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RESEARCH ARTICLE

Living with oral appliances: consumption, health and oral care practices

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There has been a growing interest in the connection between consumption and health, particularly in relation to consumerism in healthcare services and consumption's impact on population health. Initially the idea of the 'healthcare consumer' was met with extreme scepticism, as it was argued that this idea was a misnomer and that the concept was threatening to fragment healthcare. Yet more recent empirical work into consumption practices and health has shown that the relationship is much more nuanced than previously thought. This article takes the case of daily care for oral devices and seeks to further unpack the relationship between consumption and health. The results are based on analysis of data collected in 2019 from the Philippines and Russia. The analysis focuses on how adjustments are made to the relationships between the body, consciousness and everyday life when living with oral devices (dentures, aligners and mouthguards). It examines the daily practices associated with care for such devices, examining the spaces, materials and practices involved in daily oral care. The findings demonstrate that in Russia and the Philippines several 'bundles' of consumption practices exist, reflecting quite different teleoaffective structures for consumption practices. The study also uncovers the 'distributed agency' of oral devices examining how they shape daily life.

Keywords dentures • aligners • social practices • distributed agency

Key messages
- The concepts of context, texture, contexture and teleoaffective structure can open a pathway to a 'diagnostics of practice'.
- The social practices associated with caring for a denture are highly varied and context dependent.

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- Inequalities associated with tooth loss are designed into everyday life and considerable effort will be needed to provide an alternative structure for daily oral care.

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Introduction

There has been growing interest in the relationship between consumption and health in the last three decades with a focus on the discourse of consumerism *in healthcare services* on the one hand and a focus on *consumption as a problem for population health* on the other. Initially the focus of commentary was on the idea of the 'healthcare consumer' and its centrality to developments in medical care (Stacey, 1974; Frank, 2000; Ward et al, 2010). With respect to population health, the emergence of health promotion and the 'new public health'[1] marked a shift in focus from the clinic towards the 'determinants of health' in new spaces and places (Bunton and Burrows, 2003). The 'determinants of health', as they are referred to in the new public health, were understood as a key driver of inequalities in health. A consequence of this focus has been an intensification of interest in health and active citizenship and a focus of public health activity in the 'clinic of the community' (Bunton and Burrows, 2003).

The initial wave of interest in consumption and health focused on the discourse around the 'consumer' that rose to prominence in healthcare policy in the late 1980s and throughout the 1990s (Bunton and Burrows, 2003). Social scientists had been deeply suspicious of the adequacy of this term for understanding the interaction between patients and health professionals. It was argued, for example, that the healthcare consumer was a 'misnomer' because patients were 'consuming' a complex technical product that they could not fully understand (Stacey, 1974). In addition to this, patients were also not simply consuming a product like a car or new piece of equipment, their body and health were central to the interaction and so they could never be fully equal (and rational) in the encounter. There remained, therefore, a basic asymmetry at the heart of the doctor–patient relationship that could not be easily overcome (Stacey, 1974; Lash and Urry, 1994).

The idea of consumerism in healthcare has also been criticised for resulting in several key distortions. It was leading to the fragmentation of the body, undermining the idea of medicine as a 'social good' and subsequently eroding the drive for universal healthcare. Frank (2000) went on to argue that the 'neoliberal' push behind the promotion of the active consumer in healthcare was producing the belief that we as individuals cause our health and so, therefore, we deserve the health we get. By implication those who do not produce health, because of their choices, deserve their ill health. These ideas have been challenged through empirical research that demonstrates that, rather than undermining universalist principles associated with scarce resources, the idea of consumption as a process can have the opposite effect; stabilising rather than eroding social solidarities (McDonald et al, 2007). In addition, the push for consumerism has been associated with the increasing voice of patients in healthcare

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and a growing discourse in the new public health of the idea that consumers can be 'reflexive actors' and 'active citizens' (Ward et al, 2010).

The idea that society is being driven by active 'citizen consumers' has tended to highlight the increasing focus on the body in the 1990s (Featherstone, 1991; Shilling, 1993). In this research the body and self-identity were said to have become intertwined with patterns of consumption. The body, being targeted by the so-called 'consumer society', had become a central theme for 'reflexive modernity'. Late modern 'flexible identities' were said to be emerging, organised around social practices, culture, leisure and consumption. The body, in short, had become a project (Shilling, 1993). While there is little doubt concerning the importance of these observations (and the general sentiment around the emerging focus on consumption), this approach was criticised for tending to assume that everyone had equal access to the same resources, or at least that they had access to adequate resources to make the 'right' decisions. So, while we might have been seeing the emergence of the 'reflexive consumer', this transformation was in no way equal across the population (Bunton and Burrows, 2003).

The idea of the reflexive consumer, that positioned individuals as autonomous, risk-aware and rational in their consumption choices, became central to the new public health (Bunton and Burrows, 2003). This can be discerned in the way that the new public health sought to focus on enabling citizens to make optimal (healthier) choices for their lifestyle (Bunton and Burrows, 2003). Yet not all forms of consumption fit this model, there are patterns of consumption that are non-reflexive and habitual, informed by a range of ideas that go beyond making the optimal choice for health (Warde, 2005; Weiner, 2011). Weiner (2011) found that people consuming phytosterols (found in margarine, sunflower oil and olive oil) had multifaceted reasons for their choices, going beyond just health concerns. These foods were seen as a generic food that was good to eat, symbolic, or something to eat instead of medicating. The range of consumption patterns was much more nuanced and subtle than that presented in professional discourse. In a similar way, research into 'mall walking' to combat obesity has shown it to be deeply contradictory, given the association of shopping malls with excess consumption. This practice was rarely viewed primarily as a health-promoting activity; instead, it was often presented as fostering social connections, challenging the notion that it was solely driven by individual health concerns. In essence, mall walking and the use of phytosterols underscore the complex and contested intersections of consumption and health (Warin et al, 2008). Many of these intersections remain underexplored and poorly understood and the ways in which consumption and health are entangled is under-theorised.

This article uses the case of daily oral care practices to interrogate the relationship between consumption and health in more detail. Daily oral care practices are an interesting case study because the care of teeth encapsulates many of the contradictions associated with health-related consumption in general. Having a full dentition with perfect white teeth and a full, straight smile is becoming an increasingly important marker of distinction and taste. Oral health reflects both opulence and poverty at the same time. 'Consumers' can spend more than €31,500 having new teeth implanted to avoid the stigmas associated with missing or stained teeth. Indeed, the market for dental services (inclusive of public and private funding) is growing, ranging from €22.7 billion in Germany, €9.96 billion in France, €9.65 billion in the UK to €1.5 billion in Greece. In the Philippines the market for dental care services is

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estimated to be around $78.94 million with a projection to reach $129.66 million in 2030 (Insights10, 2022a). In Russia this market was estimated to be worth around $0.58 billion annually in 2022 and set to grow to reach around $1 billion in 2030 (Insights10, 2022b). The current model of high technology dentistry, resulting as it does in expensive treatments, including veneers, implants, crowns, bridges and tooth aligners, among other things, has been subjected to long-standing challenges, precisely because it generates rampant inequalities (Otto, 2017; Peres et al, 2019). Commentators have pointed out that this model is well beyond the reach of those with low incomes as well as being entirely inappropriate for low- and middle-income countries globally (Peres et al, 2019).

We are surrounded by deeply contrasting images of elite consumption alongside dental failure (Holden, 2022). Tooth aligners, braces and dental implants are 'symbolic' of 'successful' or 'opulent' consumption with the loss of teeth increasingly seen as a marker of failure, a 'stain' on one's self-discipline (Horton and Barker, 2009). The idea of the 'failed consumer' (Bauman, 1998) is especially pertinent to oral health where the stigma of lost teeth can have significant emotional and social consequences (Fiske et al, 1998; 2001; Davis et al, 2000). We are judged by the state of our teeth and it is through oral care practices that 'sleepy biological beings' are transformed 'into human persons and citizens with rights and duties' (Hankiss, 2006: 29). Yet, the link between the market, oral healthcare and consumption is not well understood (Jones and Gibson, 2022). This field of research promises to reveal if 'consumers' are 'vulnerable' and in need of protection from the denizens of the new public health or if oral consumption practices are themselves more complex and 'nuanced' (Weiner, 2011).

Methods

The data on which this study is based involved video diaries received in 2019 from 24 participants – 12 from the Philippines and 12 from Russia – who provided over 1,000 hours of video footage on their daily oral care of oral devices (aligners and dentures). These devices were chosen because they are deeply contrasting and provide examples of different ends of the spectrum of oral care. Aligners are typically worn by wealthy young consumers interested in maintaining a very high standard of oral health. Dentures are often worn by those who have experienced the sharp end of inequalities either because of ageing or socio-economic inequalities. Both devices must be cared for beyond the clinic and so are interesting because they traverse the boundary from clinic to society.

The original study was subject to ethical review by Ipsos and this secondary analysis has been reviewed by the University of Sheffield (ref. 044038). Videos focused on daily oral care regimes (doing and sayings), moments when participants became aware of their appliances, as well as reflections on shopping and outdoor trips. Typically, the videos were presented in selfie mode, often in bathrooms where toothbrushing and oral appliance care happened. Participants were asked to tell us about their home, their daily oral care practices as well as 'moments' when they would become aware of their oral health, including when they became aware of their appliance.

The research team is multidisciplinary, including dental, marketing and social science researchers. All videos were transcribed into note form, translated and, where necessary, native speaking experts provided advice on the nuances associated with interpretation of the videos. For example, in understanding how various oral devices

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are seen in each of the respective locations and better understanding how domestic spaces are organised. We analysed the videos using a constant comparative approach associated with grounded theory but here we integrate this analysis with a blend of already existing theories (Glaser and Strauss, 1967; Glaser, 1978). We had the help of advice from native speaking translators who also helped with our understanding of the background to daily oral care.

Throughout the life course people are involved in managing their changing dentition, at times needing teeth to be restored, having their top surfaces replaced with crowns, losing teeth, having gaps filled with bridges and eventually, in some instances, having dentures fitted (Gibson et al, 2019). People engage in caring for a range of oral appliances each with different functional purpose. Wearing different devices has an impact on adjustments to the 'body-mouth' schema,[2] which involves a practical 'attunement' to moments of interaction between the physical body, consciousness and the various situations of everyday life. It consists of ways of interacting that become routinised as part of the ever-changing relationship between the physical body, consciousness and everyday life (Gallagher, 1995; Merleau-Ponty, 2002). While we start with a focus on the integrated (or not) body-mouth schema we also agree with Yates (Yates, 2022) that everyday life matters. We argue that while oral devices are constructed in dental clinics, they have a life beyond the clinic that, to date, has remained underexplored. In this article we primarily focus on the denture but at important points draw comparisons with aligners.

This article is also indebted to the work of Warde (2005; 2014; 2022) and Schatzki (2002). Warde's (2005) interpretation of different strains of thought in practice theory provided us with a series of insights that were useful methodologically. We draw on his definition of consumption as the 'appropriation and appreciation, whether for utilitarian, expressive or contemplative purposes, of goods, services, performances, information or ambience, whether purchased or not, over which the agent has some degree of discretion' (Warde, 2005: 137). Such consumption can have health benefits where this is defined as a change in our physical, psychological or (interpersonal) social resources for personal achievement and/or adaptation to the challenges of daily life (Seedhouse, 2005). We also adopted Schatzki's approach to the understanding of context, texture and contexture.

A context, on the one hand, '"surrounds" or "immerses" that of which it is the context' (Schatzki, 2002: 61). Contexts can 'have powers of determination':

- they can 'causally' shape things that are within them – the work of the dentist is shaped by the clinic which is in turn shaped by the wider context of oral health in society;
- they can 'ontologically determine (that is, "institute")' things in them, 'dentures' are 'instituted' in dental practice;
- contexts can enable or constrain what happens within them; and finally
- contexts can confer value of significance on the entities within them.

Schatzki (2002) goes on to talk about two very important categories of context, a texture and a contexture.

A texture is where components of a practice or entity are of the same type as those 'entities' that are in the context. Textures are more of the same thing. All the 'entities' in the mouth are part of the texture of the mouth. Where the components of the

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context are of different types of 'entities' then we have a 'contexture'. Contextures are typically formed of activities, events, identities, histories and 'obviousness'. They contrast with textures because they have 'cross-categorical powers of determination'. Schatzki (2002: 63) states that they are 'less a cut of fabric than the focal point of surrounding estates'. The goal of dental practice is to introduce outside materials and transform them so that they can become part of the texture of the mouth. Oral care is therefore a contexture because it effectively 'assembles' the materials that will fit into the mouth. The social practice of placing a denture requires cross-categorical entities. It involves extracting teeth, removing disease, assembling impression trays with alginate, taking impressions, sending them to the lab, taking more precise impressions, trying wax models into the space in the mouth, making sure the prosthetic teeth are the right colour and shape and finally fitting a denture. The clinical encounter is an important 'contexture' that 'institutes' the denture. Dentures must also be managed after leaving the clinic and their fundamental property as an object that sits within the mouth as part of its texture has consequences for how daily life is shaped.

Objects are beholden to the functions or uses that devolve from the tasks, projects and ends that organise the practice. Objects therefore do not have an 'agency' of their own, but they can have effects because of the places within the practical arrangements they occupy. This leads to the idea of 'distributed agency'. There is a debate within practice theory about how far objects can have agency. Practice theorists tend to favour emphasising repeated sequences of activities and in doing so have developed a solid critique of individualistic models of behaviour (Warde, 2005). These approaches minimise reference to discursive consciousness, deliberation and decision making and tend to argue that most of daily life happens in an unreflective state with habits and routines taking up most of our activity (Warde, 2005; 2014).

Finally, a further concept that was of use in this study was that of the 'teleoaffective structure' which is directly tied to normative understandings or 'hierarchically ordered ends, projects and tasks' that are in turn related to moods and emotions. What normativity means in this context is the 'oughtness' and acceptability of things. Teleoaffective structures 'scaffold' practices, when people engage in ends-project-task combinations the teleoaffective structure shapes the practice through the 'should, ought or may' aspect of the practice. Practices can be 'light' or 'heavy' in terms of their 'teleological order' and 'heavy' or 'light' in their 'affective order' and how these will be distributed will vary. Teleoaffective structures are not determinate in the sense of a direct cause but are rather evolving 'effects' of what people do together. The implication of this for our study was that we sought to examine variations in the shared understandings we might find in the practices associated with *different devices and different materials for looking after these devices*. We therefore followed Warde (2005) by looking closely at how daily practices differentiate. The differentiation of practices generates differences in taste and participation in social life. We will reveal how these ideas worked in our analysis.

Results

This study begins with the idea of the body-mouth schema that is in constant adjustment to its environment. The body-mouth schema 'positions' consciousness, enabling a particular arrangement with the environment. Changes in the body-mouth schema might lead to changes in how food is prepared, chewed and consumed.

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They might result in adjustments in where one will go out for an evening meal with friends. The body-mouth schema also has a regulatory function on the inward and outward flows of the body, resulting in 'pre-figuration' in the routine things that can and cannot be consumed, as well as tastes and sensations that become established as a fundamental part of everyday experience. Oral appliances fundamentally adjust the body mouth schema because they enable ways of eating, speaking, smiling and breathing that do not exist without them. A new appliance results in adjustments to the body-mouth schema. It also subsequently leads to changes in oral care practices. In the following example we can see how Ramil adjusts his daily routines:

> [S]ometimes when you're speaking with other people, you tend to over speak. And sometimes since you are wearing dentures, you can't control the saliva that is spewing out of your mouth. So that's one of the moments that I had encountered. Maybe it's embarrassing, but sometimes, if you are aware of it, so the secret is just slowly talking, talking soft so that your saliva won't come out of your mouth. … Another thing is that sometimes when you have a denture, sometimes there is a slur in your voice … because there are some spaces between the gums and the dentures. So it hinders the sound of your voice … since Christmas season is fast approaching, you could have a problem again eating steaks, hard objects, the roasted pig, and everything. So you really have to cut the pieces of the roasted pig into minute parts so that you can easily chew it. Unlike before when you have the original teeth, you could eat in a much more bigger section of the roasted pig or the crispy pork knuckles. (Ramil, Philippines)

Coupled with ongoing changes to daily life through practical adjustments in speaking and eating is the fact that such devices need to be looked after; here consumption practices enter the picture. Oral devices require constant care in the form of oral hygiene routines which themselves sit within a wider 'oral care nexus' that in turn rested within yet another (older) nexus of hygiene routines in general.

Project Aliya focused on the daily use of mouth guards, retainers and dentures. These appliances vary in their properties, producing different 'teleoaffective structures' and associated practices (Schatzki, 2002). In what follows we seek to explain how the materials in these arrangements are integrated, including what this means for participants. We will also explore how meaning is closely mapped to the function of objects and how the whole arrangement sits within the wider field of general hygiene.

We will start with Dranreb, who is cleaning his denture in the Philippines:

> The camera is held over Drabreb's shoulder as he holds a toothbrush in his left hand and a tube of 'Closeup' toothpaste in his right hand. He lifts the brush to the camera, shows the camera the tube of toothpaste as he fills the brush with a thin line of paste. After showing the camera his brush with the paste on it he sets the tube of toothpaste to one side and shifts the brush to his right hand holding it between his forefinger and his thumb.
>
> He picks up an upper acrylic denture with three teeth to the front left in his left hand, the palate side is facing upwards. He then starts to brush the side that will be touching his palate very carefully holding the denture in the heel of his

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> hand. He reaches to the tap, turns it on and then continues to brush the denture, turning it over and specifically cleaning all surfaces, once they are all cleaned, he rinses the denture under the tap as well as the toothbrush. The whole routine takes one minute twenty-four seconds. (Dranreb, video of routine appliance care)

In the example Dranreb skilfully manipulates the toothbrush, tube of toothpaste, the water and the denture so that all three are coordinated to clean it carefully and efficiently. The denture is the 'integrating object' (Schatzki, 2002) around which the practice of oral care is arranged. We can see that each of the materials gains their meaning from the *purpose of the activity that they are involved in*. The denture is dirty and needs to be cleaned, the paste is present to help with cleaning the denture and the water is there, not to drink, but to help develop foam from the paste, as well as to rinse the denture. Their functions within the arrangement are closely related to their meaning, which is derived from the context of the practice. The practice is also located in a physical space, in this instance the bathroom. This is a contexture in the sense that Schatzki defines it. A focal point where the transformations of materials and meanings happens. In this contexture the status of the denture is changed from being dirty to clean, it is prepared to become part of the texture of the body-mouth schema.

The combinations of meaning and the performances associated with the care of oral appliances vary widely between participants. Sarina engaged in denture care by first brushing her teeth with the denture in her mouth and then removing the denture to clean it separately. In doing this she used an adhesive cream:

> 'So this is how I use Polident Adhesive Cream. So, before I use it, I'll make sure that I clean my teeth first by brushing my teeth. So, I'm going to brush my teeth first, making sure that my dentures are clean.'
>
> She brushes her teeth and cleans the denture.
>
> 'I'm making sure that I rinse it well and just to make sure it's really clean. So now, all I need to do is just put a little amount of Polident Adhesive Cream to my dentures, just a small amount will do.'
>
> The adhesive is placed on the back section of the denture that will be touching her gums. Note this is not along the whole surface of the denture and the cream is clearly being used sparingly. As she says this, she shows the camera the denture and then very carefully pushes the denture down into her mouth. Tapping it down with her forefinger and index fingers.
>
> 'So let me just put it back. Pressing it lightly and making sure that it's well attached to my gums. That's it.'

Here we can see that different materials perform different 'functions' for Dranreb and Sarina. For both participants, water helps rinse away out of place materials (bits of food, bacteria and smells), however Sarina has added 'Polident' adhesive to fix the denture in place. She later stated that she used Polident 'to make sure that my dentures are perfectly attached to my gums. So, whenever I eat, I don't have any problems while chewing' (Sarina, Philippines).

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While the denture is the 'integrating object' that draws the activity together, note that it very quickly transforms when it is fitted into the body. As part of the body-mouth schema it disappears and becomes part of the texture of the mouth. In contrast, dentures should also 'appear', that is a central part of their function, to restore the appearance of the patient, in this way they can be an extremely visible and a conscious appliance for everyday life. Yet they are visible, primarily not as dentures but as teeth. In this respect they ought to remain 'stable' as part of the 'body-mouth schema' and not appear to those observing the individual by moving or 'popping out of place' and revealing themselves as dentures. This is why Sarina uses her adhesive creams. The denture therefore integrates daily practices, but it is also itself integrated into other daily practices as well as the mouth where it is part of a 'disguise'.

The distributed agency of oral care appliances

As we have just seen, oral devices can be unstable, they can move from being an object that sits within the texture of the mouth, just like any other body part. They can also 'jump up' and become the focus of daily activity, in such moments they are the focal point of the 'contexture of oral care'. They also shape daily life; an unstable oral appliance demands that participants become aware of situations to be wary of and living with such devices involves anticipating problems and resolving them before they happen. The oral device is therefore the focus of activities 'distributed' across time and space. Sasha's account of retainer care might help here:

> But on the other hand – you don't eat food every single time. During the day you need to have a snack from time to time, grab some sweets with some tea. And so on. I don't do this because it's time-consuming enough. You think, well, you'll eat some small cake and then you'll have to put your aligners off, brush and put them back on. It's not always convenient. It is often so that the toilets in the restaurants are not female but shared. For both sexes. I feel shy, to be honest, to put the aligners off, brush and put them on again when other people can see it. I feel less shy with women, and more – with men. (Sasha, Russia)

The appliance must travel with Sasha through her daily life. When it requires attention in certain circumstances this can be challenging. The distributed nature of daily life makes living with oral appliances difficult. But why? It is partly because the contexture of oral care has almost entirely been 'instituted' in the domestic sphere and restaurants are poorly adapted for this.

When we look at the distributed agency of different oral devices, we see that they vary in relation to some fundamental properties (see Table 1). The device

Table 1: The 'distributed agency' of oral devices

Properties	Denture	Aligners
Stability	Variable	Consistent
As a contexture	Unpredictable	Predictable
Prefiguration	Avoidance, some adjustments	Little change, minimal adjustments
Teleoaffective structure	Embarrassment	Pride
Managing 'awareness contexts'	Disguisement	'Carousement'

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can be stable or unstable. They can 'pop out', move and interact with foods, sounds and oral sensations. Some devices (aligners) are more stable than others (dentures) and so can become the focal point of further 'contextures' for ongoing work in everyday life. Dentures can produce unpredictable moments that require 'repair' (Goffman, 1959), usually when they appear without intention. Aligners, in contrast, tend to be more predictable and therefore less problematic. Participants also discussed making their aligners a point of celebration, this contrasts with the embarrassment of living with a denture. The denture and the aligner therefore have different teleoaffective structures affecting how they ought to be seen and presented in everyday life. All of this results in the management of different awareness contexts (Glaser and Strauss, 1964), the denture operates within a closed awareness context through 'disguisement' (they should be seen as teeth and not dentures), whereas the aligner is celebrated and widely discussed as a focal point of sociality.

The wider nexus of 'general hygiene'

The meaning of oral care practices are themselves embedded within a wider set of arrangements. Toothpaste alongside other oral care products such as mouth washes, cleansers and adhesives are in the texture of 'appliance care'. They sit within the spaces within which oral devices are looked after. These products also sit within the wider 'texture' of general household hygiene (washing up liquids, soaps, bleach, baking soda) and still further within the 'texture' of personal wellbeing, happiness and life quality. This arrangement leads to a wide array of strategies to deal with the problems associated with oral care. In this section we seek to present some of this complexity.

In one of our videos Aldo is in a room that looks like his kitchen. He is leaning on the sink and talking to the camera in selfie mode. He starts by saying:

> Good evening guys. Now, it's night. So I will show you how is my way of maintaining my denture. … Night-time, I will brush my teeth. Then after toothbrush, I will soak it, my denture, in baking soda with water. This is my container.

As he says this he holds up a yellow-topped tupperware container and shows it to the camera as he continues …

> This is where I put my denture. Then I will get my solution.

He reaches past the camera and picks up his box of baking soda and a large spoon. As he speaks he starts to dig out some baking soda.

> Wait. So this is the baking soda. Just one spoon. Just a bit. It's up to you how many you will use. So one spoon, baking soda. I'll put it there. In the container, I'll put baking soda. It's up to you how many you will use. For me, it's almost about a spoon or half. Just not as much. Then just warm water.

He reaches to a large black flask and pours warm water into the yellow container.

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> I'll put the water. I only put half of it. Just enough for my denture. Wait, I'll just close this. There, I'll just mix it. I didn't have the one that is for the real cleaning.

He is now stirring the solution and baking soda together in the yellow pot.

> Just like this. But I mentioned in my past videos that I only use natural remedy. But before I soak it, I'll brush my teeth first. So wait, I'll just brush my teeth. (Aldo, Philippines)

In this routine the baking soda sits as a texture alongside the toothpaste and the water but the denture sits within the wider context of 'the mouth, hands and container within which it sits at night' it also sits within the sink and bathroom where it is cleaned. The mouth, hands, container, sink and bathroom are all sites where the denture is placed and cleaned. Dima articulates his approach focusing on pure soaps with few additives:

> These are the bars soaps I use to wash my dentures. For example, this is Nivea soap. Well, it's a little more expensive. Also, I have some Russian bar soaps too. Basically, I don't care which soap to use, as long as it's a normal soap free of all these additives and chemical substances that might get into my mouth. (Dima, Russia)

Dima's approach invested significant trust in traditional products, 'with no additives' and a rejection of 'commercial products'. In contrast, however, Alyona relates her trust in professional, techno-scientific products – something that is enabled by her ability to take the practice with her across time and space (she uses dental floss throughout the day):

> I get happy when I see somebody caring for their teeth or visiting the dentist. I mean when somebody cares for their teeth, makes the bite regular or just brushes the teeth. I mean has a professional ultrasound or other tooth cleaning procedure. I'm very happy for these people's lives. I developed a habit, yeah. Now I brush teeth … I have special tools like dental floss. When I wore braces, I bought dental irrigator. It's a very useful thing for all the cases. I've developed a habit to brush teeth after each meal, as I have a dental floss everywhere, in every hand bag. (Alyona, Russia)

What we see in Alyona's account is that her 'sense-making' relates to professional definitions. Alyona is celebrating her 'dental citizenship'. This leads to the suggestion that there are various 'bundles' or strategies for appliance care and these carry with them different teleoaffective structure.

Bundles of practices

Dima's rejection of commercial products and emphasis on 'natural' soaps suggests that some participants may adopt an 'environmental-purity bundle' involving a watchfulness over additives, damage to the environment and purity for the body. Such bundling is important because it shapes how Dima adjusts his daily care regime. Alyona, on the other hand, buys into 'dental citizenship' and therefore engages in a 'techno-scientific' bundle composed of a different set of hierarchically ordered set

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of ends, projects and tasks. First and foremost, the structure involves 'care for one's teeth', including having one's teeth professionally cleaned, having the right products across time and space (Alyona has floss 'everywhere, in every handbag').

What we see here are different 'bundles' of spaces, materials and doings and sayings (Schatzki, 2002) that go into characterising the practice of looking after the appliance. We have a 'domestic-commercial bundle', an 'environmental purity bundle', a 'natural remedy bundle' and a 'techno-scientific' bundle. These each have different emphases on different materials, objects of trust as well as different teleoaffective structures. These are all summarised in Table 2.

We feel that Warde's (2005) sensibility that the internal structure of practices can be highly differentiated fits neatly with the differentiation of oral care regimes in the Philippines and Russia. In addition, we can see from Schatzki (2002) that each of the combinations of products, ends and tasks have effects. These effects are not determinate in the causal sense but are nonetheless important because they confer meaning to each regime.

Discussion

The findings of this study are two-fold. First, the care of oral devices demonstrates significant variation involving the consumption of 'bundles' of different materials, informed by various teleoaffective structures. Understanding how these bundles are formed enables exploration of subtle variations in the consumption practices associated with oral care. Second, we have shown that the body-mouth schema that results from wearing dentures is foundational to everyday life. These schemas are however dependent on a device that fits well and bundles of oral care practices that can travel across time and space. Such practices have tended to be 'instituted' unequally across social space; in some countries they are instituted almost entirely within domestic spaces. The result is that people who live with oral devices can be confronted with significant challenges for daily living. We have also found that the concepts of context, texture and contexture are useful heuristic tools for examining the 'distributed agency' of materials and practices, suggesting a pathway into a 'diagnostics of practice'. This may in turn enable a more structured methodology for establishing how reflexive consumption happens, this includes how social disadvantage becomes 'designed into' everyday life but also enables us to chart a pathway beyond such disadvantage.

Table 2: Bundles of practices

Practice element	Domestic-commercial	Environmental purity	Natural remedy	Techno-scientific
Materials	'Differentiated' products on the 'marketplace'	Household products	Materials with 'no additives'	Technical 'scientific devices'
	'Closeup' toothpaste etc	Pure soaps, baking soda	Miswak, environmental brands	Irrigators, dentist-recommended brands
Trust in …	The 'brand'	Tradition	Purity	Effectiveness
Teleoaffective structure	Products fit, work, have practical consequences	Products have been tried and tested over time	Products do not damage the environment (external and internal)	Products are 'proven' to work

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Previous research has shown that consumption practices that are related to health involve highly entangled meanings that are not always dominated by health as a core concern (Warin et al, 2008; Weiner, 2011). The findings of this study support this and goes further by showing that variations in practices are shaped by the different teleoaffective structures of practices and these are also embedded within wider contexts. So, for example, the use of soap to clean a denture can be shaped by a commitment to remain 'environmentally pure' but it can also be used because of 'suspicion' of 'foreign' companies and their products. We have shown that such structures are ordered in relation to their proximity to the 'ends' and 'tasks' associated with practices (Schatzki, 2002). So, for example, soap has a primary function to clean; its secondary function is to be clean itself and not be polluting. This means that a simple household product can be consumed because its teleoaffective structure can act as a point of resistance to the globalisation of consumption practices.

Oral devices have a 'distributed agency' and this is related to whether they are to be hidden or not and this 'necessity' is closely bound to the teleoaffective structures associated with living with these devices. Different devices play a 'differentiated' role in the underlying 'body-mouth schemas' and hold a 'purposive' position in the interaction between the body-mouth, consciousness and the world. A denture is 'embarrassing' and should be hidden, in contrast an aligner is a sign of 'elite consumption' and is celebrated. Revealing that one is wearing a denture in public threatens one's identity and so dentures tend to be kept a closely guarded secret. An aligner, on the other hand, can be displayed, its removal is more a matter of convenience and so is 'affectively light' (Schatzki, 2002). Removing a denture to clean it in public is affectively heavy.

When such appliances demand attention they become the integrating object around which practices of oral care happen. Our research demonstrates the importance of understanding the ontological instability of these devices. As daily life with an appliance progresses, these appliances traverse different contexts as part of the texture of the mouth. But they can be unstable and consequently can initiate the contexture of oral care in daily life. In the wrong context, however, this can be emotionally distressing, especially for those with dentures. Participants in the Philippines and Russia indicated that when dentures 'jumped out' or revealed their presence, they were embarrassing. They therefore became the focal point of what Goffman (1959) once referred to as 'repair work'. The context is, however, much more complex. In the context of the Philippines and Russia both aligners and dentures are valued possessions, despite the clear difference in the teleoaffective structure informing how they were to be presented. The assertion that practices are internally differentiated (Warde, 2005), and so vary significantly across settings, is therefore supported by these findings.

Schatzki's (2002) idea of texture and contexture also enables a more detailed investigation of the institution of oral care practices and what this means for consumption. First, oral devices, as part of the 'texture of the mouth', are hidden participants in a plethora of 'distributed consumption practices' such as eating, drinking and socialising. When they work, they can contribute to the relatively 'light' social order as part of the texture of daily life. The problem, however, is that the care of these devices is primarily 'instituted' for private domestic spaces, and this has significant impacts on the activity space within which care practices can 'easily happen'. The materials that are consumed for cleaning a denture are not available

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in fast food restaurants and the teleoaffective structure of such restrooms does not accommodate their use.

Warde's (2017) sensibility that the items consumed during the performance of some practices are central to how that practice is instituted appeared to hold in the case of the care for oral appliances. This is certainly an important dimension of the care for dentures. The general teleoaffective rule that dentures should remain hidden restricts the performance of cleaning them in public toilets. Likewise, the intimate meaning associated with a toothbrush (Thorogood, 2000) affects how such devices can travel. Daily routines at home in the 'right' spaces make oral care affectively 'light', but transfer such practices into public spaces and the practice becomes 'affectively heavy'. These factors undermine the mobility of people with relatively unstable devices such as full dentures. Improving bathroom spaces in public locations so that daily oral care could be conducted within these spaces would go some way to reducing such restrictions. Such practices show a high degree of global variation. So, for example, in Switzerland it is very common to see colleagues queuing to brush their teeth in work washrooms after lunch and brushing can indeed happen in public spaces.

Finding a way to routinise the practice of oral care in public spaces would go a considerable way to help reduce the disadvantage that is felt by those who wear dentures. Our 'diagnostics of practice' not only reveals that the social practice of oral care needs to be enhanced, it also suggests that it is premature to judge individual citizenship on the failure to perform regimes that are so poorly adapted to the pace and structure of modern life. In response to Hankiss (2006) we argue that the social practices that produce 'citizens' and 'citizenships' are unevenly distributed. Understanding the complexity of underlying practices, how they are bundled, how they relate to overarching teleoaffective structures, can help us diagnose where change might be directed. The suggestion being that producers of oral care products could partner with restaurant owners and businesses to enable a more extended institution and acceptance of oral care outside of the home.

There are limitations to this analysis. First, the study is completed in two very different national contexts. We have tended to focus on the similarities across these contexts but there are important differences that, for the sake of brevity, we cannot highlight. An example of this is that there is a significant difference between Russia and the Philippines in relation to the technical emphasis in dentistry. The focus on technical and scientific devices for oral care tends to be much greater in Russia where the use of irrigators for cleaning teeth is quite common. By contrast, in the Philippines, dentures are frequently seen as a prized personal asset available only to the middle classes. They remain carefully hidden and emphasis is very much on discretion in public spaces. It is difficult to cover all of these variations sufficiently. Likewise, the sample sizes are quite small and so caution should be used in generalising, especially in relation to each of the consumer 'bundles'. In this instance further research is warranted to see if these hold on a more general level. Finally, the research team are not native Russian or Filipino speakers, and while we have made every effort to explore the nuances of the data, invariably some nuance might be missing in these interpretations.

Notes

[1] Hereafter referred to as the 'new public health'.

[2] We are following Gallagher (1995) here.

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Conflict of interest

The authors declare that there is no conflict of interest.

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