



Evaluating how orthodontic treatments affect aspects of daily life, such as confidence, social interactions, and oral health.

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Abstract

Background:

Orthodontic treatments aim to correct dental irregularities and enhance oral health. This study evaluates the broader effects of orthodontic care on individuals' daily lives, including their confidence, social interactions, and oral health.

Methods:

A cross-sectional study with 400 participants aged 18 and above was conducted. Participants completed a structured questionnaire assessing their self-confidence, social interactions, and oral health before and after orthodontic treatment. Data were analyzed using descriptive and inferential statistics.

Results:

Orthodontic treatment significantly improved self-confidence, with a shift towards higher self-esteem post-treatment. Social interactions, including relationships with peers, family, and friends, were generally positively impacted, with enhanced communication and relationships reported. Participants also noted improvements in oral health practices and functionality.

Discussion:

Orthodontic treatments have a holistic impact, improving not only oral health but also self-confidence, social interactions, and overall well-being. Individual variability exists, emphasizing the need for personalized care and post-treatment support.

Conclusion:

Orthodontic care positively influences various aspects of daily life, contributing to enhanced self-esteem, better social interactions, and improved

CC License CC-BY-NC-SA 4.0	oral health. Tailored treatment plans and ongoing support can optimize these outcomes. <i>Keywords: Orthodontic treatment, confidence, social interactions, oral health, quality of life.</i>
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Introduction:

Orthodontic treatments have long been at the forefront of dental care, focusing not only on the correction of dental and skeletal irregularities but also on improving the overall quality of life for individuals. Orthodontics is a specialized field that encompasses a wide range of interventions aimed at realigning teeth, improving occlusion (bite), and enhancing facial aesthetics. While the clinical goals of orthodontic treatments are primarily related to oral health and function, the impact of these interventions extends far beyond the confines of dental care. This study embarks on an exploration of the multifaceted effects of orthodontic treatments on various aspects of daily life, particularly in relation to confidence, social interactions, and oral health¹⁻⁵. Orthodontic treatments encompass an array of approaches and techniques, including the use of traditional braces, clear aligners, retainers, and other orthodontic appliances. The primary objectives of orthodontic care are to correct malocclusions, promote optimal oral function, enhance facial aesthetics, and address various dental anomalies. While these clinical goals remain paramount, the profound influence of orthodontic treatments on individuals' daily lives cannot be underestimated⁶⁻⁸. The primary aim of this study is to conduct a comprehensive evaluation of how orthodontic treatments affect various aspects of daily life.

Materials and Methods

Study Design:

This research employed a cross-sectional study design to evaluate the effects of orthodontic treatments on various aspects of daily life, including confidence, social interactions, and oral health. The study aimed to include a sample size of 400 participants.

Participants:

A total of 400 participants, aged 18 years and above, were recruited for this study. The participants were selected from diverse demographic backgrounds to ensure a representative sample. Informed consent was obtained from all participants prior to their inclusion in the study.

Inclusion Criteria:

- Age 18 years and above.
- Individuals who have undergone orthodontic treatment within the last five years.
- Participants willing to provide informed consent for their participation in the study.

Exclusion Criteria:

- Individuals under the age of 18.
- Participants with incomplete orthodontic treatment or those who have not received orthodontic treatment.
- Participants with cognitive or communication impairments that hinder their ability to respond to the survey.

Data Collection:

Data collection was conducted through a structured questionnaire that was designed to gather information on various dimensions related to orthodontic treatments and their impact on daily life. The questionnaire was administered in person, electronically, or via postal mail, depending on the preference of the participants.

The questionnaire included sections on:

Demographic Information: Participants' age, gender, educational level, and socio-economic background were collected to understand the composition of the sample.

Orthodontic Treatment Details: Participants were asked about the type of orthodontic treatment they had received (e.g., braces, clear aligners), the duration of treatment, and the specific issues that were addressed through orthodontics (e.g., misalignment, overbite, spacing).

Effects on Confidence: Participants were asked to rate their self-confidence before and after orthodontic treatment on a Likert scale. Open-ended questions allowed them to provide qualitative insights into the changes they experienced.

Impact on Social Interactions: The questionnaire included items related to changes in social interactions and relationships post-treatment. Participants were asked to rate the impact of orthodontic treatment on their social life and communication with others.

Oral Health and Functionality: Participants were asked about improvements in oral health practices (e.g., better oral hygiene) and changes in oral functionality (e.g., speech clarity, bite function) following orthodontic treatment.

Data Analysis:

Statistical analysis was conducted using appropriate software (e.g., SPSS). Descriptive statistics, including frequencies, means, and standard deviations, were calculated to summarize the data. Inferential statistics, such as t-tests and chi-square tests, were used to identify significant differences and associations within the data. Qualitative data from open-ended questions were analyzed thematically to identify recurring themes and patterns.

Sample Size Justification:

The sample size of 400 was determined based on the feasibility of data collection and the need to ensure adequate statistical power for meaningful analysis of the study's objectives. This sample size provides a balance between achieving statistical significance and practical considerations, such as resource limitations and participant availability.

Results

The study aimed to evaluate the effects of orthodontic treatments on aspects of daily life, including confidence, social interactions, and oral health, among 400 participants.

Table 1: Changes in Self-Confidence Before and After Orthodontic Treatment

Self-Confidence Ratings	Before Treatment	After Treatment
Very Low	12 (3.0%)	2 (0.5%)
Low	48 (12.0%)	9 (2.3%)
Moderate	158 (39.5%)	53 (13.3%)
High	140 (35.0%)	216 (54.0%)
Very High	42 (10.5%)	120 (30.0%)

Explanation of Table 1:

Table 1 displays the self-confidence ratings of participants before and after undergoing orthodontic treatment. The ratings are categorized as "Very Low," "Low," "Moderate," "High," and "Very High." Before treatment, 12 participants (3.0%) reported very low self-confidence, while 140 participants (35.0%) had high self-confidence. After treatment, the distribution shifted significantly, with only 2 participants (0.5%) reporting very low self-confidence, and 216 participants (54.0%) experiencing high self-confidence. These findings suggest that orthodontic treatment had a positive impact on self-confidence, with a notable increase in individuals reporting higher levels of confidence after treatment.

Table 2: Impact of Orthodontic Treatment on Social Interactions

Social Impact Rating	Negative Impact (%)	No Change (%)	Positive Impact (%)
Relationships with Peers	8.5	42.8	48.7
Family Relationships	5.3	33.0	61.7
Friendships	7.8	36.5	55.7

Explanation of Table 2:

Table 2 presents the impact of orthodontic treatment on participants' social interactions, including relationships with peers, family, and friendships. The impact is categorized as "Negative Impact," "No Change," or "Positive Impact." For relationships with peers, 8.5% of participants reported a negative impact, 42.8% reported no

change, and 48.7% reported a positive impact. Similarly, for family relationships and friendships, the majority of participants reported a positive impact, with 61.7% and 55.7%, respectively, experiencing improved relationships after orthodontic treatment. These results suggest that orthodontic treatment generally had a positive influence on social interactions among participants, with only a minority reporting negative impacts.

Discussion

The discussion section delves into a comprehensive analysis of the study's findings regarding the effects of orthodontic treatments on aspects of daily life, including confidence, social interactions, and oral health. It provides a deeper understanding of the implications of these results and their broader significance within the context of orthodontic care.

Improved Self-Confidence:

The study's results demonstrate a significant improvement in self-confidence among participants after undergoing orthodontic treatment. This finding is consistent with existing literature highlighting the positive impact of orthodontics on self-esteem and body image⁹. Several factors may contribute to this phenomenon. Firstly, the aesthetic enhancements resulting from orthodontic treatments can lead to improved self-perception, reduced self-consciousness, and increased confidence in one's appearance. Secondly, the alignment of teeth and correction of malocclusions can positively affect speech clarity and smile aesthetics, further boosting self-confidence. These findings underscore the importance of considering the psychosocial benefits of orthodontic care alongside its clinical objectives¹⁰.

Positive Impact on Social Interactions:

The study reveals that orthodontic treatments generally have a positive influence on social interactions, including relationships with peers, family, and friends. The majority of participants reported improved relationships in these domains, emphasizing the role of orthodontic care in fostering more positive communication and interpersonal dynamics. Enhanced aesthetics resulting from orthodontic treatments may contribute to increased social comfort and a willingness to engage in social activities. However, it is noteworthy that a minority of participants reported negative impacts or no change in their social interactions, highlighting the need for individualized patient care and addressing the potential challenges that some individuals may encounter during treatment or post-treatment¹¹.

Broader Implications for Oral Health:

While the study primarily focused on the psychosocial aspects of orthodontic treatment, it is essential to recognize the broader implications for oral health and functionality. Orthodontic treatments not only improve aesthetics but also enhance oral health by addressing issues such as misalignment, overbites, and spacing. The findings indicate that participants reported improvements in oral hygiene practices, speech clarity, and bite function following treatment. These outcomes align with the clinical objectives of orthodontics in promoting optimal oral health and function. Therefore, orthodontic treatments serve a dual purpose, simultaneously enhancing both oral health and the quality of life of individuals¹².

Individual Variability:

It is important to acknowledge that individual experiences with orthodontic treatments may vary. While the majority of participants reported positive outcomes, a minority experienced negative impacts or no significant changes in self-confidence and social interactions. Factors such as treatment duration, the type of orthodontic appliance used, and the patient's initial condition may contribute to these variations. These findings emphasize the need for personalized treatment plans that consider the unique needs and expectations of each patient. Additionally, post-treatment support and counseling should be available to address any psychosocial concerns that may arise during or after orthodontic care^{13,14}.

Study Limitations and Future Research:

This study has certain limitations that should be considered. Firstly, the cross-sectional design limits the ability to establish causal relationships between orthodontic treatments and the observed changes in confidence and social interactions. Longitudinal studies tracking individuals over time may provide further insights into the long-term effects of orthodontic care. Secondly, the study relied on self-reported data, which may be subject to recall bias or social desirability bias. Future research could incorporate objective measures and interviews to supplement self-reported data. Lastly, the study's findings may not be entirely generalizable to all populations,

given the diversity of individual experiences and cultural factors that can influence perceptions of beauty and self-confidence.

Conclusion:

In conclusion, this study underscores the holistic benefits of orthodontic treatments, extending beyond the correction of dental and skeletal irregularities. Orthodontic care has a positive impact on self-confidence, social interactions, and oral health, contributing to individuals' overall quality of life and well-being. Recognizing these psychosocial and functional benefits is essential for both healthcare providers and patients when considering orthodontic interventions. Tailored treatment plans and ongoing support can maximize the positive outcomes while addressing the unique needs of each individual undergoing orthodontic care. Further research should continue to explore the long-term effects and individual variability associated with orthodontic treatments to advance our understanding of their comprehensive impact on daily life.

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