



Deposited via The University of Sheffield.

White Rose Research Online URL for this paper:

<https://eprints.whiterose.ac.uk/id/eprint/134546/>

Version: Accepted Version

Article:

Gibson, B.J., Kettle, J.E., Robinson, P.G. et al. (2019) Oral care as a life course project: a qualitative grounded theory study. *Gerodontology*, 36 (1). pp. 8-17. ISSN: 0734-0664

<https://doi.org/10.1111/ger.12372>

This is the peer reviewed version of the following article: Gibson BJ, Kettle JE, Robinson PG, Walls A, Warren L. Oral care as a life course project: A qualitative grounded theory study. *Gerodontology*. 2018, which has been published in final form at <https://doi.org/10.1111/ger.12372>. This article may be used for non-commercial purposes in accordance with Wiley Terms and Conditions for Self-Archiving.

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.

Oral care as a life course project: a qualitative grounded theory study

BJ Gibson¹, JE Kettle¹, PG Robinson², A Walls³, L Warren⁴.

1. Academic Unit of Oral Health, Dentistry and Society, School of Clinical Dentistry, Claremont Crescent, University of Sheffield, Sheffield, S10 2TA.

2. Bristol Dental School, University of Bristol, Lower Maudlin Street, Bristol, BS1 2LY.

3. Edinburgh Dental Institute, 4th Floor, Lauriston Building, Lauriston Place, Edinburgh, Scotland, EH3 9HA.

4. Department of Sociological Studies, Elmfield, Northumberland Road, University of Sheffield, Sheffield, S10 2TU.

Running title: Oral care as a life course project

Keywords: grounded theory, ageing, oral health, life course

Address for correspondence:

1. Academic Unit of Oral Health,

Dentistry and Society,

School of Clinical Dentistry,

Claremont Crescent,

University of Sheffield,

Sheffield,

S10 2TA

Email address: b.j.gibson@sheffield.ac.uk

Abstract

Objective

To report on a theory to explain the oral health of older people over the life course.

Background

The study of ageing has burgeoned into a complex interdisciplinary field of research, yet, there are few studies in oral health from the perspective of older people that bridge the gap between sociology and oral health related research.

Methods

A grounded theory study involving a convenience sample of 15 men and 28 women aged between 65 and 91 years across different levels of education. Data were subjected to grounded theory analysis using QSR NVivo 11.0 and where relevant phenomenological theory.

Results

Participants conceived oral care as a life course project that resulted from an active plan to keep one's teeth into older age. This involved accessing the social world of dentistry, holding appropriate values, understanding the associated personality types, social practices, goals and outcomes. The life course project is a social project supported by social institutions. It involves ideas about appropriate ageing including how oral health is to be managed at different stages in the life course. The degree to which *individuals* are able to participate in this project is determined by both individual and social factors.

Conclusions

The theory explains why the loss of a single tooth might be experienced as traumatic but also why older people adapt to their changing oral health. Oral health in older age represented a lifetime's investment in oral care. Future health policies should consider this lifetime investment when considering care for older people.

Keywords: life course, grounded theory, ageing, phenomenology,

Introduction

This paper introduces a grounded theory study of older people's narratives about oral health throughout their lifetimes. The theory builds on existing work on the life course in sociology and dental epidemiology and has the potential to 'bridge the gap'¹ between them. It is also important because it exposes aspects of oral care through the life course that warrant further research. In the next section we provide an introduction to the life course approach in sociology before going on to provide a brief overview of existing work on the life course in oral health research. After this we introduce the study that underpins this research.

The life course approach

The concept of the life course developed between the two world wars when Thomas and Znaniecki² alongside Mannheim³ proposed that we study the concept of the generation as a mechanism of social change. The concept was eventually coined by Slotkin⁴, although other work that predates the exact phrase was obviously talking about the same thing. For example, Charlotte Bühler in psychology discussed the 'course of life' as early as 1933⁵. Kohli^{6,7} discusses different mechanisms through which changes in the life course might affect life course outcomes, including how the life course has been differentiated into specific institutional spheres and how this impacts on outcomes. This can also involve looking at how different cohort experiences shape life course outcomes⁸.

Whilst the study of the life course is entangled with social gerontology and ageing studies⁹⁻¹¹ the specific study of the life course can involve:

- a) Exploring changes in human lives in terms of transitions from one sequence to another whilst looking at how earlier stages affect later stages in life.
- b) Examining changes through the use of larger cohorts rather than singular cohorts or cross-sectional data.
- c) Viewing changes that occur in human lives in relation to changes in 'life domains' including work and family in an *interdisciplinary* approach.
- d) Seeing progression through the life course through individual action and not simply through the investigation of social and individual determinants. In other words, human agency can have an impact on progression through the life course.
- e) Researching living through the life course through the lens of collective experience (couples, families and cohorts).
- f) Focussing on health and prevention enabling a much stronger emphasis on staying healthy for longer⁸.

There are a range of approaches that characterise the sociology of the life course. For example, symbolic interactionism emphasises how individuals give significance to meaning over time^{10,11}. Clair, Karp and Yoels¹² question what it means to grow old, to experience childhood, adolescence and older age. This programme of research examines how biological changes are related to cultural and social milieus¹⁰ whilst emphasising active processes of meaning making, how this takes place and its consequences. Symbolic interactionists argue that we ought to consider how:

- a) culture shapes definitions of the ageing process,
- b) contextual variability results in different definitions of ageing,
- c) structural factors shape the ageing process
- d) historical variability in conceptions of ageing take shape¹².

Another key concept in life course research is the concept of status passage, Levy ¹³ argues that studying status passage involves studying how people are integrated into the social fabric.

Oral Health over the Life Course

How we live our lives, how we engage in oral care and how we are able to attend dental services regularly can have a direct impact on whether or not we can maintain a healthy or functioning dentition into later life ^{14,15,16}. The way in which this happens is complicated by historical processes involving changing ideas about illness and disease, changing concepts of treatment and prevention, alongside rapidly changing technologies. We argue that these processes are *evidence* of the increasing *institutionalisation* of oral health over the life course.

Oral epidemiologists have proposed numerous models to explain how oral health outcomes are shaped for individuals over the life course ^{17-19 20}, unpicking how different influences at different periods affect oral health outcomes. Caries in adolescence are associated with height and birth order ²¹, whereas oral health in young adulthood is associated with lower rates of dental attendance ²². Dental services utilisation can have a direct impact on the experience of caries. 'Problem orientated' visiting behaviour may result when fee for item payment systems are the primary means of access and where universal access to publicly funded oral care is not available ²³. These factors, however, remain quite general and deterministic. There are relatively few detailed data looking at how these mechanisms might work. There is also very little middle range theory about oral health over the life course.

One way to remedy this problem is to adopt qualitative methods to explore the life course from the perspective of those who experience good and bad oral health. The small amount of research from this perspective that we do have has shown that, young people feel that the appearance of teeth carries connotations about personal hygiene ²⁴ and that oral hygiene and teeth are important. Making a more direct attempt to theorise about oral health over the life course may lead to better explanations of how oral health develops throughout life. The aim of this paper then, is to introduce a grounded theory study of older people's views of how oral health developed over their lifetime.

Materials and Methods

This was a qualitative study using grounded theory techniques for data analysis.

Sampling and recruitment

Our research was based on a sample of 43 participants recruited from the cities of Edinburgh (Scotland) and Sheffield (in the north of England). Participants were people aged 65 and over recruited through social clubs and lunch groups, residential homes, local newsletters targeted at older people and the University of the Third Age movement. At the time of the interview all participants were retired, but prior to this, had reached different levels of education and worked in a range of occupations. Both cities are considered to provide a representative cross-section of the UK. Our goal was to get as broad a range of older people as possible. Edinburgh was chosen because of the historically high levels of edentulousness in Scotland. Taken alongside Sheffield, it offered the potential to explore a range of attendance patterns from 'regular' to 'in pain'. The resulting sample comprised 15 men and 28 women aged between 65 and 91 (Table 1).

Conduct of the interviews, transcription and ethics

In-depth, open-ended interviews were held with participants asking about their lives and drawing from existing qualitative studies on older people and their sense of self and their body, oral health and

quality of life ²⁵⁻²⁹. Topics discussed included looking after teeth, going to the dentist, dental treatments and everyday experiences involving the mouth, as well as feelings about the mouth and teeth over the life course. Of the 43 interviews, 34 were conducted in participants' own homes and the rest in other locations. Interviews lasted on average 50 minutes, were audio-recorded, transcribed, checked and anonymised by the interviewer. The transcripts were subsequently sent to participants for comment. Before each interview, potential participants were given an information sheet and had the opportunity to ask questions before written consent was obtained. All participants understood that taking part was voluntary and that they could withdraw at any time. The project received ethical approval from the University of Sheffield Research Ethics Committee. We have substituted suitable pseudonyms in this manuscript.

Data analysis

The data acquired from the interviews were subjected to grounded theory analysis ³⁰⁻³² using qualitative research software QSR NVivo 11.0 ³³. The goal of this analysis was to develop a theory to explain how people's concerns with their oral care were organised and resolved throughout their lives. Throughout the study, members of the research team met on a weekly basis to discuss the data. The whole research team, including the funder, met twice during the study to discuss the analysis. The details of the analysis were tracked through the use of a diary that was kept in QSR NVivo.

Grounded theory coding and analysis

Grounded theory analysis involves exploring prior interests and preconceptions before moving on to three specific stages; open coding, selective coding and writing up. During each stage, the researcher undertakes combinations of sampling, coding and theoretical writing. Although our preconceptions about this study were open, we already knew that previous work had revealed the significance of the mouth for older age ^{27,34,35}, including the emotional effects of tooth loss ³⁴⁻³⁶ and the importance of the life course concepts ^{15,20,23,37,38} and ageing ³⁹⁻⁴². Gibson et al's ⁴³ work, published after this study had started, remains one of the few grounded theory studies looking directly at tooth loss, although other work can also be found on this subject ⁴⁴. Gibson et al. ⁴³ studied a very different population, covering a slightly older cohort and focussed almost exclusively on complete tooth loss. Our team included two sociologists with a special interest in social gerontology, who were therefore aware of the broad range of social theory in relation to ageing. Our main prior interest was to build a theory from 'within the world view of our participants'.

In the study [BG] coded ten interviews by bracketing and grouping similar statements into themes. We noticed that participants narrated one experience and then another, drawing on both narratives as points of comparison to make sense of their experiences. We called these comparisons "comparative experiences over the life course". The most significant theme at this stage related to how participants talked about their "relationships with dentists over the life course" including how these had then shaped their experience of oral health and dentistry. The development of these themes introduced the idea that participants were telling us how they had developed knowledge about dentistry over their lives. Ideas that linked neatly with the idea of a 'stock of knowledge' derived from Schutz's ⁴⁵⁻⁴⁷ phenomenological theory of everyday life. We searched relevant literature and examined the concepts and ideas within this theory, clarified its relevance and returned to examine the narratives more closely.

Several rounds of coding, analysis and reading took place as we moved through the interviews. By this time the theory was concerned with how people developed their relationship with oral health and dentistry throughout their life. Inspired by Schutz ⁴⁸, we called the central concept "Oral Health as a

Life Course Project". After selecting this core category, we went on to delimit the theory. This paper provides an overview of the theory. More detailed analysis of central categories in the theory will be provided in future papers.

Results

This section introduces the key concepts behind the theory of oral care as a life course project. Our goal is to provide the background to key concepts in the theory to promote discussion. The theory is still under development. All key concepts will be explored in more depth in future articles before the theory itself is fully delimited. We begin by outlining what it meant to participants to access the social world of dentistry before describing what it means to engage in the project. Pseudonyms are used throughout the paper to refer to participants.

Access and the social world of dentistry

"..I came from a very working class background, but when I went to Grammar school and started mixing with other children, say, from middle class backgrounds and talking to them, and they will say, 'Oh, I've got an appointment to go to the dentist tomorrow for my check up,' that was a new world to me." (Jenny, 77 Year Old Female)

When Jenny grew up dentistry was alien to her family. She described not having toothbrushes or toothpaste at home and her parents not having any teeth of their own. It was only through mixing with other children at 'grammar school' that she became aware of dentistry. Grammar Schools are schools usually associated with higher educational achievement in England. A working-class child attending such a school would therefore meet more middle class children. In Jenny's words, dentistry was a new social world. Her access to this world made her part of an 'in-group' of people who understood what participation in this world involved. Participants reported numerous routes of access to the world of oral care and periods in their life when they became more interested in their appearance, suggesting that access varied at different stages in the life course. Often such changes were associated with relationships with significant others. Raymond described how he was introduced to dentistry as a teenager:

"Anyway, then I was transferred to the local grammar school here in Derbyshire [...] where my education started at the age of 13.And I found out... education was absolutely, fitted me very well. And this headmaster chappie whose son was a dentist introduced me to dentistry. But in between, I'd got crooked teeth, say, sticking out teeth... well, one of them was. And in a fight I got whacked and the canine, eye tooth... in lay language eye tooth, penetrated my lip and I thought, "Oh, dear, that's..." so, I better go and get somebody to sort it out in terms of...So, that got shifted then into local dentist, but by then I've been, what, 14, 15. And of course, appearance is becoming important then for... Because one gets interested in girls and they get interested in you, and this sort of stuff. So aesthetics, appearance had quite become important. And then I thought, 'Oh, I've got to do something.'" (Raymond, 74)

Losing access to the social world of oral care

Participants also described how their access to the world of oral care could be disrupted throughout their life. Bernard reported how the breakdown of his marriage affected his access to the social world of oral care.

“Yeah, when I was first married I mean, we were both very hygienic people and we were well off because I mean, I -- I came down from Scotland in the 60s when the Beatles’ Love Me Do was top of the Hit Parade. ...And I was in financial services ..we were paid well. Looked after ourselves well. We ate well. We could afford the dentist and we went to all the appointments we had.So up to the 90s we were very well looked after, you know. So I was very, very fastidious when I was on the ball, but you know, social issues when you split up and that have an enormous effect on your attitude. Your personal care. ...I think -- I think also psychology as to how you feel having faced lots of losses and difficulties in your later years. And that knocks you right back because you -- you lose your faith in the world.” (Bernard, 74)

Access to the world of oral care was under constant development throughout participants’ lives. Some lacked toothpaste and toothbrushes when younger, which changed when such resources became more widely used. Participants discussed how access was very different for their children and grandchildren who received orthodontics and preventive care. Entry to the social world of oral care is a precondition of being able to participate in oral care as a life course project. We will now explain what oral care as a life course project is before discussing its related conditions and consequences. These varied patterns of access are summarised in Figure 1 which describes each of the domains talked about in our data along with specific oral care practices that were also mentioned.

<Insert Figure 1 about here>

Oral care as a life course project

Oral care as a life course project involves an active plan to keep and maintain one’s teeth into older age. The project, as articulated in these data, is summarised in Figure 2. It involves values, oral care practices, finding a good dentist, experiencing dental work, having goals and experiencing outcomes over the life course. It is **a social project**, supported and sustained in the social world of oral care by a range of social institutions including dentistry, regulatory bodies and consumer oral care. *The degree to which individuals are able to participate in this project is determined by individual and social factors.* Eileen described what it meant to her:

“I suppose it’s the individual but it’s also realising that there are dentists out there that are willing to support and help you. And it’s not just to take out your teeth, it’s to do with the general maintenance and keeping your teeth in healthy condition for as long as possible. I think that’s the big change. And probably that’s why my generation, fewer have got a mouthful of false teeth. Because they would go to the dentist and they would have regular check-ups and they would clean their teeth correctly and care for them. ...the only time I can remember my aunts or my parents going to the dentist is when they get a severe tooth pain. I can’t remember anybody saying, “I’ll be in for a check-up. But it’s interesting because then I instilled that into my daughter and my grandsons have regular check-ups. So it’s about thinking differently, isn’t it, but also having access. And I think one of the difficulties nowadays is that you know, NHS places are becoming fewer and fewer.” (Eileen, 77)

<Insert Figure 2 about here>

As we can see, Eileen planned and worked to keep her teeth into older age. The fact she did so, by accessing the social world of oral care, was for her the biggest generational change of her lifetime. Yvonne was also engaging in the same project:

“I’ve got this problem where I grind my front teeth down. I wear like a mouth guard at night to stop me from grinding my teeth. But the front teeth have been ground down which I hate. And there were some investigations done to see what could be done cosmetically about that and I was sent to a private orthodontist for x-rays and a consultation and that cost £100 just for the consultation. And she came back with all these sorts of things that could be done with braces and it would cost this thousand and that thousand. And... But I could tell by her face that she really didn’t think this was a good idea, not at my age, you know....” (Yvonne, 66)

She went on:

“You know, you can have grey hair, well, you can colour it, but I can’t do anything about my teeth and I would really like to, but it just isn’t practical. So, I feel that makes me look, or labels me as old when I don’t want to be.” (Yvonne, 66)

Oral care as a life course project therefore involves developing a relationship with the social world of dentistry and the values and practices associated with that world. As such it requires values, finding a ‘good dentist’, engaging in oral care practices such as tooth brushing and experiencing having work done. Consequently the project includes experiencing oral health outcomes and impacts. Each of these is described below.

Values and oral care as a life course project

In order for oral care to be sustained over the life course, oral health needs to be valued:

“Well I suppose I thought everyone else’s were better than mine. But certainly none of my friends were spending and sort of having fortnightly visits to the dentist and things like I was doing. ...I know when I meet people, that’s often one of the first things I notice about throughout people, what their teeth are like.” (Kathleen, 69)

From these statements we can see that good teeth are valued, not just because of how they look (beauty), but for their strength and vitality. How these values influence oral care as a life course project will vary by nationality, social class, gender and, of course, age. Having one’s own teeth was something to be valued, no matter what state they might have been in. Having them in later life was seen as a major achievement for this cohort, albeit in a slightly discoloured and ‘worn’ state.

The ‘good dentist’

All participants talked of finding a ‘good dentist’. They were clearly talking about a generalised idea (ideal type in sociology) because the good dentist was discussed alongside their own particular dentist. The obvious difference is that ‘my dentist’ or ‘this or that dentist’ is a dentist of which I have experience, whereas a good dentist is something that can exist everywhere and nowhere. People seek out good dentists and try to avoid bad ones.

Good dentists are effective, they take time to explain what they are doing (Florence, 84). They try to protect the patient’s teeth (Wendy, 77; Doris, 83) and gums (Donald, 73). The good dentist also had the dimensions of being gentle and providing individualised care. For Beryl (83), this involved demonstrating concern that she should attend more frequently so the dentist could watch her oral

health for signs of deterioration. A good dentist also has good facilities, such as clean sinks and waiting rooms that look 'modern'. They use x-rays and various technologies to make sure the job is 'done right'.

Beryl (83) indicated that a dentist can be 'good' despite having bad qualities. You go to the good dentist, or you seek out a good dentist. You might be disappointed because they have bad qualities, but they can still be good. No-one reported seeking out a bad dentist. Helen discussed being taken to a dentist rather than choosing the dentist. She stated that her:

'First memories of going to the dentist was...I don't think my parents made any great effort to choose who they thought was a very suitable dentist. I think I disliked him entirely; he smelt of pipe smoke and his teeth were all brown and he was pretty short-tempered so...but we went regularly.' (Helen, 78)

School dentists were described as 'bad' because of participants' lack of choice in attending them. Associated with this was a sense of the failure of their treatment (poorer equipment) and associated ritual humiliation. The idea of 'the good dentist' therefore has an important historical dimension.

Sandra indicates the 'historicity' of the good dentist:

'Everything's progressed, enormously since I was young.... It's just been...I mean, it is really wonderful what they do now. It's so much better. So, you know, I no longer...I don't go in fear and trepidation to the dentist now.' (Sandra, 67)

Participants built a 'stock of knowledge' about oral care through their life course. This stock of knowledge involved understanding the various practices involved in maintaining oral health, including going to the dentist, oral care and the possible outcomes of treatment.

Oral care practices over the life course.

A range of practices was associated with care over the life course. Participants talked about going to the dentist, having work done, brushing their teeth and engaging in practices to protect their oral health. These practices had histories, which meant that their importance and shape had changed over time. One key practice, amongst others, was 'having work done'.

'Having work done'

Having work done involves a time bound event that is designed for a very specific purpose. The work has to be seen to be necessary and to produce the desired effect (effectiveness). Participants reported considering different options for having work done whilst considering if it is necessary or unnecessary (see Yvonne above). Just because one party considered the work to be unnecessary did not mean it would not happen, our data contain numerous examples of unnecessary dental treatment. The experience of having work done contributes to a 'stock of knowledge' related to dental work and this informs the overall life course project. The following excerpt from Wendy demonstrates just how much her everyday knowledge of dentistry had developed over her life course:

'That's a crown because the nerve had gone dead in it. And then I've got...I've just got one back tooth here, that's crowned. I've got no back teeth at all there. I've got one up here and one up there. And then the six teeth at the front, they're my own. And just these like few front teeth at the front are my own, and the rest I've got part dentures, top and bottom. But [clears throat] even then, whenever...my part dentures at the bottom, they just slip on and off. My top ones, that's what they

were like at first and I didn't like them, because at the palate I used to feel sick and I hated wearing them. So, when I changed dentist ...we had a long talk and I explained to him how I felt about it and I've got this thing about blood and everything. And I said, "I can't get on with these dentures that I've got." And he said, "Well, we can do different dentures for you." (Wendy, 77)

Wendy's dental work was set out over limited periods and involved anxieties over the possibility of treatment, including what this treatment would feel like (bodily knowledge). Such work was therefore 'embodied', it also disrupted the ongoing flow of daily life, especially when teeth were worked on.

From a phenomenological perspective this process involves bodily 'dys-appearances' ⁴⁹: that is, reminders or awareness of one's body – in this case one's mouth and teeth – due to health problems or pain, when more routinely the body is forgotten about, an absent presence ⁵⁰. Failure is judged on the basis of whether or not the work both fits and works in everyday life. Participants explained how they managed dentures either successfully or not. In other words, dental work involved an orientation to the immediate work versus its ongoing management. If dental work failed, then patients would judge the work and all future work by the same dentist negatively. Past work therefore shapes the expectations of future work, and informs how dental attendance is approached.

Outcomes of oral care as a life course project

The outcomes of oral care as a life course project are articulated in terms of the experience and satisfaction of engaging in the project, and of maintaining oral health into older age in whatever form that takes. As we have seen, retaining one's teeth gave participants a sense of achievement compared to previous generations. In other words, the values associated with oral care over the life course had changed in their lifetime. One significant shift in this was to place greater value on the retention of teeth and the avoidance of complete tooth loss. Teeth were in various states of 'dis-repair', with participants recognising (frequently with a sense of humour) that they might be less than perfect and often referred to as a kind of "suffering companion" through life. Nonetheless, participants retained a sense of pride in getting to their later years with *some* of their teeth.

Discussion

'Existing research in oral health and dentistry tends to focus on changes in human lives over time and across cohorts, as captured by Mayer in his framework for life course research. The research reported in this paper focuses on aspects of the other elements of Mayer's framework, highlighting how consideration of life domains (family, employment, education) individual action and collective experience (families and cohorts) can have a central role in oral health over the life course.' Our central argument, based on the views of older people, is that oral care, for them at least, is conceived as a project to be engaged with over the life course. This project is summarised in Figure 2 a figure that seeks to reflect how oral care is actively developed and maintained within the social world of organised dentistry and consumer oral care (see Figure 1). The institutions supporting the project include families, schools, governing bodies and specialist groups. The central problematic this theory presents is the degree to which *participation in this project is either maintained or adjusted over time and across social groups*.

This theory fits with the work of Levy ¹³ and Kohli ⁵¹ by pointing out that the institutionalisation of oral care over the life course has supported the development of this personalised project *for those who can participate*. There is an urgent need to consider how this time investment should be treated in later life, asking in particular what it might mean for dignity in later years. This theoretical outline explains why tooth loss might have such devastating effects on older people ^{27,35,52}. If you have spent

your whole life maintaining your oral health, living through times when dentistry was less forgiving than it is today, then the loss of a single tooth could be felt as an existential failure^{44,53}. It could be traumatic because so much time and money has been invested in keeping your teeth.

This theory also serves to illustrate why *failing* to maintain one's teeth into older age, as a result of deprivation or poverty, can become a marker of failure or 'unsuccessful ageing'. In short, oral health over the life course is a personal project involving considerable time, money and effort. It deserves attention and support as people enter their later years. Teeth should not be discarded simply because someone has become institutionalised, their removal should be considered carefully. The theory introduced here indicates that the 'dental transition'^{54,55} only became possible when society envisaged that teeth could indeed be kept and maintained. This transition is testimony to the success of oral care as an institutional and personal project.

The theory also speaks to themes from critical social gerontology. Ideas about what is, or is not appropriate 'dental work' and when this might be performed during the life time are closely associated with attitudes to ageing and the life course. This is in keeping with the work of Cruikshank⁵⁶, who argues that constructs of age and ageing prepare us for growing old. Here we found that ideas about appropriate ageing can and do inform the shape of oral care as a life course project. Some dental work will be completed on younger people, the same work will be avoided in older people. This brings with it age related inequalities. The institutional aspects of this project are constantly developing. As a result, there are two important things to consider in future research: 1) how changing experiences and definitions of ageing impact on how the project is defined and shaped and 2) how the life course itself changes and unfolds in historical time acts to shape the project.

Dentists have argued that it is one's engagement with oral health as an 'entity' that will determine one's oral health throughout life¹⁶. To this we add that it is one's ability to access the social world of dentistry, and to participate in oral care as a life course project that determines oral health outcomes. Broadbent^{20,57} and colleagues demonstrated that oral health outcomes in the fourth decade are the result of an accumulation of intergenerational factors, beliefs, socioeconomic position, dental attendance and self-care. Our theory provides further details about how this might happen. We are introduced to the social world of oral care, often by grandparents, parents and friends, we develop shared beliefs and understandings on oral health and then are either able to, or unable to, participate in oral health care as a *personal* project. The central question then is the degree to which participation can be maintained throughout the life course.

The centrality of oral health related practices suggests that further work might consider adopting a social practices perspective on oral care over the life course⁵⁸. We agree with Ettinger⁵⁹ that fundamental drivers for change in oral care are derived from changes in dental technology and consumer health care. We would add to this the observation that technological innovation is significant because it re-configures the practices associated with oral health. We know this because our participants alluded to the changing nature of dental work, changes in the definition of a 'good dentist' as well as descriptions of how dentistry has improved over time. Ettinger's⁵⁹ perspective has never been subject to sustained investigation, perhaps the time has come to do so?

The idea of the good dentist has been thematised by many authors. Thorogood⁶⁰ discussed the good dentist as someone who patients know and trust. We would argue that the idea of the good dentist is not simply about personalised knowledge, rather it is better understood as an ideal, with a range of properties corresponding to general expectations about the good dentist. In our data, dentists who treated people as individuals were often highly valued as 'good dentists'. This suggests that the ideal

type of the good dentist relates to broader social changes such as the rise of individualism. Such ideas are therefore subject to historical revision.

The theory introduced here suggests how the body might be retrieved as a subject for dental research, using the concept of 'dental work'. We have presented how dental work is understood through the experience of that work and how it performs in everyday life. This involves perceiving the 'lived body' and mouth in an ongoing practical engagement with the world, attesting to the importance of phenomenology for understanding oral care ^{61,62}. The data show that older people engage with the world in a kind of pre-reflective harmony, interacting with the world without thinking. When our participants experienced oral disease and dental work, the mouth and therefore the body, would lose this pre-reflective harmony. Dental work is therefore understood in the way that it interferes with ongoing lived experience. Its success or failure is evaluated on the degree to which it returns patients back to their pre-reflective state ⁶³.

This might explain why older people appear to have adapted relatively well to their changing oral health over their life time ⁶⁴. They might show relatively high levels of subjective wellbeing, despite all the failings of their dentition, because they are constantly adapting through their participation in oral care as a life course project. Participation in this project prepares them for older age not just because they are resilient ⁶⁴. Their expectations, values and practices adapt fluidly over time as the socially vested project itself changes and prepares them for old age. The suggestion is that dental researchers have been right to measure oral health outcomes in terms of dental treatment experience (DMFT) and impact (Oral Health Related Quality of Life). What remains to be explored is how the expectations and experience of oral care change through the life course and how this affects outcomes ⁶⁵.

This paper provides a novel interpretation of oral health over the life course we should recognise that these data are not representative of the whole UK population and be cautious in generalising them to other settings and groups. This is particularly relevant where the sample was restricted to participants who were White British. Indeed, the experiences of other cultural groups, especially migrants who do not share the same history of widespread edentulousness may contrast sharply. It might also be argued that this project is only relevant to older people because we asked the question and they had to respond. Another potential limitation of this study relates to recruitment issues. The sample was predominantly composed of female participants with a university education who worked in managerial or professional roles, and, as a result, the voices of less educated men of lower socio-economic status were not comprehensively included, along with non-white participants. Participants were recruited from Sheffield and Edinburgh (UK) based on the assumption that these two cities would give us a wide range of views on oral health and healthcare. Although these limitations hold true we would add that the resulting theory can in fact be modified in the light of new data, in keeping with grounded theory methodologies.

Conflicts of interest

The author(s) report no conflicts of interest in this study.

Funding

This project was funded as an Investigator Award from by GlaxoSmithKline consumer oral care.

References

1. Exley C. Bridging a gap: the (lack of a) sociology of oral health and healthcare. *Sociology of Health & Illness*. 2009;31(7):1093-1108.
2. Znaniecki F, Thomas. WI. *The Polish Peasant in Europe and America (5 Volumes)*. Whitefish, Montana: Kessinger Publishing; [1918] 2007.
3. Mannheim K. The problem of generations. In: Mannheim K, ed. *Essays on the Sociology of Knowledge*, London: Routledge; 1952:276-273.
4. Slotkin J. Life Course in Middle Age. *Social Forces*. 1954;33(2):171-177.
5. Buhler C. The Curve of Life as Studied in Biographies. *Journal of Applied Psychology*. 1935;19(4):405-409.
6. Kohli M. The world we forgot: A historical review of the life course. In: Marshall V, ed. *Later life: The social psychology of ageing*. Beverly Hills, CA: Sage; 1986:271–303.
7. Kohli M, Meyer J. Social Structure and Social Construction of Life Stages. *Human Development*. 1986;29:145-180.
8. Mayer K. New Directions in Life Course Research. *Annual Review of Sociology*. 2009;35:413-433.
9. Clausen J. *The Life Course*. Englewood Cliffs, NJ: Prentice Hall; 1986.
10. Holstein J, Gubrium J. The Life Course. In: Reynolds L, Hermann-Kinney N, eds. *The Handbook of Symbolic Interactionism*. Walnut Creek, CA: AltaMira Press; 2003:835-855.
11. Holstein J, Gubrium J. Constructionist Perspectives on the Life Course. *Sociology Compass*. 2007;1(1):335-352.
12. Clair J, Karp D, Yoels W. *Experiencing the Life Cycle*. Springfield, IL: Charles C Thomas; 1993.
13. Levy R. Status passages as critical life course transitions. A theoretical sketch. In: Heinz W, ed. *Theoretical Advances in Life Course Research*. Weinheim: Deutscher Studienverlag; 1991:87-114.
14. Brennan D, Spencer A. Life events and oral-health-related quality of life among young adults. *Quality of Life Research*. 2009;18(5):557-565.
15. Åstrøm A, Ekback G, Lie S, Ordell S. Life course social influences on tooth loss and oral attitudes among older people: evidence from a prospective cohort study. *European Journal of Oral Sciences*. 2015;123(1):30-38.
16. Niessen L. Customers for life: marketing oral health care to older adults. *Journal of the California Dental Association*. 1999;27(9):724-727.
17. Nicolau B. The relationship between height and dental caries - A life course perspective. *American Journal of Physical Anthropology*. 2007:178-178.
18. Nicolau B, Allison PJ, Thomson WM, Steele JG. Life-course epidemiology: Concepts and theoretical models and its relevance to chronic oral conditions. *Community Dentistry and Oral Epidemiology*. 2007;35(4):241-249.
19. Nicolau B, Marcenes W. How will a life course framework be used to tackle wider social determinants of health? *Community dentistry and oral epidemiology*. 2012;40 Suppl 2:33-38.
20. Broadbent J, Zeng J, Foster Page L, Baker S, Ramrakha S, Thomson W. Oral health-related beliefs, behaviors, and outcomes through the life course. *Journal of Dental Research*. 2016;95(7):808-813.
21. Nicolau B, Marcenes W, Allison P, Sheiham A. The life course approach: Explaining the association between height and dental caries in Brazilian adolescents. *Community Dentistry and Oral Epidemiology*. 2005;33(2):93-98.
22. Roberts-Thomson K, Stewart J. Access to dental care by young South Australian adults. *Australian Dental Journal*. 2003;48(3):169-174.
23. Lu H, Wong M, Lo E, McGrath C. Trends in oral health from childhood to early adulthood: a life course approach. *Community Dentistry and Oral Epidemiology*. 2011;39(4):352-360.
24. Maida C, Marcus M, Hays R, et al. Child and adolescent perceptions of oral health over the life course. *Quality of Life Research*. 2015;24(11):2739-2751.

25. Borreani E, Jones K, Scambler S, Gallagher JE. Informing the debate on oral health care for older people: a qualitative study of older people's views on oral health and oral health care. *Gerodontology*. 2010;27(1):11-18.
26. Gregory J, Gibson B, Robinson P. Variation and change in the meaning of oral health related quality of life: a 'grounded' systems approach. *Social Science & Medicine*. 2005;60(8):1859-1868.
27. MacEntee MI, Hole R, Stolar E. The significance of the mouth in old age. *Social Science & Medicine*. 1997;45(9):1449-1458.
28. McKenzie-Green B, Giddings L, Buttle L, Tahana K. Older peoples' perceptions of oral health: 'It's just not that simple'. *International Journal of Dental Hygiene* 2009;7(1):31-38.
29. Nettleton S. *Power, Pain and Dentistry*. Buckingham: Open University Press; 1992.
30. Glaser B, Strauss A. *The Discovery of Grounded Theory*. Chicago; 1967.
31. Glaser BG. *Theoretical Sensitivity: Advances in the Methodology of Grounded Theory*. California: Sociology Press; 1978.
32. Gibson B, Hartman J. *Rediscovering Grounded Theory*. London: Sage; 2014.
33. NVivo [computer program]. QSR International Pty Ltd; 2017.
34. Davis D, Fiske J, Scott B, Radford D. The emotional effects of tooth loss: a preliminary quantitative study. *British Dental Journal*. 2000;188(9):503-506.
35. Fiske J, Davis D, Frances C, Gelbier S. The emotional effects of tooth loss in edentulous people. *British Dental Journal*. 1998;184(2):90-93.
36. Allen PF, McMillan AS. The impact of tooth loss in a denture wearing population: an assessment using the Oral Health Impact Profile. *Community Dental Health*. 1999;16(3):176-180.
37. Baker SR, Gibson BG. Social oral epidemiology)2y where next: one small step or one giant leap? *Community Dentistry and Oral Epidemiology*. 2014;42(6):481-494.
38. Nicolau B, Thomson W, Steele J, Allison P. Life-course epidemiology: concepts and theoretical models and its relevance to chronic oral conditions. *Community Dentistry and Oral Epidemiology*. 2007;35(4):241-249.
39. Heyden G. Health profile of the ageing population: the Swedish experience. *International Dental Journal*. 1998;48(3):167-172.
40. Jones JA, Orner MB, Spiro A, Kressin NR. Tooth loss and dentures: patients' perspectives. *International Dental Journal*. 2003;53(5):327-334.
41. McNally M, Matthews D, Clovis J, Brilliant M, Filiaggi M. The oral health of ageing baby boomers: a comparison of adults aged 45–64 and those 65 years and older. *Gerontology*. 2014;31(1):123-135.
42. Sanders A, Slade G, Carter K, Stewart J. Trends in prevalence of complete tooth loss among Australians, 1979-2002. *Australian and New Zealand Journal of Public Health*. 2004;28(6):549-554.
43. Gibson B, Sussex P, Fitzgerald G, Thomson W. Complete tooth loss as status passage. *Sociology of Health & Illness*. 2017;39(3):412-427.
44. Rousseau N, Steele J, May K, Exley C. 'Your whole life is lived through your teeth': biographical disruption and experiences of tooth loss and replacement. *Sociology of Health & Illness*. 2013;36(3):462-476.
45. Schutz A. *The phenomenology of the social world*. London: Heinemann Educational; 1972.
46. Schutz A. *Collected Papers I: The Problem of Social Reality*. London: Kluwer Academic Publishers; 1962.
47. Schutz A. *Collected papers Vol V: Phenomenology and the Social Sciences*. Dordrecht: Springer; 2011.
48. Schutz A. *The phenomenology of the social world*. Evanston, Illinois: Northwestern University Press; 1967.
49. Leder D. *The Absent Body*. London: The University of Chicago Press; 1990.

50. Warren L, Kettle J, Gibson B, Robinson PG, Walls A. 'I've got lots of gaps, but I want to hang on to the ones that I have': The ageing body, oral health and stories of the mouth. *Ageing and Society*. forthcoming.
51. Kohli M. The Institutionalization of the Life Course: Looking Back to Look Ahead. *Research in Human Development*. 2007;4(3-4):253-271.
52. MacEntee MI. Oral care for successful aging in long-term care. *Journal of Public Health Dentistry*. 2000;60(4):326-329.
53. MacEntee MI. An existential model of oral health from evolving views on health, function and disability. *Community Dental Health*. 2006;23(1):5-14.
54. Thomson W. Epidemiology of oral health conditions in older people. *Gerodontology*. 2014;31(Suppl. 1):9-16.
55. Thomson W, Ma S. An ageing population poses dental challenges. *Singapore Dental Journal*. 2014;35(1):3-8.
56. Cruikshank M. *Learning To Be Old: Gender, Culture, and Aging*. New York: Rowman & Littlefield Publishers Inc; 2003.
57. Broadbent J, Thomson W, Poulton R. Trajectory patterns of dental caries experience in the permanent dentition to the fourth decade of life. *Journal of Dental Research*. 2008;87(1):69-72.
58. Schatzki T. *Social Practices: A Wittgensteinian Approach to Human Activity and the Social*. Cambridge UK: Cambridge University Press; 1996.
59. Ettinger R. Cohort differences among aging populations: A challenge for the dental professions. *Special Care in Dentistry*. 1993;13(1):19-26.
60. Thorogood N. 'London dentist in HIV scare': HIV and dentistry in popular discourse. In: Bunton R, Nettleton S, Burrows R, eds. *The Sociology of Health Promotion*. London: Routledge; 1995.
61. Crossley N. Merleau-Ponty, the Elusive Body and Carnal Sociology. *Body & Society*. 1995;1(1):43-63.
62. Staudigl M. Towards a phenomenological theory of violence: reflections following Merleau-Ponty and Schütz. *Human Studies*. 2007;30(3):233-253.
63. Warren L, Kettle J, Robinson PG., Walls A, Gibson B. 'I've got lots of gaps, but I want to hang on to the ones that I have': Negotiating the dys-appearance of the ageing body and sustaining a sense of self through 'mouth talk'. *Ageing and Society*. forthcoming.
64. Slade G, Sanders A. The Paradox of Better Subjective Oral Health in Older Age. *Journal of Dental Research*. 2011;90(11):1279-1285.
65. Carr AJ, Gibson B, Robinson PG. Is quality of life determined by expectations or experience? *BMJ*. 2001;322(7296):1240-1243.