THE TURKISH JOURNAL ON ADDICTIONS
www.addicta.com.tr

ORIGINAL ARTICLE

Social Efficacy and Internet Addiction Among University Students: A Descriptive and Correlational Study

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Main Points

- There is a negative relationship between social efficacy level and internet addiction in university students.
- It can be said that the increase in social competence and social outcome expectations in students reduces the difficulty of control over the internet, withdrawal, social isolation, and disorder in functionality.
- It is thought that attempts to increase students' social competence can reduce internet addiction.

Abstract

This descriptive and correlational study was conducted to investigate university student's social efficacy and internet addiction and the relationship between them. The study was carried out with 380 (142 female, 238 male) university students who are studying at the faculties of Karabük University. The study sample was stratified according to the faculties and formed by a simple random method. Data were collected with Social Efficacy and Social Outcome Expectations Scale and Internet Addiction Scale and evaluated with descriptive statistics and correlation analysis. It was founded that the mean score of the social efficacy sub-dimension of the Social Efficacy and Social Outcome Expectations Scale was 45.85 (±9.79) and the mean score of the Social Outcome Expectations was 23.23 (±5.37). The mean score for Internet Addiction Scale was 85.82 (±26.99). It was found that Internet Addiction Scale sub-dimension scores were 30.41 (±8.72) for Withdrawal, 24.78 (±8.58) for Controlling Difficulty, 15.89 (±6.58) for Disorder in Functionality, and finally 14.74 (±6.78) for Social Isolation. There was a negative significant correlation between Social Efficacy and Social Outcome Expectations Scale and Internet Addiction Scale total scores and the sub-dimensions ($P < .05$ for each). In the context of the negative relationship between social efficacy level and internet addiction, it is thought that the attempts to increase students' social competence can reduce internet addiction.
Keywords: Social efficacy, internet addiction, university students

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Received: March 30, 2023
Accepted: July 9, 2023
Publication Date: August 17, 2023

Introduction

Social competence includes social communication skills and interpersonal relationships. Social competence level is a factor that determines the behaviors and communication styles of individuals in the social environment and includes the individual's belief in starting and maintaining a relationship and establishing communication networks in social environments (Tüzel İşeri & Zorlu Yam, 2019). In terms of the development of social competence, acquired social skills must be goal-oriented and reproducible behavior. Social interaction can only be achieved through verbal and nonverbal communication with an individual other than one's own. When social interaction is not perceived as realistic, the skills and motivation required to perform socially expected behaviors may become dysfunctional (Akin & Akkaya, 2015).

University life is seen as an important experience that shapes the social relations of individuals. In

Cite this article as: Can, H., & Onan, N. (2023). Social efficacy and internet addiction among university students: A descriptive and correlational study. *Addicta: The Turkish Journal on Addictions*, 10(2), 108-114.

DOI: 10.5152/ADDICTA.2023.23031

this respect, universities should attach importance to improving the social skills of students in addition to the academic opportunities they should offer. It is emphasized that students with high social competence in this life are more satisfied and more successful. While experiencing social difficulties paves the way for mental disorders, students are more likely to display negative and risky behaviors such as addictions. One of these behaviors is internet addiction, known as pathological internet use (Berte et al., 2021; Lai et al., 2015).

The use of the internet, which is increasing day by day with each new technological development, affects the social life of the individual negatively when not used consciously, causing some problems in their personal and social life. In terms of these negative effects, the concepts of problematic, pathological, and unhealthy Internet use and Internet addiction are used (Altintaş & Öztabak, 2016; Fumero et al., 2018; İlhan et al., 2014; Karasu et al., 2017; Serin & Anlayişli 2019). Internet addiction, which is associated with the individual's loss of control over internet use depending on the purpose of use, is considered a serious mental health problem (Gholamian et al., 2017; Ghadari Rammazi et al., 2018; Lai et al., 2015). "Internet addiction," first defined by Goldberg (1996) and Young (1996), is now considered within the scope of behavioral addictions and technology addiction and is included in the *Diagnostic and Statistical Manual-5* as a gaming disorder (APA, 2013).

The use of the internet has become widespread because it helps in the development of academic life and has become an inevitable necessity in life. According to the Turkish Statistical Institute (TUIK) Household Information Technologies Usage Survey 2021 result report, it is stated that 92% of the households have access to the internet from home and the rate of internet use is 82.6% in the 16 – 74 age group (TUIK, 2021). Active use of the internet is observed in many areas such as accessing information, lectures, communication, playing games, social relations, and social media in young people who continue their university education where social relations are very important. It has been stated that the prevalence is high especially in university students, and the problems related to excessive internet use of this group are observed (Akdağ et al., 2014; Berte et al., 2021; Fumero et al., 2018; Karasu et al., 2017).

It has been shown that excessive and intensive use of the internet negatively affects the physical, mental, and social development of young people, while negatively affecting their social relations, making it difficult to control their impulses, creating distraction, causing loneliness and depression, a decrease in academic achievement, a decline in social functionality, and a deterioration in professional functions (Al-Shoqran, 2019; Chi et al., 2019; Haroon et al. 2019). In this context, it is stated that the social and communicative features of the internet are used intensively due to the isolation of students with weak social skills from their environment, lack of social support, social isolation, and feelings of loneliness, and this may lead to an increase in problematic internet use (Fumero et al., 2018; Yalçın & Karaçetin 2016; Yılmaz et al., 2014).

In studies conducted on the subject among university students, internet addiction is associated with like variable depression, anxiety, and stress (Chi et al., 2019; Gholamian et al., 2017; Seki et al., 2019; Taş, 2019), it also mediates social anxiety and low psychological well-being (Ghaderi Rammazi et al., 2018; Lai et al. 2015) negatively affecting life satisfaction (Kırağ & Güver, 2019; Koç et al., 2022). Low self-efficacy and self-perception increase internet addiction (Berte et al., 2021; Erkişi & Sağlam, 2020), there is a significant negative relationship between internet addiction and social support and resilience (Ghaderi Rammazi et al., 2018; Naseri et al, 2015; Taş, 2019). In another study conducted with medical school students, it was shown that students with internet addiction exhibit higher social anxiety, have lower self-esteem, and are more depressed than those without internet addiction. Beside in this study was determined that social anxiety rather than impulsivity plays an important role in the psychopathology of internet addiction. (Yücens & Üzer, 2018).

The low social competence perceived by the individual and the increase in social anxiety experienced by the individual can separate the person from the social environment and make his relationship with other individuals difficult and can also prepare the ground for an isolated life (Akın & Akkaya, 2015). Moreover, the individuals staying away from social environments may experience lack of psychological benefits of social relations. In order to get away from these experienced problems, it has been determined that young people meet the need to be socially active via the internet (Şahan & Çapan, 2017).

In terms of health promotion and preventive mental health, investigating the effects and causes of internet addiction in university students is of great importance in the fight against addiction and in planning interventions for behavioral addictions (Gholamian et al., 2017; Ghaderi Rammazi et al., 2018; Naseri et al., 2015; Vondráčková & Gabrhelik, 2016). In the light of the reviewed literature, it is seen that studies mostly reveal the relationships between internet addiction, psychosocial problems, and self-efficacy, but studies examining the place of one's perception of social competence in internet addiction are limited. In this context, this study was conducted to investigate social efficacy (SE) and internet addiction in university students and the relationship between them.

Material and Methods

Study Design and Sample

This descriptive and correlational research was carried out at Karabük University in the spring term of 2018 – 2019. The population of the research consisted of students (N = 31869) studying in faculties of KarabükUniversity. In studies with a known universe, the number of students to be sampled was calculated according to the sample calculation formula and it was determined that 380 people would form the sample group.

The study sample was stratified according to the faculties and formed by a simple random method. The number of students to be recruited from faculties was determined by using the Neyman Distribution, which is a stratified sampling method, and by using the stratified sample width formula. Accordingly, 1 female student from the Faculty of Dentistry, 73 (42 female, 31 male) from the Faculty of Letters, 5 (2 female, 3 male) from the Faculty of Science, 43 (19 female, 24 male) from the Faculty of Economics and Administrative Sciences, 20 (11 female, 9 male) from the Faculty of Islamic Sciences, 30 from the Faculty of Management

(12 female, 18 male), 3 (2 female, 1 male) from the Faculty of Architecture, 142 (29 female, 113 male) from the Faculty of Engineering, 11 (6 male, 5 female) from the Faculty of Fine Arts and Design, 7 (2 female, 5 male) from Tourism Faculty, 14 (11 female, 3 male) from Faculty of Health Sciences, 2 male from Faculty of Technical Education, 25 (4 female, 21 male) from Faculty of Technology, and 4 (2 female, 2 male) from Faculty of Medicine, a total of 380 faculty students (including 142 female and 238 male) were included in the study. Being a faculty student at the specified university, being an active internet user, agreeing to participate in the study, having no communication barriers, and not having a psychiatric illness according to the person's own statement were the inclusion criteria for the study.

Data Collection

After explaining the purpose of the research to the students by the researcher and obtaining the permission of the institution, the data were collected during the specified academic calendar, before and after the final and make-up exams. The consent was obtained from the students using the voluntary consent form. Data collection tools were given to the students in written form in the form of a questionnaire and they were asked to fill it out. Afterward, data collection tools were taken from the students. It was observed that the filling time took an average of 10 – 15 minutes.

Data Collection Tools

The Participant Information Form prepared by the researcher, and the Social Efficacy and Social Outcome Expectations Scale (SE-SOES) and the Internet Addiction Scale (IAS) were used to collect data.

Participant Information Form

The form was prepared by the researcher in line with the literature. It consists of 10 questions to determine the demographic information of university students, including gender, age, employment status, marital status, education level of mother and father, and class of education.

Social Efficacy and Social Outcome Expectations Scale

It was developed to determine people's social self-efficacy beliefs and of social outcome expectations. The scale was graded as 5-point Likert scoring, which consists of 18 items and 2 sub-dimensions, Social Efficacy (SE) and Social Outcome Expectations (SOE). High scores indicate high levels of social self-efficacy and social outcome expectations. Turkish validity and reliability of the scale was done by Akın and Akkaya in 2015.

The internal consistency coefficients of the scale were 0.93 for the SE sub-dimension, 0.88 for the SOES, and 0.93 and 0.92 for this study (Table 1).

Internet Addiction Scale

The scale was developed by Günç and Kayri (2010) and its validity and reliability studies were conducted.) IAS is a 5-point Likert scale consisting of 35 items. It has four sub-dimensions, "Withdrawal," "Controlling Difficulty," "Disorder in Functionality," and "Social Isolation." An increase in scores is considered as an increase in internet addiction (the minimum score is 35, the maximum score is 175). The Cronbach's alpha the internal consistency coefficients for the total and sub-dimensions of the scale is from 0.74 to 0.94. They was found from 0.89 to 0.96 in this study.

Statistical Analysis

In the study, the data collected were assessed with IBM's Statistical Package for Social Sciences (SPSS) Statistics for Windows version 23.0 (IBM SPSS Corp.; Armonk, NY, USA) in the computer environment. Frequency distributions for categorical variables and descriptive statistics (number, percentage, mean, and standard deviation) for numeric variables were used. To determine whether the numerical data and scales were suitable for normal distribution, Kolmogorov – Smirnov test ($p > .05$) and Q-Q graphs were used, and it was understood that the data were in accordance with the normal distribution.

Whether there was a difference between the two groups was checked with the independent sample *t*-test. The difference between the two groups was evaluated using one-way analysis variance and multiple comparison tests (Bonferroni or Tamhane's T2). The relationship between SE-SOES and IAS and its sub-dimension was evaluated with Pearson's correlation analysis.

Ethics Approval

The study was conducted in accordance with the 1964 Declaration of Helsinki and with the ethical standards of the institutional

Table 1.
Social Efficacy and Social Outcome Expectations Scale and Internet Addiction Scale Mean Scores and Correlations

Scales and Subdimensions	1	2	3	4	5	6	7
1. SE-Social Efficacy	1 (0.93)						
2. SOE-Social Result Expectation	0.74***	1(0.92)					
3. IAS-Total Score	−0.23***	−0.23***	1(0.96)				
4 .IAS-Withdrawal	−0.16**	−0.13**	0.85***	1(0.89)			
5. IAS-Controlling Difficulty	−0.23***	−0.23***	0.93***	0.74***	1(0.90)		
6. IAS-Disorder in Functionality	−0.21***	−0.19***	0.88***	0.61***	0.78***	1(0.91)	
7. IAS-Social İsolation	−0.21***	−0.26***	0.84***	0.56***	0.72***	0.76***	1(0.93)
Means	45.85	23.23	85.82	30.41	24.78	15.89	14.74
SD	9.79	5.37	26.99	8.72	8.58	6.58	6.78
Minimum – Maximum	12 – 60	6 – 30	35 – 175	11 – 55	10 – 50	7 – 35	7 – 35

Note: The Cronbach's alpha internal consistency coefficients of the scales are given in parentheses.
IAS = Internet Addiction Scale; SE = social efficiency; SOE = Social Outcome Expectations.
**$p < .01$, ***$p < .001$.

and/or national research committee. Ethical approval and institutional permission were obtained for the study (Karabük University Social and Human Sciences Research Ethics Committee dated 30.04.2019 and numbered 2019/08).

Results

The mean age of 380 students evaluated within the scope of the study was 22.40 ± 1.69, among them 62% were female, 98.2% of them were single, 37.9% of the mothers and 26.3% of the fathers of the students were primary school graduates, and 52.3% of them continue their education in the fourth grade.

When the sub-dimensions of the SE-SOES scale are examined, it was determined that the mean score of SE sub-dimension was 45.85 ± 9.79 and the mean score of SOE sub-dimension was 23.23 ± 5.37. The total mean score of IAS was 85.82 ± 26.99, and the sub-dimension mean scores were 30.41 ± 8.72 for Withdrawal, 24.78 ± 8.58 for Controlling Difficulty, 15.89 ± 6.58 for Disorder in Functionality, and 14.74 ± 6.78 for Social Isolation (Table 1).

There was a negative significant correlation between the IAS total score and SE (r; p = .232; .000) and SOE (r; p = −.233; .000) sub-dimension scores. Similarly, a negative correlation was found between all sub-dimensions of IAS and SE and SOE (Table 1) (p < .05 for each).

There was no significant difference in the mean scores of the IAS and SOE scale and sub-dimension scores according to the gender of the students and the grade they studied (p > .05 for each). There was no significant difference between the groups in the mean scores of SE and SOE sub-dimensions according to their mothers' education levels. Internet addiction scale's total score and Controlling Difficulty, Disorder in Functionality, and Social Isolation sub-dimension (p < .05 for each) scores of students whose mothers were in high school education were higher than those of students whose mothers were in the middle school education (Table 2).

Social Isolation sub-dimension mean scores were lower (p = .005) for students whose mothers had a university education level compared to other education levels. There was no significant difference in the mean scores of the students' IAS and SE-SOES scale total scores and sub-dimensions according to the father's education level (p > .05 for each). Compared to those who did not work, the mean score of the Disorder in Functionality in IAS was found to be significantly lower in working students (t = −2.161 and p = .031). Negative (r = −.127 and p = .013) correlation was found between the student's age and the IAS's Withdrawal sub-dimension, a positive correlation was found between the number of siblings and IAS social isolation (r = .113 and p = .027), and a negative correlation between SE (r = −.130 and p = .011) (Table 2).

Discussion

This research evaluated the perception of SE and internet addiction among university students. The findings demonstrated the negative relationship between SE level and internet addiction.

It is predicted that in case of lack of SE which can be defined by the individual having the necessities of social communication and using these tasks during communication, internet addiction will increase; therefore, in case of an increase in internet addiction, SE will decrease and psychosocial problems will increase. In a study, a positive significant relationship was determined between the level of internet addiction and psychosocial adjustment problems (Al-Shoqran, 2019).

In parallel with this idea and within the framework of the negative relationship determined in the study, it can be said that the increase in social competence and social outcome expectations in students reduces the difficulty of control over the internet, withdrawal, social isolation, and disorder in functionality. At the same time, it can be concluded that the increase in internet addiction causes a decrease in students' social competence and social outcome expectation scores.

It is mentioned in the literature that the increase in the time spent on the internet and its uncontrollability can cause the individual to move away from the real world and avoid starting and maintaining social relationships. Similarly, the results of studies show that internet addiction provides an environment that reduces the individual's social self-efficacy and loneliness and negatively affects social self-efficacy, and as internet addiction increases, social self-efficacy level decreases (Bakioğlu, 2020; Kaur, 2018; Mohammadi & Torabi, 2018).

In a meta-analysis study, it was stated that young people affected by internet addiction exhibit greater interpersonal difficulties than others, such as inadequate interpersonal relationships, inappropriate social behaviors, fear of relationships, and social behavior. In addition, it is emphasized that social relationship difficulties may cause adolescents to prefer online communication and decrease their non-verbal communication needs (Fumero et al., 2018). There is a very strong positive relationship between internet addiction, loss of control, and the desire to stay more online in adolescents and negativity in social relationships (Erkişi & Sağlam, 2020). In a study conducted with the nursing students in Korea, it was determined that being aware of others (β = 0.22, p < .001) and interpersonal relationship competence (β = −0.18, P < .001) had a significant effect on internet addiction (Son, 2018). Studies reveal that there is a positive relationship between social anxiety disorder and social phobia and internet addiction in university students (Jaiswal et al., 2020; Traş & Gökşen, 2020; Weinstein et al., 2015).

In the study, the fact that the students' SE-SOES averages were above the medium level was evaluated as a positive result in order to avoid internet addiction. A negative relationship was determined between SE and the number of siblings variable in the current study. Apart from this, no significant difference was found between the groups in terms of SE scores in terms of other variables.

When internet addiction scores are analyzed by gender, it was determined that the mean score of men was higher than that of women, but the difference in scores was not significant. In the study, it was concluded that the educational status of the mothers caused a differentiation in the internet addiction levels of the participants, that the students who had a mother with a high school education had more difficulty in controlling the internet and deterioration in functionality, and that their internet

Table 2.
Distribution of Social Efficacy and Social Outcome Expectations Scale and Internet Addiction Scale Mean Scores According to Variable

	SE-SOES		IAS				
	SE	SOE	IAS-TP	W	CD	DİF	SI
Independent Variables	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**
Gender							
Male (n = 238)	45.76 ± 9.76	23.13 ± 5.42	86.08 ± 26.61	30.16 ± 8.69	24.66 ± 8.23	16.08 ± 6.37	15.17 ± 6.73
Female (n = 142)	45.99 ± 9.87	23.39 ± 5.28	85.39 ± 27.68	30.83 ± 8.78	24.97 ± 9.15	15.56 ± 6.94	14.03 ± 6.81
t;*p*	–0.219;.826	– 0.444;.658	0.240;.810	– 0.730;.466	– 0.338;.735	0.755;.451	1.595;.112
Mother's education							
Literate/Illiterate (n = 58)[1]	46.72 ± 9.10	23.64 ± 4.71	83.78 ± 30.31	29.98 ± 9.47	23.53 ± 9.22	15.29 ± 6.82	14.97 ± 7.24
Primary school (n = 144)[2]	45.71 ± 9.66	23.58 ± 5.12	85.21 ± 25.21	29.97 ± 7.95	24.69 ± 7.89	15.84 ± 6.45	14.71 ± 6.67
Middle school (n = 52)[3]	47.87 ± 8.83	24.40 ± 4.70	76.27 ± 27.28	28.33 ± 9.42	22.13 ± 8.94	13.94 ± 6.05	11.87 ± 6.28
High school (n = 89)[4]	44.61 ± 10.90	22.11 ± 5.96	94.62 ± 26.66	32.58 ± 8.48	27.28 ± 8.60	18.36 ± 6.58	16.39 ± 6.91
University and above (n = 37)[5]	45.19 ± 9.77	22.24 ± 6.23	83.65 ± 23.63	30.46 ± 9.32	24.78 ± 8.367	13.78 ± 5.80	14.62 ± 5.65
F;*p* fark	1.074;.369	2.164;.073	**4.299;.002** **3<4**	2.279;0.060	**3.528;.008** **3<4**	**5.589;.000** **1,2,3,5<4**	**3.789;.005** **3<4**
Father's education							
Literate/Illiterate (n = 31)	46.45 ± 9.629	23.42 ± 4.74	81.71 ± 28.70	29.84 ± 8.84	22.48 ± 8.65	14.06 ± 7.16	15.32 ± 8.14
Primary school (n = 100)	45.00 ±10.27	23.42 ± 5.52	85.81 ± 26.30	30.20 ± 8.42	24.69 ± 8.18	16.02 ± 6.53	14.90 ± 6.66
Middle school (n = 75)	46.53 ± 9.337	23.56 ± 4.99	84.12 ± 28.46	29.45± 9.48	24.61 ± 8.35	15.91 ± 6.76	14.15 ± 6.89
High school (n = 95)	46.33 ± 9.46	23.67 ± 5.32	87.32 ± 27.13	31.08 ± 8.24	25.51 ± 8.81	16.26 ± 6.59	14.46 ± 6.94
University and above (n = 79)	45.47 ± 10.20	22.06 ± 5.75	87.25 ± 25.95	30.99 ± 8.97	25.08 ± 9.00	15.96 ± 6.29	15.23 ± 6.10
F;*p*	0.392;.814	1.209;.306	0.380;.823	0.499;.737	0.756;.554	0.681;.605	0.354;.841
Grade							
First grade (n = 31)	45.00 ± 8.94	24.16 ± 4.71	89.81 ± 28.35	32.77 ± 9.06	26.42 ± 8.77	24.73 ± 8.34	14.29 ± 7.02
Second grade (n = 58)	45.12 ± 8.98	22.10 ± 5.01	88.88 ± 28.21	30.90 ± 8.43	25.55 ± 9.74	24.73 ± 8.34	15.50 ± 6.87
Third grade (n = 92)	44.68 ± 11.59	22.72 ± 6.47	82.54 ± 26.33	29.23 ± 9.16	23.84 ± 8.25	15.12 ± 6.29	14.36 ± 6.55
Fourth grade (n = 199)	46.73 ± 9.21	23.65 ± 4.95	85.82 ± 26.72	30.44 ± 8.52	24.73 ± 8.34	15.87 ± 6.57	14.77 ± 6.84
t;*p*	1.160;.325	1.857;.136	0.925;.429	1.387;.247	0.906;.438	0.947;.418	0.385;.764
Working Status							
Employed (n = 27)	46.89 ± 8.79	22.67 ± 6.56	80.11 ± 30.08	29.93 ± 10.19	23.15 ± 9.58	13.26 ± 6.24	13.78 ± 7.49
Unemployed (n = 353)	45.77 ± 9.87	23.27 ± 5.27	86.25 ± 6.73	30.44 ± 8.61	24.90 ± 8.50	16.09 ± 6.57	14.82 ± 6.72
	0.571;0.568	– 0.468;0.643	1.141;0.255	– 0.297;0.766	– 1.025;0.306	**– 2.161;0.031**	– 0.769;0.443
Age®	0.027	– 0.031	– 0.078	**– 0.127**	– 0.074	– 0.024	– 0.030
(Mean ± SD 22.4 ± 1.69) *p*	.595	.552	.129	**.013***	.149	.640	.563
Number of Siblings (*r*)	**– 0.130**	– 0.083	0,068	0.031	0.038	0.464	**0.113**
(Mean ± SD 2.2 ± 1.69) *p*	**.011***	.104	.189	.550	.464	.170	**.027***

*p < 0.05, Bold values are statistically significantNote: CD, controlling difficulty; DiF, disorder in functionality; IAS-TP, Internet Addiction Scale-Total Score; SE-SOES, Social Efficacy and Social Outcome Expectations Scale; SI, social isolation; W, withdrawal.

addiction scores were higher. At the same time, it was determined that working in another job other than university education reduced the level of internet addiction. It can be said that working students' spending time in their workplaces causes them to spend less time on the internet, thus significantly reducing the deterioration of the use of the internet.

Limitations and Directions/Suggestions for Future Research

The research is limited to faculty students at a specific university and data is based on the students' self-evaluation. This situation creates a limitation by affecting the generalization of the results.

These results emphasize the necessity of increasing social competence and developing social skills to prevent the internet, which is widely used in university students, before it becomes an addiction. According to these results, within the scope of preventive mental health, first, students with low SE and having difficulties in terms of social skills should be identified, and appropriate initiatives that will increase social skills and efficacy for these students should be planned and practices should be evaluated.

Ethics Committee Approval: Ethical committee approval was received from the Ethics Committee of University of Karabük (Approval no: 2019/08, Date: 30.04.2019).

Informed Consent: Verbal informed consent was obtained from the participants who agreed to take part in the study.

Peer-review: Externally peer-reviewed.

Author Contributions: Conception – H.K., N.O.; Design – H.K., N.O.; Supervision – N.O.; Funding – H.K.; Materials – H.K.; Data Collection and/or Processing – H.K.; Analysis and/or Interpretation – H.K., N.O.; Literature Review – H.K., N.O.; Writing – H.K., N.O. Critical Review – N.O.

Declaration of Interests: The authors have no conflict of interest to declare.

Funding: The authors declared that this study has received no financial support.

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