

Generational Differences in Dental Anxiety and Associated Demographic Factors; A Cross-Sectional Study

Dental Anksiyetede Kuşak Farklılıkları ve İlişkili Demografik Faktörler; Kesitsel Bir Çalışma

Ferit BAYRAM^a, Sebiha Nihal YILMAZ^a, Burcu ÖZTÜRK^a, Gökhan GÖÇMEN^a

^aMarmara University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İstanbul, Türkiye

^aMarmara Üniversitesi, Diş Hekimliği Fakültesi, Ağız, Diş ve Çene Cerrahisi AD, İstanbul, Türkiye

ABSTRACT

Background: Dental anxiety (DA) remains a significant concern across various age groups. Differences in generational demographics may influence the prevalence of DA. This study investigated the relationship between DA, generational differences, and various demographic factors.

Methods: A cross-sectional study was conducted involving 273 patients across four generational groups (Baby Boomers, Generation X, Millennials, and Generation Z) at the Department of Oral and Maxillofacial Surgery at Marmara University in İstanbul, Turkey. Variables examined included age, gender, social media usage, education level, and frequency of dental visits. DA, oral health-related quality of life (OHIP), and decayed, missing, and filled teeth (DMFT) data were assessed using Modified Dental Anxiety Scale (MDAS), OHIP-14, and dental records, respectively.

Results: No significant correlation between DA and generation was found ($F=0.16$, $p=0.92$). Age did not show a significant association with MDAS scores ($r=0.02$, $p=0.70$), and social media usage was not significantly related to dental anxiety levels. While females exhibited higher MDAS scores than males (female $M=11$, $SD=5.06$; male $M=9.83$, $SD=4.71$), the difference was not statistically significant ($p=0.05$). Education level did not show a significant impact on DA ($p=0.22$). There was no significant association between MDAS and age ($r=0.02$, $p=0.70$) nor between OHIP and age ($r=0.07$, $p=0.23$). However, there was a significant positive association between DMFT and Age ($r=0.51$, $p<0.01$). OHIP scores were significantly higher for females ($M=18.99$, $SD=12.4$) than for males ($M=15.94$, $SD=9.95$) ($p=0.03$). DMFT scores varied significantly among generational groups ($F=26.9$, $p<0.01$), with certain pairs showing significant differences (all p -values < 0.05).

Conclusion: The study found no significant link between DA and generation. The impact of other demographic factors on DA needs further investigation.

Keywords: Dental anxiety, Dental fear, Generations

ÖZ

Amaç: Dental anksiyete (DA) çeşitli yaş gruplarında önemli bir endişe kaynağı olmaya devam etmektedir. Kuşak demografisindeki farklılıklar dental anksiyetenin yaygınlığını ve yoğunluğunu etkileyebilir. Bu çalışmada dental anksiyete, kuşak farklılıkları ve çeşitli demografik faktörler arasındaki ilişki araştırılmıştır.

Gereç ve Yöntemler: İstanbul'da Marmara Üniversitesi Ağız Diş ve Çene Cerrahisi Anabilim Dalı'nda dört kuşaktan (Baby Boomers, X Kuşağı, Y Kuşağı ve Z Kuşağı) 273 hastayı kapsayan kesitsel bir çalışma yürütülmüştür. Çalışma Türkçe olarak yürütülmüş ve uluslararası geçerliliği olan ölçüm araçları kullanılmıştır. İncelenen değişkenler arasında yaş, cinsiyet, sosyal medya kullanımı, eğitim düzeyi ve diş hekimi ziyaretlerinin sıklığı yer almaktadır. DA, ağız sağlığı ile ilgili yaşam kalitesi (OHIP) ve çürük, eksik ve dolgu diş (DMFT) verileri sırasıyla Modifiye Dental Anksiyete Skalası (MDAS), OHIP-14 ve diş kayıtları kullanılarak değerlendirilmiştir.

Bulgular: DA ile nesil arasında anlamlı bir ilişki bulunmamıştır ($F=0.16$, $p=0.92$). Yaş, MDAS skorları ile anlamlı bir ilişki göstermemiştir ($r=0.02$, $p=0.70$) ve sosyal medya kullanımı dental anksiyete düzeyleri ile anlamlı bir ilişki göstermemiştir. Kadınların MDAS skorları erkeklerden daha yüksek olmakla birlikte (kadın $M=11$, $SD=5.06$; erkek $M=9.83$, $SD=4.71$), bu fark istatistiksel olarak anlamlı değildi ($p=0.05$). Eğitim düzeyi DA üzerinde anlamlı bir etki göstermemiştir ($p=0.22$). MDAS ile yaş ($r=0.02$, $p=0.70$) ya da OHIP ile yaş ($r=0.07$, $p=0.23$) arasında anlamlı bir ilişki bulunmamıştır. Ancak, DMFT ile yaş arasında pozitif yönde anlamlı bir ilişki vardı ($r=0.51$, $p<0.01$). OHIP skorları kadınlarda ($M=18.99$, $SD=12.4$) erkeklerden ($M=15.94$, $SD=9.95$) anlamlı olarak daha yüksektir ($p=0.03$). DMFT skorları kuşak grupları arasında anlamlı farklılıklar göstermiş ($F=26.9$, $p<0.01$) ve bazı çiftler arasında anlamlı farklılıklar görülmüştür (tüm p -değerleri <0.05).

Sonuç: Çalışmada DA ile kuşak arasında anlamlı bir bağlantı bulunmamıştır. Diğer demografik faktörlerin DA üzerindeki etkisinin daha fazla araştırılması gerekmektedir.

Anahtar Kelimeler: Dental anksiyete, Dental korku, Kuşaklar

INTRODUCTION

Behavioral differences between generations can be influenced by historical events, cultural norms, and technological advancements and can have an impact on communication styles, technology comfort and familiarity, social values, and spending habits.¹ Personal attitudes and age-related behavioral differences also have an impact on individuals' overall stress levels and anxiety levels.²

Dental anxiety (DA) is a common concern,^{3,4} often influenced by negative past experiences,⁵ fear of pain, parental anxieties, cultural attitudes, and individual coping mechanisms.⁶ DA can create a vicious cycle where individuals with this phobia avoid going to the dentist, leading to more serious dental problems and further decline in oral health. This, in turn, can increase feelings of anxiety and fear, leading to even more avoidance of dental care.⁷ Although DA affects people of all ages, it can present itself differently across ages^{3,8} and generations. The rise of dental technology, changes in attitudes and techniques, and

availability of information about dental care have all contributed to changes in the way people experience and perceive dental care.⁹ Czaja et al.¹⁰ have shown that younger generations are generally more comfortable with technology and have more access to information about dental care, which can help reduce anxiety and increase confidence in dental care. However, older generations may have had negative experiences with dental care in the past, leading to feelings of anxiety and distrust.¹¹

Understanding generational differences in DA can help dental professionals tailor patient-centered approaches¹² to improve care and reduce anxiety.¹³ Further research is needed to explore the experiences of different generations and develop effective strategies for managing DA.¹⁴

The aim of this study is to investigate the relationship between DA and generational differences while examining the impact of various socio-demographic factors, including oral health-related quality of life,

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Sorumlu yazar/Corresponding Author: Sebiha Nihal YILMAZ
E-mail: sebihanihalyilmaz@gmail.com
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gender, social media usage, educational status, prior dental experiences, economic status, and frequency of dental visits. We hypothesize that DA is associated with generational differences and that these socio-demographic factors play a role in the formation of this relationship.

MATERIAL AND METHODS

Study design and ethics

This was a cross-sectional observational study that recruited participants from the consecutive patients who applied to the Department of Oral and Maxillofacial Surgery at Marmara University Faculty of Dentistry between February 2023 and May 2023. Ethical approval for the study was obtained from the local institutional review board (#2023/125). The study was reported in accordance with the "A Consensus-Based Checklist for Reporting of Survey Studies (CROSS)" to ensure comprehensive inclusion of all relevant survey methodology details. Prior to the study, participants were informed of the aim of the study and the data gathered, and written/oral informed consent was acquired.

Participants

Participants in the study represented four generations: Baby Boomers (BB) (born between 1946 and 1964), Generation X (born between 1965 and 1980), Generation Y (born between 1981 and 1996), and Generation Z (born after 1996). Eligible participants were Turkish-speaking adults (>17 years old) with the cognitive ability to comprehend and complete the questionnaire, excluding those under the influence of alcohol or drugs. Exclusion criteria included individuals who were unwilling or unable to answer all the questions, and individuals with cognitive impairment that prevented them from giving clear and concise answers.

Language comprehension was evaluated by the initial conversation between the clinical staff and the patient. If patients could understand and respond to basic questions related to their medical history and reason for visit in Turkish, they were deemed eligible. To assess for drug or alcohol use, we relied on self-reporting. The patient's comprehension abilities were ascertained by observing if they could understand the study's purpose, the voluntary nature of their participation, the study's procedures, and their right to withdraw at any time. All these checks were implemented to ensure the participant's ability to provide informed consent and participate effectively in the study.

Data were collected using three validated instruments: the Modified Dental Anxiety Scale (MDAS), the Oral Health Impact Profile (OHIP-14), and a demographic questionnaire assessing age, gender, education, marital status, social media use, and dental visit frequency. The questionnaires used in the study were written in Turkish. MDAS¹⁵ and the OHIP-14¹⁶ questionnaires have been validated previously in the Turkish population. Additionally, a clinical examination was performed to determine the participant's decayed, missing, and filled teeth (DMFT) score.

Data collection

The MDAS score was determined by adding the scores for each of the questionnaire's five components, with a total score between 5 and 25, where a higher score indicates a higher level of DA. The OHIP-14 score was generated by adding the scores for each of the 14 questionnaire items, with a total score ranging from 0 to 56, where a higher score implies a greater level of oral health-related impact and potentially poorer oral health-related quality of life. The demographic information was used to classify participants into different generations (BB, X, Y, Z) based on their birth year. As part of the demographic questionnaire, a section was designed to assess participants' social media usage. Participants were asked to report whether or not they use social media and, if so, to estimate their average daily usage duration. The available options for usage duration were "Not using," "1-2 hours," "3-4 hours," and "5-6 hours." This method of self-reported social media usage has been shown to be reliable in previous research.¹⁷ To enhance the accuracy of self-reported social media usage in this study, participants were reminded to reflect on their typical usage over the past month and were encouraged to provide their best estimates. In this study, participants were asked to base their response on their average social media usage over the past month.

The questionnaire used in this study was pretested in a pilot study with a sample of 18 participants. The pretesting was conducted to assess the clarity and understanding of the questions and identify any errors or ambiguities in the questionnaire. The pilot study indicated that the questionnaire was straightforward and well-received by participants. Based on the feedback received, minor modifications were implemented to enhance clarity, including the rewording of certain questions to simplify complex terminology (e.g., replacing "oral health-related impact" with "effect of oral health on daily life") and adjusting response scale wording to ensure consistency across different sections. The final questionnaire consisted of 27 questions and included MDAS, OHIP and demographic questionnaires. After pretesting, the questionnaire was finalized and ready for use in the main study. To minimize potential fatigue or rushed responses, participants were provided with sufficient time and a private setting to complete the survey, reducing social desirability bias.

Before the recruitment, we provided a clear explanation of the study's purpose, which was to understand the potential association between DA, oral health, and generational differences. We also assured them that their responses would be used only for research purposes and would remain strictly confidential. We emphasized that their participation was entirely voluntary, and they were free to withdraw from the study at any time without any consequences. In addition, we ensured them that the refusal to participate would not affect their access to services at the clinic in any way, thus avoiding any potential coercion.

Participants were given private and quiet spaces to fill out the questionnaires to ensure the confidentiality of their answers. The data collection took place over a period of 8 weeks to ensure that a representative sample of participants from different age groups could be included in the study. The participants were given clear instructions on how to fill out the questionnaires and were encouraged to ask any questions they had before beginning the survey. Detailed standard operating procedures were developed to guide data entry and minimize the risk of human error. These procedures were reviewed and updated as necessary throughout the study.

The study team (B.Ö. and S.N.Y.) received training on administering the questionnaires and the proper procedure for data entry. The team was also instructed on handling any potential issues that might arise during the data collection process. The data was then cleaned and validated before analysis.

Sample size calculation

The sample size was calculated using the formula for determining the sample size of a population proportion, with a margin of error of 0.05 and a confidence level of % 90. The expected proportion of DA in the population was estimated to be % 50. This estimate was not derived from a specific previous study but was used as a conservative approach to maximize the statistical power given the variability inherent in the population. Using this estimate, the sample size was calculated to be 271 participants. The recruitment phase of the study was terminated upon reaching the desired sample size. The sample size calculation was primarily designed to provide adequate power for our primary outcome, which is the prevalence of DA in different generational groups. For our secondary outcomes, it was anticipated that this sample size would also provide sufficient power to detect significant differences.

Statistical analysis

In order to minimize missing data, the research team ensured that all participants received a clear explanation of the study and the importance of completing all sections of the questionnaire. Participants were also reminded to fill out all sections completely and accurately. If a participant failed to answer a question, the research team made a note of this and attempted to follow up with the participant to obtain the missing information. If the missing information could not be obtained, the participant's data were excluded from the analysis. Descriptive statistics were calculated for demographic and dental variables such as age, gender, education level, social media use, DMFT score, dental experience, economic status, and frequency of dental visits. Means, standard deviations, and frequencies were calculated for each variable. Given the non-normal distribution of MDAS scores, a non-parametric Kruskal-Wallis test was

performed to compare the MDAS scores between the generational groups. For pairwise group comparisons, Dunn's post-hoc test was used, which is robust in handling diverse sample sizes and non-parametric data. For the normally distributed OHIP-14 and DMFT scores, a one-factor analysis of variance (ANOVA) was conducted to compare these scores between the generational groups. A Bonferroni post-hoc test was applied for pairwise group comparisons, as it is appropriate for normally distributed data and helps control for Type I errors in multiple comparisons. Data were analyzed using GraphPad Prism (version 9, GraphPad Software, San Diego, USA).

RESULTS

A total of 350 patients were invited to participate in the study, and out of those, 285 participants agreed to take part. Twelve questionnaires were incomplete and excluded from the final analysis, resulting in a sample of 273 participants. The distribution of demographic variables across the four generations was analyzed. No significant difference was observed in gender distribution across generations (Chi-square test, $p=0.81$). However, significant differences were found in education level (Chi-square test, $p<0.01$), marital status (Chi-square test, $p<0.01$), and social media usage (Chi-square test, $p<0.01$). No significant difference was observed in dental clinic visit frequency across generations (Chi-square test, $p=0.27$).

Table 1. Distribution of respondents according to their gender, education level, marital status, social media usage, and frequency of treatment.

Group												
		BB		X		Y		Z		Total		
		n	%	n	%	n	%	n	%	n	%	p value
Gender	Female	27	9.89	53	19.41	52	19.05	24	8.79	156	57.14	0.81 [†]
	Male	23	8.42	34	12.45	43	15.75	17	6.23	117	42.86	
	Total	50	18.32	87	31.87	95	34.80	41	15.02	273	100	
Educationlevel	Below high school	28	10.2	32	11.72	9	3.30	7	2.56	76	27.84	* <0.01 [†]
	High school	17	6.23	32	11.72	25	9.16	19	6.96	93	34.07	
	College or university	5	1.83	18	6.59	54	19.78	15	5.49	92	33.70	
	Post graduate	0	0	5	1.83	7	2.56	0	0	12	4.40	
	Total	50	18.32	87	31.87	95	34.80	41	15.02	273	100	
Marital status	Single	13	4.76	18	6.59	46	16.85	30	10.99	107	39.19	* <0.01 [†]
	Married	37	13.55	69	25.27	49	17.95	11	4.03	166	60.81	
	Total	50	18.32	87	31.87	95	34.80	41	15.02	273	100	
Social media usage	No usage	22	8.06	14	5.13	5	1.83	4	1.47	45	16.48	* <0.01 [†]
	1-2 hours	16	5.86	43	15.75	32	11.72	10	3.66	101	37	
	3-4 hours	11	4.03	20	7.33	43	15.75	17	6.23	91	33.33	
	5-6 hours	1	0.37	10	3.66	15	5.49	10	3.66	36	13.19	
	Total	50	18.32	87	31.87	95	34.80	41	15.02	273	100	
Dental clinic visit frequency (per year)	Less than once	18	6.59	25	9.16	22	8.06	8	2.93	73	26.74	0.27 [†]
	1 time	15	5.49	29	10.62	32	11.72	11	4.03	87	31.87	
	More than once	17	6.23	33	12.09	41	15.02	22	8.06	113	41.39	
	Total	50	18.32	87	31.87	95	34.80	41	15.02	273	100	

Table 1: The table presents the distribution of respondents according to their gender, education level, marital status, social media usage, and frequency of treatment. The p-values indicate the level of statistical significance of the differences between the groups, with values below 0.05 considered significant. The results show that there are significant differences between groups for all variables except for gender. Abbreviations: BB, Baby Boomers; *, statistically significant; †, Chi2 Test.

The mean MDAS score was 10.5 (SD = 4.94), with a range of 5 to 25. The Kruskal-Wallis H test indicated no statistically significant difference in MDAS scores among the generational groups ($p=0.68$). One-way analysis of variance (ANOVA) for MDAS scores also showed no significant difference between generational groups ($F=0.16$, $p=0.92$). No post hoc tests were conducted due to the lack of significant results. Descriptive statistics showed that MDAS scores were higher in females ($M=11$, $SD=5.06$) than in males ($M=9.83$, $SD=4.71$), but this difference was not statistically significant (t-test, $p=0.05$). No significant differences were found in MDAS scores based on education level (one-way ANOVA, $p=0.22$). Pearson correlation analysis showed no significant association between MDAS and age ($r=0.02$, $p=0.70$) or between OHIP-14 and age ($r=0.07$, $p=0.23$). However, a significant positive correlation was found between DMFT scores and age ($r=0.51$, $p<0.01$).

The OHIP-14 scores ranged from 0 to 56. Female participants had significantly higher OHIP-14 scores ($M=18.99$, $SD=12.4$) than male participants ($M=15.94$, $SD=9.95$) (t-test, $p=0.03$). No significant difference was observed in OHIP-14 scores between generational groups ($F=0.82$, $p=0.49$).

DMFT scores were analyzed using one-way ANOVA, revealing a significant difference between generational groups ($F=26.9$, $p<0.01$). Bonferroni post hoc comparisons showed significant differences in DMFT scores between the following generational pairs: X - Y, X - Z, X - BB, Y - BB, and Z - BB (all p-values <0.05).

DISCUSSION

This study aimed to investigate the relationship between DA and generational differences while considering various socio-demographic factors. The findings of this study do not support our hypothesis that DA significantly varies across generations. Contrary to some previous studies which suggested a decline in DA prevalence with increasing age,^{4,18} our findings did not demonstrate a significant correlation between DA, as assessed by the MDAS, and age. This observation contradicts a longitudinal study reporting a decrease in DA as patients aged.¹⁹ However, our findings do align with other research that also found no correlation between age and MDAS scores.²⁰ A similar investigation was carried out in a student dental clinic where the relationship between MDAS score and gender was scrutinized. It was discovered that the MDAS score was notably higher in women compared to men, an outcome that parallels our study's results.²¹⁻²³ This suggests that gender may play a more significant role in DA than age. One potential reason for these differences is the variation in study design and data collection methods. While some studies have relied on self-reported retrospective data, which may be subject to recall bias, our study utilized validated measurement tools (MDAS and OHIP-14) in a structured survey format. Additionally, differences in how dental anxiety is measured (e.g., variations in cutoff scores or different anxiety scales) could contribute to inconsistent findings.

In terms of gender differences in DA, our study corroborates previous research showing females generally have higher MDAS scores compared to males.^{20,22-26} Nonetheless, the observed disparity in our investigation was not statistically significant, mirroring the results from another similar study.²⁷ In addition, we evaluated the correlation between education level and MDAS scores. Previous research in this area has yielded mixed findings, with some studies indicating a relationship between higher education levels and increased MDAS scores,^{25,26} whereas others suggested that advanced education could be associated with lower scores¹⁸ or, in some cases, no discernible difference at all.²⁰ Despite these discrepancies in earlier research, our study, while noting variations in education levels across different age groups, did not find a significant influence of education level on DA. This suggests that, similar to age, education level may not be a substantial contributing factor to DA. Our results underline the complexity of DA's etiology and the need for further nuanced investigation.

We further explored the correlation between the frequency of dental visits and MDAS scores. It's been previously suggested in the literature that negative dental experiences often contribute significantly to the development of DA.²⁸ In line with this, an inverse relationship between the frequency of dental visits and DA has been documented, where increased anxiety tends to result in fewer dental visits.^{20,22} Contrary to this pattern, our study did not discern a significant difference in the frequency of dental clinic visits across various age groups, indicating that this factor might not be the dominant determinant of DA. This lack of correlation suggests that the frequency of dental visits may not directly influence DA levels as previously thought, and that other factors could be playing a more crucial role in its onset and progression.

Our findings revealed a statistically significant difference in social media usage across various generations. However, the data did not indicate any substantial influence of social media usage on DA, implying that this factor might not play a primary role in its development. Despite this, we should not disregard the potential impact of social media on health-related behaviors and attitudes, which has been increasingly recognized in recent years. Indeed, existing research suggests that digital stress, including aspects like approval anxiety, availability stress, fear of missing out, connection overload, and online vigilance, may mediate the relationship between social media use and psychosocial distress among adolescents and young adults.²⁹ This highlights that the role of social media in shaping DA, particularly given the variations in usage among different generations, could be a pertinent area warranting further exploration. Understanding the potential influence of social media on DA might allow for novel interventions leveraging these platforms to promote dental health education and alleviate DA through correct information dissemination and positive engagement. Even if our current study did not find significant correlations, our results contribute to the expanding literature on DA's multifaceted nature, underscoring the need for continued comprehensive research to deepen our understanding of these complex dynamics.

Furthermore, we examined the correlation between DMFT and MDAS scores among different generations. The oral health of the Baby Boomer (BB) generation, especially concerning the reduction of tooth loss, seems to be improving compared to previous generations.³⁰ Based on our results, there is a statistical difference in these scores between generations X, Y, and Z. As age progresses, it would be natural to expect DMFT scores to worsen. Still, considering the continuing increase in lifespan, it is clear that more focus should be placed on the oral health of the Baby Boomer generation. While one study reported an increase in Dental Anxiety Scale (DAS) scores as the number of decayed teeth increased,²⁷ our study did not find such a correlation. This discrepancy underscores the need for further research to better understand the potential association between these variables, paving the way for comprehensive, future investigations into DA's multifaceted nature.

Considerations and limitations

One major limitation is that the sample for this study was chosen using convenient sampling. This method of selection may not result in a sample that accurately represents the population, potentially leading to biased findings. This method, while practical, might not capture the diversity and variability present in the general population. Another

limitation is the results of the study are limited in their applicability, as they were conducted in a specific geographic location and only included a particular demographic. This geographic and demographic specificity suggests the need for caution when attempting to generalize the results to broader contexts. Cultural differences in expressing and reporting anxiety, as well as varying levels of exposure to modern dental care practices, may influence the observed results. Further research is needed to determine the extent to which these results can be generalized. Third limitations is the data for this study was obtained through self-reported measures, which are prone to both bias and inaccuracies as participants might not always accurately recall or report their experiences or behaviors. Moreover, the study did not account for some potentially influential factors, such as the participants' previous dental experiences, the severity and nature of those experiences, or the presence of pre-existing psychological conditions (e.g., generalized anxiety disorder, post-traumatic stress disorder), all of which could contribute to variations in DA levels. Additionally, as a cross-sectional study, our findings reflect a snapshot in time and do not capture the long-term evolution of DA, which may fluctuate based on cumulative dental experiences and psychological resilience. Future longitudinal studies are needed to explore how past experiences and underlying mental health conditions shape dental anxiety over time. Lastly, the cross-sectional nature of the study limits the ability to establish causal relationships. It captures a single point in time, making it challenging to discern the directionality of the associations observed. It is important to consider the limitations of this study when interpreting and applying the findings to other populations or contexts.

CONCLUSION

In conclusion, our study found no significant correlation between DA and age, and the impact of other demographic factors, such as gender, education level, dental visit frequency, and social media usage, on DA remains inconclusive. Further research is needed to better understand the complex relationship between these factors and DA.

DATA AVAILABILITY

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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It is declared that during the preparation process of this study, scientific and ethical principles were followed and all the studies benefited are stated in the bibliography.

Benzerlik Taraması / Similarity scan

Yapıldı - iThenticate

Etik Bildirim / Ethical statement

dishekimligidergisi@selcuk.edu.tr

Çıkar Çatışması / Conflict of interest

Çıkar çatışması beyan edilmemiştir.

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REFERENCES

- Twenge JM, Campbell SM, Hoffman BJ, Lance CE. Generational differences in work values: Leisure and extrinsic values increasing, social and intrinsic values decreasing. *Journal of management*. 2010;36(5):1117-1142.
- Lamarca GD, Vettore MV, Monteiro da Silva AM. The influence of stress and anxiety on the expectation, perception, and memory of dental pain in schoolchildren. *Dent J*. 2018;6(4):60.
- Klingberg G, Broberg AG. Dental fear/anxiety and dental behaviour management problems in children and adolescents: a review of prevalence and concomitant psychological factors. *Int J Paediatr Dent*. 2007;17(6):391-406.
- Shim YS, Kim AH, Jeon EY, An SY. Dental fear & anxiety and dental pain in children and adolescents; a systemic review. *J Dent Anesth Pain Med*. 2015;15(2):53-61.
- McNeil DW, Randall CL, Cohen LL, et al. Transmission of dental fear from parent to adolescent in an Appalachian sample in the USA. *Int J Paediatr Dent*. 2019;29(6):720-727.
- Pohjola V, Mattila AK, Joukamaa M, Lahti S. Anxiety and depressive disorders and dental fear among adults in Finland. *Eur J Oral Sci*. 2011;119(1):55-60.
- Eitner S, Wichmann M, Paulsen A, Holst S. Dental anxiety--an epidemiological study on its clinical correlation and effects on oral health. *J Oral Rehabil*. 2006;33(8):588-593.
- Klingberg G, Berggren U, Carlsson SG, Noren JG. Child dental fear: cause-related factors and clinical effects. *Eur J Oral Sci*. 1995;103(6):405-412.
- Nalci G, Alacam T, Altunkaynak B. Evaluation of the effectiveness of a mobile application in the management of dental anxiety: A randomised controlled trial. *J Oral Rehabil*. 2022;49(5):535-540.
- Czaja SJ, Charness N, Fisk AD, et al. Factors predicting the use of technology: findings from the Center for Research and Education on Aging and Technology Enhancement (CREATE). *Psychol Aging*. 2006;21(2):333-352.
- Locker D, Liddell A, Dempster L, Shapiro D. Age of onset of dental anxiety. *J Dent Res*. 1999;78(3):790-796.
- Kleinknecht RA, Klepac RK, Alexander LD. Origins and characteristics of fear of dentistry. *J Am Dent Assoc*. 1973;86(4):842-848.
- Bernson JM, Hallberg LR, Elfstrom ML, Hakeberg M. 'Making dental care possible: a mutual affair': a grounded theory relating to adult patients with dental fear and regular dental treatment. *Eur J Oral Sci*. 2011;119(5):373-380.
- Armfield JM, Heaton LJ. Management of fear and anxiety in the dental clinic: a review. *Aust Dent J*. 2013;58(4):390-407.
- Tunc EP, Firat D, Onur OD, Sar V. Reliability and validity of the Modified Dental Anxiety Scale (MDAS) in a Turkish population. *Community Dent Oral Epidemiol*. 2005;33(5):357-362.
- Mumcu G, Inanc N, Ergun T, et al. Oral health related quality of life is affected by disease activity in Behcet's disease. *Oral Dis*. 2006;12(2):145-151.
- Leimonis E, Koutra K. Social media use and mental health in young adults of Greece: a cross-sectional study. *Clin Psychol Eur*. 2022;4(2):e4621.
- Acharya S. Factors affecting dental anxiety and beliefs in an Indian population. *J Oral Rehabil*. 2008;35(4):259-267.
- Hagglin C, Berggren U, Hakeberg M, Hallstrom T, Bengtsson C. Variations in dental anxiety among middle-aged and elderly women in Sweden: a longitudinal study between 1968 and 1996. *J Dent Res*. 1999;78(10):1655-1661.
- Saatchi M, Abtahi M, Mohammadi G, Mirdamadi M, Binandeh ES. The prevalence of dental anxiety and fear in patients referred to Isfahan Dental School, Iran. *Dent Res J (Isfahan)*. 2015;12(3):248-253.
- Caltabiano ML, Croker F, Page L, et al. Dental anxiety in patients attending a student dental clinic. *BMC Oral Health*. 2018;18(1):48.
- Yuzugullu B, Gulsahi A, Celik C, Bulut S. Dental anxiety and fear: relationship with oral health behavior in a Turkish population. *Int J Prosthodont*. 2014;27(1):50-53.
- Erten H, Akarslan ZZ, Bodrumlu E. Dental fear and anxiety levels of patients attending a dental clinic. *Quintessence Int*. 2006;37(4):304-310.
- Jeddy N, Nithya S, Radhika T, Jeddy N. Dental anxiety and influencing factors: A cross-sectional questionnaire-based survey. *Indian J Dent Res*. 2018;29(1):10-15.
- Fayad MI, Elbieh A, Baig MN, Alruwaili SA. Prevalence of Dental Anxiety among Dental Patients in Saudi Arabia. *J Int Soc Prev Community Dent*. 2017;7(2):100-104.
- Stouthard ME, Hoogstraten J. Prevalence of dental anxiety in The Netherlands. *Community Dent Oral Epidemiol*. 1990;18(3):139-142.
- Dobros K, Hajto-Bryk J, Wnek A, Zarzecka J, Rzepka D. The level of dental anxiety and dental status in adult patients. *J Int Oral Health*. 2014;6(3):11-14.
- Locker D, Shapiro D, Liddell A. Negative dental experiences and their relationship to dental anxiety. *Community Dent Health*. 1996;13(2):86-92.
- Khetawat D, Steele RG. Examining the association between digital stress components and psychological wellbeing: a meta-analysis. *Clin Child Fam Psychol Rev*. 2023;26(4):957-974.
- Kossioni AE. Baby boomers in Europe: demography, socioeconomic and health status, and oral health needs. *Spec Care Dentist*. 2023;43(3):304-312.