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1 RUNNING HEAD: A QUALITATIVE EXPLORATION

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4 **A Qualitative Exploration of Experiences of Overweight Young and Older Adults: An**  
5 **Application of the Integrated Behaviour Model**

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**Abstract**

While rates of obesity continue to increase, weight-loss interventions to date have not been hugely successful. The purpose of this study was to explore the specific factors that are relevant to weight control in overweight and obese young adults compared to older adults, within the context of the theory of planned behaviour (TPB). A qualitative methodology with purposive sampling was used. Semi-structured interviews were conducted with 23 young adults and older adults who were currently overweight or obese. The research was informed by thematic analysis. A mixed deductive-inductive approach that was structured around but not limited to TPB constructs was applied. Themes mapped onto the TPB behaviour well, with additional themes of motivation, and knowledge and experience emerging. Differences across groups included motivators to weight loss (e.g. appearance and confidence for young adults, health for older adults), importance of social influences, and perceptions of control (e.g. availability and cost for young adults, age and energy for older adults). Similarities across groups included attitudes towards being overweight and losing weight, and the value of preparation and establishment of a healthy routine. Finally, across both groups, knowledge and confidence in ability to lose weight appeared adequate, despite failed attempts to do so. The different experiences identified for younger and older adults can be used to inform future tailored weight-loss interventions that are relevant to these age groups, and the TPB could provide a useful framework. Additional intervention strategies, such as improving behavioural routine and improving self-regulation also warrant further investigation.

**Keywords:** qualitative; overweight; theory of planned behaviour; young adults; older adults

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**A Qualitative Exploration of Experiences of Overweight Young and Older Adults: An  
Application of the Theory of Planned Behaviour**

The worldwide prevalence of obesity is increasing (Cameron et al., 2003; Prentice, 2006). Australia is reported to have one of the highest prevalence rates of obesity in the world, with an estimated 60% of the population being overweight or obese (Cameron et al., 2003). Current weight-loss interventions often use a combination of behavioural modification, pharmacological interventions and, in the most extreme cases, surgical procedures (Bauchowitz et al., 2005; Douketis, Macie, Thabane, & Williamson, 2005; Ebbeling, Leidig, Feldman, Lovesky, & Ludwig, 2007; Lang & Froelicher, 2006; McMillan-Price et al., 2006). However, most weight-loss interventions result in a maximum of 5 to 10% weight-loss of initial body weight, which is typically regained within five years (Magro et al., 2008). Whilst many interventions have targeted young adults, the heterogeneity of results and poor long term maintenance outcomes highlights the need to improve the efficacy of current weight-loss treatments (Marcus et al., 2006).

Health models can form a useful theoretical basis to investigate the various factors that are important to target in weight-loss interventions. Further, interventions that are based on theoretical frameworks have been shown to be more effective than those that do not (Avery, Flynn, van Wersch, Sniehotta, & Trenell, 2012). The theory of planned behaviour (TPB) is a well-researched model of health behaviour (e.g. McEachan, Conner, Taylor, & Lawton, 2011), in which intention is posited as the most important behavioural determinant (Fishbein et al., 1992). The TPB also incorporates attitudes (behavioural evaluation) and subjective norms (social pressure), as well as perceived behavioural control over performance (Ajzen, 2002b; Fishbein, 2007). Perceived behavioural control not only serves as a predictor

75 of intention, but also serves to directly predict behaviour, as it is considered a proxy for actual  
76 control. The model has also been expanded to include self-efficacy as a form of behavioural  
77 control, which is considered the perceived ease with which the behaviour is performed  
78 (Ajzen, 2002b; Bandura, 1977).

79         The TPB proponents acknowledge that to understand the beliefs relating to the  
80 attitudes, subjective norm, perceived control and self-efficacy of a particular population, it is  
81 imperative to identify the beliefs specifically within that population (Ajzen, 2002a).  
82 Therefore, an essential step in the application of this model is to elicit information about the  
83 behavioural, normative and control beliefs most relevant to the population being studied.  
84 Once this has occurred, appropriate measures and interventions can then be designed and  
85 tested.

86         There is a dearth of research using health behaviour models and qualitative research  
87 techniques to explore the factors relevant to weight-loss, and most of these studies have used  
88 a normal weight female sample, which may limit the generalisability to overweight or obese  
89 individuals (Andajani-Sutjahjo, Ball, Warren, Inglis, & Crawford, 2004; Greaney et al., 2009;  
90 Nelson, Kocos, Lytle, & Perry, 2009), and to males (Cluskey & Grobe, 2009). Furthermore,  
91 research has tended to only explore one element of weight-loss related behaviour, such as  
92 healthy eating (Garcia, Sykes, Matthews, Martin, & Leipter, 2010) or exercise (Allender,  
93 Cowburn, & Foster, 2006; Belanger-Gravel, Godin, Bilodeau, Poirier, & Dagenais, 2013;  
94 Downs & Hausenblas, 2005). Therefore as a way of addressing these issues, a qualitative  
95 exploration of the TPB to explore factors relevant to weight-loss appears timely.

96         The purpose of this research therefore was to qualitatively investigate the specific  
97 factors relevant to weight control and management in overweight and obese individuals,  
98 within a theoretical framework of the TPB, and to compare these factors across younger and  
99 older adults. A secondary aim of the research was to determine whether the TPB framework

100 provided an appropriate fit to overweight and obese individuals, and to weight management  
101 behaviours, so as to inform specific tailored and theoretically driven weight-loss  
102 interventions.

### 103 **Method**

#### 104 **Overview and Design**

105 A qualitative research approach was used, combining in-depth semi-structured focus  
106 groups and individual interviews. Sampling used in this study included both purposive  
107 sampling and theoretical sampling (Braun & Clarke, 2006). Data extraction was informed by  
108 thematic analysis techniques (Willig, 2001). Participants also completed a brief demographic  
109 and weight-loss information questionnaire. Participants were required to be aged 18 or over,  
110 be fluent in English, and have a BMI of 25 or over. An approximately equal number of males  
111 and females were recruited.

#### 112 **Participants**

113 A total of 23 overweight and obese adults participated in the study. This included 17  
114 young adults (18-26 years; 9 females), and 6 older adults (36-65 years; 4 females). See Table  
115 1 for demographic characteristics. A majority of participants reported that they had tried to  
116 lose weight or control their weight in the past, with an average of six weight-loss attempts for  
117 young adults and three for older adults. The average weight-loss goal was 8.5 kilograms for  
118 older adults and 13.3 kilograms for younger adults.

119 Focus groups and interview times were organised based on individual participant's  
120 schedules and availability. As most of the older participants had less flexible availability, it  
121 was not possible to organise focus groups with this age group. Thus while all of the older  
122 adults participated in individual interviews, all of the younger adults participated in small  
123 focus groups. The focus groups ranged in size from two to six people.

#### 124 **Materials**

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### 125 *Demographic questionnaire*

126 Data on age, sex, ethnicity, level of education, employment status and annual income  
127 were collected. Participants also provided self-reported measures of their height and weight,  
128 from which BMI was calculated. Information was also gathered on participants' history of  
129 weight-loss or management, including number of previous weight-loss attempts.

### 130 *Semi-structured interview*

131 All interviews and focus groups were conducted with the assistance of an interview  
132 guide that reflected the research questions, which is important for strong qualitative research  
133 (Leedy & Ormond, 2005). The main topics for the semi-structured interview included self-  
134 perception of weight (e.g., "Do you perceive yourself as being overweight?"), previous  
135 personal experience with weight-loss (e.g., "Have you ever tried to lose weight before?"),  
136 personal control over weight-loss (e.g., "How much control do you think you have over your  
137 ability to lose weight?"), and the motivators and challenges for weight-loss as experienced by  
138 the individual (e.g., "What are the main things which motivate you to lose weight?" and "Are  
139 there people in your life who you think may make it more difficult for you to lose weight? If  
140 so, in what ways?"). It also explored attitudes towards weight-loss (e.g., "What are the  
141 disadvantages of trying to lose weight?") and the influence of other people on attitudes and  
142 weight-loss efforts (e.g., "What do people say about your weight?"). The interview questions  
143 were used flexibly throughout the study, and the participants own language styles were  
144 adopted and incorporated into further questions. Probe and follow-up questions were used to  
145 clarify responses and encouraged elaboration (Bowling, 2002). In addition, participants were  
146 encouraged to pose their own questions if they felt there were any important issues that were  
147 not raised. Specific questions were added throughout the interview process in response to  
148 developing themes. Key topics that were not mentioned spontaneously by interviewees but  
149 were central to the research aims were then specifically probed for by the interviewer.

150 **Procedure**

151 Participants were recruited voluntarily through a university-based online study  
152 participation website (in exchange for course credit), and through University staff and student  
153 bulletins. This study was approved by the University human research ethics committee.

154 Interested participants contacted the researcher via phone or email, and an interview  
155 or focus-group time was scheduled. All focus groups or interviews were held in a meeting  
156 room at an Australian university. Upon arrival, participants were provided with an  
157 information statement and informed written consent was obtained. Interviews were audio  
158 recorded and ranged from just over half an hour to nearly 2 hours in length. Each participant  
159 was free to stop the interview or withdraw from the focus group at any time.

160 Following the interview, participants were required to fill out the demographic  
161 questionnaire. All participants were then debriefed, and offered a Weight Control Starter  
162 Pack, which included a weekly food diary, information pamphlets about healthy eating and  
163 exercise, healthy recipes, and a free gym trial pass.

164 **Coding and Analysis of Qualitative Data**

165 Each recorded interview was transcribed verbatim prior to coding and thematic  
166 analysis procedures. The first half of the recordings across both samples was transcribed by  
167 the researcher, in order for the researcher to become immersed in the data. The remaining  
168 recordings were transcribed by a hired transcription service.

169 After reading each individual transcript twice, inductive and deductive coding of raw  
170 data transcripts was conducted. The themes and constructs of the theoretical model shaped  
171 the reading of the interviews and therefore took a deductive focus; however, the subthemes  
172 that emerged within the constructs were not guided, and therefore allowed for differences  
173 between younger and older adults within these constructs. Other themes that emerged from



174 the data were also included inductively. This dual approach has been recommended to  
175 improve the quality of work, particularly for the exploration of theories (Joffe, 2012).

176 During this process, the identification and organisation of information into themes and  
177 subthemes was carried out using descriptive labels. Coding was carried out by the  
178 investigator and an independent, experienced qualitative coder, in order to reduce subjective  
179 biases. Discrepancies were discussed and resolved, to create a common theme list. There was,  
180 however, a high level of agreement in themes between coders, with the primary difference  
181 being the labels given to the themes. Constant organising and re-assignment, comparison and  
182 refining of coded data were carried out in a cyclical manner. This was done by comparing  
183 emerging master themes, subthemes and categories that were being coded in new transcripts  
184 with existing themes in a back and forth movement between raw data and the thematic  
185 summary table. This ensured that only new independent master themes were added to the  
186 overall summary theme list, and that emerging subthemes and categories were systematically  
187 integrated under these master themes.

### 188 **Data Saturation**

189 Qualitative data collection is generally said to end when no new theoretical insights  
190 emerge that would further develop a conceptual theme (Bowling, 2002; Strauss & Corbin,  
191 1990). In accordance with recommended procedures by which saturation of themes is  
192 systematically conducted and reported (Francis et al., 2009), a stopping criterion of three  
193 interview or focus groups was set, whereby data collection would cease when no new master  
194 themes emerged from the data after three consecutive interviews (Francis et al., 2010). This  
195 was reached at 17 young adults in six focus groups, and after conducting six individual  
196 interviews with older adults, at which point saturation was deemed to have occurred. There  
197 were no discernible differences between those who were overweight and those who were

198 obese regarding thematic content, and therefore the experiences of these individuals were  
199 explored together.

### 200 **Clustering of Themes**

201         Once master themes and subthemes were clustered and refined into the final themes,  
202 integration of themes was then carried out within and between each focus group and  
203 interview transcript. The themes identified from the younger and older adults were also  
204 compared, in order to identify any similarities or differences between the two age groups,  
205 both within and between themes. These differences were then interpreted and explained  
206 (Creswell, 1998).

### 207 **Results**

208         Broad themes of intention and motivation, attitudes, social influence, personal control,  
209 knowledge and experience, and behaviour emerged. Example quotes are provided for  
210 younger adults (Y), older adults (O), males (M), and females (F) to illustrate the themes.

#### 211 **Intention**

212         Intentions appeared similar across age groups, and no subthemes were identified.  
213 Females in particular reported that they intended to lose weight, e.g. *“I’m trying to lose  
214 weight and getting into the habit of exercise.”* (Y1, F). In contrast, males in both age groups  
215 reported a desire to increase muscle tone and muscle composition, usually in combination  
216 with a decrease in body fat, e.g. *“Yeah, losing weight, not muscle weight, but fat. I try to  
217 have a low carb and high protein diet to build the muscles.”* (Y13, M). Only three individuals  
218 were not actively engaged in weight-loss behaviours at the time of the study, and all three  
219 individuals reported preparing or intending to begin this soon, e.g. *“I’m doing absolutely  
220 nothing but I’m thinking about what changes I can make. Changes I can gradually  
221 introduce.”* (O1, F). It is unclear what differentiated those who were actively engaging their

222 weight-loss intentions and those who intended to soon, but it is possible that other TPB  
223 factors played a role.

## 224 **Motivation**

225 Motivation occurred across subthemes including appearance and confidence, health,  
226 dating, the media, intrinsic motivation, and weight comments from others. Both groups  
227 recognised that having high levels of continuing motivation was very important for weight-  
228 loss and control, but was also difficult to maintain. The most widely stated motivator for  
229 weight-loss across both groups was to improve one's appearance, to be able to wear certain  
230 clothes, and to feel happy and confident as a result, e.g. *"Well I think if you feel good about*  
231 *your appearance, then you're going to also feel good because you have more confidence.*  
232 *That's a big one too. Confidence."* (Y16, F). For the majority of young adults and some older  
233 adults, appearance and confidence were more salient motivators than health, e.g. *"Body*  
234 *shape and appearance is higher than health, yeah, definitely, for me."* (Y12, M). In contrast,  
235 half of the older adults claimed health was their primary motivator for wanting to lose weight,  
236 e.g. *"I do care if I'm healthy. That's what I care about."* (O5, M).

237 One motivator for weight-loss which was raised specifically by young adults was to  
238 feel more confident when approaching people they find attractive, and forming intimate  
239 relationships, e.g. *"I would also feel more comfortable in trying to have a boyfriend. My*  
240 *weight definitely holds me back in that department too."* (Y10, F). Both age groups also  
241 acknowledged that motivation was most effective if it was self-driven, rather than due to  
242 external pressures, e.g. *"Unless you've got that internal drive too, that voice inside your head*  
243 *telling you to keep going and that you can do it, no amount of external things helping you is*  
244 *going to get you results. Ultimately you need to be doing it for yourself, and I know that."*  
245 (O2, F).

## 246 **Attitudes**

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247 Four subthemes were identified within attitudes: attitudes toward weight-loss,  
248 attitudes toward being overweight, attitudes toward being thin, and cognitive errors. General  
249 attitudes expressed towards weight-loss behaviours were negative, e.g. *“Isn't it strange how*  
250 *when you're losing the weight, you feel horrible but you keep going?”* (Y11, F). Both young  
251 and older adults described weight-loss behaviour as being unpleasant and requiring  
252 deprivation of things that they enjoy as well as hard work and time commitment, e.g. *“I think*  
253 *it's also about what I know I'm missing out on if I do exercise more. I mean, my friends and*  
254 *family are often going out of an evening, seeing films or going out to dinner or for drinks. I'd*  
255 *have to miss out on all of that if I was prioritising exercise a couple of nights a week, or even*  
256 *just eating really healthily would inhibit my ability to just do things like that. I don't want to*  
257 *miss out.”* (O6, F). There was also a perception amongst young adults that healthy foods were  
258 not as satisfying, or tasty e.g. *“Yeah, it's just giving up the things that you like, like certain*  
259 *foods which just taste better than the healthy stuff.”* (Y15, F). However, both age groups  
260 acknowledged that healthy weight-loss behaviours could also result in positive feelings such  
261 as feeling happy, comfortable and healthier. In addition, most older adults described exercise  
262 as a method of reducing stress, e.g. *“It's just this really easy way of shutting down for a while*  
263 *or zoning out; just really letting your mind calm down and stop worrying about work and all*  
264 *of the things you have to do or haven't done yet. It's great.”* (O6, F).

265 For both age groups, general attitudes towards being overweight were also expressed,  
266 such as feeling unhappy with their current weight and appearance, frustration with not being  
267 able to purchase clothes they like, or wear clothes that had previously fit them, e.g. *“I hate*  
268 *being overweight. I hate it. I've got a one year old daughter so I've been able to kind of*  
269 *justify it to an extent but I have a real issue with the size I'm at now, it's just too big for my*  
270 *comfort zone. It has a negative impact on my self-image and I just hate how I look. I hate it.”*  
271 (O4, F). Older adults were more likely to acknowledge the increased health risks and medical

272 problems associated with being overweight compared to the young adults, e.g. *“It's quite*  
 273 *distressing to know that if your BMI is above a certain number then it's not good, it's a risk*  
 274 *factor for various diseases. And that's what worries me about my weight”* (O6, F). In contrast  
 275 young adults reported the negative social consequences such as restricted participation in or  
 276 enjoyment of social activities, or not feeling confident enough to form intimate relationships,  
 277 e.g. *“I'm uncomfortable, and I know I don't look good. I don't like choosing out what I'm*  
 278 *going to wear today. I don't know. It makes me want to cry.”* (Y16, F).

279 Young and older adults expressed predominantly positive attitudes towards being thin  
 280 or successful weight-loss. Most individuals acknowledged that losing weight would lead to  
 281 positive emotions, less stress, feeling more comfortable and attractive, improved self-esteem  
 282 and confidence, being able to wear nice clothes, and being treated more positively, e.g. *“I'm*  
 283 *definitely more confident [at the] lower end [of my weight], feel more sprightly and more*  
 284 *attractive and that sort of stuff.”* (O2, F).

285 Finally, although more common amongst younger adults, many individuals in both  
 286 age groups displayed unhelpful thinking styles which contributed to their negative attitudes  
 287 about being overweight and weight-loss. These thinking styles included black and white or  
 288 extreme thinking, e.g. *“When I say to myself ‘I'm going to go on a diet’ I really go on a diet*  
 289 *but when I'm not I'm never in the middle, I always go to the **two extremes**.”* (Y11, F). Other  
 290 unhelpful thinking styles included making unhelpful or unrealistic comparisons to others and  
 291 using labels, e.g. *“And my sister has always been really slim, so I always **compared** myself to*  
 292 *her... so I've always been **the fat one** out of the two sisters, which has always been annoying,*  
 293 *and like, yeah, upsetting.”* (Y9, F); justifying weight gain in ways that reduced personal  
 294 responsibility, e.g. *“Then I use this as an **excuse** not to go, cos I think ‘Well I would have*  
 295 *gone but my friend couldn't. Maybe next week.”* (Y14, M), and catastrophising or  
 296 exaggeration and overestimation of negative consequences, e.g. *“I end feeling so terrible and*

297 *upset, I look in the mirror and I can't believe how horrible I look. And then I sit there and I*  
298 *look at this unrealistic number, this size, and I'm like "I shouldn't" and you sit there in a*  
299 *shopping centre, I can't cry. But it's so frustrating.*" (Y16, F).

### 300 **Social Influence**

301 Four areas of social pressure emerged: the media, family, friends, and professionals.

302 Individuals agreed that there was a general social pressure to lose weight and be thin,

303 particularly from the media, e.g. *"The media definitely. That's a big thing. From watching*

304 *music videos, from watching movies, from picking up MX<sup>1</sup> or any magazine, you know?"*

305 (Y5, M). Some young adults reported that the media provided motivation to lose weight. In

306 contrast, older adults described actively attempting to resist it through the way they engage

307 with and respond to such pressure, e.g. *"Part of me has bought into it the fact that I want to*

308 *be skinny, look good, feel better about myself so I feel like it's a bit ambiguous, part of me*

309 *knows intellectually yes the pressure is there, part of me feels that if you were an intelligent*

310 *person if you have a strong will power and a good sense of yourself who cares what society*

311 *says. You can resist it. You don't have to buy into it.*" (O1, F).

312 Family was a social influence for many, but the effect seemed highly varied. While

313 some found criticisms from their family about being overweight helpful and motivating,

314 others found it discouraging and hurtful. For many young adults, their parents were

315 responsible for purchasing and preparing their food. For some individuals, this acted as a

316 facilitator to weight-loss, e.g. *"I eat what my mum gives me. Usually my mum makes all of my*

317 *dinners and gives me a packed lunch, so my diet is pretty much all that I need.*" (Y4, M). In

318 contrast, many older adults reported that looking after children took up a considerable amount

319 of time and prevented them from engaging in healthy weight-loss behaviours, e.g. *"My work*

320 *and my kids take up time, which technically means that I have less time to exercise because of*

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<sup>1</sup> MX is a free Australian commuter magazine

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321 *them, but that's certainly not their fault... but every parent accepts that's just part of the deal*  
322 *I think, so I'm okay with that.” (O5, M).*

323         Specific to young adults was the role of friends and peers, and similarly to family  
324 these comments could be both helpful, e.g. *“I guess if it's your friends then like it's helpful to*  
325 *know because if they don't tell you, then who will? Cos often by the time you realise you're*  
326 *out of shape it's a bit too late.” (Y3, M); and unhelpful, e.g. *“Girls can be the opposite*  
327 *because they can try to sabotage you... if you are losing weight they're like, oh, you know I*  
328 *have chocolate?” (Y9, F). Some young adults found it difficult to engage in weight-loss*  
329 *behaviours whilst socializing, e.g. *“When I go to parties or I meet up with friends, I don't go*  
330 *with my diet, I just eat whatever.” (Y13, M), whilst others had a preference for peer sports*  
331 *over individual exercise. *“I think that social sports are more effective, and you're more likely*  
332 *to go back and do it again.” (Y5, M) Negative social comparisons with peers were common,*  
333 *e.g. *“Like when I'm with my water polo team, they're all buff and big and I'm the smallest*  
334 *one muscle wise, biggest one weight wise, so I feel like I'm nothing compared to them. You*  
335 *end up comparing yourself to these people that are all really fit.” (Y8, M).*****

336         Regarding professionals, very few people had doctors comment on their weight, and  
337 those that did were mostly young adults. These were mostly negative experiences, in which  
338 doctors were critical and negative, or dismissive of the individual's weight concerns, e.g. *“A*  
339 *Doctor weighed me, they told me I was overweight. They recommended I lose weight... She*  
340 *was critical. [It made me feel] not very good. When people say critical things it makes me*  
341 *want to eat more which is really strange.” (Y10, F). However, several younger and older*  
342 *adults reported that being accountable to professional weight-loss support teams was very*  
343 *helpful, e.g. *“I've done weight watchers a couple of times and that always works and then I*  
344 *get confident and think I don't need it and it works for a long period of time not being on it*  
345 *and then gradually it comes back up.” (O2, F).**

346 **Personal Control**

347           Whilst exploring the role of personal control, subthemes emerged across the areas of  
348 external and internal barriers and facilitators, perceived control, self-efficacy, and the  
349 intention-behaviour discrepancy. Most people reported that limited time and changes in their  
350 environment or living situations (e.g. work schedules, having a baby) which disrupt their  
351 routine were barriers to weight-loss behaviours. Young adults also reported the availability of  
352 unhealthy foods, e.g. *“Yeah, my mum puts chocolate around, so I basically pick it up and eat*  
353 *it. If it’s in front of me, if it’s available, if I see it, I will eat it.”* (Y7, M), and perceived high  
354 cost of health foods and exercise methods such as the gym were major barriers, e.g. *“Budget.*  
355 *Like not everyone can afford a gym membership. I mean they’re pretty absurd.”* (Y6, F). In  
356 contrast, one barrier raised by all older adults was age, and that their bodies no longer  
357 responded as well to weight-loss efforts, e.g. *“I’m finding it the hardest I’ve ever felt it*  
358 *because as you get older you just don’t have the energy to exercise that you used to have. So*  
359 *it’s really quite difficult. Your body just responds differently than what it used to. Weight loss*  
360 *is always a hard thing I think, but certainly the older you get, the harder it is.”* (O5, M).  
361 However, social support was found to be an external facilitator across both age groups, as  
362 described in the theme of *social influence*. In addition, young adults found having a stable  
363 living situation conducive to weight-loss behaviours, particularly if other people, such as their  
364 parents, took control of their food purchase and preparation.

365           Internal barriers to weight-loss which were identified by both young and older adults  
366 included giving into temptation or craving to eat unhealthy foods, and relying on others to  
367 make them engage in weight-loss behaviours as opposed to taking responsibility for it  
368 themselves. Older adults reported that being disorganised and unprepared was an internal  
369 barrier, e.g. *“You really need to be organised and have the healthy foods available, and the*  
370 *time to prepare it, and with everything else happening at the same time, I sometimes find it*



371 *difficult to prepare as much as I need to.*” (O4, F), whilst younger adults reported getting into  
372 a healthy routine was a facilitator to weight-loss, e.g. *“Yes, I’m getting lots of exercise after*  
373 *work. I’ve just made it part of my routine, so that kind of ensures that I do it. I’ve been*  
374 *writing down what I do each day.*” (Y17, M).

375 Many individuals felt that they have a high level of control over their ability to engage  
376 in weight-loss behaviours, and confidence in their ability to do so. However, this was in  
377 contrast to their actual experience, where they described extreme difficulty in engaging in and  
378 maintaining weight-loss behaviours, e.g., *“I have the control to change things I just don’t*  
379 *change them, and I don’t know why. It’s ridiculous.*” (Y16, F). Similarly, regarding self-  
380 efficacy, a majority of individuals had high confidence in their ability to change, but  
381 displayed ongoing concerns about the difficulty of maintaining weight-loss and staying  
382 motivated. This contrast is also reflected in the discrepancies between intentions and  
383 behaviour across both younger and older adults, e.g. *“But I’m there, I really, really, really*  
384 *want to be 65 kilos and I’ve got all the resources but it’s not happening and I’m asking*  
385 *‘Why?’*” (Y11, F).

### 386 **Knowledge and Experience**

387 Knowledge and experience subthemes emerged across healthy eating, exercise, health  
388 risks of being overweight, and experience of being overweight and of weight-loss. All  
389 participants interviewed indicated that they felt that they had a sufficient level of knowledge  
390 about what is required to live a healthy lifestyle and try to maintain or control their weight,  
391 including healthy eating and exercise, e.g. *“I know the big factors are about healthy eating in*  
392 *the right proportions, engaging in enough exercise to keep your heart rate sustained for a*  
393 *certain amount of time, and reducing sedentary behaviour, which should really be happening*  
394 *if you’re engaging in enough exercise anyway.*” (O6, F). Both younger and older adults also  
395 demonstrated a sound knowledge about the risks of being overweight.

396           Regarding experience, both young adults and older adults reported that they had  
397 experienced minimal physical side effects or medical difficulties related to their weight, e.g.  
398 *“I recently had a blood test as well. Everything was fine but yeah, I just feel my fat symptoms*  
399 *coming on and like I said, sweaty, I don't feel as agile I guess, and really unenergetic.”* (Y11,  
400 F); with a majority of individuals purporting not to have experienced any. When asked about  
401 their previous experience with weight-loss or control, most people reported that they had  
402 attempted to lose weight previously, but had gained it back again, e.g. *“Yeah, I'm the same, I*  
403 *couldn't put a number on it, it's just like since, yeah, probably around about the same time,*  
404 *it's just been on and off, and I've succeeded a few times but then I just tend to put it back*  
405 *on.”* (Y15, F).

#### 406 **Behaviour**

407           Behaviour subthemes that emerged included healthy or unhealthy eating, exercise and  
408 sedentary behaviour, realistic weight-loss goals; and unhealthy extreme behaviour. While  
409 individuals in both age groups tended to engage in some exercise, young adults typically  
410 reported engaging in higher amounts of exercise, e.g. *“I do water polo ... I go to the gym*  
411 *extra on my own, and I play soccer sometimes.”* (Y8, M), whilst most of the older adults  
412 reported engaging in minimal or no exercise, e.g. *“No, I don't exercise generally. I've been*  
413 *actually making an effort this week to exercise, just walking up to uni and back again to the*  
414 *station.”* (O6, F). Both younger and older adults reported having a relatively high sedentary  
415 lifestyle.

416           All individuals reported having varying degrees of an unhealthy diet. Shared  
417 difficulties for both younger and older adults were overeating, and eating unhealthy foods.  
418 Another form of unhealthy eating shown by both groups, but particularly young adults was  
419 having big gaps between meals, and eating large, late meals as a result, e.g. *“There's that*

420 *gigantic gap where I'm just "I'm hungry, I'm hungry" and then when it's time to eat again I*  
421 *just stuff myself and then it's dinner time already, because I eat so late."* (Y16, F).

422 Young adults also reported a greater range of unhealthy and extreme eating  
423 behaviours, including using food as a reward, eating in response to negative affect and eating  
424 in secret, e.g. *"I've just been eating so much junk food, it's just really bad. I find that I'm*  
425 *really stressed and lately I've just been really stressed, so I eat. I've just been pigging out,*  
426 *like Maccas (McDonalds) for brekkie, I even sneakily eat it."* (Y11, F). Young adults also  
427 described extreme weight control behaviours, such as self-imposing severe dietary  
428 restrictions which would often lead to binge-eating, or exercising excessively, e.g. *"I*  
429 *sometimes go through periods where I try to eat really healthily but actually restrict what I'm*  
430 *eating quite a lot, so I may get up and eat a small bowl of really healthy cereal for breakfast*  
431 *and then half a sandwich for lunch, but when I get home at dinner time I'm starving and tend*  
432 *to eat lots then. Too much."* (Y2, F). In contrast, older adults generally demonstrated a  
433 healthy, realistic approach to weight-loss, e.g. *"I'm being realistic about it and I'm doing*  
434 *what I need to do. I don't want to be the next Brad Pitt, I just want to be considered healthy."*  
435 (O5, M).

## 436 Discussion

437 The primary aim of this study was to investigate the specific factors relevant to weight  
438 control in overweight and obese younger and older adults, within a TPB framework. From the  
439 TPB, attitudes, social norms, and perceived behavioural control are all proposed to influence  
440 intention, which subsequently influences behaviour. These constructs were all supported  
441 within the current themes, which is in accordance with previous qualitative research  
442 exploring beliefs about physical activity in overweight and obese older adults (Belanger-  
443 Gravel et al., 2013). Other quantitative research has also emphasised the importance of  
444 constructs such as intention in weight control behaviours for overweight and obese

445 individuals (Baranowski, Cullen, Nicklas, Thompson, & Baranowski, 2003; Gardner &  
446 Hausenblas, 2004).

447         While intention was an important theme amongst both older and younger participants,  
448 gender differences were evident in the younger age group. Young females spoke about  
449 wanting to lose weight and reduce body fat, while males described intentions to build muscle  
450 mass and ‘bulk up.’ This gender difference has been supported in the literature (Antin &  
451 Paschall, 2011) and may be important in designing interventions in this age group.

452         Motivation also emerged as a theme. Whilst it is not an explicit TPB construct,  
453 motivational factors that influence behaviour are captured within the construct of intention  
454 (Ajzen, 1991), and therefore does not appear to be in conflict with the TPB. Health was less  
455 of a motivator for younger participants than for older participants. Nonetheless both groups  
456 were more likely to endorse non-health related motivators for weight-loss and control, such  
457 as improved appearance and ability to wear certain clothes. Young adults also reported  
458 increased confidence, particularly in forming intimate relationships, as a motivator. These  
459 findings expand on previous research that found appearance was a motivator amongst young  
460 adults, while older adults prioritised health (Flynn Corwyn & Benda, 1999). This has  
461 important implications for weight-loss interventions and campaigns, most of which  
462 emphasise health benefits (Foreyt & Goodrick, 1994), as these interventions may be less  
463 effective for young adults .

464         Attitudes towards weight-loss related behaviours such as exercise and healthy eating  
465 were mostly negative, as previously found (Andajani-Sutjahjo et al., 2004). Negative  
466 attitudes towards being overweight were also evident. Young adults were particularly  
467 concerned about the social implications of being overweight, whilst older adults were more  
468 concerned about the negative health consequences. In contrast, attitudes towards being thin  
469 were overwhelmingly positive in both populations. Thus, cultivating positive attitudes

470 towards goal-directed weight-loss behaviours rather than focussing on the long term (and  
471 more difficult to achieve) target of being thin may be helpful for both age groups.

472         Social pressure to lose weight was felt by both younger and older participants, which  
473 confirms a strong bias against being overweight or obese, both within Australia and other  
474 western cultures (Puhl & Brownell, 2001; Thomas, Hyde, Karunaratne, Herbert, &  
475 Komesaroff, 2008). Younger adults expressed specific pressure from the media, whilst family  
476 was influential to both groups. Another important area of social influence was interactions  
477 with professionals. Although only a small number of young adults had been told that they  
478 were overweight or needed to lose weight by their GP, these experiences were generally  
479 negative and deterred them from seeking further help. Obesity discrimination within medical  
480 settings can lead to an avoidance of seeking healthcare (Puhl & Brownell, 2001; Sansone,  
481 Sansone, & Wiederman, 1998) and may therefore reduce professional support for weight-loss  
482 attempts. Therefore in addition to interventions targeting individuals, interventions aimed at  
483 reducing stigma towards overweight by health professionals are needed.

484         There were a number of external barriers to weight control raised by both groups,  
485 such as time limits and periods of change, which have been supported in the literature (Garcia  
486 et al., 2010; Nelson et al., 2009). Young adults also reported that the availability of unhealthy  
487 foods and cost of healthy foods were barriers to weight-loss behaviours, whilst older adults  
488 mentioned aging as a barrier. Internal barriers were also found; older adults reported being  
489 disorganised and unprepared as an internal barrier to weight control, whilst younger adults  
490 reported having a regular, organised routine facilitated healthy behaviours. Therefore,  
491 learning to become more organised and prepared in the context of a time limited schedule  
492 may be helpful, and may also increase perception of external control over weight-loss.

493         Knowledge and experience was an important theme in the current research that was  
494 not suggested by the TPB. Previous research has suggested that knowledge and accurate

495 weight perceptions may be important for weight control in overweight and obese individuals  
496 (Duncan et al., 2011; Shimokawa, 2013). Knowledge may be necessary in order to make  
497 informed behaviour changes, and further research could consider assessing knowledge  
498 adequacy prior to conducting weight management interventions. Most participants reported  
499 sufficient knowledge of weight-loss behaviours, but not necessarily the skills to perform  
500 these behaviours. This contrast between knowledge and skills may contribute to an  
501 unsuccessful history of repeated weight-loss attempts, and is in accordance with literature  
502 that suggests that while knowledge is needed to change behaviour it is not sufficient (Kenkel,  
503 1991; Kothe & Mullan, 2011).

504 Most participants reported engaging in unhealthy behaviours, such as overeating  
505 unhealthy foods, skipping meals and eating late, and leading highly sedentary lifestyles but  
506 found that their behaviour was most supportive of their weight-loss goals when they were  
507 able to establish routines, suggesting the need to incorporate strategies that help develop  
508 healthy habits (King, Mainous III, Carnemolla, & Everett, 2009), such as self-monitoring  
509 (Todd & Mullan, In Press), in interventions. Young adults also reported a greater range of  
510 extreme weight-loss behaviours, such as excessive dietary restrictions or levels of exercise.  
511 These unhealthy approaches have been found to be risk factors for further weight gain  
512 (Cooley & Toray, 2001; Neumark-Sztainer et al., 2006). Therefore, young adults may benefit  
513 from interventions that focus on self-control and self-regulation, which have been found to be  
514 important for many health behaviours (Collins & Mullan, 2011; Hagger, Wood, Stiff, &  
515 Chatzisarantis, 2010).

### 516 **Limitations**

517 In this study, all younger adults participated in focus groups with at least one other  
518 person, and all older adults engaged in individual interviews, which may have differentially  
519 affected the degree to which participants felt comfortable and able to respond honestly, or the

520 degree to which they were engaged with the interview process. In addition, all participants  
521 were university students or staff members, which may limit transferability of the results to  
522 other populations. However, it may also serve as strength, as this group is at high risk of  
523 weight gain (Garcia et al., 2010). In this study, individuals who signed up for the study were  
524 willing to discuss their weight difficulties, potentially excluding those who are unlikely to  
525 seek professional or personal support in weight-loss. This study may also not have appealed  
526 to individuals who are unaware that they are overweight, which may be important for future  
527 studies in this area. Finally, the interviews were conducted within a deductive theory-driven  
528 framework, which serves as a limitation and a strength. Whilst other themes and factors  
529 outside the TPB may have been missed, there was room for other themes to emerge. In  
530 addition, this allowed for a more detailed exploration of the TPB. Furthermore, within the  
531 theory-driven themes, the interviews were inductive in nature, which allowed for important  
532 subthemes to emerge that were not guided.

### 533 **Strengths and Implications**

534         The current study used qualitative research to identify similarities and differences in  
535 the experiences of older and younger adults regarding being overweight and weight-loss  
536 behaviours. A theoretical basis was used to form the research and interview questions, which  
537 has been shown to increase the validity of qualitative research (Peters, 2010). Many themes  
538 were identified that are relevant to younger and older adults in their attempts to lose weight,  
539 which each have important implications for future intervention design. Targeting specific  
540 sub-themes, for example young adults appear more motivated to lose weight for appearance  
541 concerns, whilst older adults appear to be more concerned about health, may help to improve  
542 the relevance of weight-loss interventions. Finally, although not explored in the current  
543 research, differences in the experiences and change mechanisms between those who are

544 overweight and those who are obese warrant investigation, to provide further tailored  
545 interventions.

546 **Conclusion**

547 Overweight and obese young adults in Australia appear to experience a range of  
548 factors relevant to weight-loss and control. This study delineated pertinent themes that arise  
549 in the experience of overweight and obese young adults in comparison to older adults, in  
550 addition to testing the applicability of these themes to the TPB. The TPB was a useful  
551 theoretical framework for exploring weight control in overweight and obese individuals; and  
552 the importance of knowledge could be further explored. The clinical implications of this  
553 research are particularly important given the increasing prevalence of obesity in young adults  
554 and the limited efficacy of current treatments.

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728 **Table 1**729 *Summary of Participant Demographic Information*

	<b>Young Adults</b>	<b>Older Adults</b>
<b>Number</b>	17	6
<b>Gender</b>	8 Female; 9 Male	4 Female; 2 Male
<b>Age range (mean; SD)</b>	18-26 (19.9; 2.1)	36-65 (47.8; 11.8)
<b>BMI range (mean; SD)</b>	25.8-43 (29.1; 5.1)	26.1-27.3 (26.9; 0.5)
<b>Weight loss attempts range (mean; SD)</b>	0-20 (6.3; 5.7)	0-10 (3.2; 3.8)
<b>Weight loss goal (kgs) range (mean; SD)</b>	0-30 (13.3; 8.6)	3-15 (8.5; 4.2)
<b>Ethnicity</b>		
Anglo-Australian	5	4
Asian	6	1
European	6	1

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