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Abstract

Background: This study aimed to adapt a measure of trust in physicians generally to trust in dentists and to assess the reliability and validity of the measure. Methods: Questionnaire data were collected from a simple random sample of 596 Australian adults. The 11-item General Trust in Physicians Scale (Hall et al., 2002) was modified to apply to dentists. Results: The Dentist Trust Scale (DTS) had good internal consistency (Cronbach's alpha = 0.92) and exploratory factor analysis revealed a single factor solution. Lower DTS scores were associated with less trust in the dentist last visited, having previously changed dentists due to unhappiness with the care received, currently having dental pain, usual visiting frequency, dental avoidance, and with past experiences of discomfort, gagging, fainting, embarrassment and personal problems with the dentist. Conclusions: The majority of people appear to exhibit trust in dentists generally. The DTS shows promising reliability and validity evidence.

Keywords: dentist trust; dental visiting; dental experiences; scale development; validity

INTRODUCTION

Establishing trust has long been recognised as an essential determinant of an effective physician-patient relationship.[1] Indeed, focus group research indicates that trust is often the defining factor in a patient's relationship with physicians and other health care providers.[2] In dentistry, as in medicine generally, a lack of trust can be a barrier to seeking care and can lead to lower patient satisfaction, greater patient anxiety, poorer compliance with professional advice and to a reduced likelihood of favourable patient outcomes.[3] Ultimately, patient trust will come down to the effectiveness of the dentist-patient communication. Kirshner has argued that all communication must engender trust, and not threaten it, if a positive and meaningful dentist-patient relationship is to be established.[4]

Despite the importance of trust in the clinician-patient relationship, information specifically focused on the perceived trustworthiness of dentists is sparse. However, the limited available research does indicate relatively high trust in dentists in general. A study of a representative sample of US adults in 1993 found that 84.6% had a moderate or great deal of trust or confidence in dentists in general and that 90.3% had a moderate or great deal of respect for the dental professional.[5] More recently, an opinion poll in the US on honesty and ethics across various professions indicated that just over 60% of the public consider the 'honesty and ethical standards' of dentists to be 'Very high' or 'High'.[6] This places dentists somewhat below nurses (82%), pharmacists (70%) and medical doctors (69%), but above professions such as police officers (54%), clergy (47%), judges (45%) and bankers (27%). In the UK, a 2012 poll found that 88% of surveyed people had a "very high degree of trust in their dentist".[7]

While there is some evidence that most people trust their dentist, there are also continued stories in the media indicating distrust. In particular, issues with over-servicing are continually raised in many Western countries where fee-for-service systems operate.[8-10] Irrespective of the existence or extent of over-servicing, public perceptions of unethical conduct are likely to impact upon patient trust which might be expected to affect the dentist-patient relationship and dental visiting patterns.

Patient trust is a complicated, multi-factorial construct which has been described and measured in many ways.[11] It can be viewed from a sociological, psychological or political science perspective, may emphasise certain aspects and dimensions over others, and is distinct from patient satisfaction.[2,12] There appears to be general agreement that trust entails a

degree of personal vulnerability, potential uncertainty about the future actions of others, and a specific object or issue (e.g. health) that is entrusted to the trustee.[1,13] The most commonly described dimensions of trust are believed to be competence, reliability and dependability, compassion, confidentiality and communication, although different scales have used varying combinations of these dimensions.[11] The General Trust in Physicians scale, developed by Hall and colleagues and adapted for use in the current study, takes a broad perspective and, based on existing theoretical and empirical work, includes items assessing practitioner fidelity, competence, honesty, confidentiality and global trust.[14] These five components are seen as conceptually discrete, which is supported by evidence from focus groups and qualitative research, yet are interconnected and contribute to a unidimensional structure of trust as measured in a medical setting.

While a number of trust scales have been developed for medical physicians, no scales are currently available in relation to dentists. Two pieces of published research from the US have both used single-item questions with one of these studies assessing combined trust in "medical and dental care" providers.[15] Outside of the US, no studies specifically assessing dentist trust are known to be reported. The absence of a psychometrically assessed scale necessarily places limits on the research that can be conducted into this important area. Thom and colleagues argue that it is important to measure patient trust because of its implications for public policy, organisational and physician behaviour, cost savings, and patient well-being.[2]

This study had three aims: (1) to ~~develop~~ adapt a general measure of trust in physicians to assess trust in dentists; (2) to determine the extent of trust of dentists in the Australian population; and (3) to examine associations between trust in dentists and patient demographic and socioeconomic status variables, unfavourable patient outcomes, and past dental experiences. In relation to the third aim, it was hypothesised that lower levels of trust would be significantly associated with higher dental anxiety, having previously changed dentists and having lower trust in the dentist last visited, lower dental visiting, currently having dental pain, and having a higher prevalence of various past aversive dental experiences.

METHODS

Sampling

A random national sample (*N*=1,700) of Australians aged 18+ years was drawn from a 2012 electronic listing of Australia's white pages telephone directory (Australia on Disc Residential, 2012 edition, supplied by United Directory Systems).

Sampled adults were sent a primary approach letter (PAL) in late 2012, a week before receiving a self-complete questionnaire. The PAL contained information about the study purposes, anticipated time to complete the questionnaire and instructions on returning the questionnaire to the researchers. In an effort to reduce possible response bias, the adult within the household who had the most recent birthday was asked to complete the questionnaire. Sampled people were sent up to two additional questionnaire packs and a reminder card.

Ethics

Ethical approval (H-2012-140) was obtained from The University of Adelaide Human Research and Ethics Committee. Study participants were informed that any questionnaire information provided was confidential and that they were able to withdraw from the study at any time. Participants were also informed that they would not be individually identifiable in any study results. Informed consent was obtained and there was no financial reimbursement for participating in the study.

Materials

An 11-item Dental Trust Scale (DTS) measuring trust in the dental profession generally was modified by the research team from the General Trust in Physicians scale originally developed for the medical profession.[14] The original trust in physicians scale was found to have a single-factor structure, good internal consistency (Cronbach's $\alpha = 0.89$), good response validity, and had associations with following doctors' recommendations, having had no disputes with doctors and not having changed doctors.[4] Modifications from the physician scale primarily involved changing the term "physicians" to "dentists", as well as some minimal wording changes. Consistent with the trust in physician scale, items measured different aspects of general trust (fidelity, conflict of interest, competence and honesty) as well as global trust, and these were based on an extensive review of the available literature.[14] Item wordings for the DTS are provided in Table 1. Possible item responses were on a 5-point Likert scale ranging from 'Strongly disagree' (1) to 'Strongly agree' (5), with higher scores indicating greater dentist trust.

Two new items were developed by the researchers for the purposes of this study, in order to provide an assessment of the convergent validity of the DTS. ~~in addition to and~~

~~separate from the DTS~~. Trust in the dentist last visited was assessed using the question: "How much trust did you have in the dentist that you last visited?" with possible responses being 'None at all', 'A little', 'A moderate amount', and 'A great deal'. This question allows for a comparison of trust in dentists generally, as obtained from the DTS, and trust in a specific dentist, the one last visited. Participants were also asked: "Have you ever changed dentists because you were unhappy with the care you received?" This question asks about an important potential outcome of poor trust, that the patient changes their dental provider.

Dental anxiety was measured using the 8-item fear module of the Index of Dental Anxiety and Fear (IDAF-4C).[16] The IDAF-4C includes items relating to the behavioural, emotional, cognitive, and physiological aspects of dental anxiety and fear, and has been shown to have good internal consistency and validity characteristics.[16] Responses ranged from: 'Disagree' (1) to 'Strongly agree' (5). Mean scores of <2.5 were defined as 'Lower dental anxiety' and mean scores of ≥2.5 were defined as 'Higher dental anxiety'. Cronbach's α for the IDAF-4C was 0.93.

Dental visiting was assessed by the question "How often on average would you seek care from a dental professional?", which has been used previously in a national Australian survey of adult oral health.[17] Delay or avoidance of dental visiting was measured by the question: "Are you currently avoiding or delaying visiting the dentist?"

Aversive dental experiences were measured by asking people if they had, as a result of going to the dentist, ever experienced: pain; discomfort; feeling like they were going to gag; fainting or feeling light-headed; embarrassment; or personal problems with the dentist during a dental visit. Response options were 'Yes' or 'No'. Current oral health problems were also assessed, with participants being asked: "Do you currently experience pain or discomfort in your teeth, gums or mouth?" Possible responses were also 'Yes' or 'No'.

Demographic and socioeconomic status (SES) variables were age, gender, annual household income and highest educational attainment. Five response categories were provided for approximate total yearly income for all people in the household and an option was provided for people who would prefer not to provide that information. Responses were recoded to create three categories, 'Less than $30,000', '$30,000 to less than $90,000' and '$90,000 or more'. Responses options for highest level of education were 'High school', 'Trade/Certificate/College' or 'University'.

Data weighting and statistical analyses

Data were weighted to the age by sex distribution of the 2012 Estimated Resident Population as obtained from the Australian Bureau of Statistics.

Descriptive statistics including mean scores and item endorsements were described and the distribution of full scale scores for the DTS plotted. Internal consistency of the scale was tested using Cronbach's alpha and item inter-correlations reported using Pearson *r* correlation coefficients. Exploratory Factor Analysis (EFA) using Principal Axis Factoring was used to explore the dimensionality of the DTS. Associations between DTS mean scores and categorical variables related to demographic, socio-economic, and visiting characteristics, as well as past dental experiences, were tested using Analysis of Variance (ANOVA) and *F* tests.

RESULTS

The final number of respondents was 596. No response was received from 854 sampled households and there were 250 households considered to be out-of-scope (envelopes returned as having an invalid address or being otherwise undeliverable). The adjusted response rate was 41.1% (596/(1700-250)). The mean age of respondents, after weighting the data to Australian age and sex characteristics, was 47.6 years (SD = 17.1, range = 18–94 years) and 50.2% were female (49.2% male, 0.7% information not provided).

Descriptive statistics and response frequencies for the 11 items of the DTS are shown in Table 1. Means for the 11 items ranged from 3.31 to 3.90, which reflected the finding that the majority of respondents responded to the items with a score of 3 or higher. Standard deviation of the means was relatively consistent across items, indicating similar response distributions. Between approximately 5% (Item 8) and 25% (Item 2) of respondents indicated disagreement with any given question in the DTS and approximately one-quarter to one-third of respondents to each item indicated a middle or neutral score. Full-scale scores assumed a relatively normal distribution and the scale mean of 3.58 indicated low to moderate trust, overall. However, 20.6% of respondents had scores <3.0, indicating lower levels of trust.

The DTS had good internal consistency (Cronbach's alpha = 0.92) and corrected item-total correlations ranged from 0.41 (Item 7) to 0.84 (Item 11). The single measures intraclass correlation was 0.52 (95% CI: 0.48–0.55), $p<0.001$. Item Pearson *r* correlation coefficients are shown in Table 2. Correlation coefficients ranged from 0.25 to 0.74, and were lowest overall for the two reversed items (Item 2 and 7). An exploratory factor analysis (EFA) using Principal Axis Factoring revealed a single-factor solution (eigenvalue = 6.44,

58.6% of variance explained) with factor loadings for all items ranging from 0.41 (Item 7) to 0.87 (Item 11).

DTS mean scores and 95% CIs were examined by demographic and SES variables, dental visiting and adverse outcomes (Table 3). Dental trust was significantly, but only slightly, lower for adults aged 40–59, while there were no differences by gender, household income or educational attainment. Lower DTS scores were significantly associated with less trust in the dentist last visited, having previously changed dentists, having higher dental anxiety, currently experiencing pain or discomfort, visiting the dentist less often, and currently avoiding or delaying visiting the dentist.

Lower trust was also associated with negative past dental experiences, with the strongest associations being for people who had "ever experienced personal problems with the dentist (e.g. being criticised, treated poorly, etc.)", people who had "ever experienced embarrassment", and those who had "ever experienced fainting or feeling light-headed" (Table 4). Only previous experience of pain was not significantly associated with dental trust at the criterion alpha.

DISCUSSION

The DTS had good internal consistency and a single-factor structure, replicating the original scale developed to assess trust in physicians.[14] Scale validity was supported by associations with a range of unfavourable patient outcomes, trust in the dentist last visited, having changed dentists and various aversive past dental experiences.

The finding that the DTS had a single-factor structure, despite assessing the various dimensions of trust included in the original physician scale, is consistent with findings from many measures of physician trust developed to date, including the findings from the development of the Trust in Physician scale.[14] This has been taken to imply that while the various dimensions may all be genuine aspects of trust, they are not independent from the other aspects or from trust generally.[2] Hall and colleagues argued that the uni-dimensionality of general trust means that people do not distinguish among the dimensions of fidelity, competence and honesty.[14] Perhaps, however, it is not the case the people are unable to distinguish conceptually between the various dimensions of trust but that, in practice, global trust strongly influences the individual dimensions to the point where they are no longer considered apart from a more overarching perspective.

While most people indicated trust in dentists generally, about one-quarter to one-third of participants indicated a mid-point or neutral response to each item on the DTS while about 1 in 5 indicated lower levels of trust as defined by a score less than the midpoint on the DTS. There is some debate about whether a lack of trust is the same as distrust, with one conceptualisation being that distrust is simply an absence of trust and another positioning trust as a more active, motivating stance.[1] Certainly, understanding this issue is complicated in this study by the inability to establish cut-points in scale responses in order to determine meaningful categories such as 'trustful' or 'distrustful'. In any event, the consequences of lower levels or a lack of trust can be significant, affecting adherence to treatment recommendations, perceived effectiveness of care, improvements in self-reported health, changing and/or recommending a health care provider, and a greater number of disputes with practitioners.[1,2,14] It has been argued that there is a clear potential for significant cost savings by firstly measuring patient trust and then by incorporating measures in an effort to improve it.[2] Given the finding here that one in five Australian adults have relatively low levels of dental trust, the potential impact of this situation at a population level is considerable.

Less dentist trust was significantly associated with several unfavourable outcomes, including current dental pain, reduced and delayed dental visiting and higher dental anxiety. Whether lower trust plays a causal role in these associations is not determinable given the cross-sectional nature of this study. Yet, it is plausible to speculate that, at least in relation to dental anxiety, there is a very clear conceptual causal pathway between low levels of trust and dental anxiety. Weiner has argued that dentist and staff behaviour may be important factors in both provoking and ameliorating anxiety and that establishing rapport and trust are key elements in creating a positive patient-dentist relationship.[18] Similarly, Milgrom and colleagues argued that the foundation of psychological management of dental anxiety is for the dentist to build a trusting relationship with the patient.[19] However, there is little empirical support for the importance of trust to dentally anxious patients and this represents an important area for future enquiry.

People with relatively less trust in dentists generally were significantly more likely to have previously experienced discomfort, feeling like they were going to gag, fainting or feeling light-headed, embarrassment, or personal problems with the dentist during a dental visit. It can be hypothesised that negative past experiences, especially those specifically concerning practitioner behaviour, might lead to reduced trust. It is telling that the largest associations with lower trust were with having previously felt embarrassed and with having

previously experienced a personal problem with the dentist. This implies that interpersonal communication is more important in establishing dental trust than experiences associated with the treatment. However, it must be kept in mind that some of the significant associations with past experiences were not large. Also, interestingly, there was no significant association between DTS scores and having previously experienced pain, which suggests that providing a pain-free experience, while important, may be less important than how the dentist responds when a patient does experience pain.

Although it is generally acknowledged that trust in a health profession generally is conceptually and practically very different from trust in an individual health professional,[1,12] this study found a strong association between trust in dentists generally and trust in the dentist last visited. This might indicate that there are flow-over effects from general lack of trust in dentists, affecting interpersonal relationships with individual dentists. However, if there is a causal association, it might also be operating in the opposite direction. For example, it is possible that a person's poor experience with their last-visited dentist helped contribute to their lower trust in the dental profession generally. Of relevance here is the finding that people with lower levels of trust in dentists generally were also more likely to have changed their dentist. While we did not capture any information on whether the last dentist visited was the person's normal dentist, people with lower levels of trust or who have an unsatisfactory dental visit may be inclined to 'dentist-shop', changing dentists until they find one with whom they feel comfortable. There is evidence, for example, that US adults with low trust in physicians and dentists are 54% less likely to have a regular dentist.[15]

While it might be tempting to imagine causal pathways between trust in dentists and a range of apparent preceding and consequent factors as measured in this study, the cross-sectional nature of this study does not permit causal attributions. The concept of trust is multifaceted and complex, and the complexity of associations with other factors and variables over time is currently poorly understood. Longitudinal and intervention studies will be required to tease out some of this complexity. Also, there may be appreciable cultural elements involved in establishing trust and distrust, and while the findings of this study might be applicable to the sample population in Australia, very different findings might be apparent elsewhere. Further research in other countries and cultures will be required.

One limitation of this study is the inability to determine the reasons behind why people might have changed dentists in the past, and how long ago such changes might have taken place. People can change their dentist for many reasons other than lack of trust or some

other aspect of patient dissatisfaction. While data on patient mobility is surprisingly scarce, one Australian study by Thomson and colleagues found that approximately one-third of people surveyed had changed dentists in the last two years, but only 15% had changed because of dissatisfaction with the care provided by the previous dentist.[20] Most people had changed dentists due to either themselves or the dentist having moved. We would expect, therefore, only a very modest association between past dentist change and current trust of dentists. However, almost all participants in the study by Thomson et al. stated that they would change their dentist if they perceived their dental care as unsatisfactory.[20] Therefore, while the reason for participants' changing their dentist could not be determined in this study, there is support for the idea that having previously changed dentists and having a lack of trust in the dentist last visited would be associated with general trust in dentists.

A major limitation of this paper is that the concept of 'trust' investigated here has been defined by a specific set of 11 items based on the original physician scale by Hall and collegues.[14] This particular operationalisation necessarily simplifies the complexity of the 'trust' concept and the existence of other conceptualisations, and the heterogeneity of the concept in the literature, should be kept in mind. In addition, the factors and issues relevant to trust in dentists may vary in both type and extent from person to person, so the meaning and relevance of the specific set of questions employed in the DTS, while potentially valuable at a population or aggregate level, may be of less relevance to any given individual.

It should be noted that there are numerous contextual factors which may also influence trust of dentists. For instance, the nature, delivery and funding of dental services may impact on patient trust. In Australia, where this study was conducted, the dental system is primarily private-practice based and uses fee-for-service, with only a residual means-tested public dental service for more socioeconomically disadvantaged individuals. This may set up different expectations regarding service delivery and dental outcomes than a system where universal dental coverage is available. Also, there are likely to be both social determinants and individual psychological characteristics which affect trust in dentists. Given that trust is result of a two-way patient-practitioner interaction, patient characteristics may be just as important, if not more so, as the characteristics and behaviours of the dental practitioner.

A final limitation of the study is its generalisability. Firstly, while low response rates are becoming increasingly common in dental health research, the relatively low response rate of 41% necessitates caution with generalising these results to the population at large, particularly when there are no useable comparisons between participants and non-

participants, as in this study. Second, the use of a telephone-based sampling frame means that many individuals from mobile-only homes and those who have unlisted numbers will be under-sampled in the study. While there is some evidence that the increase in mobile telephone ownership might have only a low impact on health estimates obtained using telephone based sampling frames, it is the case that such sample frames under-sample people who are younger, unemployed, from low income households and from rural areas.[21]

The findings of this study have practical and public health implications. While it is almost universally acknowledged that patient trust is important, there has been no psychometrically valid way to measure this concept in relation to dentistry. The lack of a measure has stymied investigation in this area and discussion of trust has instead needed to rely on factors that are believed to comprise the concept.[22] Given the multiple associations between patient trust and outcomes such as visiting, compliance and oral health, there is a need to further investigate not only the nature of these associations but also what can be done to rectify trust issues when they occur. The capacity to appropriately measure trust provides an important step in this process.

CONCLUSION

The development of a general trust in dentists scale has allowed for a much more detailed examination and discussion of the potentially important role of trust in significant dental outcomes, including dental visiting patterns, avoidance of the dentist, dental anxiety, and oral health outcomes. While the majority of the Australian adults surveyed indicated more agreement than disagreement with the various items comprising the trust scale, approximately one in five adults indicated a general lack of trust in dentists. More research is needed in order to better understand the basis for trust and distrust, its exact role in dental visiting behaviours, how it may be modified for better or worse by the dentist-patient relationship, and the nature of such associations in other populations.

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LIST OF TABLES

Table 1. Descriptive statistics and frequency of individual items from the DTS

Item		Mean	SD	Response frequencies (%)				
				Strongly disagree (1)	2	3	4	Strongly agree (5)
1.	Dentists care about their patients' health just as much or more as their patients do.	3.7	1.1	4.2	8.2	27.5	36.5	23.7
2.	Sometimes dentists care more about what is best for them than about patients' dental needs. †	3.4	1.2	6.6	18.2	25.8	27.6	21.8
3.	Dentists are extremely thorough and careful.	3.8	0.9	1.3	6.7	29.9	39.0	23.0
4.	You completely trust dentists decisions about which dental treatments are best.	3.6	1.0	3.4	9.8	28.8	36.6	21.5
5.	Dentists are totally honest in telling their patients about all the different treatment options available for their conditions.	3.5	1.1	4.0	12.9	34.0	29.6	19.5
6.	Dentists think only about what is best for their patients.	3.4	1.0	3.2	14.3	36.0	31.5	15.1
7.	Sometimes dentists do not pay full attention to what patients are trying to tell them. †	3.4	1.2	6.6	14.4	32.3	26.6	20.1
8.	Dentists always use their very best skill and effort on behalf of their patients.	3.9	0.9	1.2	4.1	24.6	44.2	25.8
9.	You have no worries about putting your oral health in the hands of the dentist.	3.9	1.0	3.1	7.5	18.9	37.7	32.8
10.	A dentist would never mislead you about anything.	3.3	1.0	4.5	15.4	39.2	26.5	14.5
11.	All in all, you trust dentists completely.	3.5	1.0	3.6	12.8	28.5	38.8	16.4

† Item has been reversed

Table 2. Correlations between DTS items

Item	DTS-2†	DTS-3	DTS-4	DTS-5	DTS-6	DTS-7†	DTS-8	DTS-9	DTS-10	DTS-11
DTS-1	0.34	0.58	0.53	0.51	0.60	0.25	0.50	0.51	0.56	0.62
DTS-2†	–	0.36	0.42	0.40	0.45	0.36	0.41	0.41	0.41	0.48
DTS-3		–	0.65	0.65	0.61	0.33	0.68	0.61	0.59	0.67
DTS-4			–	0.69	0.64	0.31	0.62	0.63	0.64	0.71
DTS-5				–	0.70	0.30	0.64	0.60	0.63	0.70
DTS-6					–	0.25	0.60	0.50	0.64	0.69
DTS-7†						–	0.34	0.38	0.28	0.34
DTS-8							–	0.70	0.60	0.65
DTS-9								–	0.58	0.66
DTS-10									–	0.74

† Item has been reversed

All correlations significant at $p < 0.01$

Table 3. DTS mean scores and 95% CIs by demographic, socio-economic status and visiting variables

	n	Mean	95% CI	*F*	*p*
Gender				0.11	0.742
Female	295	3.6	3.5–3.7		
Male	287	3.6	3.5–3.7		
Age				3.49	0.031
18–39	231	3.6	3.5–3.7		
40–59	190	3.5	3.4–3.6		
60+	146	3.7	3.5–3.8		
Yearly household income				0.36	0.699
<30,000	83	3.5	3.3–3.7		
$30,000–$89,999	222	3.5	3.4–3.6		
$90,000+	203	3.6	3.5–3.7		
Highest educational attainment				1.88	0.154
High school	168	3.7	3.5–3.8		
Trade/Certificate/College	190	3.6	3.5–3.7		
Some/completed university	222	3.5	3.4–3.6		
Trust in last dentist visited				71.85	<0.001
None at all	13	2.6	2.1–3.1		
A little	51	2.8	2.6–2.9		
A moderate amount	190	3.3	3.2–3.4		
A great deal	332	3.9	3.8–4.0		
Ever changed dentists				35.87	<0.001
Yes	250	3.4	3.3–3.5		
No	335	3.7	3.7–3.8		
Dental anxiety				44.84	<0.001
Lower dental anxiety (IDAF-4C<2.5)	446	3.7	3.6–3.8		
Higher dental anxiety (IDAF-4C≥2.5)	126	3.2	3.1–3.3		
Currently experiencing pain/discomfort				34.93	<0.001
Yes	209	3.3	3.2–3.4		
No	373	3.7	3.6–3.8		
Average dental visiting frequency				10.91	<0.001
Two or more times per year	164	3.8	3.7–3.9		
Once a year	179	3.6	3.5–3.7		
Once in two years	96	3.5	3.3–3.7		
Once in five years	74	3.3	3.1–3.4		
Less often than that	71	3.3	3.0–3.5		
Currently avoiding visiting the dentist				29.89	<0.001
Yes	215	3.4	3.3–3.5		
No	368	3.7	3.6– 3.8		

Table 4. DTS mean scores and 95% CIs by past experiences

	n	Mean	95% CI	*F*	*p*
Previously experienced pain				3.21	0.074
Yes	425	3.5	3.5–3.6		
No	158	3.7	3.6–3.8		
Previously experienced discomfort				6.78	0.009
Yes	454	3.5	3.5–3.6		
No	129	3.7	3.6–3.9		
Previously experienced gagging				4.10	0.043
Yes	210	3.5	3.4–3.6		
No	374	3.6	3.6–3.7		
Previously experienced fainting or feeling light-headed				33.86	<0.001
Yes	120	3.2	3.1–3.4		
No	464	3.7	3.6–3.7		
Previously experienced embarrassment				58.65	<0.001
Yes	125	3.1	3.0–3.3		
No	457	3.7	3.6–3.8		
Previously experienced personal problem with dentist (e.g. being criticised, treated poorly, etc.)				64.93	<0.001
Yes	111	3.1	2.9–3.2		
No	470	3.7	3.6–3.8		