Male smokers’ experiences of an appearance-focused facial-ageing intervention

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Abstract

Objectives: This study was designed to investigate male smokers’ experiences of an appearance-focused facial-ageing intervention.

Design: To examine men’s accounts of taking part in an appearance-focused intervention a qualitative design was chosen. Individual interviews and focus groups were both used to investigate how the men engaged with the intervention.

Methods: Thirty 18- to 34-year old male smokers engaged with an appearance-focused intervention and discussed their experiences afterwards in either individual interviews (N=21) or in one of three focus groups (N=9). Transcripts were analysed using thematic analysis.

Results: The core theme ‘personal relevance’ was identified, where male smokers explained that viewing the impacts of smoking on their own face was the most important factor relating to intervention effectiveness. Some (n=?) participants reported that they found the intervention more effective than other anti-smoking images and disseminated information, mainly due to the personalised nature of the images. Another key theme, ‘behavioural intentions’, pertained to X participants who said that they intended quitting smoking or reducing number of cigarettes smoked post- intervention. In contrast, a sub-group of men (n=?) did not report concerns or intentions towards quitting smoking, with some using cognitive defenses to justify their smoking behaviour. Other interlinking key themes are discussed in this paper.

Conclusions: It is recommended that designers of appearance-focused interventions target men in the future as the current findings demonstrated that the majority of men engaged well with the intervention. Future research recommendations and implications for smoking-cessation are provided.

Key Words: Smoking, Men, Appearance, Facial-ageing, Intervention

Smoking accounts for approximately six million deaths worldwide each year and is considered an epidemic level public health threat (World Health Organisation [WHO], 2014). Although there has been a steady decline in prevalence since 1970, in some countries such as the USA and the UK, smoking remains a major cause of death and illness (WHO, 2014). A current international public health priority includes reducing smoking rates in young people aged between 18-34 years due to the high prevalence within this age range (Action on Smoking and Health [ASH], 2014; WHO, 2014). Furthermore, recent trends suggest there has been an increase in smoking rates among young people in the USA and UK (National Cancer Institute, 2010; ASH, 2014). In order to reduce smoking prevalence in young people urgent intervention is required.

Although it is important to educate individuals about the detrimental health consequences of smoking, recent literature suggests interventions which concentrate on the health consequences may have limited impact on motivating young people to quit smoking (Grogan & Masterson, 2012; Droomers, Schrijvers & Mackenbach, 2004). Those who smoke may experience habituation after viewing anti-smoking health-related information on a regular basis (van ‘t Riet & Ruiter, 2013). It is also suggested that smokers adopt defensive reactions and social cognition errors to reduce feeling personally vulnerable or at risk of smoking impacts (Milam, Sussman, Ritt-Olson & Dent, 2000; Sindelar & O’Malley, 2014). For instance, younger people may justify their current smoking behaviour due to the perception that they will quit before they become at risk (Grogan, Hartley, Conner, Fry & Gough, 2010). It is therefore recommended that anti-smoking campaigns should not solely focus on communicating the detrimental health impacts of smoking when targeting young people. To reduce smoking in this target age range new ways of increasing smokers’ feelings of personal vulnerability from the impact of smoking is required. Protection Motivation Theory suggests that behaviour change is more likely when an individual feels personally vulnerable or at risk of a health threat (Rippetoe & Rogers, 1987).

 One particular method that may increase young people’s perceptions of personal vulnerability of smoking impacts includes showing them how smoking could affect their appearance (Grogan, Fry, Gough & Conner, 2009; Grogan et al., 2010). According to Grogan (2012) appearance interventions demonstrate promising results which may be linked to the fact that young people subscribe to values and norms about maintaining a healthy and attractive body image. Other appearance-focused studies have investigated the effectiveness of personalised age-progression facial-wrinkling interventions (Flett, Clark-Carter, Grogan & Davey, 2013). These types of interventions demonstrate how smoking can affect the skin in the proximal and distal future in terms of increased facial wrinkling, which may address the issue related to young people being unable to visualise how smoking could affect them in the long term (Hall & Fong, 2007).

A recent systematic review suggests that smokers’ who experience facial wrinkling interventions report more positive perceptions and increased intentions to quit smoking (Flett et al., 2013). Previous studies have tended to use theory of planned behaviour measures to assess intervention effectiveness, reporting promising findings (Flett et al., 2013; Grogan et al., 2011). A limitation of the research area includes a lack of qualitative work to understand the underlying reasons why an individual may find an appearance-focused intervention effective (Flett et al., 2013; Gough, Fry, Grogan & Conner, 2009). To date, only one qualitative study has been identified which involved investigating the experiences of young women smokers (Grogan et al., 2010). Grogan et al. (2010) found that women smokers were highly motivated to quit after viewing their personalised aged images, the key point being that the women were able to view the impacts of smoking on their *own* faces. A further limitation is that the majority of studies using age-progression interventions focus on women (Flett et al., 2013). It is somewhat assumed that due to different cultural pressures, women may find appearance interventions more effective compared to men. However, recent research suggests men may find appearance motivational due to changing masculinity ideals which encompass various grooming practices (Gough, Hall & Seymour-Smith, in press; Grogan, 2009). To date, no qualitative research has been identified that has investigated how male smokers experience a facial-wrinkling age-progression intervention. It remains unclear how male smokers experience these types of interventions and whether appearance-related smoking campaigns should be targeting men as well as women.

The present study expands on previous work by examining how young men experience an appearance-related facial wrinkling intervention. with a view to informing developers of anti-smoking campaigns about effectiveness.

Method

*The Intervention*

April age-progression software is a sophisticated computer programme which can be installed on a computer or laptop. The software involves showing individuals how they are likely to age in the future (Grogan et al, 2010). It is based on over 2000 photographs of smokers and non-smokers and physiological smoking dermatology data (Hysert et al., 2003; Grogan et al., 2010). A smoking-simulation option allows individuals to view their images ageing as a non-smoker compared to a one-pack a day smoker. Images are aged progressively from an individual’s current age to a maximum age of 72 years in two year intervals.

*The Facilitators*

A 28 year old female Research Officer who is a non-smoker conducted 18 of the interviews and all three focus groups (first author). A 23 year old male undergraduate psychology student who is also a non-smoker conducted three of the interviews (after receiving training).

*Participants*

Eligibility criteria included male smokers aged between 18-34 years who were students at [name removed]. Recruitment of participants was conducted by the first author, using methods including sending an e-mail to all male students studying part or full time at [name removed]; placing posters on University notice boards and in residence halls; and actively approaching students in open spaces (e.g. outside buildings) on University premises. In terms of outcomes N=14 were recruited via the e-mail method, N=3 via posters and N=13 via actively approaching individuals. Participants were given the option to take part in either an interview or focus group. In total 30 male smokers were recruited to the study, with 21 opting for individual interviews and nine in three focus groups (three male participants in each focus group). The student sample came from a range of disciplines including computing, forensic science and psychology. The sample mean age was 22 years. All participants identified as smokers.

*Materials*

We used the April age-progression software (Version 2.6) installed on a laptop computer with a built in camera and an audio-recorder. A semi-structured interview guide with open ended questions was developed based on previous work (Grogan et al., 2010). Briefly, male smokers were asked about their experience about taking part in the intervention, effectiveness of the programme, suggestions for improvement, impact on smoking intentions and physical appearance values. Examples of questions include: ‘What did you think about the intervention?’ and ‘How do you feel immediately afterwards?’ Basic demographical information was recorded including age and current smoking status.

*Procedure*

Ethical approval was granted for this study through [name removed]. Data was collected between May-December 2013. The first author/ facilitatorarranged for all the intervention sessions to be conducted in a quiet room on [name removed] premises. Before taking part in the intervention the facilitator discussed anonymity, allowed time for participants to ask any questions and ensured there was a good level of rapport. Participants read an information sheet and completed a consent form, which the facilitator also signed. The facilitator informed participants that the intervention session was aimed at understanding how male smokers experience this type of intervention.

Firstly a photograph of the participant was taken and uploaded to the age-progression software. The recording device was turned on directly after uploading the image to the software in order to gain information on the participant’s initial thoughts and reactions. A number of software process steps were completed resulting in two images being displayed on the computer screen. Before pressing play to demonstrate the ageing process, the facilitator informed participants that the image on the left hand side of the screen would age as a non-smoker and the image on the right hand side of the screen would age as a one-pack a day smoker. The participants then viewed their images ageing on the computer screen as a non-smoker compared to a smoker in two year intervals from their current age to the maximum age of 72 years old. In the focus group sessions participants firstly took part in the age–progression intervention individually and then joined as a group at the end to discuss their experiences.

A semi-structured interview guide was used to examine how the male smokers experienced the intervention. The interviews and focus groups ranged between 12 and 52 minutes (Mean: 24 minutes). After the intervention/interview sessions participants were thanked for taking part and any questions were handled with care; contact details of the facilitator were provided.

*Data Analysis*

Data was subjected to an inductive thematic analysis, chosen due to provide a rich and detailed interpretation of accounts (Braun & Clarke, 2006). The first author transcribed all the recordings and the analysis process began at this stage in terms of becoming familiar with the data. Whilst transcribing, the first author noted initial ideas, possible emerging themes and patterns. After transcription was completed, the transcripts were printed and the first author completed line-by-line open coding involving searching for themes and patterns inductively. Through constant comparison and by referring continuously to the transcripts, a list of key and sub themes were confirmed. Once completed, , the first author sent the analysis to author two and four for feedback. Once the feedback was received the analysis was revised, further verified and finalised. A final model (Figure 1) was validated by the three authors.

Results

The model (Figure 1) shows the core theme and inter-linking key themes. The core theme ‘personal relevance’ was chosen as it was central to accounts and linked to all the key themes presented.

***Insert Figure 1 about here***

Particular quotations in this section have been chosen to evidence the identified core and key themes. Basic participant information is provided after each quotation below including identifier number, whether the quote was from a focus group (FG), pseudonym (used to preserve anonymity) and transcript line numbers.

***Personal relevance***

The core theme included ‘Personal Relevance’ where the majority of the participants explained that it was viewing their own facial image being aged rather than a generalised example that made the intervention effective. For instance:

‘I think people just need to see it for themselves really (1) It’s alright a Doctor telling you that this is going to happen but everybody, even myself who is doing Biology, you still seem to brush it off and think it won’t happen to me but when you see it for yourself it’s a whole different pebble’ (P6, Jake, age 24 years, L181-184);

‘And not only that it’s personal as well it’s me on that screen (2) you know it’s me on that screen I’m looking at how I’m going to age in years to come (2) you know it’s not somebody else’ (P22, Keith, age 25 years, L317-319).

Other anti-smoking interventions and advertisements were discussed with many participants referring to them as impersonal:

‘Cigarette packets these days come with all the lung images on but you never actually see your own lungs so (1) it doesn’t really affect you, you know cool I’m never going to see so does it really matter to me’ (P25, Liam, age 22 years, L164-167).

It was suggested that many of the men were accustomed to health warnings about smoking disseminated via media avenues and that habituation may occur:

‘I don’t think the health ads [advertisements] really help you want to quit (1) you get used to them don’t you? (1)’ (P30, Mark, age 22 years, L160-162).

Some men explained that they knew smoking was bad for them and were not oblivious to the fact; however viewing their own images encouraged the realisation that smoking could impact them personally in the future. For instance:

‘I do know that smoking is bad for you and everything (1) but like when you see it in person when you see it happen to you with those pictures it’s quite scary’ (P4, Jason, age 22 years, L87-88).

***Shock reaction***

Seventeen of the participants reacted to viewing their aged images with shock, linked to the theme ‘personal impact’:

‘I think a lot of people would be amazed (2) to me it’s just shocking (2) the shock of it all personally’ (P24, Will, age 33 years, L160-161).

Some described the experience of viewing their aged images as scary and strange. Terminology was used to describe feelings associated with viewing the images such as: ‘terrifying’; ‘horrifying’; and ‘amazed’. The aspect of viewing the ageing process was considered a novelty in addition to observing differences between the smoker and non-smoker image:

‘No it’s quite scary looking at yourself old as well first of all, first and foremost, but you can see the skin as well you know the colour changes that it has an effect’ (P22, Keith, age 25 years, L111-112).

Six of the participants reported that they did not know that smoking affected the skin and this was linked to reactions of shock:

‘I thought smoking gave you the smoking lines I didn’t realise it like affected the rest of your skin’ (P8, Matthew, age 21 years, L148-149).

***Visual impact***

The visual impact of the intervention was commented on, linking to the theme ‘personal relevance’. For instance the participants explained that by seeing themselves they were now able to visualise how smoking could impact their own skin and that they felt more at risk of smoking impacts:

 ‘I think this shows you the true reality of what you could be (1) speaking about it just trying to use your imagination is not the same is it, it’s looking at the true reality of what it could actually be’ (P24, Will, age 33 years, L183-185).

Participants also commented on the novelty of the software, for instance how the intervention allowed them to do something that would not be possible without technology:

‘Because you know without this sort of software you would never you know, it’s impossible to see what you’d look like in the future’ (P13, George, age 19 years, L269-270).

It was also suggested that others who were exposed to the intervention would find it effective:

‘I just think it would really get people thinking seeing yourself in the future um a lot of people would love to have a time machine and go into the future and see what they’re going to you know become’ (P26, Charles, age 24 years, L228-230).

***Concern about others’ perceptions***

Male smokers expressed concern about what other people would think of them as the aged smoker. Some participants explained that they would probably find it hard to attract a partner:

‘If I don’t make enough money I’ll die alone’ [laughter] (P4, Jason, age 22 years, L59).

Concern about what significant others would think of their aged smoking image was expressed:

‘If my girlfriend saw this [laughter] she’d be making me quit’ (P30, Mark, age 22 years, L110).

It was suggested that the intervention would be particularly effective for those that had children or a significant other to think about:

**‘P9:** Maybe getting people that are slightly more towards (1) their 30’s maybe people with children as well. **I:** yeah? **P9:** cause (2) hmm you’ll obviously look at that and think “wow by the time I’m 50 I don’t want to look like I’m 70, I don’t want my kids to see me like that” (1) so I think it’s more important if you’ve got someone else to think about’ (P9, Lewis, age 23 years, L246-249).

***Concern about skin ageing and wrinkling***

When analysing the data two distinctive groups became apparent: those who presentedconcern about their aged images (N=22) and those who did not (N=8).

*‘Concerned’*

Individuals who expressed concern tended to comment on the differences between the smoker and non-smoker image in terms of appearance:

 ‘You can see by 45 the cheeks have started sagging, there’s wrinkles around the mouth, it’s horrible’ (P6, Jake, age 24 years, L85-86).

Those that viewed a difference between the images reacted with shock, linking to the theme ‘shock reaction’. For instance:

‘Shocking (3) shocking there’s a huge difference between the smoker and non-smoker (3) wow’ (P15, Chris, age 21 years, L118-119).

Some participants used simile and adjectivesto describe their images such as: ‘ghoul’; ‘zombie’; and ‘ghastly’. Concern was expressed about the impact of smoking on the skin including facial wrinkling:

‘But I’ve got loads of wrinkles coming in and you don’t want them’ (P11, FG, Tobias, age 19 years, L184);

*‘Not concerned’*

A sub-group of men did not display much concern about viewing their aged images, with some stating that they were ‘too young’ to contemplate ageing effects:

‘I’m too young of a smoker to have yet considered that sort of thing’ (P7, Adam, age 33 years, L238-239).

Particular participants spoke about exceptions to the ageing process such as having good genetics, for instance:

‘My Great Grandma turned 90 today and yeah she looks about 70, so I’ve got good genes do you know what I mean that votes well and she smoked for like 30 years do you know what I mean like heavily but she did quit’ (P8, Matthew, age 21 years, L277-280).

Interestingly it was suggested by participants in both groups (those who expressed concern and those who did not) that the intervention would be most effective for women (N=11) or individuals that were ‘vain’ (N=8). For instance:

 ‘Thinking about it (2) it may be more effective for girls as they are into their creams and not wanting to age (1) botox and the rest of it[laughter]’ (P30, Mark, age 22 years, L122-123);

‘I reckon (3) like if you look at you know if you get a vain person that will be really conscious about their appearance I reckon it would have more of an effect on them than on people that are more (2) less conscious about their appearance’ (P23, Kaiden, age 18 years, L122-124).

***Appearance attitudes***

Although the majority of participants expressed concern about their aged images, most (N=16) explained that they were not overly concerned about appearance in general:

‘I’ve never been kind of self-conscious of image and things like that it’s not something that’s bothered me that much’ (P3, Robert, age 20 years, L101-102).

Some participants explained that it was acceptable to dedicate time to look presentable ‘appearance wise’ for work related reasons or to attract a partner:

‘I wouldn’t say I’m an extremely vain person but I like to make myself look to a decent standard ahh especially when I’m going to professional life’ (P6, Jake, age 24 years, L148-150)’;

‘Only in the sense that (3) in that you’re required to (1) that sort of required level of aesthetic appearance to attract anyone so’ (P12, FG, Ethan, age 18 years, L371-372).

***Health importance***

When discussing the age-progression facial-wrinkling intervention some of the men (N=7) explained that the health consequences of smoking were more important to them rather than how they would look appearance wise:

‘There’s other stuff I can think of that makes me think about quitting smoking like my actual health’ (P10, FG, David, age 19 years, L268-269).

After viewing the appearance-related intervention some men (N=9) explained that they were now thinking about how smoking could be impacting their internal health. For instance:

 ‘And then obviously you’re looking at the skin and the way the skin is reflecting on the outside and you think well what’s it doing on the inside as well (1) it could be quite bad by then couldn’t it’ (P26, Charles, age 24 years, L142-144).

***Behavioural intentions***

Linking to the heme ‘concern about skin ageing and wrinkling’, two groups became apparent: those who reported positive behavioural intentions towards quitting smoking (N=22) and thosewho did not (N=8).

*‘Positive behavioural intentions’*

Participants reported that the intervention made them ‘think twice’ about smoking impacts:

‘When I go to start smoking when I go out of this room (1) I will think twice’ (P2, Daniel, age 25 years, L56-57).

Also intentions to quit were reported linked to concern about facial wrinkling impacts:

‘It definitely makes me want to quit smoking because that’s horrific, I do not want to look like that and I know that sounds vain but it’s dreadful there’s no need to make myself age any faster than I have to’ (P6, Jake, age 24 years, L90-92).

Some participants explained that the intervention would not necessarily make them quit but that they would contemplate reducing the amount of cigarettes that they smoked:

‘It definitely won’t make me stop today (2) as I need to stop when I have less on (1) but it does make me think to reduce’ (P28, FG, Ali, age 23 years, L271-272).

*‘No impact on behavioural intentions’*

A sub-group of participants reported no intentions to change their smoking behaviour and explained that pressure did not encourage them to contemplate quitting:

‘You’ve just got to do it your own way (1) I don’t think pressure makes anyone do anything faster or better’ (P26, Charles, age 24 years, L510-511).

A number of participants explained that they did not smoke much compared to others and that they engaged in healthy behaviours that would ‘override or balance out’ the negative smoking behaviour:

‘So I watch what I eat and I do exercise and stuff like that so with that I do tend to balance it you know (1) and it’s not like I smoke one pack a day or something (3)’ (P4, Jason, age 22 years, L191-193).

A key theme included participants believing that they did not smoke much compared to other smokers. It was suggested that the intervention would be more effective for heavier smokers:

‘I think it would be most effective for heavier smokers definitely’ (P5, Sam, age 21 years, L207).

Discussion

***Summary of Results***

Findings from the present study suggest that appearance-based interventions may play an important part in increasing perceptions of vulnerability of smoking impacts among young men. The core theme ‘personal relevance’ was central to the men’s experience of the intervention, linking to all the other identified key themes (Figure 1). The majority of participants explained that the intervention was effective due to being self relevant and personal. This particular finding relates to previous health risk research that suggests personalised interventions elicit a greater emotive response compared to generic, standardised approaches (Hollands & Marteau, 2013). When initially viewing their aged images many of the men expressed shock and compared differences between the non-smoker and smoker aged images, producing an increased realisation of how smoking can affect their skin. A number of participants were concerned about what “significant others” might think if they saw their aged images. Social relationships have been shown to influence an individual’s likelihood of engaging in a health risk or promoting behaviour (Gough et al., 2009; Fry, Grogan, Gough & Conner, 2009); therefore perceived negative social reactions may act as a significant disincentive for smoking.

Two distinctive groups were identified comprising those who expressed concern about ageing and those who did not. Concerned individuals (73%) reported shocked reactions and worries about how smoking can accelerate facial ageing, supporting existing body image research that men do have concerns about their appearance (Grogan et al., 2009). Individuals who did not express concern (27%) explained that they were too young to contemplate ageing impacts; and others described having good genetics which enabled them not to worry about how they would age. Similar rationalised accounts have been shown in previous research (Gough et al., 2009). Members of both groups suggested that the intervention may be more effective for women and individuals who were ‘vain’. Despite many expressing concern about the aged images, approximately half of the sample (53%) said that they were not overly concerned about how they looked in general. As appearance has been conventionally associated with feminine constructs some of the men may have found it difficult to express concerns (Grogan et al., 2009; Hargreaves & Tiggemann, 2006). Some male smokers explained that health was more important to them than physical appearance. An interesting association some of the participants made was thinking about their internal health after viewing the effects smoking had on their skin.

Two distinctive groups were identified related to ‘behavioural intentions’: those who reported positive intentions to change behaviour and those who did not. Of the sample 73 percent reported positive intentions to change behaviour including contemplating quitting or reducing amount of cigarettes smoked. The majority of participants (86%) who reported positive intentions to change behaviour also expressed concern about their aged images; however three of the participants (14%) did not express concerns. Among those who did not express intentions to change their smoking behaviour (27%), justifications for continuing to smoke were provided shown in previous research such as ‘being healthy otherwise’ and ‘not smoking that much’ (Gough et al., 2009). There was some ambivalence in accounts with some individuals reporting positive intentions to change behaviour as well as justifications to continue smoking.

***Previous Work***

The current study supports some existing research findings while differing from others that have investigated age-progression facial-wrinkling interventions (Flett et al., 2013; Burford et al., 2013). In relation to the one identified qualitative study which investigated women smokers’ experiences (Grogan et al., 2010) consistent themes are apparent, for instance women smokers also reported shock reactions to viewing their aged images; were concerned about significant others’ reactions; and linked effectiveness to the fact that the intervention was personally relevant. However, there are some clear differences among accounts. There was no identified sub-group of female smokers who were unconcerned about their aged images and none discussed being concerned more about their health compared to appearance, as some of the men did. Differences in accounts may indicate that some men were more comfortable discussing health concerns in contrast to appearance, possibly because investment in appearance is still associated with women, despite changing masculinities in an act to provide a male appropriate response (Gough et al., in press; Hargreaves & Tiggemann, 2006; Grogan et al., 2009). Findings also extend beyond existing studies that have assessed outcomes using theory of planned behaviour assessments (Flett et al., 2013; Grogan et al. 2011). For instance, the study provides ‘insider’ insights into male smoker evaluations and impact on reported positive behavioural intentions towards quitting smoking.

The current study expands the research area as prior studies have not investigated how male smokers experience age-progression facial-wrinkling interventions; findings highlight key accounts pertaining to intervention effectiveness as well as limitations. Overall, there is a general consensus in the research area that age-progression facial-wrinkling interventions may play an important role in changing how young people think about smoking, regardless of gender.

***Implications for Smoking Cessation***

Three main recommendations are provided in this paper. Firstly, a key recommendation relates to designing physical appearance interventions that target men as well as women due to the study demonstrating that the majority of men found the intervention effective, with 73 percent reporting behavioural intentions to quit after the intervention, when only one (3.3%) had prior to the intervention. Secondly, it is recommended that smoking cessation services and promotional campaigns take into consideration the potential effectiveness of utilising personalised interventions to encourage behavioural change among young smokers. Finally, it is suggested that future anti-smoking health promotion does not solely focus on the detrimental health consequences of smoking, but rather targets other areas that individuals value including their physical appearance. *Note*: it is important that those who administer facial-wrinkling age-progression interventions are trained and uphold professional standards and ethical procedures, in case individuals experience an emotional reaction to viewing their aged images.

***Limitations***

As the participants were students recruited from a single UK University caution must be taken in terms of generalising findings. Furthermore as participants volunteered to take part in the research their characteristics may differ from those that did not respond to promotional recruitment methods. In the original study design the authors were hoping to investigate whether there were any participant engagement differences dependent on whether or not the interviewer was male or female. However due to the male interviewer only conducting three of the interviews this could not be investigated extensively.

***Future Research Directions***

A future recommendation includes conducting research with other groups such as non-university samples, adolescents and different ethnicities, to understand how other types of individuals engage with the intervention. Also, facilitator characteristics possibly impacting participant engagement could be investigated further. It is suggested that future research designs could incorporate a follow up time point interview to explore how participants reflect on the experience and whether or not similar behavioural intentions towards quitting smoking are reported. It would also be interesting to investigate the intervention combined with existing smoking-cessation programmes.

***Conclusions***

The findings of this study hold important implications for designers of anti-smoking physical appearance interventions in particular when considering whether men as well as women should be targeted. However it is important to note that appearance-focused interventions may not be motivational for all men and barriers for intervention effectiveness exist. It is recommended that future research is conducted to understand further how individuals engage with age-progression facial-wrinkling interventions and also to understand process information on how best to incorporate these types of interventions within a health promotion context.

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Figure 1. The core category and inter-linking themes that emerged from the individual interviews and focus group.

**Shock reaction**

**Appearance attitudes**

**Visual impact**

**Personal relevance**

**Concern about skin ageing & wrinkling**

**Concern about others’ perceptions**

**Health importance**

**Behavioural intentions**