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Effects of the Teachers' Personality Traits and Job Satisfaction on Their Attitude towards Distance Learning in Turkey

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Abstract

The COVID-19 pandemic caused an alteration in many industries. The utilisation of distance learning opportunities has rapidly increased. This study aimed to evaluate teacher attitudes towards distance learning and demonstrate the effects of their personality traits and job satisfaction on their attitudes and the relationship among these factors. This cross-sectional study was conducted through an online questionnaire. Four hundred sixty-four teachers from several schools, different units and fields of study attended the research. The data was collected via the Introductory Information Form, Attitude Scale Towards Distance Learning (ATDL), Big Five Personality Traits Scale (BFPTs), and Job Satisfaction Scale (JSS). When the total points from the attitude scale towards distance learning are compared, there is no significant difference in gender, branch, institution, or working at the weekends, but age, educational background, having a child, and income satisfaction have a significant effect. There was no relation between any personality trait and attitude towards distance learning. Because variables such as age and income satisfaction affect the attitude towards distance learning, changeable variables emerge. It is essential to support older teachers in technology use. Making necessary alterations in teachers' incomes should be considered an essential factor. The reasons for the fact that teachers still prefer in-person education should be investigated. Physical condition sufficiency can be related to the perception of distance education qualification, and a sufficient technological structure can contribute positively.

Keywords: Distance learning, Online teaching, Teacher's attitude, Job satisfaction.

Introduction

'Technology is a complex structure in which management, processes, and machines are integrated with human organisations.' (İşman, 2011). With technology entering all areas, from communication to education, an obligation to use technology in every field occurred for the people of the information society in the 21st century (Taşdemir, 2018). From the past to the present, the social structure has become its current structure of 'information and communication' by going through the processes of hunting, gathering, and industrialization with technological acceleration (Güneş, 2016).

Education plays a significant role in the development of society. Today, people of all ages use technology daily, and this heavy increase in technology use affects the education system (Akkoyunlu & Erkan, 2013). The place of technology in the education system has become more of a facilitator tool than a purpose itself. Every structure of the learning process includes technology (Akkoyunlu & Erkan, 2013). For this purpose, society, especially teachers, should adopt technological innovations and try to learn and bring these innovations into the learning process (Kılıçer, 2008). At the same time, knowledge has a way of being consistently refreshed and renewed. In this sense, one of the main objectives of every education system is to get those who raise individuals to follow the latest innovations and be informed about the requirements of the learning process (Raja & Nagasubramani, 2018).

Since the teachers show people how to use their knowledge, they should have the knowledge and technology necessities of the time and keep up with the changes and innovations during the process (Yilmaz, 2007). If teachers integrate technology into education, it will allow for a more productive learning process (Yilmaz, 2007). During this process, teachers are the ones that teach how to reach and use endless knowledge instead of directly giving the existing knowledge (Skorikova et al., 2016). In a world where every aspect of

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communication, scientific research, production, change, and education grows globally, it is an excellent opportunity to have 'global distance education for educators' (Şişman, 2011). During global distance learning, education has become more of a lifelong term and not a terminal one for individuals. In this sense, owing to technology, it has transferred from being passive and reactive to being interactive and enterprising (Raja & Nagasubramani, 2018).

It is inevitable to customise education for students, just like customised products. One of the essential aspects of distance education is that it can be customised for the individual (Moller & Soles, 2001). With distance education, distance is no longer a problem, and with the new technologies, the generation gap started to disappear (Anderson & Dron, 2011). In distance education, learning can be achieved by individuals or groups, and a teacher does not physically exist. Distance learning materials are structured as facilitators for learning (Mielke, 1999). On the other hand, it is impossible to perform some classroom tasks in distance education. For example, classroom assessments and atelier activities cannot be performed during distance education (Borisova et al., 2016).

Distance learning is student-centred learning. The aim is to provide a productive learning process for students. Student productivity in the process is correlated with the teacher's knowledge. Teachers' ability to integrate active learning techniques into distance learning is wholly related to student satisfaction and learning (Zaborova et al., 2017). During distance education, the teacher's knowledge of the student's motivators and achievements increases efficiency in distance learning (Galusha, 1998).

On the other hand, teachers' responsibility for redefining and adapting knowledge increases in the information age, where knowledge is consistently changed and renewed. The teacher introduces the learning process, so it is inevitable so she or he will not share in the success or failure of the process. Teachers' satisfaction and motivation will be effective for the success of the process (Tan, 2003).

Lately, the COVID-19 pandemic has affected the whole world and caused an alteration in many industries. The education system's utilisation of distance learning opportunities has rapidly increased. Restrictions for crowded and indoor areas have necessitated a rapid transition to distance learning in all education stages. Because distance learning entered the education process at this speed, it became crucial to research factors affecting attitudes towards it. In Turkey, no research analyses teacher views and attitudes on the subject in our study.

The current study aims to evaluate teacher attitudes towards distance learning and demonstrate the effects of their personality traits and job satisfaction on their attitudes and the relationship among these factors.

Method

Study Design and Sampling

This study had a cross-sectional and descriptive design. We used an online survey to minimise in-person interactions with all participants during the pandemic. A convenience sample of teachers was contacted to participate in this study. Researchers directly contacted the teachers they know at every level and asked them to share this survey in their social networks (organisations or workgroups on platforms like WhatsApp and Facebook). This way, the survey was shared on various social network groups to gather teachers who give lectures at any level. Participants were also asked to share the survey directly with their colleagues and the teachers and lecturers they knew.

The respondents are 464 teachers from public schools, private schools, different units, and different fields of study. Introductory Information Form, Attitude Scale Towards Distance Learning (ATDL), Big Five Personality Traits Scale (BFPTs), and Job Satisfaction Scale (JSS) were used as data collection tools. The data was collected online from 15 April to 15 May 2020. The sample size did not calculate; instead, every completed survey form in this one month was included in the study. Before collecting the data, all respondents were informed about the aim of the study, data privacy, and the intended scientific use of the data. Informed consent was received from all respondents. To carry out this study, XXX University's clinical research ethics committee received approval (28.05.2020/2020-04).

Data Collection Tools

Introductory Information Form: This form was designed by the researchers and included demographic questions such as gender, age, educational background, marital status, and having a child. It also includes professional practise-oriented questions such as institution (private-public), monthly income, income satisfaction, professional seniority, branch, and working hours/days. Regarding technology use and distance learning, the questions of technology sufficiency, informing about distance learning, physical conditions for distance learning, sharing problems in distance learning, getting support from authorities, and preference between in-person and distance learning were addressed.

Attitude Scale Towards Distance Learning (ATDL): The 'Attitude Towards Distance Learning' scale, developed by (Ağır, 2007), was used online to evaluate teachers' attitudes towards distance learning. The scale was structured as a five-point Likert scale; it consists of two sub-dimensions (advantages of distance learning and

constraints of distance learning) and 21 items. The scale's minimum point is 21 and the maximum point is 105. Also, for the first sub-dimension, the 'advantages of the distance learning minimum value are 14, and the maximum value is 70; for the second sub-dimension, 'the constraints of the distance learning minimum value are seven, and the maximum value is 35.

The Big Five Personality Traits Scale (BFPTs): The BFPTs are commonly used in measuring individual personality types (Costa & McCrae, 2008). In the BFPTs, each personality type explains the factors influencing an individual's behaviour, which were categorised into Extraversion, Conscientiousness, Agreeableness, Openness, and Neuroticism Personality Type. A Turkish adaptation study was conducted by Horzum et al.; in 2007.

Statistical Analysis

The data were analysed using SPSS-22 (IBM Corp., Armıonk, NY, ABD) software. Frequency tables were formed for the sociodemographic questions and scale items. In order to see the differences between the mean points of normality tests and sociodemographic questions, two parametric independent samples t-tests and ANOVA analysis were used.

For the scales unsuitable for the normality tests, non-parametric Kruskal Wallis and Mann Whitney U analyses were made. Pearson correlation analysis was performed on the standard distribution tests to reveal the relation between the attitude towards the distance learning scale and other scales and variables, and Spearman correlation analysis was performed on the non-normal distribution tests. Using simple linear regression, regression analysis was used to see variables and scales' effects on the attitude towards the distance learning scale. All analyses were performed at a level of $\alpha = 0.05$.

Results

General Characteristics of the Participants

Four hundred sixty-four teachers from different branches participated in the study. Among the participants, 320 (37.7%) were women, and 144 (62.3%) were men. One hundred eighteen participants (25.4%) were aged between 20-30, 211 participants (45.5%) were aged between 30-40, and 95 participants (20.5%) were aged between 40-50. 340 (73.3%) were married, and 124 (26.7%) were single. Three hundred twenty participants (69%) work in a public school, and 144 (31%) work in a private school. 357 (76.9%) have an undergraduate degree, 85 (18.3%) have a postgraduate/doctorate, and 22 (4.7%) have an associate degree. The other sociodemographic and professional traits of the teachers are demonstrated in Table 1.

Table 1: Sociodemographic attributes of the teachers

Questions	Answers	n	%
Gender	Female	320	69.0
	Male	144	31.1
Marital status	Single	124	26.7
	Married	340	73.3
Having a child	Yes	300	64.7
	No	164	35.3
Age	20-30	118	25.4
	30-40	211	45.5
	40-50	95	20.5
Institution	Private School	144	31.0
	Public School	320	69.0
Branch	School counsellor	40	8.6
	Science and Technology	43	9.3
	Primary school teacher	121	26.1
	Turkish / Turkish literature	39	8.4
	Social sciences	34	7.3
	Mathematics	30	6.5
	Applied sciences	43	9.3
	Foreign languages	57	12.3
	Preschool teaching	57	12.3
Professional seniority	0-5 years	90	19.4
	6-10 years	119	25.6
	10-19 years	151	32.5
	20 years and above	104	22.4
Educational background	Associate degree	22	4.7
	Undergraduate	357	76.9
	Postgraduate / Doctorate	85	18.3

	Yes (1-2 days)	76	16.4
Working at the weekends	Yes (3 days and more)	86	18.5
	No	302	65.1
	Not at all	45	9.7
	No	87	18.8
Satisfied with the salary	In-between	189	40.7
	Yes	118	25.4
	Very much	25	5.4

52% of the teachers answered the question of their qualification in distance learning as 'qualified' or 'highly qualified". However, only 25% of the teachers answer the question of the educational qualification in distance learning as 'qualified' and 'highly qualified. Most teachers (80%) stated there were unqualified physical conditions for distance learning. Regarding their preferences between in-person and distance learning education, nearly all teachers (95%) said they would prefer in-person education. Teachers' answers to distance learning-related questions are demonstrated in Table 2.

There is no significant difference among the participants' answers to their qualifications in distance learning regarding marital status, professional seniority, branch, age, and working at the weekend variables. Educational background (the postgraduate/doctorate group has a significantly higher mean point than the undergraduate group), having a child (the group without a child has a significantly higher mean point than the group with a child), gender (the male group has a significantly higher mean point than the female group), and institution (the private school working group has a significantly higher mean point than the public-school worker group). Te variables of income satisfaction (the very much satisfied group has a significantly higher mean point than all other groups) were found to be significantly related to the thought of being sufficient for distance learning ($p< 0.05$).

Table 2: Teachers' answers to questions about distance education

Questions	**Options**	**n**	**%**
	Highly unqualified	4	0.9
	Unqualified	28	6
How qualified do you see yourself about technology?	Intermediate	173	37.3
	Qualified	192	41.4
	Highly qualified	67	14.4
	Highly unqualified	9	1.9
	Unqualified	45	9.7
How qualified do you see yourself about distance education?	Intermediate	169	36.4
	Qualified	184	39.7
	Highly qualified	57	12.3
	Highly unqualified	30	6.5
How qualified do you see the education and informing during the distance education?	Unqualified	88	19
	Intermediate	213	45.9
	Qualified	109	23.5
	Highly qualified	24	5.2
	Highly unqualified	54	11.6
How qualified do you see the physical conditions for distance education?	Unqualified	140	30.2
	Intermediate	186	40.1
	Qualified	70	15.1
	Highly qualified	14	3
	Definitely in person education	383	82.5
In general, which one do you prefer: in person education or distance education?	In person education	49	10.6
	Hesitant	26	5.6
	Distance education	2	0.4
	Definitely distance education	4	0.9
	No	36	7.8
Are you able to share your experiences/problems in distance education with your colleagues?	Yes, but not enough	222	47.8
	Yes	206	44.4
	No	50	10.8
Are you able to get support from your superiors/authorities about your problems related to distance education?	Yes, but not enough	190	40.9
	Yes	224	48.3

The Severity of Measurements and Differences between Groups

When the total points from the attitude scale towards the distance learning scale according to sociodemographic variables are compared, there is no significant difference in gender, branch, institution, or working weekends ($p>0.05$). (Table 3)

On the other hand, when age, educational background, having a child, income satisfaction, and attitude towards distance learning scale are compared, there is a significant difference between the groups ($p<0.05$). According to the results, the attitude towards distance learning scale total point is significantly higher for the 20-40 age group than for the 40-50 and 50 and older age groups. Considering the institution variable, in the advantage subscale, there is a significant difference between private school workers' total points and public school workers' total points, but this difference cannot be seen on the full scale. Considering the income satisfaction variable, the group that answered the question with 'yes' has a significantly positive attitude towards distance learning ($p<0.05$). When attitude towards distance learning is examined through the professional seniority variable, the mean point of the group with 1-5 years of seniority is significantly different and higher than the mean point of the group with 11-19 years and 20 years or more of seniority and the mean point of the group with 6-10 years of seniority is significantly different and higher than the mean point of the group with 20 years or more of seniority ($p<0.00$).

Job satisfaction scale points were evaluated regarding sociodemographic traits, and only income satisfaction was found to be a significant variable; age, institution, educational background, professional seniority, and having a child did not present a significant difference ($p<0.05$). The analysis results are given in Table 3.

Table 3: Difference test results of attitudes towards distance learning and job satisfaction in terms of sociodemographic traits

Variables	n	Attitude Scale Towards Distance Learning			Job Satisfaction Scale		
		Advantage	Constraints	Total	Qualification suitability	Development opportunity	Total
		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Age							
20-30	118	2.69±.73	2.56±.93	2.65±.58	3.89±.68	4.09±.69	3.96±.58
30-40	211	2.54±.74	2.55±.99	2.54±.59	3.95±.65	4.03±.62	3.98±.57
40-50	95	2.17±.76	2.72±1.08	2.36±.60	3.91±.64	3.89±.66	3.90±.56
50+	40	2.27±.63	2.83±.96	2.46±.42	3.97±.73	3.94±.82	3.96±.69
Total	464	2.48±.76	2.61±.99	2.52±.58	3.93±.66	4.01±.66	3.95±.58
		f:10.277	f:1.417	f:4.812	f:.231	f:1.803	f:.320
		p: <.000	p: .237	p: <.003	p: .874	p: .146	p: .811
Educational background							
Associate degree	22	2.52±.62	2.69±.90	2.58±.50	4.06±.63	4.17±.69	4.10±.58
Undergraduate	357	2.43±.77	2.61±1.02	2.49±.59	3.94±.65	4.01±.65	3.97±.57
Postgraduate	85	2.69±.72	2.61±.89	2.66±.56	3.83±.69	3.99±.73	3.89±.62
Total	464	2.48±.76	2.61±.99	2.52±.58	3.93±.66	4.01±.66	3.96±.58
		f:4.404	f:.082	f:3.349	f:1.532	f:.665	f:1.350
		p: .013	p: .921	p: .036	p:.217	p: .515	p: .260
Institution							
Public School	320	2.43±.79	2.67±1.01	2.51±.59	3.94±.66	3.94±.67	3.94±.59
Private School	144	2.59±.66	2.49±.94	2.56±.56	3.91±.66	4.17±.61	4.00±.56
		t: -2.357	t: 1.768	t: -0.899	t: 0.461	t: -3.600	t: -1.084
		p: .019	p: .078	p:.369	p:.645	p:.000	p:.279
Salary satisfaction							
Not at all	45	2.33±.83	2.66±1.22	2.44±.61	3.63 ±.78	4.09±.76	3.79±.70
No	87	2.48±.80	2.51±.93	2.48±.61	3.78±.63	4.03±.68	3.87±.55
In-between	189	2.38±.73	2.65±1.06	2.47±.56	3.92±.67	3.96±.66	3.93±.59
Yes	118	2.69±.72	2.59±.82	2.66±.56	4.04±.56	4.02±.63	4.03±.52
Very much	25	2.49±.69	2.66±1.06	2.55±.58	4.51±.37	4.19±.65	4.40±.42
Total	464	2.48±.76	2.61±.99	2.52±.58	3.93±.66	4.01±.66	3.96±.58
		f:3.670	f:0.352	f:2.339	f:9.861	f:0.939	f:5.924
		p:.006	p: .843	p:.044	p: .000	p: .441	p: .000
Professional seniority							
1-5 years	90	2.74±.71	2.58±.94	2.69±.57	3.88±.68	4.10±.69	3.96±.59

6-10 years	119	2.57±.73	2.41±.89	2.52±.56	3.92±.64	4.02±.62	3.95±.55
11- 19 years	151	2.45±.78	2.70±1.05	2.53±.61	3.92±.67	3.99±.67	3.95±.60
20 years and above	104	2.19±.71	2.75±1.03	2.38±.55	3.98±.66	3.96±.68	3.97±.59
Total	464	2.48±.76	2.61±.99	2.53±.58	3.93±.66	4.01±.66	3.96±.58
		f:9.674	f:2.821	f:4.597	f:.383	f:.886	f:.050
		p:<.000	p:.039	p:<.003	p: .765	p: .448	p: .985
Having a child							
No	164	2.63±.71	2.58±.92	2.62±.54	3.92±.65	4.10±.66	3.99±.56
Yes	300	2.40±.77	2.63±1.03	2.47±.60	3.93±.67	3.96±.66	3.94±.59
		t: 3.241	t: -.472	t: 2.539	t:-.097	t: 2.248	t:.825
		p:<.001	p: .638	p:.011	p: .923	p:.025	p: .410

When the relation between personality traits and attitude towards distance learning is analysed, we can see no relation between any trait and attitude towards distance learning. The analyses related to Table 4 results are given.

Table 4. Relationship between Big Five-Factor Personality Traits, Distance Learning, and Job Satisfaction

Variables	Test	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Advantage	r	-.030	.037	-.017	-.022	-.104*
	p	.524	.431	.708	.640	.024
Constraints	r	.182**	.073	.131**	.024	.052
	p	.000	.114	.005	.608	.265
Attitude Scale Towards Distance Learning Total	r	.078	.073	.059	-.005	-.061
	p	.094	.114	.203	.908	.188
Qualification suitability	r	-.292**	-.176**	-.281**	.259**	-.108*
	p	.000	.000	.000	.000	.020
Development opportunity	r	-.342**	-.177**	-.388**	.260**	-.217**
	p	.000	.000	.000	.000	.000
Job Satisfaction Scale Total	r	-.352**	-.201**	-.363**	.295**	-.166**
	p	.000	.000	.000	.000	.000

** indicates p < 0.001
* indicates p < 0.05

To evaluate distance learning attitude predictor variables, we assessed age, educational background, income satisfaction, job satisfaction, and personality traits with multiple regression analyses. Age, job satisfaction, and income satisfaction are significant predictors. On the other hand, educational background and personality traits were ineffective. The analysis results are given in Table 5.

Table 5: Distance learning predictor variables

Variables	B	Std. Error	Beta	p
Age	-.169	.067	-.116	.012*
Educational background	-2.711	2.661	-.094	.309
Income satisfaction	4.092	1.414	.146	.004*
Job satisfaction	-.200	.080	-.140	.013*
Extraversion	.708	.403	.094	.080
Agreeableness	.649	.448	.071	.148
Conscientiousness	.312	.428	.039	.467
Neuroticism	.353	.379	.048	.352
Openness	-.520	.353	-.071	.142

Discussion

Considering today's technological improvements, the contribution of digitalization to education is inevitable. The progress in distance education platforms is the most crucial indicator of this situation. This study analyses

the factors affecting teachers' attitudes towards distance learning.

Nearly half of the teachers (52%) said they qualified for distance education. This finding shows that the other 48% still think they need advanced training and support in distance education. Also, only 25% of teachers think that distance education is sufficient. In the studies on the sufficiency of distance education, it was stated that distance learning could make a significant contribution to academic success (Karabatak et al., 2020); (Ünal, 2017); (Shonola et al., 2016). In order to improve teachers' motivation towards distance education, they may need to be more informed about this education model's sufficiency. Another important finding is that nearly all teachers preferred in-person edication to distance education. Reasons for this preference and actions to be taken are essential assessment areas. Lack of necessary physical conditions, the thought of short-distance learning, and limitations on student interactions may be the reasons for this preference.

Remarkably, teachers' thoughts on their qualification in distance learning change according to variables such as educational background, having a child, being a male teacher, the institution, and income satisfaction. Advancement in the educational background is positively related to being qualified in distance learning. This finding may lead to the idea of further assistance for associate degree and undergraduate groups in distance education. Private school teachers' thoughts of being more qualified might be related to sufficient physical conditions. Remarkably, teachers' thoughts on their qualification in distance learning change according to variables such as educational background, having a child, being a male teacher, the institution, and income satisfaction. Advancement in the educational background is positively related to being qualified in distance learning. This finding may lead to the idea of further assistance for associate degree and undergraduate groups in distance education. Private school teachers' thoughts of being more qualified might be related to sufficient physical conditions. It is stated that higher technological opportunities can affect the attitude towards distance learning in a positive way (Karabatak et al., 2020). Another remarkable finding is that male teachers are more qualified than female teachers. In the literature, results support this finding and a contrary one (Kırali & Bülent, 2016). This difference may be generated by male teachers' predisposition towards technology (Graham & Jones, 2011); (Berkant, 2013). The educational seminars should consider these factors to increase distance learning sufficiency.

When factors affecting attitude towards distance education were analysed, age, educational background, not having a child, being satisfied with the income, and having less professional seniority were found to be effective. On the other hand, gender, branch, and institution variables did not significantly affect attitudes towards distance education. Younger teachers have a more positive attitude towards distance education; with the advancement of their educational backgrounds and rise in income satisfaction, their attitude towards distance education changes more positively. There are no significant differences in the attitude towards distance learning between female and male teachers, even though female teachers see themselves as more unqualified than male teachers. Some studies report that female teachers have a more negative attitude towards distance education (Turgut et al., 2017); however, our findings emphasise a difference in the qualification perception, not the attitude towards distance education (Ateş & Altun, 2008). The sources for the female teachers' perception of being unqualified in distance learning should be examined in further studies.

In the same way, the institution variable is found to be influential on qualification perception but ineffective on attitudes towards distance education. According to this result, private and public school teachers have nearly the same attitude towards distance education but feel differently about their qualifications in distance educaiton. For qualifying perception differences, physical conditions can be important factors. Our study found that teachers' branches do not affect the attitude towards distance education. There are different results in the literature. It was stated that the teachers of technology-related branches show a more positive attitude towards distance learning (Yılmaz & Güven, 2015). However, this factor might become less effective considering technology has recently entered all areas and spaces.

When the attitude towards distance education and personality traits are analysed, one can see no relation between attitude and personality traits. This is an important finding. Notably, the teachers' attitudes were not affected by their personality traits, but other changeable variables were influences on their attitudes.

Considering that age, income satisfaction, and professional seniority affect the attitude towards distance education, teachers may need more supportive training with increasing age. Besides, to increase the sufficiency of distance education, side incomes may lead to a more positive attitude and enhance the quality of distance learning.

Our study has some limitations. First, our research was conducted online. At the same time, the scales are self-rated, which makes it possible for the participants to misunderstand and answer the questions incorrectly. Another limitation of ours is that the study was conducted in cross-sectional time. Long-term and follow-up studies are needed in this area.

Conclusion and Recommendations

In this study, we analysed the factors affecting teachers' attitudes towards distance learning, and the result is that personality traits are not significant. Besides, because variables such as age and income satisfaction affect attitudes, changeable variables emerge. It is essential to support older teachers in technology use. During the distance learning course, making necessary alterations in teachers' income should be considered an essential factor.

The reasons for the fact that teachers still prefer in-person education should be investigated thoroughly. Academic studies on distance learning sufficiency can be used as an incentive in this context.

Physical sufficiency can be related to the perception of a distance education qualification. For this, a sufficient technological structure can positively contribute to the attitude towards distance learning.

Author (s) Contribution

SA, ZBA, AB; design, data collection, writing, final approval.

AB, BU, SC; statistics of data, writing, final approval,

Conflicts of Interest

All authors declare that there are no potential conflicts of interest.

Ethical Approval

Ethical permission (28.05.2020/2020-04) was obtained for this research from Kent University's clinical research ethics committee.

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