

## Orthodontic marketing through social media networks: *The patient and practitioner's perspective*

Kristin L. Nelson<sup>a</sup>; Bhavna Shroff<sup>b</sup>; Al M. Best<sup>c</sup>; Steven J. Lindauer<sup>d</sup>

### ABSTRACT

**Objective:** To (1) assess orthodontic patient and practitioner use of and preferences for social media and (2) investigate the potential benefit of social media in marketing and communication strategies in orthodontic practices.

**Materials and Methods:** A survey was developed and randomly distributed to orthodontists via the American Association of Orthodontists and to patients/parents via private practices throughout the United States. Participants were asked to answer questions related to their use of social media and their perceptions of the use of social media in the orthodontic practice.

**Results:** Of the participants, 76% of orthodontists and 89% of patients/parents use social media. Furthermore, Facebook was the social media platform that was most preferred. Social media use was more common in female and younger adult participants. Orthodontists posted information more often in the morning (40%) and afternoon (56%), and patients/parents used social media mainly in the evening (76%). The most commonly used marketing strategies in the orthodontic practices were social media (76%) and a practice website (59%). Social media and practice websites were positively related with new patient starts ( $P = .0376$ ,  $P = .0035$ , respectively).

**Conclusions:** Most orthodontists and patients/parents used social media. Social media may be an effective marketing and communication tool in an orthodontic practice. (*Angle Orthod.* 2015;85:1035–1041.)

**KEY WORDS:** Orthodontics; Social media; Marketing

### INTRODUCTION

The introduction of social media has revolutionized the way people interact through the social Web.<sup>1</sup> Social media is defined as online technologies and practices that people use to share opinions, experiences, and perspectives with each other.<sup>2</sup> These websites allow people to have a dialogue with their friends, family, and other people in a global environment. As a result,

millions of people have started communicating through social media websites. One of the most popular social media websites, Facebook, has grown into a worldwide network of more than 1 billion subscribers since its creation in 2004.<sup>1</sup>

Although social media networks were originally created for personal use, they are now effectively used by businesses of all sizes to advertise their products or services and to communicate with current and prospective consumers.<sup>3</sup> Compared with traditional advertising, social media marketing is an interactive, cost-effective, and more efficient solution for promoting services and products, especially because more customers are spending time online.<sup>3</sup> According to a recent report, Facebook was the number one social marketing tool used by companies with 100+ employees, followed by Twitter.<sup>4</sup> In a study on consumer behavior, 51% of the consumers recognized that they were more likely to buy a product after becoming a fan on Facebook.<sup>5</sup>

The benefits of social media marketing are currently seen in the field of health care, and social media a major tactic in dental marketing. Social media marketing is a

<sup>a</sup> Private Practice, Ashburn, Va.

<sup>b</sup> Professor and Graduate Program Director, Department of Orthodontics, Virginia Commonwealth University, Richmond, Va.

<sup>c</sup> Professor, Department of Research Administration, School of Dentistry, Virginia Commonwealth University, Richmond, Va.

<sup>d</sup> Professor and Chair, Department of Orthodontics, Virginia Commonwealth University, Richmond, Va.

Corresponding author: Dr Bhavna Shroff, Department of Orthodontics, VCU School of Dentistry, 520 North 12th St, Suite 111, Richmond, VA 23298 (e-mail: bshroff@vcu.edu)

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cost effective means to reach hundreds of potential new patients who seek a practitioner's expertise and services.<sup>6-8</sup> Social media is also emerging as an important and powerful reputation management tool. Edwards et al.<sup>9</sup> reported that the top factor in the selection of an orthodontist was his or her good reputation.<sup>9</sup> Using social media, patients can share their experiences with a broader and more attentive audience through a wide variety of word-of-mouth messaging techniques.<sup>10</sup> Jorgensen<sup>11</sup> emphasizes the importance and explains the benefits of using social media in an orthodontic practice to communicate with patients, establish a reputation, and attract new patients.

Although the impact of social media in health care has been described,<sup>12-15</sup> the literature on its use in the field of orthodontics is limited. The aim of this study was to assess how orthodontic patients and practitioners use social media, examine patient and practitioner preferences regarding social media, and investigate the potential benefit of social media in marketing and communication strategies of orthodontic practices.

## MATERIALS AND METHODS

A survey was developed to explore the use of social media in orthodontic practices and was randomly distributed to all participants after approval from the Virginia Commonwealth University institutional review board. The study participants included orthodontists and patients/parents. The American Association of Orthodontists Partnership in Research was contacted, and an electronic survey was distributed to 500 randomly selected orthodontists within the United States. The patient population included patients 18 years old or older and parents of patients who were younger than 18 years from private practices throughout the United States. An e-mail was sent out to all orthodontists in the Virginia Orthodontic Research and Education Foundation, which has members nationwide, and a set of paper-based surveys (30) was sent to each office that agreed to participate. The surveys were distributed by each office to their patients and parents of patients. The participants could take the survey at any time during treatment.

The survey included a definition of social media along with many examples of social media websites. Demographic information was gathered for all participants, and the survey consisted of questions related to the participant's usage habits and perceptions of social media usage in the orthodontic practice. For example, patients/parents were asked, "Do you use social media," and orthodontists were asked, "Do you use social media as a marketing tool in your practice."

**Table 1.** Demographics

Characteristics	Orthodontists		Patients/Parents	
	%	No.	%	No.
<b>Age (years)</b>				
18 through 24	0	0	10	18
25 through 34	12	22	18	34
35 through 44	32	60	35	65
45 through 54	33	61	28	53
55 through 64	22	41	9	17
65 and older	2	3	1	1
<b>Sex</b>				
Female	29	55	88	165
Male	71	132	12	22
<b>Race*</b>				
White	87	165	90	169
Black or African American	3	6	6	12
American Indian/Alaska Native	1	1	1	2
Asian	6	11	3	6
Pacific Islander	1	2	1	1
Other	4	8	0	0
<b>Ethnicity</b>				
Hispanic or Latino	2	2	8	32
Not Hispanic or Latino	98	125	92	390

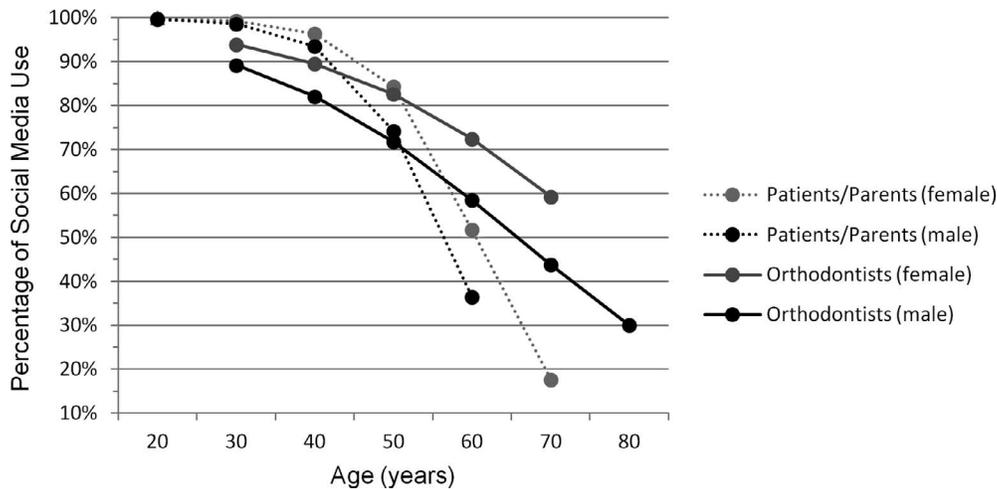
\* Percentages are based on the total number of those who responded to each question. Percentages add to a value other than 100% because of rounding.

Descriptive statistics were calculated to describe the two populations (means or percentages, as appropriate). The groups were compared on individual factors using  $\chi^2$  tests. When more than one factor was considered, logistic regression was used. Comparisons between survey items were performed using repeated measures logistic regression. The impact of marketing practices on new patient starts was analyzed using multiple regression analysis. Group differences were indicated using the Tukey honestly significant difference multiple comparison procedure. All calculations were done with SAS software (JMP pro version 10, SAS, Cary, NC).

## RESULTS

A total of 189 orthodontists and 188 patients/parents from private practices responded to similar surveys between July 1, 2013, and October 1, 2013. Response rates for the orthodontist and patient/parent group were 38% and 76%, respectively. Demographic characteristics of the participants are listed in Table 1. Most of the participants in the patient/parent group were parents of patients (77%).

Results showed that 76% of the orthodontists used social media in their practice and 89% of the patients/parents used social media. Social media use was associated with age ( $P < .0001$ ), and gender ( $P =$



**Figure 1.** Social media usage in relation to age, sex, and group. In age groups 25–34 years and 35–44 years, patients/parents used social media more than orthodontists. In age groups 45–54 years and 55–64 years, patients/parents and orthodontists used social media similarly. Female participants used social media more than male participants.

.0029), but not race or ethnicity ( $P > .15$ ). To accurately compare the groups on social media use, a multiple logistic regression was used after adjusting for age and gender. The results of the multiple regression analysis are shown in Figure 1 and Table 2, where the decrease in social media use in older adults is evident ( $P < .0001$ ). In the younger age groups (25–34 years and 35–44 years), social media use was significantly higher in patients/parents than in orthodontists. However, this pattern changed after age 44. Patients/parents and orthodontists used social media to a similar degree in the age groups 45–54 years and 55–64 years.

**Table 2.** Social Media Use by Age, Sex, and Group<sup>a</sup>

Groups	No.	Female	Male	*
Age 18 through 24 years				
Patients/parents	18	99.8	99.6	
Age 25 through 34 years				
Orthodontists	22	93.9	89.2	B
Patients/parents	34	99.3	98.6	A
Age 35 through 44 years				
Orthodontists	60	89.6	82.1	B
Patients/parents	65	96.4	93.5	A
Age 45 through 54 years				
Orthodontists	61	82.6	71.8	A
Patients/parents	53	84.3	74.2	A
Age 55 through 64 years				
Orthodontists	41	72.5	58.5	A
Patients/parents	17	51.8	36.5	A

<sup>a</sup> Within each age group, groups with a different superscript are significantly different ( $P < .05$ ).

The percentages are based on those who responded to the questions involved.

Participants were then asked to list which social media websites they use. Usage varied by media and participants group and is summarized for each group and media type in Table 3 and Figure 2. When comparing the different media platforms among orthodontists, Facebook (74.6%) was the most commonly used social media platform, followed by YouTube (29.1%). Patients and parents also used Facebook (80.3%) more than any other site, followed by YouTube (49.5%) and Pinterest (49.5%). A significantly higher percentage of patients/parents used YouTube compared with orthodontists ( $P = .0188$ ). Patients/parents and orthodontists use both Facebook and Twitter similarly ( $P = .3878$  and  $P = .9922$ , respectively).

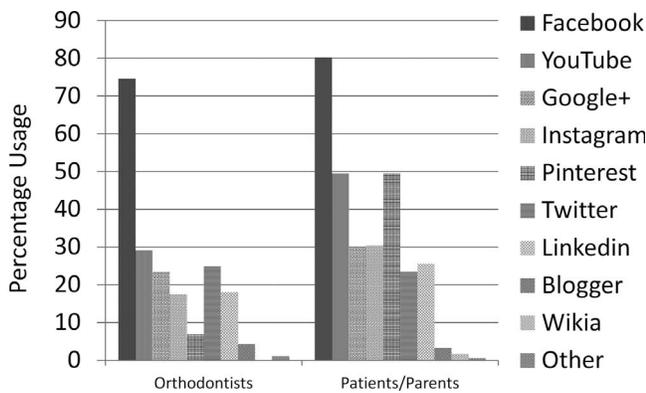
**Table 3.** Percentage Use of Specific Social Media Platforms by Group<sup>a</sup>

Media Platform <sup>b</sup>	Group		Overall	P Value
	Orthodontists	Patients/Parents		
Facebook	74.6 <sup>A</sup>	80.3 <sup>A</sup>	77.7 <sup>A</sup>	.3878
Twitter	24.9 <sup>BC</sup>	23.4 <sup>C</sup>	21.1 <sup>C</sup>	.9922
Google+	23.3 <sup>BC</sup>	29.8 <sup>C</sup>	26.6 <sup>C</sup>	.8308
YouTube	29.1 <sup>B</sup>	49.5 <sup>B</sup>	38.8 <sup>B</sup>	.0188
LinkedIn	18.0 <sup>BC</sup>	25.5 <sup>C</sup>	21.4 <sup>C</sup>	.0774
Pinterest	6.9 <sup>D</sup>	49.5 <sup>B</sup>	21.2 <sup>C</sup>	<.0001
Instagram	17.5 <sup>C</sup>	30.3 <sup>C</sup>	23.5 <sup>C</sup>	.4379
Blogger	4.2 <sup>D</sup>	3.2 <sup>D</sup>	3.7 <sup>D</sup>	.6157
Wikia <sup>c</sup>	0.0	1.6	0.1	
Other <sup>c</sup>	1.1	0.5	0.7	

<sup>a</sup> Percentage use was compared by group and media platform using repeated-measures logistic regression.

<sup>b</sup> Media platforms sharing the same superscript were not significantly different.

<sup>c</sup> The categories of Wikia and “other” were not included in the analysis because of their near-zero percentages.



**Figure 2.** Use of specific social media platforms by group. Patients/parents and orthodontists used Facebook more than any other social media platform. Patients/parents used YouTube and Pinterest more than orthodontists.

The times of the day when orthodontists posted information and when patients/parents used social media were significantly different ( $P < .0001$ ) (see Table 4). Orthodontists posted information more often in the morning and afternoon (40% and 56%, respectively) and patients/parents used social media mainly in the evening (76%).

The orthodontists were asked what content they posted on social media websites, and the patient/parent group was asked what types of content they considered interesting. The percentage of orthodontists that posted a specific type of content was compared with the percentage of patients/parents that considered that specific type of information interesting (Figure 3). A statistically significant difference and positive association was found between the percentage of orthodontists that posted pictures of themselves (35.5%) ( $P = .0032$ ), information explaining new products and procedures (37.6%) ( $P < .0001$ ), involvement of the orthodontist in charitable programs (47.1%) ( $P = .0005$ ) and community service events (48.2%) ( $P = .0045$ ), and updates about the office (51.3%) ( $P < .0001$ ) and the percentage of patients/parents that consider these types of content to be interesting (50.5%, 73.9%, 64.9%, 62.8%, and 80.3%, respectively). A statistically significant difference and negative association was found between the percentage of orthodontists that posted pictures of patients (57.7%) and the percentage of patients/parents that considered pictures of patients to be interesting (42%) ( $P = .0025$ ).

The use of different marketing tools and their potential impact on the number of new patients per year was examined based on the information provided by the private practices that responded to the survey. The results are summarized in Table 5. Most used business cards or brochures (52%), a practice website (59%), and social media sites (76%). A multiple regression analysis tested for the association of each marketing practice

**Table 4.** Time of Day Groups Used Social Media

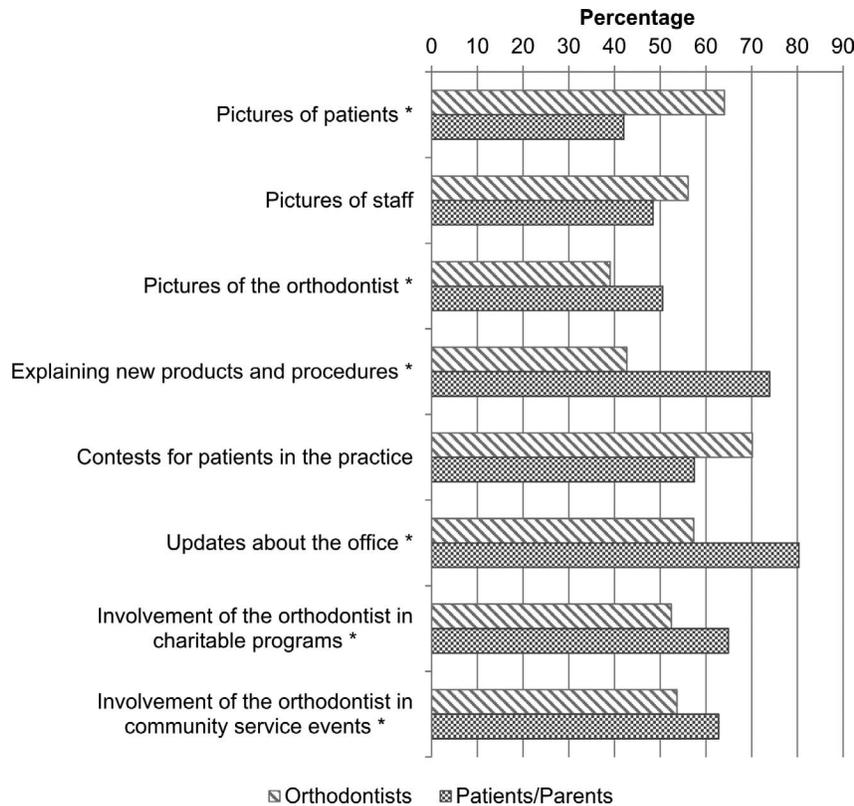
Time Used	Orthodontists		Patients/Parents		P Value
	%	No.	%	No.	
Morning (8 AM to 12 PM)	40	76	44	83	.4389
Afternoon (12 PM to 5 PM)	56	71	33	62	.3513
Evening (after 5 PM)	23	29	76	142	<.0001

type and the number of new patient starts per year. A significant relationship was found overall ( $R^2 = 0.47$ ,  $P < .0001$ ), and the following marketing practices were found to have a significant correlation with new patients: newspaper advertisements, practice websites, and social media. In addition, 40% of the orthodontists perceived that implementing social media has brought new patients into their practice.

Newspaper advertisements were negatively correlated with new patients (average of 188 new patient starts without newspaper advertisements versus 129 with;  $P = .0003$ ). The use of a practice website was positively related to new patients (186 new patient starts with a practice website versus 131 without;  $P = .0035$ ). Orthodontists using social media also reported higher new patient starts (181 new patient starts with use of social media versus 134 without;  $P = .0376$ ). The following strategies were not found to be significantly associated with new patients: phone book advertisements, TV advertisements, email marketing, business cards, or other forms of marketing.

To test for the effect of each individual social media platform on new patient starts, all platforms were entered into a multiple regression model that also included the two other significant marketing factors (newspaper ads and practice website). The multiple regression increased in predictive ability of new patient starts to 28% when all significant marketing factors were combined. Table 6 summarizes these findings. Orthodontists who used Facebook reported a positive association with new patient starts (179 new patient starts with Facebook use versus 124 without;  $P = .0004$ ). Twitter use was also positively related to new patient starts (171 new patient starts with Twitter use versus 130 without;  $P = .0128$ ). YouTube use was negatively related to new patient starts (128 new patient starts with YouTube use versus 173 without;  $P = .0046$ ). None of the other social media platforms was significantly associated with new patient starts.

In summary, orthodontists who engaged in the marketing practices negatively associated with new patients were predicted to have a count of 65 new patients per year (95% confidence interval = 47–90). Orthodontists who engaged in all the positive marketing practices were predicted to have 335 new patients per year (95% confidence interval = 276–405).



**Figure 3.** Type of content posted by orthodontists compared with the type of content viewed as interesting by patients/parents. A statistically significant difference was found for pictures of patients, pictures of the orthodontist, information explaining new products and procedures, updates about the office, and involvement of the orthodontist in charitable programs and community service events (\**P* < .05).

**DISCUSSION**

Recently, social media has taken a significant role in health care as reported in numerous studies.<sup>12–15</sup> To our knowledge, this is the first study in the orthodontic literature to report on social media usage and the perception of social media use in the orthodontic practice among patients and orthodontists.

A recent report<sup>16</sup> found that 73% of online adults use social networking sites and that 79% of female adults use social media compared with 69% of male adults. The authors also found that 89% of adults between 18 and 29 years old use social media and that usage decreased steadily with age.<sup>16</sup> The results from our

**Table 5.** Marketing Practices Used by Orthodontists and the Relationship to Number of New Patients per Year

Marketing Practice	%	No.	<i>P</i> Value <sup>a</sup>	Standard Beta <sup>b</sup>
Phone book advertisements	29	54	.7740	0.02
TV advertisements	5	9	.8019	0.02
Newspaper advertisements	16	30	.0003*	–0.27
Email marketing	12	22	.9040	0.01
Use of business cards or brochures	52	99	.6576	0.05
Practice website <sup>c</sup>	59	112	.0035*	0.23
Social media <sup>d</sup>	76	143	.0376*	0.25

<sup>a</sup> Multiple regression on the log count (*R*<sup>2</sup> = 22%; *P* < .0001).  
<sup>b</sup> The standardized beta coefficient can be interpreted like a correlation.  
<sup>c</sup> Based on orthodontists’ response to the question “Do you have a practice website for your orthodontic practice?”  
<sup>d</sup> Based on orthodontists’ response to the question “Do you use social media in your practice?”

**Table 6.** Social Media Platforms Related to New Patients per Year

Media Platform	%	No.	<i>P</i> Value <sup>a</sup>	Standard Beta <sup>b</sup>
Facebook	74.6	141	.0004*	0.31
Twitter	24.9	47	.0128*	0.23
Google+	23.3	44	.4288	–0.06
YouTube	29.1	55	.0046*	–0.27
LinkedIn	18.0	34	.9376	–0.01
Pinterest	6.9	13	.2331	0.09
Instagram	17.5	33	.4738	0.06
Blogger	4.2	8	.4020	0.06
Wikia	0.0	0		
Other	1.1	2	.4193	–0.05

<sup>a</sup> Multiple regression on the log count and included the following predictors: newspaper advertisements and practice website (*R*<sup>2</sup> = 28%; *P* < .0001).  
<sup>b</sup> The standardized beta coefficient can be interpreted like a correlation.  
<sup>c</sup> The categories of Wikia and “others” were not included in the analysis because of their near-zero percentages.  
<sup>d</sup> \* *P* < .05.

study are consistent with these findings, as they indicated that most patients/parents and orthodontists used social media and that use was more common in females and younger adults. The respondents, however, may have a social media website without actively viewing posts. Thus, the difficulty in differentiating between a user and an active user may be viewed as a limitation to this study.

Marketing research has revealed that Facebook is the most popular site as two-thirds of online adults say that they are Facebook users.<sup>17</sup> The results from our study support similar trends, as Facebook was the most commonly used social media platform among orthodontists and patients/parents. The largest discrepancy found between social media sites used by the patients/parents and orthodontists was for Pinterest. This is an opportunity being ignored by most orthodontic practices and should be considered as a potential marketing tool for current and prospective patients.

The optimal time for a business to post on a social media website seems to depend on the availability of the audience that views the information. In our study, there was a discrepancy between when orthodontists post information and when patients and parents actually used social media. A recent report by Cormier<sup>18</sup> stated that a Facebook post receives half of its reach within 30 minutes and that one should try to determine when fans are on Facebook and aim to schedule posting of information around that time. Perhaps orthodontists should consider posting information on their social media sites in the evening rather than during normal business hours for more convenient access of the information by patients/parents.

Over the years, marketing has been practiced via traditional means of media, such as television, billboards, pamphlets, radio, newspaper, and phone book ads. Social media marketing has allowed businesses to have an interactive dialogue with consumers in a way not possible with traditional advertising. Previous consumer research has found that only 14% of people trust advertising compared with 78% who trust recommendations and referrals.<sup>19</sup> Engaging consumers on social media can build trusting relationships and give prospective patients an opportunity to read reviews by their friends, family, and the general public.

Researchers in the dental field suggest that dental practices will not survive without a strong online presence.<sup>6-8</sup> The results of our study support these suggestions as they showed that most orthodontists use social media sites and a practice website to market to their prospective patients. Orthodontists who used social media and a practice website had more new patient starts per year than those who did

not. A previous study found a correlation between a social media presence and new patient visits in hospitals.<sup>20</sup> Keim et al.<sup>21</sup> found that social media use in an orthodontic practice was fairly effective as a practice-building method.<sup>21</sup> However, to our knowledge, this study is the first to report a correlation between social media usage and new patient starts in an orthodontic practice. Although there is a correlation, it is important to note that there is no proven cause-and-effect relationship between new patient starts and social media usage. The results may also be interpreted to mean that the more successful practices are also more active on social media and other marketing techniques.

As documented in previous studies, the choice of an orthodontist is largely based on his or her reputation.<sup>9</sup> Social media has proven to be an important reputation management tool. When patients and parents were asked if a good reputation on a social media website would influence their decision to go to or bring their child to that orthodontist, 63% stated that it would.

This study also found that orthodontists who use newspaper advertisements were likely to have fewer new patient starts per year. Prospective patients may view newspaper advertisements as indicative that a practice is less technologically advanced than other orthodontic offices. In addition, potential patients may not be viewing newspaper advertisements because newspaper readership is decreasing and an extensive amount of information can be easily accessed online.

Our patient population was able to take the survey at any time during treatment. Perhaps a prospective approach could have added to the strength of this study.

The results of this study showed that social media was used by most of patients/parents and orthodontists surveyed and that social media may be an effective marketing tool in an orthodontic practice.

## CONCLUSIONS

- Social media use was more common in females and younger adults, and Facebook was the most commonly used social media site among patients and orthodontic practices.
- A discrepancy was found between the time orthodontists posted information and the time patients/parents accessed social media, indicating that orthodontists should post information in the evening rather than during regular business hours.
- Patients/parents were more interested in viewing information regarding the practice and the community than information about other patients.
- The most commonly used marketing strategies in the orthodontic practice were social media and a practice

website, which were both positively related to new patient starts.

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