation analysis was applied to determine the relation between GHQ and USBNS. Pearson's correlation coefficients were classified as very weak ($r<0.20$), weak ($r=0.20–0.39$), moderate ($r=0.40–0.59$), strong ($r=0.60–0.79$), and very strong ($r>0.80$).[27] Hierarchical multiple regression was used to identify the variables that had an impact on mental health. Statistical significance was set at $p<0.05$.

Results

Descriptive Characteristics

Among the students participating in the research, 22.2% were from the School of Nursing, 18.1% from the School of Health Sciences, 12.6% from the Faculty of Science and Literature, 10.7% from the Faculty of Business Administration, 8.2% from the School of Physical Education and Sports, 8.2% from the Faculty of Architecture, 8.2% from the Faculty of Engineering, 3.6% from the Faculty of Arts and Sciences and 2% from the Conservatory. Regarding the students' year level, 28.7% were first year, 28.6% were second year, 21% were third year and 21.7% were fourth year students. The mean age of the students was 21.65±2.15 (min=18, max=34), and 63.1% were female. Further demographic data showed that 57.1% lived with their families, 54.8% described their economic status as good, 56.3% reported participating in a 30-60 minute physical activity 3 times a week, and 32.8% were smokers (Table 1).

Mean Scores and Correlations between the GHQ-12 and Sub-scales of the USBNS

The mean scores for the sub-scales of the USBNS were found to be 24.16±5.66 for survival, 33.08±6.48 for power, 48.65±9.27 for fun, 23.40±4.53 for love and belonging and 44.71±7.52 for freedom. The GHQ-12 mean score was found to be 1.77±2.48 (Table 2). For the GHQ-12 scores, 61.1% of the students had scores below 2, while 38.9% had scores of over 2. On the survival, power, fun, loving and belonging and freedom subscales, the students with GHQ scores of below 2 had significantly higher scores than those of the students with

Table 1. Descriptive characteristics of university students (n=609)

Demographic characteristics	n	%
Age, Mean±SD (min-max)	21.65±2.15 (18–34)	
Department		
School of Health Sciences	110	18.1
School of Nursing	135	22.2
School of Physical Education and Sports	50	8.2
Faculty of Architecture	50	8.2
Faculty of Engineering	88	14.4
Faculty of Science-Literature	77	12.6
Faculty of Arts and Sciences	22	3.6
Faculty of Business Administration	65	10.7
Conservatory	12	2.0
Class		
1st year	175	28.7
2nd year	174	28.6
3rd year	128	21.0
4th year	132	21.7
Gender		
Female	384	63.1
Male	225	36.9
Dwelling		
Living alone	31	5.1
With family	348	57.1
With friends	105	17.2
With relatives	21	3.4
Dormitory	104	17.1
Economic status		
Poor	67	11.0
Average	208	34.2
Good	334	54.8
The status of participating in a physical activity three times a week		
Do participate	343	56.3
Do not participate	266	43.7
Smoking status		
Smoke	200	32.8
Do not smoke	409	67.2
Total	609	100

SD: Standard deviation; Min: Minimum; Max: Maximum.

Table 2. Mean Scores on the GHQ-12 and Sub-scales of the USBNS (n=609)

Scales	Min–Max	Mean±SD
GHQ-12	0–12	1.77±2.48
USBNS Sub-scales		
Survival	7–35	24.16±5.66
Power	9–95	33.08±6.48
Fun	12–63	48.65±9.27
Love and belonging	4–28	23.40±4.53
Freedom	16–63	44.71±7.52

GHQ-12: General Health Questionnaire; USBNS: University Students Basic Needs Scale; SD: Standard deviation; Min: Minimum; Max: Maximum.

Table 3. Comparison of USBNS Mean Scores of University Students in terms of GHQ-12 Scores (n=609)

ÜUSBNS Sub-scales	GHQ-12 point range				Statistical Assessment
	Below 2 (n=372)		Over 2 (n=237)		
	Mean	SD	Mean	SD	Z
Survival	25.19	5.38	22.54	5.71	-5.401[***]
Power	34.30	6.07	31.17	6.63	-5.927[***]
Fun	50.23	8.27	46.17	10.19	-4.988[***]
Love and belonging	23.98	4.04	22.50	5.08	-3.447[***]
Freedom	46.44	6.53	41.98	8.15	-7.236[***]

[*]p<0.05, [**]p<0.01, [***]p<0.001. GHQ-12: General Health Questionnaire; USBNS: University Students Basic Needs Scale; SD: Standard deviation.

Table 4. Correlation values between USBNS and GHQ-12 (n=609)

USBNS Sub-scales	GHQ-12
Survival	-0.245[*]
Power	-0.277[*]
Fun	-0.311[*]
Love and belonging	-0.214[*]
Freedom	-0.375[*]

[*]p<0.001. GHQ-12: General Health Questionnaire; USBNS: University Students Basic Needs Scale.

GHQ scores of over 2 (p<0.001) (Table 3). There was a weak negative correlation between the GHQ-12 and the USBNS sub-scales of survival, love and belonging power, fun and freedom (p<0.001), a weak correlation (p<0.001) between the USBNS subscales of survival and power, fun, love and belonging, and freedom (p<0.001), and a moderate correlation between the other sub-scales on the USBNS (p<0.001) (Table 4).

Variables Affecting the Mental Health

Hierarchical stepwise regression analysis was performed to determine the variables that had an effect on mental health. In the first step of the analysis, the department, class, gender, and economic status, in the second step, the physical activity status (i.e. participation in a 30–60 minute physical activity three times a week) and smoking status, and in the third step, the USBNS sub-scales of survival, power, fun, love and belonging and freedom were entered into the equation. The "department" variable was converted into a two-category variable before being included in the regression analysis. The health-related departments were coded as 1 and non-health-related departments as 0; the gender variable was coded as 1 for men and as 0 for women; non-smokers were coded as 1 and smokers as 0; and poor economic status was coded as 1, average economic status as 2, and good economic status as 3.

In the first step, it was found that the variables of department, class, gender and economic status explained 5.7% of the to-

tal variance related to the factors having an impact on mental health. In the second step, the variables of participation in a 30–60 minute physical activity three times a week and smoking status were added into the equation. With the entering of these two variables, the gender variable also exhibited a significant impact on mental health. The contribution of these variables to the equation was 0.8, and six variables explained 6.5% of the total variance. In the third step, in addition to the sociodemographic variables, the USBNS sub-scales of survival, power, fun, love and belonging and freedom entered the equation. The contribution of the USBNS sub-scales was 15.4%, and all the variables together explained 21.9% of the total variance with respect to mental health (F=15.198, p<0.000).

A significant relationship was found between mental health and economic status, smoking status, and satisfying the basic needs of survival, power, fun and freedom (p<0.05). The results of the t-test for determining the significance of the regression coefficients showed that meeting the need for freedom, fulfilling the need to survive, economic status, satisfying the need to have fun, meeting the need for power and smoking status had significant effects on mental health. It was further found that meeting the need for love and belonging, participating in a 30–60 minute physical activity three times a week, gender, department and class did not have a significant effect on mental health.

As the degree of meeting the needs of freedom, survival, fun and power increased, GHQ-12 scores decreased, and as economic status improved, GHQ-12 scores diminished. Non-smokers scored lower than smokers on the GHQ-12, and it was further found at the end of the study that students whose survival, power, fun and freedom needs were fulfilled, whose economic status was good and who were non-smokers fared better in terms of mental health.

Discussion

Among the students in the study, 38.9% had scores of above 2 on the GHQ-12. This finding indicates that a significant number of university students are at risk of acquiring a psychiatric

Table 5. Variables affecting the mental health of university students (n=609)						
Independent variables	R²	Adjusted R²	F	B	β	t
Step 1						
Constant	0.057	0.050	9.057	3.975		8.976***
Department				0.127	0.025	0.597
Class				-0.022	-0.010	-0.251
Gender				-0.363	-0.070	-1.687
Economic status				-0.844	-0.231	-5.800***
Step 2						
Constant	0.065	0.056	7.019	4.275		9.207***
Department				0.180	0.035	0.845
Class				-0.021	-0.010	-0.241
Gender				-0.485	-0.094	-2.172*
Economic status				-0.815	-0.223	-5.576
Smoking status				-0.522	-0.099	-2.380*
The status of participating in a physical activity three times a week						
Step 3						
Constant	0.219	0.205	15.198	10.418		14.252***
Department				0.091	0.018	0.462
Class				-0.012	-0.005	-0.141
Gender				-0.239	-0.046	-1.150
Economic status				-0.526	-0.144	-3.810***
Smoking status				-0.491	-0.093	-2.437*
The status of participating in a physical activity three times a week				0.295	0.059	1.571
USBNS Sub-scales						
Survival				-0.067	-0.152	-3.864***
Power				-0.036	-0.094	-2.091*
Fun				-0.027	-0.102	-2.015*
Love and belonging				0.036	0.065	1.412
Freedom				-0.085	-0.258	-5.667***

*p<0.05, **p<0.01, ***p<0.001. USBNS: University Students Basic Needs Scale.

illness. The GHQ-12 mean score was found to be 1.77±2.48 in the study. A review of studies conducted in Turkey and abroad shows that mean scores on the GHQ-12 vary between 1.2±1.7 and 3.90±3.2.[11–13] Research in and outside of Turkey has found that university students tend to experience mental problems.

The study found that students whose basic needs were fulfilled had better mental health. As the USBNS scores rose in the study, GHQ mean scores diminished. Furthermore, the study showed that the higher the level of need fulfillment, the lower the level of mental problems experienced by the university students. Studies report there to be a positive correlation[18] between the satisfaction of basic needs and university students' perception of wellbeing, a negative correlation between satisfying basic psychological needs and depression,[6] a positive correlation between the satisfaction of psychological needs and the perception of well-being, and a negative

correlation between the satisfaction of needs and loneliness. [28] As seen from the research results, providing the basic needs of university students positively affects their mental health and well-being. The results from the present study support these findings.

The study found there to be a significant correlation between mental health and economic status, smoking status, and satisfying the basic needs of survival, power, fun and freedom. The study also revealed that the single most important variable having an impact on mental health was the need for freedom. The mental health of the students was shown to improve in line with the extent to which the need for freedom was met. Similar to the results of this study, in Türkdoğan and Duru's study (2012),[18] it was reported that the major predictor of subjective well-being was the need for freedom. In close affinity to the need for freedom, the need for autonomy is one of the

most prominent needs to affect an individual's mental health in adolescence. As adolescents become more independent and their willful behavior regarding decision-making becomes stronger, their psychological level of freedom too increases. [29] According to the humanitarian approach, humans are by birth good, goal-oriented, free and valuable living beings. The goal of human life in fact is to be true to oneself, explore one's boundaries and seek meaning in life. It is when these goals are realized that the individual becomes a mentally healthy person.[30]

Besides the need for freedom, another variable that significantly impacts the mental health of university students is the need to survive. Like freedom, the mental health of the students improved in line with the extent to which the need for survival was met. The need to survive is defined as the ability to meet basic physiological needs without obstacles.[16] In Maslow's pyramidal hierarchy of needs, physiological needs are positioned at the first step.[31] The fact that in this study, the need to survive proved to be the second most important variable affecting mental health may perhaps be attributed to today's conditions, where students' physiological needs are largely met, at least at the very basic level. Taking into consideration that university students tend to live away from their families, it is commonplace for them to experience various difficulties in meeting their basic physiological needs, including finding shelter, nourishment, security and protecting their health. Fulfilling these needs is of the greatest importance for students. In Türkdoğan's study, the need to survive is among the needs that affect subjective well-being.[18] Another study found that university students who experienced difficulties with their living conditions and could not eat regular meals had higher depression scores compared to those of other students.[32] As seen in the research results, the university students' need for survival affects their mental health and well-being.

Another variable that was shown to influence the mental health of the students was economic status. In particular, the students' mental health improved the higher the economic status. In support of this, the WHO (2014) has reported there to be a positive relationship between poverty and mental disorders.[33] Studies show that as socioeconomic status improves, university students have a higher sense of satisfaction with their life and their hopelessness, anxiety and depression scores diminish,[34] but that as economic status worsens, their depression scores rise[35] and they experience more mental stress.[36] In another study, it was reported that students with financial problems were under greater risk of developing mental health issues.[37] Furthermore, a study in Turkey revealed there to be a relationship between income and subjective well-being. [38] The results obtained from the present research show that when the economic needs of university students are met, this has a positive impact on their mental health.

Another basic need that has an impact on mental health is the need to have fun. As was the case for freedom and survival, the mental health of the students improved in line with the extent

to which the need for having fun was met. Choice theory asserts that in terms of seeking happiness, the need to have fun is as special and important a need as any of the other needs. [16] Türkdoğan and Duru's (2012)[18] study too indicates that after the need for freedom, the second basic need that affects subjective well-being is the need to have fun. In a study by Cenkseven and Akbaş (2007),[39] it was reported that the satisfaction derived from relationships with friends and leisure time activities had a positive effect on psychological well-being. As seen from the results of the present research, providing the fun needs of university students positively affects their mental health. One of the foremost characteristics of an individual with good mental health is, besides his/her profession, their habit of engaging in entertaining, relaxing activities, and these have the added benefit of also contributing to their personal development.[40] It is for this reason that the leisure time students spend with their friends and the entertaining social activities they participate in are important for maintaining their mental health. Moreover, organizing social and cultural activities on university campuses can be a useful way to facilitate students' leisure time.

After the need for fun, another basic need that impacts mental health is the need for power. The mental health of the students was shown to improve in line with the extent to which their need for power was met. The need for power and prestige, for being able to talk and be listened to, for being successful and being known to be successful, for the ability to compete, for not being afraid to be hurt, for having self-esteem and for regarding oneself as valuable are all a part of this basic need. [16] Türkdoğan and Duru's[18] (2012) study showed that meeting the need for power had a positive impact on subjective well-being. A review of the various studies on concepts included in the need for power indicate that there are significant relationships between low self-esteem and mental disorders,[41] between perceived academic achievement and satisfaction with life,[42] between coping with stress, the feeling of self-confidence, having an optimistic approach and depression,[43] and between acquired strength and being an extrovert and psychological well-being.[39] According to these results, it may be said that university students' perception of achievement in their lives and their sense of self-efficacy have a significant impact on their mental health.

The present study found that smoking had a negative influence on mental health, and that the mental health of non-smokers was better than that of smokers. Şimşek et al. (2008),[44] in their study, reported that smoking was a risk that adversely affected mental health in childhood and adolescence. The literature further reports that individuals with psychiatric problems have a greater dependency on smoking. Among the factors that influence an individual's decision to start smoking are curiosity, emulation, peer pressure, the need for social acceptance, a dependent personality trait, inability to cope with stress, reduced self-confidence, not being able to say no, various personality disorders and psychological problems.[45] For this reason, it is of the utmost importance that university students are psycho-

logically strengthened so that they can live healthy lives, free from smoking.

The results from the present research revealed that the need for love and belonging did not have a significant influence on mental health. The students' scores on the sub-scale related to the need for love and belonging were at a satisfactory level. Although it was observed that the students who had their need for love and belonging fulfilled at a high level displayed better mental health, the regression analysis showed that the influence of the need for love and belonging on mental health was negligible when all the other variables were controlled for. This result suggests that since the students had their need for love and belonging met at the basic level, this need did not appear to be as important as the others. In Türkdoğan and Duru's (2012)[18] study too, the role of the need for love and belonging in subjective well-being was observed to be at a lower level than that of the other basic needs. The study examined the relationship between mental health and gender and found that gender did not affect mental health. While most studies[10,35,46–49] have observed there to be no correlation between gender and mental health, there is research that points to a higher percentage of women with psychological problems.[36,50,51] As in other studies, it was found in this study that the department the students were in and their year in class had no effect on their mental health.[10,50,52]

Although exercising is generally accepted as an effective method for preventing and treating psychiatric disorders, such as anxiety and depression, in individuals who do not have a psychiatric condition, its protective effects have as yet not been scientifically proven.[53] Given this lack of scientific evidence, this study included the students' regular physical activity as a variable, yet it found that the effect of regular physical exercise on mental health was not significant.

Strengths and Limitations of the Study

This research was carried out in only one university. Therefore, the research results can be generalized in a limited way only. The large size of the research sample was a strength of the study. Furthermore, the research results are based on student self-reporting, and no educational program was used in the research to promote an increase in mental health. Future studies should examine other factors that could affect the mental health of college students.

Conclusion

At the conclusion of the study, it was seen that the students whose survival, power, fun and freedom needs were met, whose economic status was good and who were nonsmokers fared better in terms of mental health. Meeting the basic needs of university students is a factor that this study has shown to have a positive impact on their mental health, and as these students will go on to be future professionals in their respective fields, it is critical, in terms of creating a healthy population,

that the basic needs of university students be fulfilled. To help facilitate the fulfillment of these basic needs, improvements must be made in students' living arrangements, and dormitories should be better equipped to meet their physiological needs. Furthermore, students should receive financial support and be given the opportunity to obtain scholarships and find part-time jobs. Regarding the social aspect of the university students' lives, social activities and opportunities to engage in sports should be provided to support them in spending their leisure time more productively. At the same time, counseling and psychological consultancy units should be established at the universities, further studies should be conducted on the psychological development of students, and supportive programs should be made available to students. Finally, the organization of preventive and health-promoting programs for smoking cessation and coping with stress would have a positive impact on students' mental health.

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