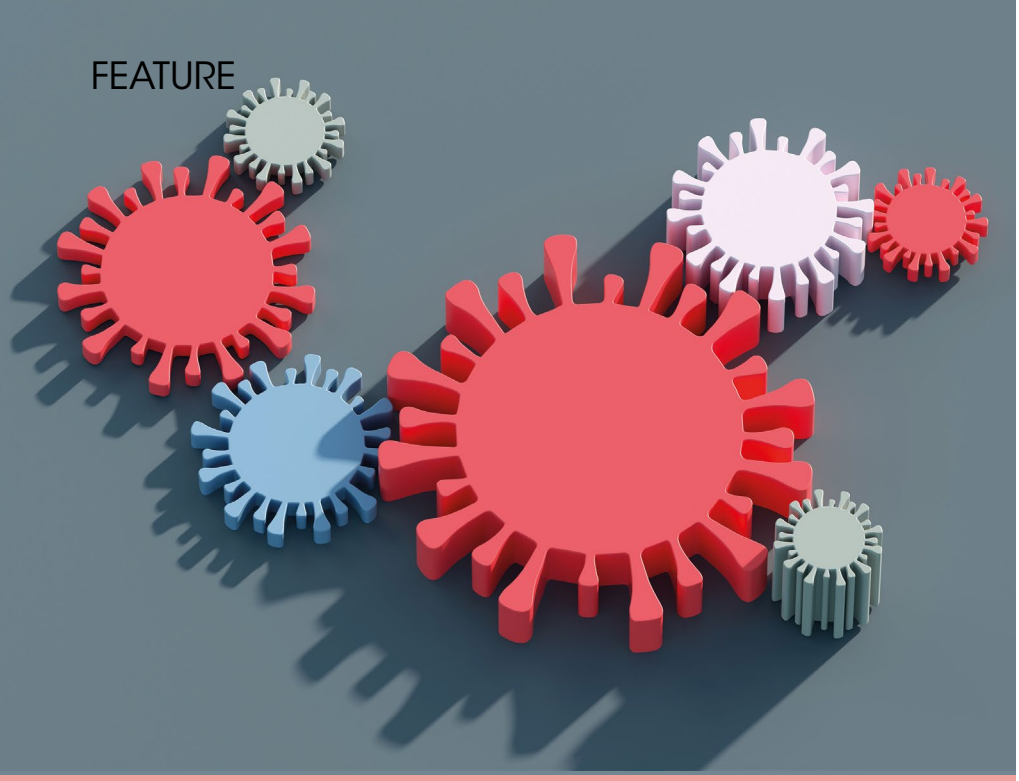

An evaluation of the impact of COVID-19 on the leadership behaviour of dental practice managers in England

By **Amir Savage**[1]

Abstract

Introduction Leadership from line managers is not only paramount but strongly linked with patient satisfaction and staff turnover. This study into the leadership of dental practice managers gives valuable insights into the impact of the COVID-19 pandemic on their leadership behaviour.

Aims The aim of the study was to explore the effect of COVID-19 on the leadership behaviour of dental practice managers (DPMs) in England.

Materials and methods A cross-sectional inductive thematic analysis was undertaken on 15 DPMs in England. The qualitative, primary data were collected through semi-structured interviews. The sample of DPMs was selected using a non-probability purposive sampling technique with interviews conducted over an 8–12-week period during January to April 2021.

Main outcome methods The analytic focus for this project activity was via inductive thematic analysis which was used to answer two research questions objectives:

1. How has COVID-19 impacted the leadership behaviour of dental practice managers in England?
2. What were the perceptions of the remaining barriers to leadership?

Results The research found that participants demonstrated enhanced leadership behaviours such as empowering, sharing decisions, motivating and training throughout the pandemic to engender trust, inspire motivation and allow their teams to develop.

It also emphasised the impact of personal factors, organisational support and funding as major concerns when looking at the perceived barriers that may affect the operational effectiveness of dental practice managers.

Introduction

Emerging from China, COVID-19, that is linked to the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), rapidly became a pandemic.[1]

Infection prevention and control measures are engrained within the dental profession and whilst protecting patients from potential hazards, efforts are now being additionally directed towards protecting the clinical team.[2]

Within England, and as a public health measure, instructions from the Office of the Chief Dental Officer (OCDO) on 25 March 2020 requested the immediate cessation of all routine non-urgent dental care.[3]

Author information

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Since the resumption of dental services on 8 June 2020, they have remained open with enhanced infection control protocols to limit the spread of COVID-19.

The outbreak has also caused major challenges for the dental profession and workforce as there is now a significant number of the general population with acute dental problems.[4]

At present, routine dentistry bears little resemblance to pre-COVID procedures with practices evolving with the pandemic, changing their full Standard Operating Procedures and formulating risk assessments to manage patients and staff with the appropriate precautions required to ensure patient and staff safety.[5]

Table 1 Data themes

Leadership behaviours	Leadership barriers
Empowering **Sharing decisions** **Motivating** **Training**	**Individual barriers** (enthusiasm, personal factors and communication) **Organisational barriers** (leadership development opportunities and organisational support) **Environmental barriers** (funding)

'Like leaders in numerous sectors, [dental practice managers] have had to demonstrate agility in adapting to the new working practices that the pandemic created.'

Leadership

Dental practice managers are key members of the practice team. They are in leadership roles and often tasked with implementing change within the practice and teams.[6]

Like leaders in numerous sectors, they have had to demonstrate agility in adapting to the new working practices that the pandemic created.

Given that leadership is a highly sought after and valued commodity, there are almost as many different definitions of leadership as there are people who have tried to define it. One description is that it is a non-linear process in which an individual influences a group of individuals to achieve a common goal.[7,8]

Each theory has its proponents, strengths and weakness and could be grouped into: Trait Approach, Skills Approach, Style Approach, Situational Approach, Contingency Theory, Path-Goal Theory, Leader-Member exchange theory, Transformational leadership, Servant leadership, Team leadership and Psychodynamic Approach.[7]

Bass[9] proposed a four factors characteristic of transformational leaders which were: idealised influence - reflecting a behaviour to engender trust, inspired motivation - reflecting a behaviour to allow subordinates to grow and develop, intellectual stimulation - reflecting creativity/innovation and finally individualised consideration which reflects a behaviour of treating each subordinate as an important member of the team and encouraging appropriate workplace behaviour.

Another behavioural characteristic to consider is the concept of emotional intelligence which was originally developed by Salovey and Mayer and is loosely defined as the ability to perceive accurately, appraise, and express emotion. With regards to leadership there has also been research linking emotional intelligence with predicting effective leaders.[10,11]

There is also a significant amount of literature that now exists clearly linking the positive effects of transformational leadership on subordinate behaviour and also on organisational outcomes.[12]

As leadership from line managers is not only paramount but strongly linked with patient satisfaction and staff turnover, this study into the leadership of dental practice managers gave valuable insights into the impact of the COVID-19 pandemic on their leadership behaviour.[13]

Research objectives

The research aims to answer two research questions objectives:

1. How has COVID-19 impacted the leadership behaviour of dental practice managers in England?
2. What were the perceptions of the remaining barriers to leadership?

Methodology

The methodology was via a standardised semi-structured interview exploring various themes and enabled exploratory additional answers from a cross-section of the investigated sample group. This was done via an inductive approach using the participants' narratives to identify major themes and discuss interpretive paradigms whilst looking for meaning from the qualitative data.[14]

Sample

It has previously been recommended that qualitative studies require a minimum sample size of at least 12 to reach data saturation.[15,16,17] Therefore, purposive sampling with a size of 15 was deemed sufficient to achieve this objective.

All the interviews, due to COVID -19 social distancing restrictions, were undertaken via telephone or video conferencing and were for about 45-60 minutes in duration.

Data analysis and discussion

The themes that emerged from the data were placed into the groups shown in Table 1.

The interviewees were anonymised by a respondent number and described as P1–P15 respectively.

Respondent demographics

The demographics of the respondents are presented along with the type of dental practice they managed (corporate or independent). The method of practice remuneration (NHS, private or mixed) was also recorded and presented in Table 2.

Leadership behaviours

Empowering

In their responses, all the participants found that there was an increased requirement to motivate and empower their teams throughout the various lockdown phases indicating strong aspects of transformational leadership. This was predominant at the start of the pandemic but also continued throughout with narratives that endorsed the research by Dionne *et al.* into how an empowered team environment enhances overall team performance.[18]

The role of a practice manager was described by P2 as 'pastoral before the pandemic' however during March, April and May 2020 the role reportedly changed to that of 'survival with frequent team meetings'. P2 also found it useful to motivate and empower a smaller five-person COVID-19 team that 'helped with health and safety and other legislation'.

The pandemic was also described by participants such as P1 as an 'incredibly challenging time 'and some participants utilised a 'phased return to work' for the team by initially bringing in senior clinicians to scrutinise clinical policy followed by other team members. Others also described using a 'shared and collaborative approach of processes and procedures from the ground level up' to facilitate the return to work.

Several participants, such as P4, highlighted that 'giving the team important jobs, listening, encouraging and saying thank you whilst obtaining input to the daily running of the practice and focusing on team members' wellbeing' as the 'method of motivating my team'. This was corroborated by P3's statements such as 'I empowered my team and boosted their motivation by just being there and not taking any time off' whilst making every team member aware that we were on the 'same journey'.

Sharing decisions

The majority of participants found that through increased meetings they were able to share their primary decision-making strategy with other team members. Their responses added to the work done by Pearce *et al.*[19] who highlighted such behaviours as being part of transformational leadership as they transmit a sense of mission and delegate authority.

Participants such as P6 also highlighted that 'solutions came from within the team' and they had a 'joint interpretation of standard operating procedures'.

A number of participants (P4, P12 and P13) used a method of 'shared information' to make their decisions transparent for team members with P15 holding virtual meetings to find out 'What worked well?' and 'What did not?' This was followed by asking the question of 'How can we improve or change things?'

Common thoughts expressed were that there was a fear and apprehension of the unknown within the team and some, such as P7, used an approach of stating 'how to keep safe' as part of the underlying decision making process. This was also corroborated by P3 who highlighted safety as a common concern and used the fallow time calculation for aerosol generating procedures to illustrate joint decision making. They communicated to their team that these 'important decisions' were to 'keep both themselves and their patients safe'. Indeed, P3, after receiving the COVID-19 vaccine 'drafted an information template letter' to attempt to increase the uptake of the vaccine amongst team members.

There was a requirement by many such as P2, for 'a phased return to work whilst explaining and allaying fears'. This was corroborated by P10 and P8 who had to have a 'supportive approach' during difficulties in attempting to obtain personal protective equipment whilst also explaining the rationale for the team rota system they had in place to work safely. They also had to maintain social distancing in communal areas such as staff rooms which was described 'as initially very strange considering we are a close knit team'.

Some participants, such as P5, 9 and 7, focused on the challenges involved in enhanced cleaning and cross-infection with participants breaking down standard operating procedures to its building blocks for team members and adapting them with their

Table 2 Demographics of respondent

Participants	Practice manager/ managerial experience	Practice type (NHS, Private, Mixed, Corporate. Independent)	Number of staff
P1	1 year dental & 20 years managerial	Private Corporate	19
P2	20 years	Private Independent	55
P3	3 years	Private Corporate	18
P4	21 years	Private Corporate	25
P5	4 years	Mixed (NHS and Private) Independent	15
P6	11 years	Corporate (NHS and Private)	24
P7	21 years	Private Corporate	52
P8	20 years	Dual site Independent practice Practice 1 - Mixed Practice 2 - NHS	20
P9	15 years	NHS Independent	20
P10	25 years	NHS Independent	16
P11	12 years	Private Corporate	28
P12	3 years	Private Independent	30
P13	20 years	Mixed Corporate	25
P14	9 years	Private Independent	18
P15	16 years	NHS Corporate	26

team's input. P5 stressed 'it was important to keep the team informed with the reasons of why we had to make changes in all the decision making'.

Motivating

In all the responses, there appeared to be a strong element of emotional intelligence deployed by the participants in adapting their teams to modified approaches of working which endorses the work done by Barling *et al.,* who linked emotional intelligence with leadership behaviours.[20]

Several participants (P5, 9 and 7) researched published clinical guidance from 'well-respected organisations' such as the Faculty of General Dental Practitioners, the British Dental Association and the Scottish Dental Clinical Effectiveness Programme extensively in order to understand and communicate the new and constantly altering standard operating procedures.

encouragement after such a prolonged break and no income from dentistry'.

In addition, a few respondents, such as P6 and P15, noticed that there was a difference in motivation between furloughed and un-furloughed staff with the furloughed staff requiring more motivation due to the uncertainty of their daily routine and significant downtime in their clinical activity.

Training

All participants, in agreement with work done by Monson and McMullan[21] on leadership behaviour, saw a clear need for further training and education and made arrangements to provide this. They highlighted infection control and the additional training required being the most mission critical aspect to their continued ability to deliver safe dental care.

P1 highlighted how the 'standard operating procedures drove all practice and therefore

> *'In all the responses, there appeared to be a strong element of emotional intelligence deployed by the participants in adapting their teams to modified approaches of working'*

There were requirements to review procedures with P5 highlighting that 'over four times with regular catch ups with team members whilst obtaining feedback from the team'. Another participant reports having to collaborate with other local practices in the area to 'share experiences and confirm understanding of national guidelines'.

There were a few participants (P3, 7 and 13) that focused on the requirement to fit test their team for protective masks and were able to encourage their team by 'becoming fit testers' and obtaining the equipment required in good time. The team, according to many responses, particularly P13, 'gained confidence in their protective equipment when they were able to see and experience its effectiveness in stopping smell and taste sensations during the fit test'.

Other participants, such as P1, mentioned that although there was an initial concern for wellbeing, 'clinicians wanted to get back quickly to work and did not need much

training in the operating procedures was important'. Others reported that nursing staff were kept up to date with policy changes and were fortunate, working for a corporate dental provider, to have regular company webinars for the team.

P2's experience was described as 'daunting, scary to start and extremely exhausting having to think about this everyday'. 'The training was intensive and that the whole patient journey had to be thought through, simulated and that journey was very different to what we were used to'.

Individual leadership barriers

Enthusiasm

Within dentistry, Willcocks[22] suggests exploring individual leadership approaches to offer insight into how this interacts with shared leadership. Exploring this aspect gave varying responses, some stating that 'some days you feel on top of things and other days not'. 'What kept me going was that I needed to instil confidence in my team and my goal was to keep them and my patients safe.'

Other participants, such as P5, gave a similar theme stating that 'I liked a challenge' and 'whilst it was tough, I just kept on going'.

This statement was additionally qualified with the statement 'I rose to the challenge and learned a lot about myself and my team'. 'It has made me better at my job because I had to adapt which was hard at first but good as we now have a stronger team as a result.'

Some respondents with formal management training, such as P2, reported that 'having completed an MBA helped equip me for the role ahead and gave me a lot of confidence'. There was a similar response from others, eg, P7 who mentioned that 'although there was a massive learning curve, clinicians were turning to me for answers and I had to do a lot of research. I've come out of the other side by being resilient'.

The response from one participant (P5) was however in contrast to others who stated that 'my confidence took a hammering as my lack of knowledge about dentistry showed. Although I am an experienced manager, I was new to the dental industry and I needed to learn dental vocabulary quickly. I relied heavily on my team and it was only after several months did, I feel organised'.

A few participants (P8, 9 and 10) additionally state that being proactive helped keep their motivation high and also stressed on the challenging nature of the daily tasks required of them. The camaraderie amongst the network of practice managers was highlighted and the 'realisation that we were all in the same boat and in this together as being a personal motivator'.

Personal factors

Personal factors such as family obligations did have an impact which varied between participants and was dependent on spouses, their children and their relative ages, school, health and requirements.

With regards to family, P5 stated 'the few months having the kids off school was difficult. I had to work from home and fit it around the kids and there was also increased anxiety about going to work and catching COVID-19 and then taking it back to my family. The vaccine has helped relieve personal stress and gave me added security knowing that I would not be so unwell'. This viewpoint was also commonly shared by a number of participants (P15, 10 and 8).

Many participants, such as P2, worked significantly long hours and said, 'I put everything on hold and was on survival mode as everyone's jobs depended on me'.

Communication

All participants reported that communication skills and using different mediums for communication was essential in getting their teams on board and getting their message through. This finding was in alignment with work from Larsson and Vinberg[23] who viewed communication as a critical element to any successful organisation.

There was a perceived need by P4 let people needed to know continuously why things were happening and this was corroborated by participants such as P6, who mentioned that 'the means of communication needed to be more varied and I used the full range from face-to-face, texts, emails, zoom and group chats. The most important thing though was that I made the team aware that I was there for them and to listen and reassure'.

There was also added the requirement, stated by P5 and 9, of keeping staff involved and highlighted that in the written communication particularly with standard operating procedures to 'keep communication as simple as possible'. It was stressed by P8 that 'I did daily briefs to my teams' and found that communication skills and putting myself in their shoes was essential when 'having one to one furloughing conversations with longstanding staff'. This seems to align to previous work that suggests individuals higher in emotional intelligence might be more open to internal experience and may be better able to communicate those to others.[24]

A number of participants, such as P1, stated that 'communication needed to be clear with frequent checks for understanding with clinicians and people looked to me as the practice manager for answers'.

Organisational leadership barriers

Leadership opportunities

Participants P5 and P3 listed several developmental opportunities and said 'I had to step up and teach procedures and processes whilst leading several meetings and running through agendas. In addition, I had to research several sources for guidance and publications such as the National Health Service, Faculty of General Dental Practitioners, dental forums and the news'.

Some also found that opportunities for leadership had increased and existing skills were enhanced by being able to guide the team through a difficult and stressful situation. One participant commented 'There were opportunities to lead and develop my network as I visited several different practices and fit tested over 100 people'. This finding validates the viewpoint of Giles[25] who characterised efficient learning and self-organising as a key leadership competency.

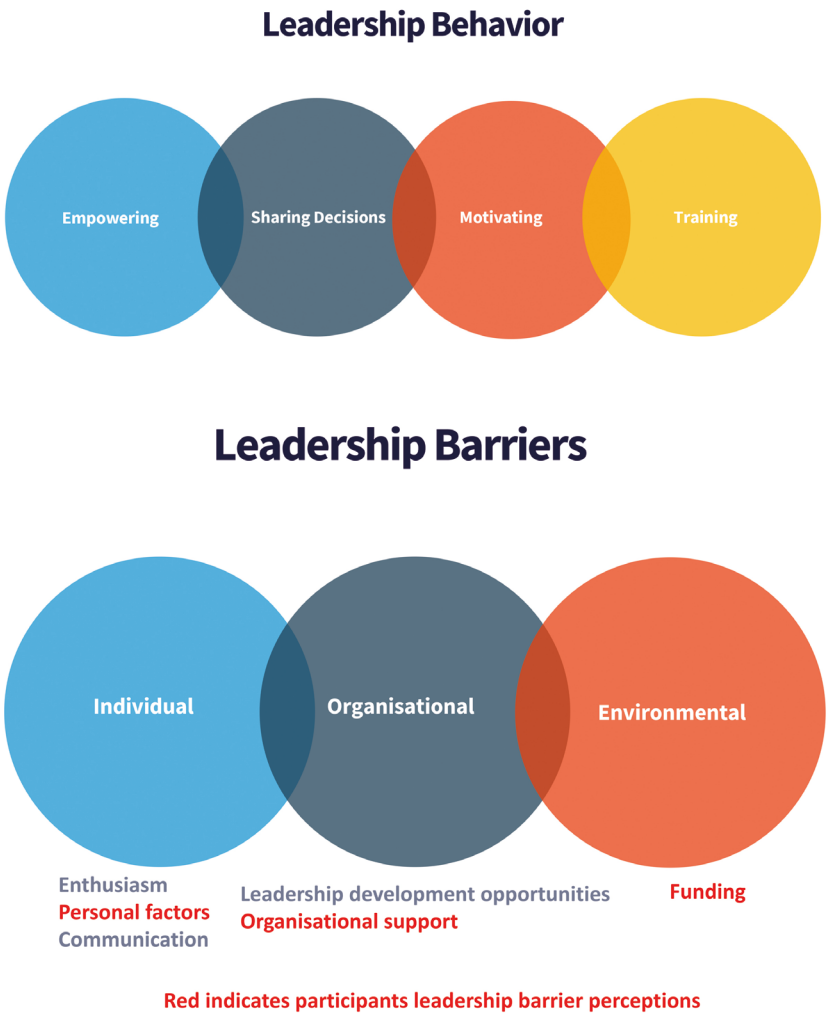

Fig. 1 Summary of themes and findings

The participants felt that it was important to ensure that the information provided to the team was evidence-based, valid and from good sources. P2 stated 'In so doing I was able to manage the team by making sure our vision was well aligned'. This statement was also supported by a number of participants (P11, 12 and 15).

Organisational support

The responses from the participants were very varied and the level of support seemed to differ between individual independent practices and corporate practices. The comments and responses from the participants build on the statements by West and Dawson[13] who suggest staff autonomy, enabling staff to use a wide range of skills, jobs satisfaction, staff support, recognition and encouragement as important tools for an individual to be valued and remain engaged within the organisation.

Some participants that were attached to corporate providers stated that initially there a lot of information and changes came all at once too quickly. P4 and P7 stated 'there was little support and only later did I feel that I had support. I think senior managers needed to read their practice managers better so that messages and relevant information could have been passed on to us more quickly'.

P4, who worked for a corporate felt that 'it would have been better to have seen and understood the systems before the training was given to us'.

Another corporate manager (P1), on the other hand, felt that there were no constraints and described the organisation as 'supportive and I had most of the information and operating procedures already summarised for me'. This view was also corroborated by P3 who felt that 'all the regulation and legislation was from a reliable source' however the participant noted that 'the company could have been more supportive by listening to feedback from the ground. I was only

contacted when things went wrong and I didn't know myself how much help and support was available through the company as they did not seem to specifically reach out to individual managers'.

The views of some of the participants were similar to points expressed in the King's Fund report[26] into leadership behaviours that stressed the importance of moving from a command and control and demanding target-driven approach that could demoralise staff.

Several participants that worked for independent organisations (P2, 8, 9 and 12) stated that they generally felt supported but there were periods where they had to work increased hours. Participants such as P2 highlighted that 'I adapted by working longer hours to increase the time and get more things done'.

Environmental leadership barriers

Funding (government and private)

The research identified funding as a critical component which corroborates Hanks *et al.*,[27] statement highlighting government intervention being a significant factor as dental leadership is embedded in regulatory guidance and standards relating to general dental practice.

In response to funding, P5, a practice manager in a mixed practice said, 'we were lucky as the NHS paid the contract which was a benefit and the furlough scheme and small business loans from the government were a great help'.

Another participant additionally reported 'Most patients were grateful that we were open and valued, we did not see too much of a decrease in our private patients'.

A few participants (P2, 12 and 14) mentioned that the furlough scheme played a significant role in allowing the business to operate. P2 additionally mentioned that there was a downturn in some hygiene treatments which were perceived as routine and could wait. P2 further stated 'some patients simply did not want to travel for routine check-ups or hygienist appointments'.

In general, some like P6 found that 'budgets from my corporate were reduced and there was a pressure to keep costs down. There were a number of cancellations due to lost jobs and insecurity and therefore there were some concerns from patients that a safety tariff for protective equipment was being added to their costs. Having said that, several patients were keen on having treatment due to having more disposable income from staying at home and also saving the money they would have put towards holidays and commuting to work'.

With regards to practice income P7 reported that 'our income did drop by 30% but it's now only 10% affected'. This is in stark contrast to P1 who stated 'our patients are affluent, retired and had time on their hands. Our targets were reduced by the company but we exceeded these targets due to rebound and perhaps the more disposable income available'.

Conclusions

Relationship between the findings and research objectives

The main themes and the findings from the data could be summarised diagrammatically in Figure 1.

The research objective was to evaluate the impact of COVID-19 on the leadership behaviour of dental practice managers in England by answering two research questions:

How has COVID-19 impacted the leadership behaviour of dental practice managers in England?

The participants' perception and narratives illustrated that COVID-19 demonstrated significantly enhanced the leadership behaviours and if their experiences are typical then this would have been seen more broadly in England.

The work by Bass,[9] although not written in a COVID-19 context, does have contemporary relevance in that the behaviours exhibited by the cohort of participants, as demonstrated by their answers to questions focusing on leadership behaviour, highlighted many aspects of the four factors of transformational leadership (idealised influence, inspirational motivation, intellectual stimulation, and individual consideration) that was first proposed.

Dental practice managers reported on employing various strategies such as empathy to empower and motivate their teams with many participants commenting on doing so under extremely challenging circumstances. There were also many aspects of servant leadership which according to Northouse[7] demands leaders to nurture and empathise with their followers, putting individuals first, whilst empowering them to develop to their full potential.

In general, the participants treated each team member as important and demonstrated enhanced leadership behaviours throughout the COVID-19 pandemic to engender trust, inspire motivation and allow their teams to develop.

What were the perceptions of the remaining barriers to leadership?

Whilst individual barriers and certain challenges to leadership increased personal enthusiasm and confidence fluctuated during the pandemic.

At an individual level, it appeared that family obligations for some participants represented the main individual challenge to leadership. This is a similar observation to the 2013 American Dental Association study who found that the challenges to being more engaged in leadership activities were generally time constraints and family commitments.[28]

Increased confidence in leadership skills was required and the responses from many participants differed, however, the narratives revealed that many participants demonstrated enhanced communication skills and utilised new audio-visual communication technologies to overcome challenges. They therefore did not perceive their leadership confidence and communication skills to be a significant barrier to their leadership.

The most significant barrier to leadership was perceived to be at an organisational level. Some participants that were employed by corporate dental providers stated that whilst their organisation supported them with information, they did not feel they were listened to from the ground up.

It was noted that the participants' responses to funding issues differed depending on whether the practice was private or had a NHS contract and this factor was additionally affected by the location and general socio-economic demographics of their respective patients.

In general, overall funding was perceived to be a significant issue however certain steps such as the UK governments furlough programme and payments for NHS practices were major mitigating factors.

The overall findings on leadership barriers endorses and gives a more in-depth insight to those reported in a scoping review of leadership practices and perceptions in oral healthcare.[29]

In evaluating the impact of COVID-19 on the leadership behaviour of dental practice managers in England this research contributes to the overall understanding of leadership practices within oral healthcare by identifying the enhanced leadership behaviours in the participants however it additionally emphasises the impact of personal factors, organisational support and funding as major concerns when looking at the perceived barriers that may affect the operational effectiveness of dental practice managers.

Limitations

There were invariably some limitations to the research strategy, approach and design that need to be taken into account.

According to Elliott and Jordan[30] a criticism would be that truly inductive analysis is not always possible and is limited by the unconscious application of prior knowledge either from the researcher's own experience or from their own interpretation of the literature.

Nevertheless, qualitative studies if properly constructed can give explanatory and predictive information and relate constructively to quantitative parts of a larger study whilst contributing to the improvement of health services and the further development of health-related policy.[31]

There is the potential to build on this study using a much larger probability-based sample size of nationwide dental practice managers together with an internet based structured questionnaire to capture a greater number of participants enhancing both replication and reliability.[32] Whilst this alternative methodology may increase the generalisability and require a more deductive approach, it may not however generate the information rich pertinent issues that the current research format has provided.

Conflict of interests and source of funding
The author declares no conflicts of interest. It was funded by the military Enhanced Learning scheme as a University of Portsmouth submission for an MSc in Leadership and Management and supervised by Dr Hazel Beadle.

References

1. Bi Q, Wu Y, Mei S *et al*. Epidemiology and transmission of COVID-19 in 391 cases and 1,286 of their close contacts in Shenzhen, China: a retrospective cohort study. *Lancet Infect Dis* 2020; **20:** 911–919.
2. Darwish S, El-Boghdadly K, Edney C, Babbar A, Shembesh T. Respiratory protection in dentistry. *Br Dent J* 2021; **230:** 207–214.
3. Hurley S, Neligan M. Preparedness letter for primary dental care. London: NHS England, 2020. Available at: https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0603-Dental-preparedness-letter_July-2020.pdf (accessed January 2022).
4. Patel T, Wong J. The role of real-time interactive video consultations in dental practice during the recovery and restoration phase of the COVID-19 outbreak. *Br Dent J* 2020; **229:** 196–200.
5. O'Keefe E. Breaking the chain of transmission in the healthcare setting. Royal College of Physicians and Surgeons of Glasgow, 16 December 2020. Available at: https://news.rcpsg.ac.uk/news/covid-19-breaking-the-chain-of-transmission-in-the-dental-healthcare-setting/ (accessed January 2022).
6. Bainham L. Encouraging your dental team to embrace change. *BDJ Team* 2019; **6:** 31-32. Available at: https://www.nature.com/articles/s41407-019-0149-8 (accessed January 2022).
7. Northouse P G. *Leadership: Theory and practice.* SAGE Publications, Incorporated, 2021.
8. Stogdill R M. *Handbook of leadership: A survey of theory and research.* Free Press, 1974.
9. Bass B M. *Leadership and performance beyond expectations.* Free Press, 1985.
10. Salovey P, Mayer J D. Emotional intelligence. *Imagination, Cognition and Personality* 1990; **9:** 185–211.
11. Goleman D. *Emotional intelligence: Why it can matter more than IQ*. London: Bloomsbury, 1996.
12. Tickle E L, Brownlee J, Nailon D. Personal epistemological beliefs and transformational leadership behaviours. *J Management Development* 2005; doi: 10.1108/02621710510613735.
13. West M, Dawson J, Admasachew L, Topakas A. NHS staff management and health service quality: results from the NHS staff survey and related data. London: Department of Health, 1 July 2011.
14. Burrell G, Morgan G. *Sociological paradigms and organisational analysis.* Routledge, 2016.
15. Clarke V, Braun V. Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The Psychologist* 2013; **26:** 120–123.
16. Fugard A J, Potts H W. Supporting thinking on sample sizes for thematic analyses: a quantitative tool. *Int J Soc Res Methodology* 2015; **18:** 669–684.
17. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field Methods* 2006; **18:** 59–82.
18. Dionne S D, Yammarino F J, Atwater L E, Spangler W D. Transformational leadership and team performance. *J Organizational Change Management* 2004; **17:** 177–193.
19. Pearce C L, Sims H P, Cox J F, Ball G, Schnell E, Smith K A, Trevino L. Transactors, transformers and beyond: A multi-method development of a theoretical typology of leadership. *J Management Development* 2003; **22:** 273–307.
20. Barling J, Slater F, Kelloway E K. Transformational leadership and emotional intelligence: An exploratory study. *Leadership Organization Development J* 2000; **21:** 157–161.
21. Morison S, McMullan C. Preparing for the future: challenges and opportunities for management and leadership skills. *Br Dent J* 2013; **214:** E2.
22. Willcocks S G. Exploring leadership in the context of dentistry in the UK. Leadership in Health Services. *Leadersh Health Serv (Bradf Engl)* 2016; **29:** 201–216.
23. Larsson J, Vinberg S. Leadership behaviour in successful organisations: Universal or situation-dependent? *Total Quality Management Business Excellence* 2010; **21:** 317–334.
24. Mayer J D, Salovey P. *What is emotional intelligence? Emotional development and emotional intelligence: Implications for educators*. 1993.
25. Giles S. The most important leadership competencies, according to leaders around the world. *Harvard Business Review* 15 March 2016.
26. Ham C. Leadership and engagement for improvement in the NHS: Together we can. Report from the King's Fund on Leadership Review, 2012.
27. Hanks S, Cotton D, Spowart L. Leadership in dental practice: a three stage systematic review and narrative synthesis. *J Dent* 2020; doi: 10.1016/j.jdent.2020.103480.
28. Forest A E, Taichman R S, Inglehart M R. Dentists' leadership-related perceptions, values, experiences and behavior: Results of a national survey. *J Am Dent Assoc* 2013; **144:** 1397-1405.
29. Timofe M P, Ungureanu M I, Cetean A, Mocean F, Albu S. Leadership practices and perceptions in oral healthcare: a scoping review. *OHDM* 2017; **16:** 1–7.
30. Elliott N, Jordan J. Practical strategies to avoid the pitfalls in grounded theory research. *Nurse Res* 2010; **17:** 29–40.
31. Gale N K, Heath G, Cameron E, Rashid S, Redwood S. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Med Res Methodol* 2013; doi: 10.1186/1471-2288-13-117.
32. Saunders M, Lewis P H, Thornhill A D. *Research methods.* Business Students 5th edition England: Pearson Education Limited, 2019.

https://doi.org/10.1038/s41407-022-0804-3