


<b>Title</b>	An examination of the construction of meanings for obesity in Ireland
<b>Author(s)</b>	De Brún, Aoife
<b>Publication date</b>	2013
<b>Original citation</b>	De Brún, A. 2013. An examination of the construction of meanings for obesity in Ireland. PhD Thesis, University College Cork.
<b>Type of publication</b>	Doctoral thesis
<b>Rights</b>	© 2013, Aoife De Brún <a href="http://creativecommons.org/licenses/by-nc-nd/3.0/">http://creativecommons.org/licenses/by-nc-nd/3.0/</a> 
<b>Embargo information</b>	Please note that Chapter 9 (pp. 300-335) of this thesis is currently unavailable due to a restriction requested by the author.
<b>Embargo lift date</b>	10000-01-01
<b>Item downloaded from</b>	<a href="http://hdl.handle.net/10468/1397">http://hdl.handle.net/10468/1397</a>

Downloaded on 2017-02-12T08:26:29Z



**An examination of the construction of meanings for obesity  
in Ireland**

A thesis submitted to the Department of Food Business and Development  
in fulfilment of the requirements for the degree of Doctor of Philosophy

by

**Aoife De Brún, B. A. (Hons)**

Head of Department: Professor Michael Ward

Supervisor: Dr. Mary McCarthy (UCC)

Advisors: Dr. Kenneth McKenzie (UCD)

Dr. Aileen McGloin (*safefood*)

## Table of Contents

<b>Chapter 1 - Introduction</b> .....	1
1.1 Obesity: Defining the problem.....	1
1.2 The social construction of meaning around obesity.....	3
1.3 Aims, rationale and scope of the research.....	6
1.4 Overview of the thesis.....	9
1.5 Summary .....	12
<b>Chapter 2 - Obesity and Social Construction of Meaning</b> .....	14
2.1 Introduction .....	14
2.2 Understanding obesity.....	14
2.2.1 Causes of obesity .....	17
2.2.2 Consequences of obesity .....	20
2.2.3 Interventions in obesity .....	23
2.2.4 Debates in obesity research.....	28
2.2.5 Weight and dietary trends .....	31
2.2.6 Context of the research: Ireland .....	32
2.3. Social influences on weight management behaviours .....	34
2.4 Summary .....	46
<b>Chapter 3 - Literature Review and Theoretical Background</b> .....	48
3.1 Introduction .....	48
3.2 Media influence.....	50
3.3 Communication, mass media & theories of media influence .....	52
3.4 Theories of media influence and illness representations.....	55
3.4.1 Levels of processing.....	55
3.4.2 Preference formation and agenda-setting.....	58

3.4.3. Framing .....	60
3.4.4 Health and obesity in the media .....	70
3.5 Illness representations and public understandings of obesity .....	85
3.5.1 Characteristics and attributes of the CSM.....	87
3.5.2 Organisation and structure of illness representations .....	89
3.6 Summary .....	93
<b>Chapter 4 - Research Approach and Methodological Considerations.....</b>	<b>95</b>
4.1 Introduction .....	95
4.1.1 Overall goal and research aims .....	96
4.1.2 Research philosophy .....	97
4.1.3 Research approach: Mixed methods .....	101
4.2 Exo-level meanings of obesity: Introduction and hypotheses.....	103
4.2.1 Choosing a media source .....	106
4.2.2 Analytical approaches .....	110
4.3 Data sources, sampling and analysis .....	119
4.3.1 Longitudinal data: <i>The Irish Times</i> 1997-2009.....	120
4.3.2 Cross sectional data: Multiple newspaper data set.....	124
4.3.3 Inter-coder reliability .....	128
4.4 Summary .....	129
<b>Chapter 5 - The Emergence and Portrayal of Obesity in the Media.....</b>	<b>130</b>
5.1 Introduction .....	130
5.2 The portrayal of obesity in the media .....	131
5.3 Data set characteristics .....	136
5.4 Coding process and framing dimensions .....	137
5.5 Content analysis results.....	141

5.5.1 The representation of obesity .....	141
5.5.2 Portrayal of obesity over time .....	148
5.5.3 Sources, publication differences, debates and dramatisation.....	153
5.6 Discussion .....	156
5.7 Summary .....	162
<b>Chapter 6 - Qualitative Analysis of the Media Representation of Obesity.....</b>	<b>165</b>
6.1 Introduction.....	165
6.2 Analysis and results .....	166
6.2.1 Theme 1: Illness representation (cause, consequences, solution and trajectory) .....	167
6.2.2 Theme 2: Social rules of thumb to attribute blame .....	185
6.2.3 Theme 3: Judging the experts .....	198
6.3 Discussion .....	202
6.4 Summary .....	213
<b>Chapter 7 – Exploring the Micro- and Individual-level meanings and understandings of obesity: Methodological considerations .....</b>	<b>216</b>
7.1 Introduction.....	216
7.2 Phase 2 propositions and hypotheses .....	216
7.3 Micro-level investigation: Qualitative analysis of message board comments	221
7.3.1 Social media and online interaction .....	221
7.3.2 Ethical considerations .....	225
7.3.3 Data source and sample.....	226
7.3.4 Data analysis .....	228
7.4 Individual-level analysis: Survey to assess beliefs, knowledge and attitudes	229
7.4.1 Survey design .....	230
7.4.2 Survey Materials .....	230

7.4.3 Data screening .....	245
7.4.4 Survey sample and procedure .....	247
7.4.5 Data management and analysis .....	249
7.5 Summary .....	249
<b>Chapter 8 - Micro-level Constructions of Obesity .....</b>	<b>251</b>
8.1 Introduction .....	251
8.2 Results of social media analysis.....	252
8.2.1 Theme 1: Illness representation of obesity.....	253
8.2.2 Theme 2. Social rules of thumb to attribute blame .....	269
8.2.3 Theme 3: Out-group avoidance.....	283
8.3 Discussion .....	290
8.4 Summary .....	298
<b>Chapter 9 - Individual-level Meanings of Obesity .....</b>	<b>300</b>
9.1 Introduction .....	300
9.2 Sample characteristics .....	300
9.3 Analysis.....	303
9.3.1 Proposition 3: Gender differences.....	306
9.3.3 Proposition 4: Frame of explanation for obesity.....	308
9.4 Discussion .....	324
9.5 Summary .....	334
<b>Chapter 10 - General Discussion and Conclusions .....</b>	<b>336</b>
10.1 Thesis aims.....	336
10.2 Summary of the research.....	337
10.3 Theoretical and original research contribution .....	344
10.4 Strengths and limitations of the research .....	352

10.5 Implications and applications of the research .....	356
10.6 Directions for future research.....	365
10.7 General summary .....	368
References .....	370
<b>Appendix A:</b> UCC Ethics approval letters .....	426
<b>Appendix B:</b> Content analysis coding books .....	429
Irish Times sample coding book .....	430
Multiple newspaper sample coding book.....	438
<b>Appendix C:</b> Statistical Methods .....	450
Statistical methods employed.....	451
Parametric and non-parametric statistical analysis .....	451
Parametric testing.....	454
Non-parametric testing.....	463
<b>Appendix D:</b> Qualitative Methods .....	465
Computer-assisted coding in qualitative analysis .....	466
Ensuring rigour and quality in qualitative research .....	467
Qualitative analysis article references and codes (Chapter 6) .....	475
<b>Appendix E:</b> Social media methods .....	479
Ethical considerations in social media research.....	480
<b>Appendix F:</b> Survey methods.....	483
Appendix to Section 7.5.2 Survey Methods.....	484
<b>Appendix G:</b> Full online survey.....	499
<b>Research Dissemination</b> .....	517

## Tables and Figures

### List of Tables

Table 1.1 Summary of outputs from the primary work .....	13
Table 4.1 Newspaper readership by target market group (JNRS, 2010) .....	109
Table 5.1 Media data set characteristics .....	137
Table 5.2 Examples of coding and formation of framing dimensions for analysis .	139
Table 5.3 The IT data set: Examples of frequently cited causes, consequences, solutions, and descriptions of obesity over time .....	145
Table 5.4 Multiple newspaper sample: Selected examples of various cited sources, causes, interventions, and features of obesity reporting over time .....	147
Table 5.5 Differences between broadsheets and tabloids in reporting on obesity ...	155
Table 5.6 Frame and sub-frame prominence over time (%) .....	156
Table 7.1 Message board sampling .....	228
Table 7.2 Summary of constructed included in survey, including factor breakdown and scale amendments.....	231
Table 9.1 Participant demographic characteristics and populations estimates .....	301
Table 9.2 Summary of constructs used in hypothesis testing of survey data.....	304
Table 9.3 Predicting alignment to a behavioural account of obesity .....	312
Table 9.4 Predicting alignment to an environmental account of obesity .....	316
Table 9.5 Variance in perception of obesity in male and female contour drawings	319
Table 9.6 Gender differences in social perception of obese bodies .....	320
Table 9.7 Discrepancies between participants' calculated BMI and perceived BMI .....	322
Table C.1. Interpreting parametric measures of effect size .....	458
Table F.1 Rotated factor loadings for Beliefs about Obesity scale.....	485
Table F.2 Factor loadings for Obesity Risk Knowledge Scale (ORK-10).....	487
Table F.3 Rotated factor loadings for Solutions to Obesity Scale .....	489



Table F.4 Rotated factor loading for ATOP scale .....	491
Table F.5 Rotated factor loading for Body Weight/Shape Self-efficacy Scale .....	493
Table F.6 Factor Loading for Expert Trust Scale .....	494
Table F.7 Rotated factor loadings: Gender Roles/Responsibility for Obesity Scale .....	496
Table F.8 Factor loading for Attitudes Towards the Issue of Obesity Scale .....	497
Table F.9. Rotated factor loadings for Personal Weight Satisfaction Scale .....	498

## List of Figures

Figure 1.1 Overview of research using Bronfenbrenner’s ecological model.....	4
Figure 1.2 Summary of the research approaches and stages of inquiry.....	10
Figure 3.1 Illustration of Bronfenbrenner’s Ecological Model (1977).....	49
Figure 3.2 The self-regulation model of illness representations (Leventhal, Diefenbach and Leventhal (1992), reproduced with permission).....	89
Figure 4.1 Research approaches and stages of inquiry .....	99
Figure 4.2 Summary of deductive approach to content analysis .....	113
Figure 4.3. Inductive thematic approach adopted in the qualitative research.....	118
Figure 4.4 Selection strategy for content analysis of <i>Irish Times</i> articles .....	123
Figure 4.5 Multiple media analysis sampling strategy.....	126
Figure 5.1. Samples of positive, negative and natural/mixed tone in news articles	140
Figure 5.2 Number of IT articles per year by dominant frame with timeline of major national weight-related publications ( $n=479$ ) .....	142
Figure 5.3 Mean Frequency of Causes and Consequences over time (by frame)....	150
Figure 5.4 Mean Frequency of Solutions (by frame) and Descriptions of Obesity over time.....	151
Figure 5.5 Multiple newspaper sample: Trends in mean frequency of mentions (per article) on the cause (top) and intervention framing dimensions (below) .....	152
Figure 7.1 Summary of Phase II .....	217
Figure 7.2 Contour Drawing Rating Scale drawings (reproduced with permission; Thompson and Gray, 1995).....	244
Figure 9.1 Gender difference in disparity between actual and perceived body weight .....	323
Figure 10.1 Summary of the dominant construction of obesity at each level of analysis.....	346
Figure 10.2 Summary of the influences on and outcomes of dominant beliefs and meanings of obesity.....	350
Figure D.1 NVivo coding screenshots .....	473

## Declaration

This thesis is the candidate's own work and has not been submitted in candidature for another degree, either at University College Cork, or elsewhere.

Part of Chapter 5 appeared as an article in *Health Communication*, 6<sup>th</sup> October 2011 and its final and definitive form, the Version of Record, has been published (copyright Taylor & Francis) and is available online at:

<http://dx.doi.org/10.1080/10410236.2011.592627>

The first part of Chapter 6 was accepted for publication as an article in *Health Communication*, 3<sup>rd</sup> July 2012 and its final and definitive form, the Version of Record, will be published (copyright Taylor & Francis) and available online at:

<http://dx.doi.org/10.1080/10410236.2013.866390>

The latter part of Chapter 6 appeared as an article in *Appetite*, 24<sup>th</sup> November 2012, whose final and definitive form (copyright Elsevier) is available online at:

<http://dx.doi.org/10.1016/j.appet.2012.11.005>

Portions of Chapter 8 appeared in *Appetite*, 1 Jan 2014, whose final and definitive form (copyright Elsevier) is available online at:

<http://dx.doi.org/10.1016/j.appet.2013.09.022>

Signed: A. De Brún (Candidate)

Date: 01 May 2014

## Acknowledgements

There are a number of people I would like to acknowledge as having contributed to this research and to my academic development. Most importantly, I wish to express my sincere gratitude to my supervisor, Dr. Mary McCarthy, for her support, encouragement and expert guidance over the past three and a half years. Very special thanks also to Dr. Kenneth McKenzie for his enthusiasm, thoughtful feedback and invaluable direction. I would also like to thank Dr. Aileen McGloin for lending her expertise and offering practical advice at each stage of the research. Thank you all for the generous dedication of your time and for your assistance - working with you all was a pleasure.

The research conducted in this thesis is part of the work programme of the *Centre for Health and Diet Research (CHDR)*. The centre was established in 2008 with funding support from the Irish Health Research Board and the Department of Agriculture, Fisheries and Food. I would like to specifically thank the members of Cluster 5 of the CHDR, including Prof. Cecily Kelleher, Prof. Patrick Wall, Ruth Yoder, Dr. Sinéad McCarthy, Dr. Barbara Stewart-Knox, Mary Delaney and Emily Shortt for their feedback and suggestions at our regular meetings. Thanks also to Dr. Paul Beirne for his feedback and assistance in the planning of the research.

I must also to express my gratitude to those in the UCD School of Public Health, Physiotherapy and Population Science and the UCC Department of Food Business & Development who have helped to foster a supportive research environment and offered advice and friendship. Special thanks to those in the UCC Consumer Behaviour Food Research Group for their feedback and suggestions. I

have also enjoyed the friendship, fun and conversation of my office mates in UCD over the past three years – especially Áine Regan, Dr. Áine McConnon, Christine Shan, Rebecca Bergin, Fran Cronin, Dr. John Mehegan, Emily Shortt, Dr. Fiona Lalor and Dr. Rebecca Somerville. You have all helped more than you know. I would like to thank Tim Grant and Ricardo Segurado for their valuable advice on statistical analysis. Special thanks to Áine Regan for operating as co-coder in the research and for being such a valuable sounding board for so many other things.

Finally, I would like to thank my parents Liam and Ronie, my sister Caoimhe, my grandmother Anne, and extended family, who have supported and encouraged me during the course of the research. Thanks also to my friends (and proof-readers extraordinaire!) Clare, Kim, Eva, Danny, Niall, John, Andrew, Margaret, Lisa, Grace and Eoin for putting up with lots of PhD ramblings and for also knowing when not to ask about it!

Thank you all for helping to make it such an enjoyable and rewarding experience.

## **List of Abbreviations**

BMI	Body mass index
CCF	Center for Consumer Freedom
CDC	Centres for Disease Control (USA)
CFA	Confirmatory factor analysis
CHD	Coronary heart disease
CI	Confidence interval
CSM	Common Sense Model of Illness Representations
CSO	Central Statistics Office
DV(s)	Dependent variable(s)
EFA	Exploratory factor analysis
EH	Evening Herald
FA	Factor Analysis
II	Irish Independent
IR	Illness representation
IT	Irish Times
IV(s)	Independent variable(s)
IUNA	Irish Universities Nutrition Alliance
JNRS	Joint National Readership Survey
KMO	Kaiser-Meyer-Olkin statistic of sampling adequacy
Kg	Kilogram
Lb	Pound
NAAFA	National Association to Advance Fat Acceptance
NANS	National Adult Nutrition Survey
NICE	National Institute for Health and Clinical Excellence
NTFO	Irish National Task Force on Obesity
PCA	Principal components analysis

RTÉ	Radio Telefís Éireann
$s$	Standard deviation of sample
SES	Socioeconomic Status
SI	Sunday Independent
SLÁN	Survey of Lifestyle, Attitudes and Nutrition
SW	Sunday World
TS	The Star
UK	United Kingdom
US	United States
WC	Waist Circumference
WHO	World Health Organisation
WHR	Waist Hip Ratio
$\bar{x}$	Sample mean

## Abstract

**Background:** Obesity prevalence rates have increased significantly in Ireland over the past 20 years, in parallel with rises in many other Western nations. This increase represents a significant threat to health and has implications for economic costs and health-care services. Obesity has been most frequently defined as a consequence of energy imbalance, where energy intake exceeds energy expenditure and results in a build-up of adipose tissue that presents a risk to health. However, this scientific definition masks the complicated social meanings and social consequences associated with the condition. Despite advancements in obesity research in recent years, little research has been conducted to investigate the social construction of obesity and its meanings. This study investigated the construction of meaning around obesity at various levels of inquiry to better inform how obesity is portrayed and understood in Ireland.

**Methods:** A multi-paradigmatic approach was adopted to the research, drawing on theory and methods from psychology and sociology, in order to thoroughly interrogate the social construction of meaning of obesity within various strata of inquiry. A unified analytical framework combining the Common Sense Model and framing theory was employed for this analysis. In order to examine the exo-level meanings of obesity, a media audit was conducted using both qualitative and quantitative techniques. Content analysis was performed on two media samples ( $n=479$ ,  $n=346$ ) and a hybrid thematic analysis was also performed on a multiple newspaper sample ( $n=346$ ). The media analysis constituted the first phase of analysis and generated hypotheses and propositions to guide Phase II. At the micro-level,



obesity discourses were investigative *via* the retrospective thematic analysis of comments sampled from an online message board. Finally, an online survey was administered to an Irish population sample to assess individual-level beliefs, attitudes, and understandings of obesity.

**Results:** The exo-level analysis revealed individual blame for obesity was pervasive and the behavioural frame was dominant in the media. The content analyses illustrated a significant increase in attention to obesity over time while the qualitative aspect of the analysis indicated that traditional gender roles were expounded, serving to position women as primarily responsible for health and diet management. There was an emotive discourse of blame directed towards the parents of obese children and reports served to perpetuate weight stigma. The micro-level analysis provided insight into the degree of weight-based judgement and stigma in society and a clear set of negative ‘default’ judgements accompanied the obese label. Individuals often enacted narrative resistance in their attempt to avoid identification as a member of this undesirable out-group. The survey analysis confirmed that the behavioural frame was the dominant means of understanding obesity. Significant gender differences emerged regarding the perception and self-perception of weight.

**Conclusions:** One of the key strengths and a major theoretical contribution of this thesis is the link created between framing and the Common Sense Model in the development of a singular analytical framework for application in the examination of health representations. The adoption of this framework helped to ascertain the extent of the pervasive biomedical and individual blame discourse on obesity, which establishes the basis for the stigmatisation of obese persons. Men were identified as

particular at-risk group and intervention target due to their inaccurate self-perception of weight and the student group's belief that obesity is outside of the control of the individual also represented a cause for concern. Recommendations are forwarded to reduce stigma and to target these identified at-risk groups. Wider environmental modifications are suggested in order to effect behaviour change, as the traditional gender roles, social norms and powerful macro-level social structures driving dominant belief sets appear deeply embedded and highly resistant to short-term change.

# Chapter 1 - Introduction

## 1.1 Obesity: Defining the problem

Obesity is a complex condition that has been described as an epidemic and as a preventable chronic disease (WHO, 2004, WHO, 2006) with various purported causes including genetic, behavioural, metabolic and environmental factors. It has been most frequently defined as a consequence of energy imbalance, where energy intake exceeds energy expenditure (WHO, 2003) and results in a build-up of adipose tissue that presents a risk to health (Canoy and Buchan, 2007). The US Center for Disease Control (CDC) describes obesity as a label for a range of weight greater than what is considered healthy for a given height. The field of obesity research has grown rapidly in recent decades and despite the advancements made and knowledge gained, obesity prevalence rates are described as “*historically high*” (Gortmaker et al., 2011).

Currently worldwide it is estimated that more than one billion adults are overweight, of which approximately three hundred million are obese (WHO, 2004, Kostis and Panagiotakos, 2006). In the United States, there is evidence that at least a third of adults are obese (Baskin et al., 2005, Flegal et al., 2010), however, recent research has indicated that obesity prevalence in the United States may have entered a period of relative stability (Flegal et al., 2010). In the European Union it is estimated that more than 50% of adults in many European countries are overweight and of these approximately 17% are considered obese (Lobstein and Millstone, 2007). Ireland is believed to have among the highest prevalence of overweight and

obesity in Europe as the most recent study indicated that approximately 24% of the Irish adult population is obese and 37% is overweight (Irish Universities Nutrition Alliance, 2011). This represents an increase of 67% in obesity in Ireland since 1990 (Irish Nutrition and Dietetic Institute, 1990). This period of escalating obesity prevalence aligns with a phase of rapid economic and socio-cultural change in Ireland, marked by changing lifestyles, increased immigration, increased urbanisation, and a shift to office-based employment. The complexity of obesity demands both a global and context-specific examination of the issue to provide insights into the universal as well as the more localised psychological and sociocultural influences on health behaviours. Sociocultural factors can shape and change values, norms, and attitudes about body weight over time and are acknowledged as a powerful driver of obesity prevalence (Sobal, 2002, Ball and Crawford, 2005).

In establishing the context of the research and the determinants of obesity and of health behaviours, this thesis will outline theories relevant to both psychological and sociological research on weight management behaviours, message reception, and information-processing. A multi-paradigmatic approach is adopted in order to thoroughly interrogate the social construction of meaning of obesity within various strata of analysis. Given the increasing weight trends and the major changes experienced in Ireland in recent decades, it is important to understand how meaning is constructed around obesity and how the issue may be understood at various levels in society. This research will help to inform researchers, health practitioners and communicators of how the lay public understand obesity, thereby forwarding possible reasons for the failure of public health initiatives to halt and reverse weight

trends. Furthermore, this thesis will build on the body of research examining the meanings of obesity and will tackle issues previously raised as well as addressing gaps in research.

## **1.2 The social construction of meaning around obesity**

One approach to the study of the social meanings of obesity is to examine the popular discourses and narratives on the issue. In so doing, one can gain insight into the culturally-dominant values and norms that shape responses to obesity and the obese. However, these discourses occur at various levels among various groups and thus, Bronfenbrenner's ecological model (1977, 1994) is adopted to guide the analysis by examining certain levels of social influence and societal systems. Bronfenbrenner's model will be elucidated further in Chapter 3, however, a summary of the levels of the model examined in this thesis, namely the meanings of obesity at the exo-, micro- and individual-levels, is presented in Figure 1.1.

The exo-level of inquiry represents the most wide-reaching of these levels of inquiry and the media is one such exo-level influence on the individual. The media is widely acknowledged as playing a significant role in our everyday lives, representing one of the most important influences on people's knowledge, perceptions and behaviours (Nelkin, 1995, Entman, 1989, Altheide, 1997, McCombs and Shaw, 1972). Research has indicated that the lay public and health professionals typically first learn about new scientific findings through the media (Phillips et al., 1991, Carlsson, 2000, Hargreaves et al., 2003). The Irish public are high level media consumers and the Joint National Readership Survey (JNRS) revealed that 3.1

million Irish people, or 86% of the adult population, were regular newspaper readers (National Newspapers of Ireland, 2010). This highlights the relevance and significance of the Irish print media as a research site to examine the media discourse on obesity.

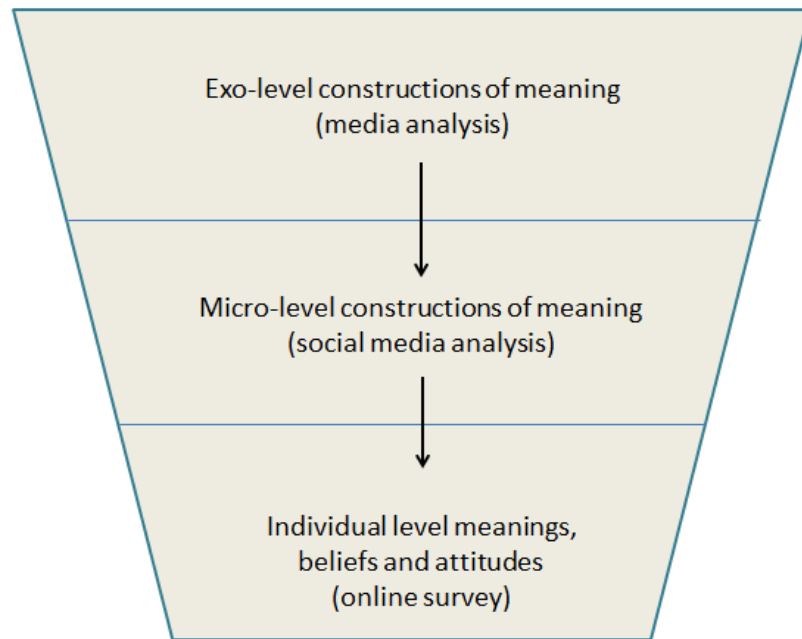


Figure 1.1 Overview of research programme using Bronfenbrenner's ecological model

The media operates at the interface between science and the public and therefore media discussions of obesity provide a valuable insight into the information that is communicated to the public and may also provide a window into the public discourse on the issue.

Theories from media studies and psychology posit that the media play a vital role in directing the public discourse and in educating the public on issues. Agenda-setting theory asserts that by their selection of what is newsworthy, media outlets set the public agenda and define what issues are deemed important by the public (McCombs and Shaw, 1972). Furthermore, framing theory contends that how an issue is portrayed in the media can have an influence on how it is understood by audiences (Entman, 1993, Entman, 1989). Thus, not only is coverage of an issue relevant, but the perspective on the issue presented can also have significant implications for audience understandings. Agenda-setting theory and framing theory are valuable to the current investigation and as such, these theories underpin and guide the media analysis in this thesis.

In the consideration of meaning surrounding obesity, the adoption of a health belief model could increase the explanatory and interpretative power of the research. A central endeavour of health psychology is the effort to understand the factors that influence health beliefs and behaviours and an investigation of illness representations is one approach to this goal. Illness representations describe people's beliefs and expectations regarding a disease or symptom and are said to be formed from an individual's education, experience and exposure to news media. Leventhal's Self-Regulation Theory, also known as the Common Sense Model (CSM), describes the contents or attributes of illness representations as containing five dimensions; these include identity (label of a symptom/disease), trajectory, causes, consequences, and control/solution. Illness representations can differ between individuals based on their medical accuracy and on the level of development of their representations (Cameron and Moss-Morris, 2004). Due to the reliance of the public on the media for health

information (Phillips et al., 1991, Carlsson, 2000, Hargreaves et al., 2003), the media is an important site in which to examine these illness representations. Previous research has demonstrated the importance of these attributes in shaping understanding of illness and how beliefs on illness representation dimensions can have implications for health behaviours (e.g., Ogden, 2000). This research will draw on the dimensions of the Illness Representations framework as a first step in understanding the construction of obesity, or the dominant representation of obesity, at each level of inquiry.

Finally, due to the fact that individuals can interpret messages in different ways (Entman, 1993, Kinder, 2007), it is important to look to other influences on beliefs and meanings of obesity. The sociological theories of Bourdieu (1977, 1984, 1985) and Giddens (1979, 1984) are drawn upon in order to consider social and environmental factors beyond the media representation alone. These theories will enable a consideration of culturally-dominant norms and values and how these powerful structural influences may also contribute to understandings of obesity.

### **1.3 Aims, rationale and scope of the research**

Although research has focused on both media and individual-level representations of obesity (Kim and Willis, 2007, Lawrence, 2004, Saguy and Almeling, 2008, Wang and Coups, 2010, Chambers and Traill, 2011), the majority of this work has been conducted in the US, while there has been a comparative lack of work conducted in a European, much less an Irish context. This translates into a significant gap in our understanding of the meanings around obesity at a local level.



An analysis of media content will enable insight into dominant norms, beliefs, and contextual, macro-level factors that may differ between countries and populations. Similarly, there has been no research which has examined and compared the alignment between the dominant social constructions of obesity at various levels in society. This can offer insight into the major concerns as portrayed by the media and will investigate if this portrayal is aligned with the public discourse or individual-level beliefs on obesity.

The current research seeks to further develop our understanding of popular constructions and narratives on obesity by adopting a pragmatic, mixed-methods approach, employing both quantitative and qualitative methods, to provide an in-depth account of the dominant social constructions of obesity at the societal, group and individual levels. The thesis also presents the first examination of the Irish media account of obesity. By adopting the lens of the Common Sense Model, this enables inferences of audience understandings of obesity to be posited based on dominant media representations. Thus, the media analysis will provide a platform for generating hypotheses to direct and guide the second phase of the research; the micro- and individual-level constructions of obesity. These facets will be investigated by examining social media discussions of obesity (micro-level analysis) and using survey methods to gauge individual-level beliefs, attitudes, and understandings of obesity.

The analysis of social media discussions is a relatively novel approach in the social sciences but offers a valuable opportunity to examine the perceptions and understandings of obesity in an online community, including how issues surrounding

obesity are debated, rationalised, and contextualised. This research will then ascertain dominant individual-level views of obesity using survey methods. Increasing weight trends are likely to increase economic costs as well as disease morbidity and may even reduce life expectancy (Müller-Riemenschneider et al., 2008, Wellman and Friedberg, 2002). Thus, it is vital to understand lay constructions of obesity as a first step to effectively target and encourage behavioural change for healthy living and offer insights into why efforts made to halt and reverse Irish weight trends have, thus far, been unsuccessful.

The overall objective of the current research is to investigate the meanings around obesity at various levels of inquiry in Irish society. Specifically, the aims of this research are:

- To chronicle the emergence of obesity as an issue of concern in the Irish media and to examine how the issue has been portrayed over time.
- To quantitatively and qualitatively assess the dominant framings and illness representations of obesity in the Irish media.
- To qualitatively examine the dominant understandings and representations of obesity in an online social field (micro-environment).
- To examine the illness representations of lay citizens regarding obesity, and,
- To investigate the alignment, if any, between the dominant meanings of obesity at these various levels of inquiry.

This the research will offer practical and valuable insights into how obesity is portrayed and understood, information which would be particularly beneficial to health communicators and practitioners interested in lay citizen beliefs and the findings will have implications regarding the interventions which may be more acceptable to the public. This research will also make a unique theoretical contribution, furthering knowledge in the field by linking framing theory and the Common Sense Model via a unified analytical framework. This framework will be explicated in Chapter 3 and applied in the analysis of media content. Moreover, the multi-disciplinary approach adopted will enable and rich analysis of the meanings of obesity at various levels of inquiry and will draw on theories from psychology and sociology to ensure a thorough and detailed analysis of the quantitative and qualitative data. Figure 1.2 presents an overview of the research conducted at each level of inquiry.

#### **1.4 Overview of the thesis**

This thesis comprises a further nine chapters, including a chapter on the research context, a literature review, four results chapters and a general discussion chapter. Each element of the research is treated as an independent piece of work and a discussion follows the presentation of results in the empirical chapters. As the thesis progresses, it draws on relevant literature. A general discussion chapter then integrates these analyses, examining the alignment between dominant meanings at each level of inquiry. In Chapter 2, the context of the research is summarised and the current and developing body of research on obesity is reviewed with a focus on the causes, consequences and solutions to obesity. Also, a summary of how sociological

perspectives have traditionally studied the determinants of weight management behaviours and the associated assumptions and implications of such approaches is examined. This review also provides an account of the sociocultural context in which the research takes place and the impact of recent social and economic change on health, weight and lifestyles in Ireland.

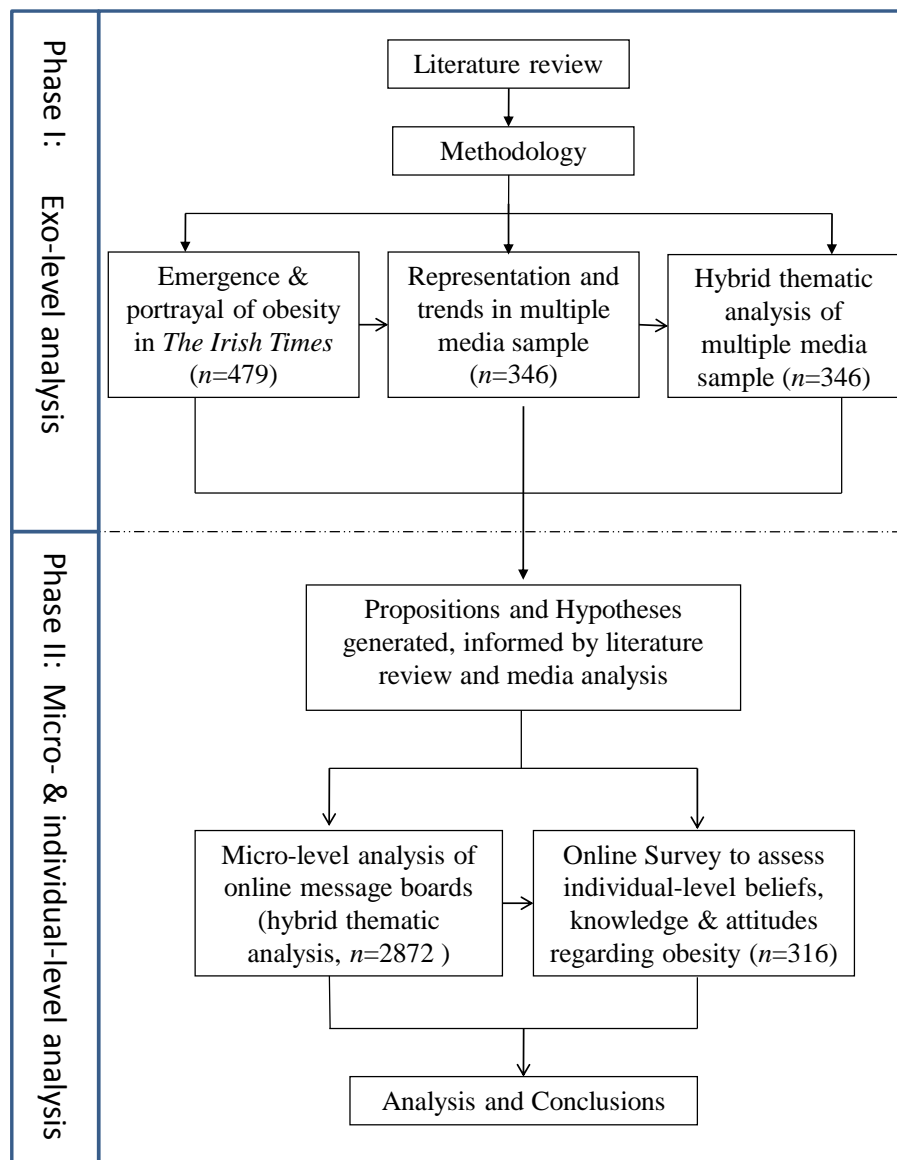


Figure 1.2 Summary of the research approaches and stages of inquiry

Following this, Chapter 3 provides an overview of the literature examining the social construction of obesity. The major focus of this chapter is on media analysis as the news media, as an exosystemic influence, is theorised to influence microsystems and individual-level beliefs regarding obesity. Additionally, results of the media analysis guided the generation of hypotheses for the latter stages of the research and thus, a thorough understanding of the theoretical underpinnings of media effects, news reception, and information-processing are especially pertinent. Previous research examining representations of obesity is reviewed and critiqued with an emphasis on the consistent findings regarding obesity message framing and on identified gaps in research. Chapter 3 also discusses the Common Sense Model as a major theoretical underpinning of the research, and how these theories informed the various stages of inquiry.

Chapter 4 presents the first methods chapter, delineating the hypotheses tested in media analysis and the pragmatic, mixed-methods approach adopted in the research. Chapter 5 then forwards the results of the first stage of analysis, outlining the findings associated with the hypotheses tested in the quantitative content analyses performed on two data sets to examine the emergence and portrayal of obesity in the media. Next, Chapter 6 offers a detailed qualitative thematic analysis of the multiple print media data set to understand the nuance and latent meanings not easily captured in a purely quantitative analysis of texts.

The beginning of the second phase of the research is demarcated with the presentation of the second methods chapter (Chapter 7), which includes the hypotheses and propositions forwarded based on the media analysis findings and on

previous research. Considerations relevant to, and summaries of, the methods employed in the micro- and individual-level analyses of meanings of obesity are also outlined. Chapter 8 then describes the results of the micro-level analysis via the thematic analysis online message board comments relevant to obesity, drawing on the emerging netnographic approach to online research (Kozinets, 2002, Kozinets, 2010). The final empirical chapter, Chapter 9, tests the hypotheses generated following Phase I to investigate individual-level beliefs, attitudes, and dominant frame of explanation for obesity. Chapter 10 closes the thesis with a general discussion and conclusions chapter, comparing the dominant meanings of obesity at various levels of inquiry. This chapter also forwards theoretical implications and limitations of the research, applied recommendations based on the findings, and suggestions for future research. Table 1.1 provides a summary of the outputs from the research.

### **1.5 Summary**

This chapter has introduced the research programme, the rationale for addressing this topic, presented the major aims of the research as well as an overview of the thesis. In order to achieve the overarching aim of this thesis, to understand the meanings of obesity at various levels of inquiry, it is vital to detail the background of the research, reviewing and contextualising the body of literature investigating the causes, consequences, interventions and debates in the field of obesity research. The next chapter locates the thesis within the Irish context, drawing attention to relevant changes in economic conditions and social and cultural life

which may have contributed to the increasing weight trends observed in Ireland. Then, an account of how sociological theories can contribute to an understanding of socio-cultural and environmental influences on health- and weight-relevant beliefs and behaviours is forwarded in order to inform the subsequent analysis of the meanings of obesity at various levels in Irish society.

Table 1.1 Summary of outputs from the primary work

Chapter	Summary and Outputs
Chapter 5 – The emergence and portrayal of obesity in the media	<p>-Chapter includes a content analysis of <i>The Irish Times</i> articles 1997-2009 (<math>n=479</math>) and content analysis of a multiple newspaper sample from three selected years: 2005, 2007 and 2009 (<math>n=346</math>). A paper based on this work was published in <i>Health Communication</i>:</p> <p>-De Brún, A., McKenzie, K., McCarthy, M., &amp; McGloin, A. (2012). The emergence and portrayal of obesity in <i>The Irish Times</i>: Content analysis of obesity coverage 1997-2009. <i>Health Communication</i>, 27(4), 389-398.</p>
Chapter 6 – Qualitative analysis of the media representation of obesity	<p>-Chapter describes the results of a hybrid thematic analysis conducted on the multiple media sample (<math>n=346</math>). Two papers from this work have been accepted for publication:</p> <p>-De Brún, A., McCarthy, M., McKenzie, K., &amp; McGloin, A. (2012). Examining the media portrayal of obesity through the lens of the Common Sense Model of Illness Representations. <i>Health Communication</i>, in press.</p> <p>-De Brún, A., McCarthy, M., McKenzie, K., &amp; McGloin, A. (2013). “Fat is your fault”. Gatekeepers to health, attributions of responsibility and the portrayal of gender in the Irish media representation of obesity. <i>Appetite</i>, 62, 17-26.</p>
Chapter 8 – Qualitative analysis of social media (micro-level analysis)	<p>-Chapter describes the results of a hybrid thematic analysis conducted on a social media sample comprised of online message board comments and interactions on obesity (<math>n=2872</math>)</p> <p>-One paper currently under review.</p>
Chapter 9 – Individual-level constructions of obesity	<p>-Chapter describes the results of a survey designed to assess public beliefs, attitudes and knowledge about obesity (<math>n=316</math>)</p> <p>-A paper based on this work is currently in preparation.</p>

## **Chapter 2 - Obesity and Social Construction of Meaning**

### **2.1 Introduction**

As a primary aim of this thesis is to understand the meanings of obesity at various levels of inquiry, this chapter appraises the literature relevant to current and developing research on obesity: the causes, consequences, solutions to obesity, and on-going debates in the field. The goal of this chapter is to contextualise the research by examining how the economic and social situation has evolved in Ireland in recent times and how these changes have impacted on weight-management behaviours and weight trends. Furthermore, this chapter also focuses on how sociological theories can inform and further our understandings of environmental and social drivers of health behaviours. This body of research, particularly that which considers the value of the social constructionist lens in examining beliefs and meanings of obesity, will be crucial in understanding dominant meanings at various levels of inquiry. However, first it is important to discuss how and why the issue of obesity has come to the fore and the significant risks that increasing weight trends pose to health and well-being.

### **2.2 Understanding obesity**

Obesity is a complex condition that has been described as an “*epidemic*” (World Health Authority [WHO], 2006, p. 1) and a “*preventable...chronic disease*” (WHO, 2004) with various purported causes including genetic, behavioural,



metabolic, and environmental factors. It has been most frequently defined as a consequence of energy imbalance, where energy intake is greater than energy expenditure and results in excessive fat accumulation that creates health risks (Canoy and Buchan, 2007). In understanding why the issue of obesity has come to the forefront, it is necessary to examine the issues igniting this concern. Specifically, increasing weight trends, the health risks associated with excess weight, emerging interventions, and some of the major controversies and debates within the field will be outlined. This review will illuminate the significance of the problem, both at a global and a local level, and the potential personal health and societal costs of failing to tackle this increasingly serious issue. Furthermore, reviewing the literature on obesity will help inform subsequent analyses of the representation and meanings of obesity at these levels of inquiry and will inform whether disparate levels of attention is paid to various aspects of the issue.

Typically, the parameters of overweight and obesity have been defined based on body mass index cut-off points. Body Mass Index (BMI) is a measure of weight status that is calculated by dividing an individual's weight in kilograms by their height in metres squared to result in a figure known as an individuals' BMI score (Flegal, 2005). An individual is classified as underweight with a BMI of less than 18.5 kg/m<sup>2</sup> and of normal weight with a BMI between 18.5kg/m<sup>2</sup> and 24.9 kg/m<sup>2</sup>. When a person's BMI is greater than 25kg/m<sup>2</sup> they are categorised as overweight and are considered obese if BMI is at or above 30kg/m<sup>2</sup> (Lissau, 2004, WHO, 2004). However, these cut off points are not appropriate in the consideration of children's and adolescents' BMI and specific guidelines for weight research with children have been determined (Cole et al., 2000, Barlow, 2007). Yet, it is necessary to note that

while BMI is generally considered the consensus in defining overweight and obesity, other measures of adiposity are also available. Waist circumference (WC) and waist-hip ratio (WHR) measure the adipose tissue of the abdomen, an area of the body where excess fat poses substantial risks to health (Czernichow et al., 2011, Seidell, 2010).

Based on trend analyses in several populations, it is widely acknowledged that the average body mass for children and adults has increased in recent decades (Lissau, 2004, Flegal, 2006, Flegal et al., 2009, Flegal et al., 2005, Kostis and Panagiotakos, 2006). This shift in the prevalence of obesity has been most evident in Western countries, such as the United States and in European nations (Seidell, 2000). Worldwide it was estimated that more than 1.5 billion adults were overweight in 2008, of which approximately 500 million were obese (WHO, 2008) and in the United States, at least a third of adults are obese (Baskin et al., 2005, Flegal et al., 2010). European data indicate that some countries are beginning to see obesity rates close to those observed in the US (Caswell, 2009, Popkin, 2010). It is estimated that more than 33% of adults in many European countries are overweight and in addition, approximately 17% are considered obese (Lobstein and Millstone, 2007). Ireland is believed to have among the highest prevalence of overweight and obesity in Europe as the most recent study indicated that approximately 37% of the Irish adult population is overweight and 24% is obese (Irish Universities Nutrition Alliance, 2011). This represents a 67% increase in obesity since 1990 (Irish Nutrition and Dietetic Institute, 1990). These weight trends have attracted much academic attention both nationally and internationally and researchers continue to investigate the causes,

consequences and solutions to “*one of the most serious public health challenges*” (WHO, 2006).

### **2.2.1 Causes of obesity**

One of the most frequently cited causes of obesity is that of energy imbalance, or the so-called ‘body-as-machine’ hypothesis. This asserts that when there is a disparity between energy in and energy out, this results in excess energy being stored as fat in the body (Canoy and Buchan, 2007, Morrill and Chinn, 2004, WHO, 2006). However the UK Foresight report stated that this explanation of obesity masks the intricacies in the issue and that in fact the causes of obesity are complex and multifaceted (Butland et al., 2007). Changing dietary patterns and decreased levels of physical activity are widely believed to contribute to the increasing prevalence of obesity (WHO, 2006). Western diets, the increased consumption of energy-dense, low-nutrient foods and sugary beverages are among the dietary changes implicated in these observed weight trends (WHO, 2006, National Task Force on Obesity, 2005). Linked to changes in diet are changes in physical activity levels and increasingly sedentary lifestyles. The decline in high-energy, manual labour tasks such as farming, as well as increased safety concerns over children playing outdoors has resulted in lower daily energy requirements (Popkin and Gordon-Larsen, 2004, Butland et al., 2007). Furthermore, although there is evidence that energy intake has decreased, energy expenditure has decreased to a greater extent resulting in an energy disparity, likely contributing to weight trends (National Task Force on Obesity, 2005).

Numerous environmental causes for the obesity epidemic have also been proposed. So-called “*obesogenic*” (Whelton et al., 2007, Lobstein and Dobb, 2005) or “*toxic*” (Brownell and Horgen, 2003) environments are those which promote excess consumption and discourage activity. The Foresight report on obesity provides a comprehensive account of the ecological model of obesity and illustrates the complexities of the issue and the many interconnecting factors believed to influence obesity (Butland et al., 2007). For example, in our surrounding environment, urban settings are not always conducive to physical exercise and areas with high crime levels can result in people avoiding activity in those areas or not feeling safe enough to walk outside at certain hours. However, research has indicated that community design which facilitates walking and cycling can lead to meaningful increases in levels of exercise (Frank et al., 2005). Technological advancements, such as motorised transport, television, and computers have also been associated with obesity. For instance, studies have suggested that prolonged television viewing may lead to sedentary lifestyles, encourage snacking, and discourage activity, thus leading to obesity (Hu et al., 2003, Robinson, 1999).

There is a growing body of research highlighting how those of a lower socio-economic status are at an increased risk of being overweight and obese (Flegal, 1999, Sobal and Stunkard, 1989, Wang, 2001), although there are complexities to this interaction (Wang and Zhang, 2006). Proffered reasons for this association include disparities in dietary restraint, physical activity levels, social mobility, and education levels, as well as the low cost of energy-dense foods (Sobal and Stunkard, 1989, Drewnowski and Darmon, 2005). Poorer families may find it more difficult to eat balanced diets due to budgetary constraints. This issue was highlighted by an

Irish study which found that low income households of single parents with one child and households of two adults and two children would have to spend 80% and 69% of their weekly household income, respectively, in order to meet basic dietary recommendations (Friel et al., 2006).

Genetic causes have been investigated both as one of the main contributors to obesity and also as a way to explain the variance observed after controlling for diet, physical activity, and environmental factors (Bouchard & Blair, 1999). Early studies indicated that certain individuals may be more vulnerable to weight gain than others (Bouchard, 1991). Furthermore, a genetic component to obesity has been strongly suggested by numerous twin, adoption, and family studies, which have indicated that obesity is highly heritable (Yang et al., 2007). Research on the human obesity gene map is on-going (Rankinen et al., 2006) and some of the genes and mutations that have been implicated in the literature include variants near the NSIG2 gene (Herbert et al., 2006) and the resistin gene (Sentinelli et al., 2002). Research has also found that over-expression of the FTO gene can result in obesity in mice, yet further research is required in order to explore whether this can also result in obesity in humans (Church et al., 2010). There is considerable evidence for the role of genetics in obesity but researchers emphasise the importance of understanding how multiple genes interact with environmental factors and with behaviour, as such interactions are likely significant in determining if a person becomes obese or not (Comuzzie and Allison, 1998, Clément, 2005, Lewis et al., 2007, Speakman, 2004).

Other theories proffered include that obesity may have critical or sensitive periods for development across the lifespan. These suggested periods include the

period immediately before and after birth, adiposity rebound<sup>1</sup>, and adolescence (Lawlor and Chaturvedi, 2006). The ‘thrifty gene’ hypothesis has also been proposed, which contends that certain genotypes have evolved in order to effectively regulate food intake. It is argued that as hunter-gatherer societies experienced periods of feast and famine, physiological mechanisms developed to cope in times of food scarcity. Chakravarthy and Booth (2004) contend that this genome has not changed over time and that food abundance and inactivity have resulted in the elimination of natural feast-famine cycles and therefore conditions such as obesity result. Although mechanisms have evolved to cope in times of famine, these mechanisms are maladaptive in times of abundance (Offer, 1998).

### **2.2.2 Consequences of obesity**

According to the WHO, “*overweight and obesity contribute to a large proportion of non-communicable diseases, shortening life expectancy and adversely affecting the quality of life*” (WHO, 2006). It is predicted that diet-related lifestyle diseases could rise by 40% over the next decade in Ireland (Balanda et al., 2010). Type 2 diabetes is one of the most closely and consistently linked of these diseases with obesity. Research has indicated that excess body fat results in insulin resistance which predisposes an individual to type 2 diabetes (Pi-Sunyer, 1999, Seidell, 2000). Furthermore, this risk of diabetes increases as excess weight increases (Ford et al.,

---

<sup>1</sup> During the first year of life, BMI increases rapidly and then decreases resulting in a minimum occurring at five to six years of age. The point of minimum BMI has been called adiposity rebound, where BMI starts to increase again. Studies have indicated that an earlier rebound increases the risk of obesity in later life (e.g., Whitaker et al., 1998)

1997). Wannamethee and Shaper (1999) found that adult weight gain and the degree and duration of obesity are all strong independent predictors of type 2 diabetes.

Obesity has also been associated with higher risks of developing certain cancers. Specifically, higher BMI is related to increased risk of cancer of the colon, breast, oesophagus, kidney, endometrium and liver (WHO, 2004, Bianchini et al., 2002, IARC, 2002, Larsson and Wolk, 2007). Obesity has also been implicated as an independent risk factor for coronary heart disease (Hu et al., 2000). Coronary heart disease [CHD] has been described as one of the primary causes of excess deaths in obesity, but it appears that the overall contribution of CHD to overall mortality is dropping (Flegal et al., 2007). It is suggested that these CHD trends may be due to improving treatments for heart disease and the control of risk factors, such as diet and smoking, but obesity adversely impacts on the trend (Hu et al., 2000, Flegal et al., 2007). Other conditions that have been associated with overweight and obesity include gall-bladder disease, hypertension, respiratory dysfunction, gout, osteoarthritis, infertility, and increased risk of complications during pregnancy (Pi-Sunyer, 1999, National Task Force on Obesity, 2005). The WHO (2002) estimates that low fruit and vegetable consumption is responsible for 4% of disease burden in developed countries and it is estimated that this characteristic of a poor diet causes just under 30% of coronary heart disease and 20% of strokes.

It is important to note that obesity can result in social and psychological as well as physical consequences. Obesity stigma and prejudice against obese people has been widely documented and in Ireland it “*seems to border on the socially acceptable*” (National Task Force on Obesity, 2005). Stigma links individuals to a

negative stereotype that results in others viewing them as tainted or shameful (Goffman, 1963). In Western societies, thin bodies are generally associated with control, virtue and moral worth, whereas overweight and obese bodies are stigmatised and associated with a lack of control, moral laxity and laziness (Puhl & Brownell, 2001). Studies have indicated that people have a strong association between morality and the condition of the body (Hoverd and Sibley, 2007, Rail et al., 2010). An Irish study found a ‘pro-slim’ bias in participants and this bias was a significant predictor of intention to interact with overweight individuals (Roddy et al., 2010).

The stigma attached to obesity has resulted in obese children being bullied because of their weight and obese adults being discriminated against in areas of education, healthcare, and employment (Stuber et al., 2008, Brownell, 2005, Carr and Friedman, 2005, Puhl & Heuer, 2009, Puhl & Brownell, 2001). Stigma can result in an avoidance of socialising, fear of mockery during physical activity, greater levels of depression, and the development of eating disorders and patterns of emotional eating (Schwartz and Brownell, 2007, Wott and Carels, 2010, Friedman et al., 2005). Consequently, obese people are more likely to avoid health-screening programmes. For instance, obese women are less likely to receive cervical and breast exams (Adams, Smith, Wilbur & Grady, 1993) and report a reluctance to seek medical care due to fears about being lectured about their weight (Saguy, 2013, Saguy and Riley, 2005).

Recently, the societal consequences of overweight and obesity have attracted attention. These repercussions include economic costs and healthcare costs



associated with obesity and obesity-related illness. In the case of healthcare costs, these may refer to both direct and indirect costs. Direct healthcare costs denote preventative, diagnostic, and treatment services related to excessive weight and estimates suggest that obesity accounts for up to 6% of Ireland's total health care costs (Department of Health & Children, 2006). Indirect costs refer to, for instance, value of wages lost due to inability to work as well as future earnings lost due to early death (Wolf and Colditz, 1998, Wellman and Friedberg, 2002). In Ireland, about 2,000 premature deaths were attributed to obesity in 2005 and these numbers are believed to be growing (National Task Force on Obesity, 2005). It is estimated that in the Republic of Ireland, the total costs of overweight and obesity in 2009 were €1.13 billion; 35% of these costs were direct costs, and 65% were indirect (*safefood*, 2012). In 2009, the direct costs associated with obesity represented 2.7% of the total healthcare costs in Ireland (*safefood*, 2012).

### **2.2.3 Interventions in obesity**

One prominent area of obesity research is the search for interventions that succeed in reducing the risks associated with excess weight. It is widely acknowledged that the best way to do this is by weight loss, through exercise, dieting, or both. There is a growing body of evidence that weight loss is beneficial for those with high BMI levels (Stevens et al., 2006, Kim and Popkin, 2006). A review of long-term studies appraising the efficacy of weight loss found that even modest weight loss or instances where some weight regain has occurred, weight loss is generally related to a decrease in risk factors (Pi-Sunyer, 1999). However, there is

no consensus regarding the appropriate amount of exercise or the best diet to achieve meaningful weight loss. One systematic review of the efficacy of various diet regimens found that low-fat diets were most effective in producing significant long-term weight loss (Avenell et al., 2004). While Wing and Phelan (2005) reported that according to the National Weight Control Resitry (US), the most effective way to lose weight and maintain weight loss included engaging in high levels of physical activity, adopting low calorie diets and low fat diets, eating breakfast regularly, and maintaining consistent eating patterns. However, in a review of some of the commonly held preconceptions and myths regarding obesity, Casazza et al. (2013) argue that there is insufficient evidence to support the belief in the importance of eating breakfast. They also question the belief that achievable goals for weight loss are preferable and that individuals must be in a stage of diet readiness before engaging in a weight-loss regimen. Taken together, Casazza et al. (2013) suggest that these challenges to common presumptions about obesity warn of the impact of espousing unsupported beliefs, as such claims can result in ineffective weight-loss recommendations and unconstructive policy proposals.

In order to address emerging weight trends, the Irish National Task Force on Obesity was established in 2004 with the remit of developing a national strategy to promote healthy eating and healthy lifestyles, to detect those at risk of obesity, and to treat those who are obese (Department of Health and Children, 2004). The report of the Task Force made over 80 recommendations in total, covering areas including government, education, community, health, food, and the physical environment in order to provide people with information, meaningful choice, and the capacity for change (National Task Force on Obesity, 2005a). Subsequently, a report examining

the implementation of these recommendations was published (Department of Health & Children, 2009). The report found that significant progress had been made in the case of 30 recommendations (32%), partial implementation had been achieved on 29 (31%), action in progress was reported on 26 (28%), and no progress on 8 (9%). Areas in which no changes had been made included enforcing a 60-minute physical activity minimum per day in educational settings, implementation of a regulatory code regarding industry sponsorship of sporting activities, legislation to promote healthy eating and active living, and a review of design and marketing of products to children.

In 2006, the National Institute for Health and Clinical Excellence (NICE) in the UK published the first national guidelines for both health professionals and for the public on the prevention and management of obesity in adults and children (NICE, 2006). The publication also offered dietary advice, recommending that adults eat a low-fat diet, eat few fried foods and confectionery high in sugars, attend to the portion size of meals, and avoid excess calories from alcohol. Also outlined were recommendations for physical activity, including advice to engage in enjoyable activities and encouraging children to participate in more outdoor and active pursuits (NICE, 2006). Increasing levels of physical activity is a widely recommended solution to combat rising obesity levels. In a review of studies examining the relationship between physical activity and weight gain, an inverse association has been found, indicating that physical activity is associated with improved weight maintenance (Fogelholm and Kukkonen-Harjula, 2000).

However, some studies have focused more broadly on lifestyle factors in attempts to achieve weight loss. For example, it was found that significant weight loss was achieved over a twelve-month period where dieting was complemented with exercise of various durations and intensity (Jakicic et al., 2003). Some researchers argue that there is an over-confidence in weight as an indicator of health and that lifestyle rather than weight should be the target of intervention (Jutel, 2005, Campos et al., 2006). For instance, a Finnish study concluded that those who engaged in physical activity for at least four hours per week had a significant reduction in diabetes risk, even if they did not lose weight (Tuomilehto et al., 2001). This implies that adopting a healthy lifestyle may bestow benefits to health, regardless of weight loss. Yet, as mentioned previously, there is accumulating evidence that even low levels of weight loss can improve disease risk factors (Stevens et al., 2006, Kim and Popkin, 2006, Blair and LaMonte, 2006).

Regarding environmental interventions, the NICE (2006) publication advises local authorities, schools and communities in a number of areas, to identify barriers to physical activity, to ensure urban design facilitates activity, and to encourage local shops and restaurants to promote healthy food choices. Among the interventions called for by the National Task Force on Obesity is increased education in healthy eating and health promoting activities and physical education in schools (2005). However, according to Gracia-Arnaiz (2010), despite recognition of the obesogenic aspects of modern western societies, the main strategy of health promotion continues to be motivating the individual rather than developing broad social interventions on diet and activity.

Alongside the increasing obesity prevalence rates, Sobal (1995) contends that the condition of obesity has been progressively medicalised. Medicalisation describes a process by which certain behaviours or conditions become defined and treated as medical problems, usually as illness or disorder (Conrad, 1992). Two of the most rapidly growing medical interventions in obesity are pharmacological treatments and bariatric surgery. In recent years, there has been increased interest in the use of drug therapies for obesity. Lawlor and Chaturvedi (2006) describe a number of drug regimens but state that for the majority of these, there is only very limited evidence for achieving weight loss and the side-effects of certain drugs may carry very serious health risks. Some of these drugs have attempted to stimulate weight loss by inhibiting the body from absorbing fat (e.g., orlistat), by suppressing the appetite (e.g., rimonabant), or by influencing the activity of hormones and neurotransmitters (e.g., sibutramine). Oliver (2006) stated that an estimated \$45 billion per year is spent on weight loss products in the US alone and therefore, the search for a safe and effective diet pill is potentially highly lucrative.

Bariatric surgery as a solution to obesity has become increasingly popular in recent years. It involves either restricting the size of the opening from the oesophagus to the stomach (gastric banding) or permanently reducing the size of the stomach (gastric bypass). Bariatric surgery is often considered a last resort for the so-called morbidly obese (BMI score above 40) when other interventions fail. In the US, a 400% increase in bariatric surgeries was observed between 1998 and 2002 (Encinosa et al., 2005, Santry et al., 2005). It was projected that over 100,000 Americans underwent bariatric surgery in 2003 (Santry et al., 2005) and it seems that surgery rates have since plateaued (Livingston, 2010). In Ireland, there is anecdotal

evidence that the popularity of these methods is increasing (Mullen, 2009) and currently, there is more than a two-year waiting period for consultation at Ireland's main obesity clinic in Loughlinstown, Dublin (Irish Health, 2012). Oliver (2006) describes bariatric surgery as a high risk procedure, yet numerous studies have outlined the success of such approaches. For instance, studies have demonstrated the success of bariatric surgery in improving and even resolving health conditions associated with obesity, such as hypertension and diabetes and in reducing long-term mortality after surgery (Adams et al., 2007, Buchwald et al., 2004).

#### **2.2.4 Debates in obesity research**

Within obesity research, there has been considerable debate on a number of issues and certain researchers are questioning the alarm surrounding obesity (Blair and LaMonte, 2006, Campos, 2004, Campos et al., 2006, Gaesser, 2002, Gard and Wright, 2005, Ernsberger and Haskew, 1987). Wilson and McAlpine (2006) conducted a review of the literature which highlighted the disagreement and debate in several areas of obesity research including obesity causation, the measurement of weight, the health consequences of obesity, and the efficacy of obesity treatments. Key areas of debate also include whether claims regarding the risks of obesity have been overstated, the measurement and categorisations of weight and whether one can be fit and fat.

It is claimed, for instance, that we are not witnessing an 'epidemic' of obesity, but instead a 'subtle shift' in average weights (Campos et al., 2006). Oliver (2006) draws on Flegal et al.'s (2005) research regarding excess deaths attributed to

obesity which revealed that there were more deaths attributed to the ‘normal weight’ BMI category compared to the ‘overweight’ BMI category, suggesting that being moderately overweight may even impart some health benefits. More recently, a meta-analysis provided support for this finding, also indicating there was no significant risk of early death for overweight or obese category 1 individuals (Flegal, Kit, Orpana, & Graubard, 2013). Indeed, this study revealed that relative to the normal weight category, the mortality risk<sup>2</sup> was significantly lower in the overweight group. Research suggests that being overweight may be beneficial to older age groups as it may act as a protective factor against certain conditions, such as risk of heart attack (Heiat, 2003, McGee, 2004).

Campos et al. (2006) purport that the vast majority of people labelled as overweight and obese do not face a significant risk of premature death. They have argued that it is better to be fat and fit than thin and sedentary and contend that only people at the highest spectrum of obesity (BMI>30) are at increased risk. Blair and LaMonte concur with this argument and state that there is an “*apparent mismatch between the strength of prospective evidence relating to BMI with mortality*” (2006). Moreover, studies have demonstrated that cardio-respiratory fitness can protect against all-cause mortality<sup>3</sup>, even for those who fall into the overweight and obese categories (Katzmarzyk et al., 2004, Katzmarzyk et al., 2005).

---

<sup>2</sup> Risk of death within weight category after controlling for other variables, such as smoking and pre-existing illness.

<sup>3</sup> All-cause mortality refers to the annual number of deaths in a group per the population in that group.

Although measures of BMI have traditionally been considered the “*consensus*” (Lissau, 2004) in defining overweight and obesity, the technique has met with much controversy. Many researchers believe that BMI score may be a poor indicator of health as it fails to account for variation in body fat across ethnic groups and for individual variation in amount of muscle and bone (Gard and Wright, 2005). BMI measures and cut-off points are further criticised for their arbitrary nature (Gard and Wright, 2005, WHO, 1995) and Kim & Popkin (2006) suggest that the definition of optimal BMI may require on-going modification based on scientific evidence that deems it necessary. Recent findings have suggested that measures of waist circumference and waist-hip ratio may be better indicators of all-cause mortality than BMI due to the escalated health risks associated with excess abdominal adipose tissue (Srikanthan et al., 2009). Indeed, several studies have indicated that measures of abdominal adiposity are better predictors of cardiovascular risk and all-cause mortality than BMI (Seidell, 2010, Welborn and Dhaliwal, 2007).

Until we understand more about obesity, these debates and exchanges are useful to the field of obesity research. Brownell (2005) states that different perspectives on such a complex topic are valuable in broadening thinking on the issue, highlighting uncertainties, and furthering knowledge. Researchers warn of the hazards of uncritically accepting the ‘obesity epidemic’ as scientific fact when there are so many contradictions, discrepancies, and uncertainties within the field (Gard and Wright, 2005, Rich and Evans, 2005, Blair and LaMonte, 2006, Campos et al., 2006, Gard and Wright, 2001). Rail et al. (2010) contend that although these debates raise important issues, for the most part they are academic debates, as they generally occur away from the public and the media.



### **2.2.5 Weight and dietary trends**

In the 1990s several major surveys of health and health behaviours were conducted in Ireland (Kelleher, 1999, Irish Nutrition and Dietetic Institute, 1990). These major studies were among the earliest indications of increasing weight trends in Ireland. However, it must be noted that these surveys often relied solely on self-report data and therefore may not have been an exact representation of weight trends. A comprehensive health study was then published in 1999 which included the first Survey of Lifestyle, Attitudes and Nutrition, (SLÁN) and The Irish Health Behaviour in School-Aged Children Survey (Friel et al., 1999). In this report, 32% of respondents reported a BMI considered as overweight and 10% were classifiable as obese (Friel et al., 1999). Overall 42% of respondents engaged in some form of regular physical exercise, though rates declined with age. Over half of respondents were consuming less than the recommended number of servings per day of cereals, breads and potatoes and over a third of children were consuming less than the recommended number servings of fruit and vegetables (Friel et al., 1999).

The subsequent 2003 SLÁN report on dietary habits revealed that the number of overweight respondents had increased by 2% to 34.3% in the previous four years and the number of obese respondents had increased by almost 3% to 13.7% (National Nutrition Surveillance Centre, 2003). However, the North/South Ireland Food Consumption survey used direct measures of height and weight to assess the participants' body mass index (North/South Ireland Food Consumption Survey, 2001). This more accurate research approach revealed that 39% of the adult population were estimated as overweight and 18% as obese. These figures were significantly higher than previous self-report estimates of overweight and obesity,

signifying the tendency toward the under-reporting of weight (Khambalia, Hardy, & Bauman, 2012).

In 2008, an updated SLÁN report revealed that 1% of all respondents were underweight, 35% had a healthy BMI, 39% were overweight, and 25% were obese (Harrington et al., 2008). The National Adult Nutrition survey is the latest publication investigating obesity in Ireland and measured individuals' weight and heights to find that 39% of the population were of normal weight, 37% were overweight and 24% were obese (Irish Universities Nutrition Alliance, 2011). Noticeable gender differences were observed, indicating that excess weight is more common in men than in women. The report underlines the increased prevalence of obesity over time, noting that among adults, the rate of obesity increased significantly since 1990 from 8% to 26% in men, and from 13% to 21% in women.

Sociological theories and the social constructionist perspective can help to inform how meanings of obesity are constructed and can also provide insight into why this gender disparity in weight is evident. However, before this is presented, first it is important to acknowledge the contextual issues that have likely shaped the social environment and weight-related behaviour in Ireland over the past number of decades. The rapid and significant social and economic change experienced in recent times has widespread implications for everyday consumption and activity patterns.

#### **2.2.6 Context of the research: Ireland**

As the current research is conducted in Ireland, sampling Irish media materials and Irish participants, it is important to acknowledge and describe the

cultural context in which the research is taking place. The Republic of Ireland's economy has undergone rapid change since the late 1980s, resulting in major changes in food availability, immigration, employment, and changes in daily living. A period of unprecedented growth in the 1990s gave Ireland's economy the name of the 'Celtic Tiger'. Kelleher (1999) noted that within a quarter of a century, Ireland had changed from being characterised by "*a strong agriculture tradition and recurrent problems of enforced emigration and unemployment to being among the most economically competitive countries in Europe*". The Celtic Tiger years reversed decades of economic underperformance and by the early 1990s, Ireland's average income rose to amongst the highest in the world (Kirby, 2004). During this period, Ireland shifted from being a traditional, rural society to a modern, urban society (Collins & Joyce, 2007). The evolving macro-environment resulted in dramatic changes to the typical Irish daily way of life. Many of these changing factors are particularly relevant to the investigation of weight trends, including increased immigration and multiculturalism, increased participation of women in the workforce, technological advancements, increased levels of disposable income, time-pressures, and the shift towards convenience foods.

During the 1990s, tax incentives and improved infrastructure encouraged an influx of multinational corporations to Ireland and resulted in a move to a technology-based economy (ERSI, 2010). The shift from farm-based manual labour to more sedentary office-based employment resulted in changing energy requirements (NTFO, 2005). The 'Celtic Tiger' era was characterised by a low unemployment rate and a large expansion of the workforce, as the number of workers increased from 1.16m in 1992 to 2.13m in 2007 (CSO, 2010). There was

also a significant increase in the number of women in the workforce as approximately one-quarter of women working in the home in 1994 had transitioned to paid employment by 1999 (Russell and O'Connell, 2004) and between 1998 and 2007, approximately 300,000 Irish women entered the workforce (Russell et al., 2009). Furthermore, the number of dual-earner households in Ireland increased from approximately 35% in 1994 to just over 50% in 2000 (Russell et al., 2004).

Another major change observed during the 'Celtic Tiger' period was a significant increase in immigration. Largely due to the economic boom (and facilitated by European Union membership), the number of immigrants to Ireland increased sharply during the period 1996-2006, increasing from approximately 33,300 per annum in 1990 to 107,800 in 2006 (Central Statistics Office [CSO], 2009). These levels of immigration were unprecedented and resulted in significant cultural and social change in a relatively short space of time. The coming sections will examine how a changing social and cultural environment can constitute a significant influence on dietary choice and weight trends and will outline sociological theories which posit that our social context and its rules, norms, and process can impact on health beliefs and behaviours.

### **2.3. Social influences on weight management behaviours**

Beyond the basic determinants of hunger and appetite, it is widely accepted that food choice behaviours occur as a result of both conscious decision-making and automatic and unconscious drives (Furst et al., 1996, Lappalainen et al., 1998). However, often research examining food choice determinants makes assumptions

about human behaviour when adopting a particular, often mono-disciplinary, approach. A considerable body of research, primarily stemming from a psychological perspective, has considered the cognitive aspects of food choice, which assumes individual choice, deliberative decision-making, and the capacity for change. This conception of food choice has been investigated via the examination of nutrition knowledge and beliefs, explicit motivations, and perception of dietary adequacy and quality (Tepper et al., 1997, Wardle et al., 2000, Tuorila and Pangborn, 1988, Bogue et al., 2005, Mela, 2001). However, the determinants of food choice and weight management behaviours are complex, often influenced by many interrelating factors (Butland et al., 2007). Thus, this review seeks to provide an overview of some of the major social influences on food choice, which will assist in determining the social meanings of obesity and may also be implicated in the obesity crisis. Of particular interest is how social structures and aspects of our environment can function to constrain or encourage certain behaviours, often in an unconscious manner. The consideration of this perspective will facilitate a more nuanced and comprehensive understanding of the meanings of obesity and how culturally-dominant norms, values, and beliefs can operate to influence how meaning is attached to obesity.

In most cultures, food is laden with meaning and often represents an important social function (Rozin, 1996a). According to Eckersley (2006), cultural factors are underestimated determinants in the myriad of factors influencing health and well-being, though there are inherent difficulties and complexities in examining and studying culture (Ball and Crawford, 2005). Culture may be described as a system of meaning that shapes how people see the world (Eckersley, 2006) and is

characterised by distinctive beliefs, customs, social behaviours, or way of life of a particular society. Culture shapes the way an individual views the world, how they behave and their expectations of the behaviour of others. Food is one such expression of cultural identity (Larson and Story, 2009). Rozin (1996) contends that knowing an individual's culture or ethnic group is the most informative factor when considering an individual's food habits and preferences.

Research has indicated that patterns of food consumption, beliefs, and values related to eating and weight can be influenced by socio-cultural context (Rozin, 1996a). According to Kumanyika (2008), cultural expressions of consumption can differ based on social and political situations. Furthermore, it is asserted that changes in these situations can result in changes in dietary patterns and as culture is dynamic rather than static, aspects of cultural identity such as food choice norms, are always evolving. Ethnicity is associated with differences in weight-related behaviours, beliefs and preferences (Kumanyika, 2008, Rozin, 1996a) and this difference can result in stark variation in weight norms of different populations and ethnicities (Ogden et al., 2006). Culture can also influence perceptions of appropriate meal size, of what a typical meal should contain, as well as the meanings attached to food (Rozin, 1996a). Stein and Nemeroff (1995) found that junk-food eaters were consistently described as less moral, which resonates with consumption stereotypes and the 'you are what you eat' model, relating to the social construction of food norms (Stein and Nemeroff, 1995, Vartanian et al., 2007).

Physical environments and community design are also relevant factors impacting on food choice and weight which, according to Sobal and Wansink

(2004), produce a “*subtle, pervasive and often unconscious influence on food choices*”. They outline how the context, from macro-scale geographic environments to micro-environments in the home, can impact on food choice by influencing perceptions, interpretations, and salience of food and food-related cues. This research suggests that if built environments are operating to influence behaviour, then it is these environments that should be the target to reduce obesity. In support of this assertion, previous research has concluded that environmental design which serves to facilitate exercise and facilitate healthy food choices can lead to meaningful increases in healthy behaviours (Frank et al., 2005, Ashe et al., 2011, Thaler and Sunstein, 2008).

The role of habit in food choice has recently been met with renewed interest. Cohen and Farley (2001) define habit as an automatic behaviour, occurring without effort, awareness, or intention. They posit that the limited cognitive capacity of humans necessitates a reliance on cognitive mechanisms that do not require conscious attention and deliberative decision-making. For instance, numerous studies have indicated that individuals often have very little awareness of how much they are eating and situational factors such as plate size, amount of food on the plate, and other visual cues can influence perceptions of fullness (Nunnally and Bernstein, 1994, Wansink et al., 2005, Finstad, 2010). Similarly, Köster (2009) argues that past behaviour is likely a more reliable determinant of future food choice based on unconscious decision-making and habitual behaviour patterns.

Socioeconomic status is a demographic factor strongly implicated in food choice and weight trends. Sobal and Stunkard’s (1989) seminal study delineated how

women in lower socioeconomic strata are more likely to be obese. Research conducted in the Irish context has underlined the relationship between socioeconomic status and food consumption. Friel et al. (2006) suggest that single parents with one child and families of two adults and two children on social welfare would have to spend 80% and 69% of their weekly income, respectively, to purchase the food basket based on economy-line products. Furthermore, two parent, two child families would have to spend between 25-70% of weekly household income depending on which supermarket is used (Ross et al., 2009). This indicates that the physical environment and socio-economic status can influence food cost and likely, nutrition quality. The basic welfare entitlements mean that healthy options are less affordable for families with children and thus, families within lower socioeconomic groups find it more difficult to adhere to healthy diets (Ross et al., 2009).

Moreover, general food costs in Ireland are among the highest in Europe and prices for fruit and vegetables are the highest in Europe and continue to rise rather than decline (Eurostat, 2010). It is also important to note that after a period of sustained economic growth, the financial crisis of 2008 led to a global economic recession which affected Ireland particularly badly. The collapse of the Irish property market, the decline in tourism, major workforce and social welfare cuts, pay and employment freezes, and decreases in public spending have considerably altered Ireland's economic outlook. The Quarterly National Household Survey showed the unemployment rate increased from an annual average of 4.4% in 2005 and 2006 to 14.8% in late 2012 (CSO, 2012). This economic downturn inevitably had consequences on food affordability and food choice in Ireland, especially among lower socioeconomic groups.



## 2.4 Social construction of meaning

In examining the meanings of obesity, the social constructionist perspective facilitates an understanding of how meaning can differ between individuals, across time, and between social contexts. According to Brown (1995), “*by studying how illness is socially constructed, we examine how social forces shape our understanding of and actions towards health, illness and healing*” (p.34). The social constructionist perspective follows from an interpretivist position, asserting the importance of exploring the subjective meanings and motivations underpinning social action and interaction (Saunders et al., 2009). This viewpoint postulates that a phenomenon or situation may be understood in various ways depending on the individual’s context, their experiences, and social influences. Within this perspective, social conditions are considered as producing, perpetuating and changing meanings related to a phenomenon of interest, where individuals collaboratively create and reproduce meaning through interaction (Conrad and Barker, 2010). Thus, although the meanings individuals attach to phenomena may be diverse, there are equally relevant. By adopting a social constructionist perspective, one can link together and make sense of illness across various levels of inquiry (Brown, 1995).

In the study of health and illness, a social constructionist approach is concerned with how the meaning and experience of illness is shaped by culture context and social systems (Conrad and Barker, 2010). Gracia-Arnaiz (2010) outlines how weight ideals and the social meanings of obesity have changed over time; when food was scarce, corpulence was once an indicator of wealth and health,

whereas in modern Western nations, thin bodies are now desirable and socially valued. Furthermore, there is evidence that meanings associated with weight can differ between various ethnic groups (Parker et al., 1995), demonstrating the importance of understanding the culturally-dominant values and norms that shape meanings of obesity in various contexts.

Additionally, the meanings attached to an illness may be debated, contested and the illness or condition may become stigmatised. According to Conrad (1987), it is not the features of an illness that result in stigma, but the social meanings of the illness which cause stigma to be attached to certain diagnoses. Brown (1995) asserts that this is particularly true of illnesses that result in the moral judgement of an individual. This tension between lay understandings and medical knowledge relating to an illness can serve to further burden those afflicted and the negative connotations associated with a condition can make that condition more difficult to treat and to manage, and can potentially lead to the avoidance of health professionals (Conrad and Barker, 2010). Obesity is a prime example of a highly stigmatised condition (Puhl and Brownell, 2001, Puhl and Heuer, 2009). Research examining the effects of weight stigma has indicated that obese persons are more likely to avoid exercise in public for fear of being ridiculed and may be less likely to attend medical screenings (Vartanian and Shaprow, 2008, Stuber et al., 2008, Adams et al., 1993). Stigma can also operate as a psychosocial stressor and may constitute an independent risk factor for poor health outcomes (Puhl and Latner, 2007, Puhl and Heuer, 2009). Furthermore, the negative effects of weight stigma can persist even after significant weight loss (Levy and Pilver, 2012). Such findings signify the importance of examining how illnesses are socially constructed and understood by citizens as these

meanings can have significant implications at an individual and a societal level. For instance, research has demonstrated that obesity beliefs, metaphors and message framing can affect support for public policies and can impact on health behaviours (Barry et al., 2009, Wang and Coups, 2010, Major, 2009). The impact of message framing on lay understandings and meanings of obesity will be interrogated in detail in the next chapter.

Pierre Bourdieu (1977, 1984) and Anthony Giddens (1984), two prominent theorists in sociology, recognised that people are producers as well as products of their culture and social system and thus, their theories offer a means of understanding the effect of cultural context, early socialisation, social structures, and social class on weight-management behaviours. According to Bourdieu's theory of practice (1977, 1984), our social environment and the socialisation process frame how we view the world and as a result of this process, Bourdieu suggests that we form dispositions that guide our actions, thoughts and perceptions in different contexts or 'fields' of interaction. Based on an individual's position in a given field, they develop and exhibit certain dispositions of behaviour or 'habitus' (Bourdieu, 1984). The term habitus means a habitual or typical condition and Bourdieu employs the term to describe an individual's set of unconscious dispositions which form the 'middle ground' between individual agency and structural influences on human action. Thus, internalised dispositions within a certain social group serve to maintain and reify the social order and social norms.

According to Bourdieu (1984, p.190), the way people treat their bodies and their attitude towards diet and weight-management "*reveal the deepest dispositions*

*of the habitus*". Bourdieu (1984) asserts that consumption patterns are reliable indicators of an individual's place in the social hierarchy, as those of a lower social standing may be identified by demonstration of 'food as function' thinking, in that food is chosen if it is cheap and energy-dense. However, those of higher social echelon prize the 'body as project' ideal or 'food as form' attitude, where thinness and control are valued and therefore, foods that are healthy, refined, and maintain slimness are chosen and favoured (Beardsworth and Keil, 1997).

Within various fields of interaction, actors compete for resources and dominance or 'capital' and individuals draw on various types of capital in order to act and to relate to others (Bourdieu, 1984). Different types of capital exist and the higher the levels of capital at an individual's disposal, the more power and opportunities they are likely to have. Cultural capital is described as the most important consideration for the enactment of health behaviours. For those who view the body as a project, constant work and vigilance is required to achieve and maintain the slim ideal and individuals are more likely to engage in protective and preventative health behaviours such as maintaining a healthy diet and exercising regularly. This variance in perception between what foods are appropriate is said to result in a symbolic struggle for legitimacy and dominance in consumption, taste, and appearance in society (Bourdieu, 1984). Cultural capital thus represents education, knowledge and skills and is separated from economic and social capital. Economic capital refers to income and material possessions whereas social capital recognises the importance of having a social network of relationships available and refers to the sum of resources available to an individual through this social network. Thus, the capital and types of capital available to an individual will influence the

development of their habitus and will also influence power relations among individuals. Capital may be maximised in lower socioeconomic groups via physical capital, which relates to physical body strength. Bourdieu also describes symbolic capital as powerful, where individuals with prestige and honour can employ this capital against those who hold less, thereby enacting symbolic violence (Bourdieu, 1989).

According to Offer (1998) and Bourdieu (1984), women are considered to have more to gain from self-monitoring of diet and of body weight, for instance, in terms of the marriage market and thus, women are more health-oriented and body-conscious. This assertion demarcates another important facet of early socialisation, namely, the establishment of gender norms and roles. The social construction of gender has attracted considerable interest, specifically, how gender (as distinct from biological sex differences) can impact on beliefs and behaviours and how being male or female is associated with certain meanings, norms and expectations in Western cultures (WHO, 2011). Gender is a factor that has received considerable attention in health research due to the variance in the social meaning of gender in different cultures. Research has demonstrated that from an early age, boys and girls are treated very differently, thus instilling and reinforcing certain behaviours (West and Zimmerman, 1987). Variance in the social meanings associated with gender may contribute to the gender disparity observed in Irish overweight and obesity statistics, as men are more likely than women to be overweight (men 44%, women 31%) and obese (men 26%, women 21%) (Irish Universities Nutrition Alliance, 2011).

Previous research examining the influence of gender norms on health has investigated the concept of ‘hegemonic masculinities’ and how social and cultural norms may operate on individuals to conform to a dominant gender role (Connell, 1995, Connell and Messerschmidt, 2005). Hegemonic masculinities are socially patterned constructions of masculinity that are dominant at one time in a particular cultural context and that relate to power relationships between men and women. One dominant construction of masculinity in the Western world is of men as risk takers, invulnerable and disinterested in health issues. Previous research has reported that subscription to this hegemonic masculinity can result in men avoiding behaviours conducive to health (Courtenay, 2000). Even apparently healthy men in the UK avoid thinking about and discussing health issues and similarly considered a concern for health to be within the feminine domain (Sloan et al., 2010). Furthermore, men often report ceding control of diet and food choice to their female partners (Newcombe et al., 2012), indicating a disinterest in diet management.

Differences in socially constructed gender roles translate into behavioural differences around food. Wardle et al. (2004) highlight that women are more likely to avoid high fat food and are more likely to consume fruit and to engage in dieting behaviours than men. Notably, this analysis indicated that gender differences in food choice persisted even when health beliefs and dieting status were controlled for, strongly suggesting that other factors are influencing the behaviours of men and women regarding food choice, particularly as these gender differences were found consistently cross-culturally. Culturally-induced body image ideals and norms may become internalised and thus, influence food choice. However, given that the female body ideal in Western nations is typically thinner than most women’s body shapes,

the internalisation of this ideal has been associated with eating disorders (Thompson and Stice, 2001).

Giddens' (1984) structuration theory is a sociological approach which focuses on how people understand and shape their self-identity. Giddens emphasises the “*duality of structures*” and how individual actions and social forces can operate in tandem to influence behaviour and social practices. For instance, individual agency can function to change these social structures and practices but the ability to act may be limited by the interplay between agency and structure. He claims that although the influences of these social structures may be powerful, individuals are always aware and knowledgeable, at least to some degree, of what they are doing and therefore, behaviour is not always an automatic unconscious response.

According to the theory, the basic domain of study is not the individual nor society, but social practices (Giddens, 1984). Through their actions, individuals reproduce and perpetuate the conditions that encourage these actions and structures only change when the individual replaces or reproduces these acts differently. Rather than use Bourdieu's terms relating to capital, Giddens defines resources as media through which power is exercised as a basic component of social reproduction. However, although structures can represent an external influence, Giddens describes structures as very much embedded within the individual, in the form of memory, and as instituted in social practices. He asserts that these structures must be recognised as both potential constraints and enablers of social action by providing common frames of meaning. He defines the rules of social order as deeply embedded and these

socially-engrained values are asserted to be particularly evident in gender roles and norms.

Together the sociological theories of Bourdieu and Giddens will help to provide insight into the cultural and social norms and values influencing public beliefs and media coverage of the issue of obesity. By recognising the powerful influence of macro-level social structures at various levels of inquiry, one can better comprehend the multiplicity of factors influencing beliefs and behaviours around obesity.

#### **2.4 Summary**

This chapter has introduced obesity research, highlighting why the condition has become such a pressing issue by examining the drivers, consequences and common interventions in obesity, as well as increasing weight trends. However, a consideration of the debates and uncertainties in the field reveal that obesity is a complex condition, not yet fully understood. This chapter also examined the cultural context in which the research is conducted and how economic and social changes in the environment can have implications for weight-management behaviours. Adopting the social constructionist perspective will facilitate a consideration of how these socio-cultural values and norms may influence meanings of obesity. The sociological theories of Bourdieu and Giddens were also introduced in the consideration of how social structures can operate on the individual. These theories will serve to inform and deepen an analysis of the meanings of obesity by



recognising the influence of social norms, rules, and practices on beliefs, attitudes and behaviours.

Although the sociological theories of Bourdieu and Giddens have highlighted the influence of social structures of beliefs and behaviours, the next chapter introduces other factors which can influence meaning and how social actors compete to define and attach meanings to obesity, often in line with their own interests, goals, or beliefs. Chapter 3 will provide insight into these framing contests and how emphasising certain aspects of the issue can have implications for individual understandings of obesity. This discussion turns to previous research examining the representations, constructions and meanings of obesity, much of which has focused on mass media due to its ability to reach large audiences. According to Gauntlett (2004), although the media are reflecting the social world, they are also helping to shape it, thereby reifying and perpetuating dominant social structures. As such, the next chapter will elaborate on the major media and audience reception theories as well as the Common Sense Model, a health belief model which will further inform and underpin the analysis, contributing to the examination of the meanings for obesity. Thus, in this research, the interpretative value of both psychological and sociological theories is recognised and in concert, can heighten the explanatory power of the forthcoming analyses. The combination of approaches will also be useful in linking exo-, micro-level and individual-level perspectives and understandings.

## **Chapter 3 - Literature Review and Theoretical Background**

### **3.1 Introduction**

This chapter appraises literature relevant to the role of the media, various theories of media influence and how this influence may impact upon individuals. There is a dearth of research examining health issues in the Irish media and how information presented by the media may impact on micro-level discourses on and individual-level beliefs. The current obesity ‘epidemic’ presents an opportunity to examine the emergence of obesity as an issue of media concern, to trace and chronicle the developing coverage of the matter and to examine how the issue has been portrayed to and understood by the public. In order to investigate the social construction of obesity at various levels in society, an ecological perspective will be adopted.

The social ecological model (illustrated in Figure 3.1) is a framework which recognises the interrelated nature of a person’s behaviour and their social environment and also how elements of the environment interact to influence other elements. Bronfenbrenner (1977) emphasised the importance of looking beyond the immediate environment of the individual by acknowledging and accounting for the wider social context, including macro-, exo-, and micro-systems and their influence on the individual. He argued that to understand human behaviour, research must move beyond direct observation and conduct research in naturalistic settings, taking account of aspects of the environment beyond those immediately impacting on the individual. Through this model, Bronfenbrenner calls for a convergence of

naturalistic and experimental methods within a perspective that encompasses the ecology of human development.

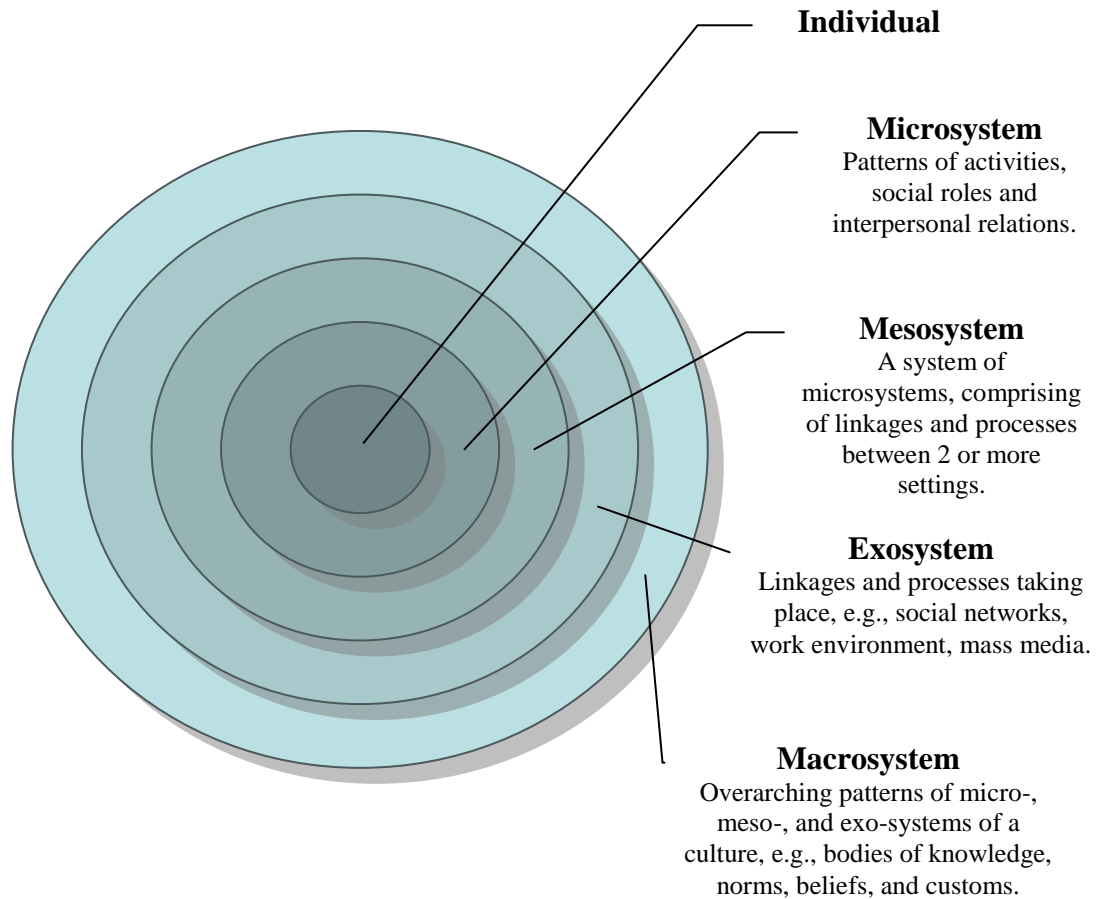


Figure 3.1 Illustration of Bronfenbrenner's Ecological Model (1977)

In the current research, an investigation of the exo-level construction of obesity was undertaken via an analysis of the media's representation of the issue. This exo-level of analysis refers to the cultural and sub-cultural contexts of the individual that establish structures and patterns of behaviour and interaction.

Through the examination of media messages, insight into the cultural context and norms specific to the Irish context will be established and documented. The media are thought to play a major role in the perceptions and judgements of all individuals in a culture (Entman, 1993) and thus, the media offers a valuable insight into the norms and structures of explanation around obesity at the exo-level of society.

Next, the micro-level will be interrogated via the examination of online discourses on obesity in a popular online community. Bronfenbrenner defines a micro system as a complex set of relations between the individual and the environment and the immediate setting of the individual. Online message boards may be considered online communities, where users debate, discuss and share information. As such, this online community may be considered a modern micro-system and a social field of interaction. Finally, a survey analysis will constitute the final empirical stage of analysis. The survey aims to provide insight into the individual-level beliefs, attitudes, and meanings of obesity. To inform these analyses, this chapter now turns to the examination of how exo-level influences, such as the media, can influence individual-level beliefs and attitudes, by reviewing literature assessing the influence of the media and outlining theories of information-processing and audience reception.

### **3.2 Media influence**

Previous studies have demonstrated the media's influence on a variety of health behaviours, both through empirical research and the examination of the effects of media health campaigns. For instance, following news reports of the risks

associated with hormone replacement therapy, researchers identified that the number of women availing of the treatment decreased appreciably (Haas et al., 2004). Similarly, a temporal correlation was found between news stories examining the potential health benefits of wine and a significant increase in red wine sales (Dodd and Morse, 1994). A meta-analysis conducted by Snyder and Hamilton (2002) examined the effect of media campaigns and found evidence which suggested that they can result in behaviour change. It is asserted that academic literature is beginning to amass evidence that targeted, well-executed health mass media campaigns can have “*small-to-moderate*” effects on health knowledge, beliefs, attitudes and also behaviours (Noar, 2006). Noar (2006) posits that given the wide reach of mass media, a campaign with even a small or moderate effect size will have a greater impact on public health than an individual or group-level intervention with a large effect size that only reaches a small number of people.

Additionally, studies suggest that the media can also negatively influence health behaviours. Thompson and Heinberg (1999) found that the media are a significant factor in the development and maintenance of eating disorders. Academics have long implicated the media as at least partially responsible for the development of eating disorders due to their portrayal of unrealistic images of ‘ideal’ weight and standards of thinness (Field et al., 1999, Drenth and Beresin, 2006). Furthermore, there is evidence that as media exposure increases, this risk of disorder increases (Field et al., 1999), concern about body shape increases (Field et al., 2005) and could also result in the formation of anti-fat attitudes (Lin and Reid, 2009). The media have also been criticised for their purported role in obesity by facilitating the advertising of food to children and therefore encouraging an unhealthy diet (Lobstein

and Dibb, 2005). A study examining children's exposure to food advertising on Australian television found that confectionary and fast food restaurants were the most advertised food categories during children's television viewing periods (Neville et al., 2005). Similarly, high levels of 'noncore' foods (those high in energy or undesirable nutrients) were found in food advertising to children (Kelly et al., 2010). Lobstein and Dibb (2005) suggest that the quantity of advertising that encourages the consumption of energy-dense, nutrient-poor foods on children's television is related to the prevalence of excess body weight among children. Researchers have found an association between television advertising of food and children's subsequent BMI and this association proved robust after controlling for exercise levels and eating patterns (Zimmerman and Bell, 2010). In light of this general evidence, a more detailed consideration of communication and media influence follows, which specifies a number of theories which examine how communication can impact and influence the beliefs and behaviours of individuals.

### **3.3 Communication, mass media & theories of media influence**

Communication has been defined as "*the passing of information or the formulation of thought by one person for the sharing or understanding of one of more listeners or observers*" (Eisenstein et al., 1963). From a mass media communication standpoint, Lasswell (1948) offered a more practical definition of communication, positing that communication is best understood by addressing the following questions: "*who says what, in which channel, to whom, and with what effect?*". However, communication, especially via mass media channels, is not

always successfully received and instead, effective message communication and message perception is limited by an individual's cognitive capacity, attentional constraints, and depth of information processing ( Craik and Lockhart, 1972). Bandura (2001) contends that such cognitive factors often determine which events or stimuli will be observed, what meaning they have, whether the effects of exposure to the stimuli will persist, and if or how the information will be assimilated and stored for future use. Such considerations will be examined in more detail later in this chapter.

The mass media act as an intermediary between science and the public and are thought to represent one of the most important social institutions in influencing people's knowledge, perceptions and behaviours (Nelkin, 1995, McCombs and Shaw, 1972, Entman, 1989). The media's role in providing information has grown considerably in recent decades through the evolution of a range of communication channels including newspapers, television, magazines, radio, and the internet. In the words of Glasser, "*the media can be persuasive, pervasive and can influence health, our beliefs and behaviors*" (2008). Most people, including health professionals, first learn about new scientific findings and seek health information through the media (Phillips et al., 1991, Carlsson, 2000, Hargreaves et al., 2003, Covello and Peters, 2002). Furthermore, research suggests that for people in the UK and Ireland, the media is their primary source of nutrition information (Buttriss, 1997, Lappalainen, Kearney, & Gibney, 2008). Hogue et al. (2012) conducted a study which examined the influence of health stories in the media and found that almost 40% of respondents who reported hearing about a health issue in the media in the past 12 months had sought further information on the issue. Such studies effectively demonstrate the

power of the media and their potential impact on health behaviours. In understanding how science and the media inform each other, one must first examine the aims and motivations of both scientists and journalists regarding health and science reporting and what constitutes ‘news’.

According to Nelkin (1996), scientists and journalists have different conceptions of what constitutes newsworthy research. Nelkin states that scientists consider research newsworthy when findings become reliable through replication and peer review, whereas journalists are drawn to new and dramatic findings, even though such findings may only be tentative. These differences are said to have created tensions between the media and science and has led both parties to level criticism at each other (Nelkin, 1996). Scientists criticise the media for sensationalist and inaccurate reporting (Nelkin, 1995), whereas the media criticise scientists for presenting misleading information and failing to inform the press (Shuchman and Wilkes, 1997). However, it is important to acknowledge the restrictions and limitations faced by journalists. Due to time restrictions, deadlines, and editorial constraints, journalists may not always have time to consult many sources. Although some journalists have special training in the particular field they report on, Day (p. 65, 1997) argues that “*specialist journalists are journalists first*” and that their instinct is toward drama. Despite these conflicts, journalists and scientists rely on each other to achieve their respective goals. Journalists seek out news stories that will capture audience attention and interest as well as potentially advise and educate the public. In turn, scientists rely on journalists to report and present their findings to the public and to enhance the public understanding of an issue. Clearly, the media play a crucial role as a mediator between science and the public and thus an



examination of the media discourse on an issue will provide insight into the likely public understanding of the issue.

### **3.4 Theories of media influence and illness representations**

Researchers have long assumed that media content influences public opinion, but there has been considerable debate regarding how that influence is exerted. Klapper's (1960) early research on selective exposure theory was very influential on subsequent media research. He claimed that messages conveyed by the media are interpreted and assimilated in different ways based on people's prior beliefs, experiences, and attitudes of others in their social sphere (Klapper, 1960). Entman (1989) argues that the media make a significant contribution to what people think by affecting what they think about. It is suggested that the examination of media coverage "*offers insight into the extent to which ideas develop, gain credibility and become part of social reality*" (Holmes, 2009). Many media theories have been volunteered in an attempt to account for the influence of the media. The theories explored here include levels of processing models, preference formation and agenda-setting, and framing theory. Each of these will be discussed in turn.

#### **3.4.1 Levels of processing**

Cognitive psychology is a sub-discipline of psychology which developed on the assumption that the brain represents information and that the act of thinking forms and activates cognitive structures, organising and storing information for subsequent retrieval (Bartlett, 1932). Information-processing research strongly

suggests that individuals have internal cognitive structures which organise knowledge, known as schemas. However, memory systems can differ in terms of their implicit or explicit nature. Bousfield (1953) conducted studies which found that organised information is easier to recall and participants remembered more material when it was related than when it was unrelated. These findings point to a system where knowledge is organised in the brain, based on perceived and learned commonalities between stimuli. These schemas store beliefs, attitudes, preferences and values as well as providing individuals with the tools to interpret, evaluate and assimilate new information (Entman, 1989). However, despite decades of research, the operation of information-processing remains a matter of debate.

Craik and Lockhart (1972) proposed one of the early information-processing frameworks. They contended that attentional and perceptual processes at learning determine what information is stored in memory and that information could be processed to various extents, from a shallow level to an in-depth level. This depth of processing, which is thought to occur through a number of stages, referred to the meaningfulness and significance of the message or stimulus processing rather than the number of exposures to the stimulus. Thus, deeper processing and elaboration tends to result in a better memory of the stimulus, making the information readily accessible in memory for subsequent retrieval and consideration (Craik and Tulving, 1975).

Associative network models of memory provide a framework in order to understand how knowledge and memories are triggered and stored. According to such models, information is stored in cognitive units or 'nodes' and once a node is

activated, this activation spreads through a web of interconnected nodes, which have formed connections due to associations and links between words, issues, or concepts. Activation of nodes is hypothesised to leave a memory trace, the strength of which is likely determined by the level of processing. If information is processed deeply, it is more likely to produce a stronger and longer-lasting memory trace, thus ensuring information retention and the accessibility of information for retrieval. Craik and Lockhart (1972) contend that retention of information is a function of the depth of processing, as well as other factors including the attention to the stimulus, its congruency to existing schemas, and the time available for information processing.

Information-processing research has also investigated how individuals cope with the constant flow of information from the mass media and that which they encounter in daily life. For instance, information processing strategies are described as coping mechanisms to deal with large amounts of information (Eveland, 2002) and active reflection and elaborative processing have been identified as two strategies of information-processing. Elaborative processing represents the deep processing of information via contemplation and the effort to comprehend and contextualise information. Eveland (2002) found that this thinking style, indicative of efforts to assimilate new information by relating it to information in memory, is associated with greater memory for new information and improved comprehension of that information. Active reflection is described as a 'reading between the lines' approach to information and is often associated with greater knowledge and experience of a topic. Petty and Cacciopo's elaboration likelihood model (1986) and the heuristic systematic model of information-processing (Todorov et al., 2002) both

posit that those with the necessary cognitive resources, attentional capacity and motivation will be more likely to engage in this deep processing of information.

Thus, this line of research suggests that personal cognitive variables can impact on the receiver's memory and learning of information. Evidence suggests that information processing strategies can impact on media effects and therefore, individual's need for cognition and attentional capacity limitations may represent individual differences which have a particular impact on mediating media effects (Eveland, 2001, Just and Carpenter, 1992, Stanovich and West, 2000). Due to cognitive limitations (e.g., working memory) and external constraints, such as time, people do not analyse daily events into exhaustive lists of possibilities but instead evaluate and interpret information based on available cues (for instance, the framing of information). Research indicates that memory systems are dynamic and can be influenced by experience and exposure to information (Schank, 1999). Thus, an understanding of levels of processing provides a basis for understanding framing effects, as framing research is built on the idea of accessibility of information and concepts and the storage of knowledge in schemas.

### **3.4.2 Preference formation and agenda-setting**

Others have considered the impact of the media by exploring preference formation and agenda-setting. An explanation of preference formation is important in order to understand how people interact with aspects of their environment and how these experiences can influence judgements, beliefs, and attitudes. Druckman and Lupia (2000) describe as preference as a comparative evaluation or ranking over

a set of objects. Such evaluations are said to emerge from the interaction of beliefs and attitudes with how people feel and what they experience (Druckman and Lupia, 2000). Many theories have posited that preferences are formed through memory-based systems and dependent on what information is easily recalled and retrieved from memory (Fishbein and Ajzen, 1975). Such accessibility models assert that people make judgements based on information that is readily accessible in memory. For instance, Zaller (1992) contends that individuals make evaluations by averaging their evaluation across all salient and accessible considerations, so that those that are more readily accessible in memory will carry more weight in any decision or judgement.

Agenda-setting theory outlines a mass media theory of accessibility effects. In choosing what news to report on, journalists and broadcasters play a significant role in shaping the political environment (McCombs and Shaw, 1972). According to agenda-setting theory, the public both learn about an issue and how important an issue is, based on the information provided in a news report. While they may not directly influence attitudes, McCombs and Shaw argue that by their selection of what is newsworthy, the mass media “*set the agenda*” by defining what issues are important, thus influencing the public discourse and, potentially, policy agendas (1972, p. 177). Researchers have also described a second level of agenda-setting. Where, the first level is focused on the presence and relative frequency of issues, the second level examines the prevalence of attributes of issues and how an issue is presented (Ghanem, 1997). Collins and colleagues highlight that a number of studies have indicated that the level of importance assigned to an issue is proportional to the amount of attention paid by the media (Collins et al., 2006). This suggests that media

portrayals of obesity are likely to have some relationship to the public discourse and perhaps public knowledge and understanding of aspects of the issue (McCombs and Shaw, 1972, Menashe and Siegel, 1998).

Iyengar et al.'s research on the influence of television news effectively demonstrated this powerful accessibility effect by affecting people's perceptions of social problems, based on the content of news broadcasts (Iyengar, 1991, Iyengar et al., 1982). Iyengar (1991) suggests that when problems emerge and attract media attention, agenda-setting effects are first evident among those directly affected by the issue and then if coverage is maintained, such effects will also be registered by others not immediately affected. Similar to the tenets of agenda-setting, media advocacy is an intervention strategy and health communication technique which exploits the power of the news to rally supporters and applies pressure in order to advance healthy public policy (Dorfman, 2003, Wallack et al., 1993). One way in which to achieve this end is through the tailoring and 'framing' of messages.

### **3.4.3. Framing**

Despite the research that has been conducted on accessibility effects and preference formation, studies have indicated that preferences are not always stable and can be influenced by how information is presented or framed (Kahneman et al., 1982). Framing theory has its roots in Prospect Theory, which proposed a model to predict decision-making under conditions of uncertainty (Kahneman and Tversky, 1979). Early psychological studies demonstrated the pronounced effect framing can have on an individual. In a seminal study by Tversky and Kahneman (1981), a

hypothetical health dilemma was described and a number of proposed solutions outlined. The researchers compared how people responded to ‘loss’ and ‘gain’ frames. They found that when the solution was framed in terms of lives saved (gain), it was chosen more frequently than when it was framed in terms of deaths avoided (loss), even though the solutions were essentially identical (Tversky and Kahneman, 1981). Frequently, the intent of message framing can be to persuade individuals and to modify existing beliefs and attitudes and therefore an understanding of message framing is especially relevant in the examination of the meanings of obesity.

Although contemporary understandings of framing are varied and debated, at the most fundamental level, framing is based on the assumption that how an issue is characterised in messages can have an influence on how it is understood by audiences. Framing can be divided into equivalency framing and emphasis framing. Equivalency frames typically operate by offering two logically equivalent frames, which emphasise different manners of understanding a problem. For instance, Kahneman and Tversky’s study, described above, is an example of equivalency framing. However, emphasis framing describes two or more qualitatively different, but equally relevant, perspectives on an issue. Put simply, this means framing an issue, based on divergent perspectives on a problem.

Emphasis framing has been defined as the “*process of selecting and highlighting aspects of a perceived reality, and enhancing the salience of an interpretation and evaluation of that reality*” (Entman, 2004) or rearticulated, the promotion of a certain problem perspective or definition. Entman (2004) states that framing directly promotes interpretations that then lead to evaluations. It has been

argued that agenda-setting has accessibility or priming effects, that is, media can make certain issues or aspects of issues more easily recalled from memory. However, framing has been described as also having applicability effects. This posits that when a connection between two phenomena or concepts is outlined, audiences accept that they are linked (Price and Tewksbury, 1997). Compared to agenda-setting, framing “*expands beyond what people talk or think about by examining how they think and talk*” (Pan and Kosicki, 1993).

Research from sociological and psychological domains has offered distinctive conceptualisations of framing. From the sociological perspective, Goffman (1974) outlined his conception of framing as a “*schemata of interpretation*” (p.21). Similarly, Gitlin links frames directly to the news production process, describing frames as useful to journalists to allow them to process information and package it for their audience (Gitlin, 1980). The psychological conception of framing makes assumptions regarding individual cognitive process and information processing and these assumptions are also the basis for schemas and scripts. According to Pan and Kosicki (1993), the overlapping conceptions from the divergent disciplines of sociology and psychology suggest that frames function as both internal structures of the mind and as devices in news discourse. These two types of framing, how they are hypothesised to function, and their theoretical associations will be explored in more detail below.



### ***3.4.3.1 Individual and media frames***

Scheufele (1999) states that because frames have to be considered in both the presentation and in the comprehension of news, two concepts of framing can be specified: individual-level and media (exo-level) frames. Framing as an exo-level construct refers to the presentation of information selected by communicators, whereas framing as a micro-level or individual-level construct refers to how people use information to form impressions and ideas about issues. The terms ‘frames’ and ‘schemas’ are often used interchangeably in discussions of the micro-level construct. A schema is defined as an interpretive internal psychological process, based in memory that represents knowledge, where information is stored in clusters of related items (Eysenck and Keane, 2005, Fiske and Taylor, 1991). It is believed that schemas influence the coding of new information, the memory of old information and enable inferences based on existing knowledge. According to Fiske and Taylor (1991), schemas save time and cognitive effort in information processing. Schemata and related concepts such as scripts<sup>4</sup>, can serve to guide an individual’s processing of a frame. According to Entman (2004), by highlighting aspects of an issue through framing, issues become more salient and certain aspects or pieces of information become more meaningful or memorable, thus increasing the likelihood that individuals will process the information and store it in memory (Fiske and Taylor, 1991, Schank and Abelson, 1977). However, even if a frame is only presented once, a strong frame that is highly consistent with an individual’s existing schema can result in a frame becoming highly salient to the individual (Entman, 1993).

---

<sup>4</sup> A script may be defined as a sequence of expected behaviours or stereotypical events relevant to a certain situation, i.e., what is deemed culturally appropriate (Schank & Abelson, 1977).

At the exo-level, media frames have been described as a storyline that imparts meaning and describes the essence of an issue (Gamson and Modigliani, 1989). It has been suggested that journalists adopt frames in order to organise a story and to present information in a simple form (Nelkin, 1995). Pan and Kosicki (2005) state that a news frame can be conceived as a cognitive device used in the encoding, interpreting and retrieving of information. Thus, frames allow journalists to classify information and efficiently package it for their audience. In this process, journalists make conscious or unconscious framing decisions which are detectable by the presence or absence of certain details, perspectives, or sources. These frames may or may not guide the thinking and conclusions of media consumers, as framing requires legitimate and convincing sources in order to be successful (Druckman, 2001). Entman (2004) also differentiates between substantive and procedural frames. Procedural frames have been defined as having a narrow focus and do not motivate or equip audiences to engage in conscious deliberation nor are they intended to change opinion, for example, the description of election as a horse race.

In contrast, substantive frames are defined as performing at least two of the following functions: defining problems, identify causes, make moral judgements and/or suggest remedies. He emphasised that identifying the causes and endorsing remedies are the “*two most important framing functions*” (Entman, 2004). For the purposes of the current analysis, a media frame is defined in accordance with Entman’s (1989, 2004) conception of framing, in that the cause and responsibility aspects form the basis of the frame and appear in such a way as to influence audience understandings of an issue. Yet, according to Kinder and Sanders (1996) frames can ‘lead a double life’, in that frames can exist both as devices in communication as

well as cognitive structures that help citizens make sense of an issue. Thus, although media and individual frames may be considered separately, they are also related due to the potential impact one may have on the other. The mechanisms underlying the impact of framing on the individual as well as moderators of framing effects are detailed in the coming sections.

#### ***3.4.3.2 Operation of media framing on the individual***

Four possible explanations for how message framing affects information-processing and underlying cognitive mechanisms have been extended and this section reviews each of these purported processes (Scheufele, 1999, Entman, 1993, Nelson et al., 1997, Price and Tewksbury, 1997, Weaver, 2007, Slothuus, 2008). Firstly, framing may be described as an underlying psychological process, where message framing triggers accessibility effects and therefore, issue-relevant, salient memories are more easily recalled and available for assimilating and assessing new information (e.g., Iyengar, 1991, Iyengar et al., 1982). Thus, the accessibility of considerations relevant to a frame acts as a mediator for framing effects, as such elements are likely to affect the opinion formation process (Zaller, 1992).

A second perspective contends that framing is mediated by availability, accessibility and, depending on the context and motivation, considerations may be weighed up consciously and the perceived importance of an issue or consideration may change (Chong and Druckman, 2007). Thus, by emphasising certain aspects of an issue, such aspects are perceived as having greater relevance and the perception of importance may change leading to opinion change (Nelson et al., 1997, Nelson and

Oxley, 1999). This perspective combines unconscious and conscious elements in the conceptualisation of how framing operates on the individual. Studies have lent support to this theory by demonstrating that accessibility of information alone does not always mediate the effect on opinion (Nelson et al., 1997), suggesting accessibility may still be necessary, but not sufficient to effect opinion change. Although there is supporting evidence for this theory, a third mediator of framing effects is forwarded: the content change theory (Slothuus, 2008, Chong and Druckman, 2007). This contends that the introduction of new material or a new consideration can lead to opinion change by effecting change in the existing content, which according to Zaller (1992) can change the balance of opinion.

Finally, Slothuus (2008) argues that an individual's opinion may be influenced via different processes rather than just one alone, and thus, the dual-process model of issue framing effects was forwarded. Slothuus (2008) contends that citizen opinion may be altered by either changing the relative importance of considerations or by changing the content of these considerations. Furthermore, he asserts that these processes may overlap and occur together rather than operate independently on the individual. In sum, while the cognitive processes underlying framing are debated, it is widely acknowledged that individuals are likely influenced by frames in different ways, depending on myriad factors. This dual-process account of framing resonates with Entman's (1993) contention that frames operate on an individual in different ways depending on an individual's own schemata.

Iyengar (1991) suggests that news media in particular may function to shape perceptions of who is responsible for a specific social problem. Iyengar's work has

demonstrated that individuals' beliefs regarding the causes of a social problem influence their attributions of responsibility for the problem accordingly, that is, individuals' understanding of the cause and solution to an issue are generally associated. Generally news framing, especially television news, is more episodic than thematic in nature (Iyengar, 1991). Episodic framing occurs when an issue is presented as a specific event or issue, whereas thematic framing generally provides a more detailed account of an issue by placing the issue in a broader context. Evidence strongly suggests that health issues are seldom described thematically in the news (Dorfman et al., 2005, Collins et al., 2006). According to Iyengar (1991) episodic framing tends to promote individual responsibility while thematic framing promotes societal attributions of responsibility. Newspaper coverage is likely to demonstrate similar framing effects as researchers point out television news may be derivative of print media (Kim and Willis, 2007, Stillman et al., 2001).

These findings have significant implications for health communication and highlight the potential of message framing to influence public support for policy changes which aim to encourage the enactment of health behaviours. Research has demonstrated that framing in media can influence public opinion. For instance, a study on nuclear power in the news concluded that media discourse is an essential element in understanding the formation of public opinion (Gamson and Modigliani, 1989). Furthermore, a causal analysis from two experiments (on the topics of land development and welfare reform) found that message framing affected belief content and belief importance and in turn, influenced opinion (Nelson and Oxley, 1999). Major (2009) demonstrated the efficacy of framing in altering people's attributions of responsibility for health issues, including obesity and lung cancer. Major

conducted an experiment which compared the effect of different framing styles on message effects. The study compared the interaction of either thematic or episodic framings with framing attributes (loss/gain). There was a significant interaction found between thematic framing and loss framing, in that those who read the thematic and loss-framed stories attributed significantly more responsibility to societal factors for obesity and lung cancer.

#### ***3.4.3.3 Moderators and limitations of framing***

Inevitably, framing research is not without its limitations. Research has identified a number of potential moderators and limitations to framing, including the duration of framing effects, the impact of prior knowledge, the influence of personal values, and the effect of competing frames. To date, only a minority of studies have examined the durability and persistence of framing effects over time. This is a vital issue when considering the effect of news frames on media consumers. The majority of studies which have examined framing effects have tested for any effect immediately after exposure to a certain issue frame and the discovery of framing effects in such studies lends considerable support to the short-term effects of framing. However, these studies have typically failed to account for the persistence of such an effect over time. The few existing studies that have examined the long-term effects of media framing vary in their results. For instance, one study found that framing effects lessen ten days after initial frame exposure (Druckman and Nelson, 2003), while others suggests the effects lessen up to two to three weeks after exposure (Tewksbury et al., 2000, Lecheler and de Vreese, 2011). Potentially, the

cumulative effects of framing resulting from repeated exposure to particular news frames may produce longer-lasting framing effects.

Another limitation of many framing studies is the inability to examine the framing process when studying media content. Often, it is only feasible to explain the various influencers of news content in order to contextualise the findings. Furthermore, where mass media frames are concerned, it is difficult to ascertain if an intended message has reached the public, or if they will interpret the message in a similar way. According to Kinder (2007), framing studies lack real-life characteristics as they tend to avoid inattentive audiences. Typically in framing studies, a framed article would be carefully read, where in real-life situations this same level of attention may not be applied. Moreover, research has indicated that individuals may vary in almost all complex cognitive tasks and therefore, it is unlikely all individuals interpret texts in the same way (Eysenck and Keane, 2005). For instance, individual differences in cognitive ability may have an influence on message comprehension and thus, message effects (Stanovich and West, 2000). Also, recent findings suggest that competitive framing (where two or more competing frames are presented together), can temper framing effects (Wise and Brewer, 2010). Despite these shortcomings and the uncertainty around the exact processes underlying framing, framing theory remains useful and relevant when examining media messages as an understanding of framing helps illuminate how a text exerts influence over an audience (Entman, 1993). Entman asserts:

“From a framing perspective, dominant meaning consists of the problem, causal, evaluative, and treatment interpretations with the highest probability

of being noticed, processed, and accepted by the most people. To identify a meaning as dominant or preferred is to suggest a particular framing of the situation that is most heavily supported by the text and is congruent with the most common audience schemata” (Entman, 1993, p. 56)

#### **3.4.4 Health and obesity in the media**

The issues of dietary recommendation and the impact of gender on health and weight-management behaviours have been investigated via media analyses. Cooper et al. (2011) found evidence of the widespread misreporting of dietary advice by the media. They argued that this could lead to poor understanding about what constitutes a healthy diet among news audiences. Furthermore, the appearance of contradictory or confusing information may lead to a decline in trust in nutrition and obesity experts (Bleich et al., 2007). Several studies have also investigated the media’s representation of gender in discussions of health in order to provide insight into how culturally dominant values and norms can influence health. Gough (2006) found that the British media presented men as in denial and infantile in their refusal to seek medical attention. Research examining women’s health in the media has found that women are depicted as caregivers for others. For instance, it has been found that men’s health issues are discussed in women’s magazines (Elliott, 1994) and health advice for men is aimed at women (Lyons & Willott, 1999), strongly indicating that women are viewed as gatekeepers, with a significant influence on men’s health. Furthermore, Inthorn and Boyce (2010) analysed UK primetime television programmes dedicated to obesity and found that body fat and weight issues were



associated with femininity. Significantly, when male obesity was discussed, they documented that derogatory terms directed at men related fat to femininity. Hence, they concluded that culturally established gender concepts reinforce the shaming of obese individuals. Thus, it is apparent through health research and research on mass media representations that there are considerable differences between men and women's typical approach to health and diet.

It is widely documented that media interest in obesity has increased dramatically in recent years (Saguy and Almeling, 2008, Saguy and Riley, 2005, Gard and Wright, 2005, Kim and Willis, 2007, Lawrence, 2004). Lawrence (2004) noted that the "*growth in real-world obesity has been mirrored, though with some delay, in the growth of news coverage of obesity*", estimating a five-fold increase in media attention to obesity in the United States since 1992. Gard and Wright (2005) also draw attention to the so-called avalanche of public comment on obesity in recent times. They examined articles for the appearance of the word 'obesity' in headline or in lead paragraphs in three Australian newspapers and in the British publication, *The Times*. In the Australian news sample, two articles on obesity appeared in 1990 compared to seventy-three in the period September 2003 to September 2004. Similarly, *The Times* featured just 10 obesity-centric articles in 1985 and 205 articles in the period September 2003 to September 2004. Although estimates differ regarding the extent to which news coverage of obesity has increased, it is widely documented that media attention to the issue has intensified significantly. Campos et al. (2006) believe that this sharp increase in media attention to obesity has many elements of a moral panic. Cohen (2002) describes moral panic as characterised by the exaggeration or fabrication of risks and the projection of anxieties onto a

stigmatised out-group who supposedly threaten the social order who then become like 'folk devils' in society. Though undoubtedly there are signs of the projection of anxieties and stigmatisation in the case of obesity, it is debated as to whether the situation can be accurately described as a moral panic (Campos et al., 2006, Lobstein, 2006, Kim and Popkin, 2006).

Research has examined the media coverage of obesity in various countries including the United States (Lawrence, 2004, Saguy and Almeling, 2008, Saguy and Gruys, 2010, Saguy and Riley, 2005, Kim and Willis, 2007), France (Saguy, 2005), United Kingdom (Gard and Wright, 2005, Inthorn and Boyce, 2010), Australia (Gard and Wright, 2005, Bonfiglioli et al., 2007), Canada (Holmes, 2009, Roy et al., 2007), Sweden (Sandberg, 2007) and Norway (Malterud and Ulriksen, 2010). In this section, the most relevant of this literature will be reviewed, the findings of these studies discussed as well as the theoretical and methodological approaches of this research.

As outlined previously, research has strongly indicated that the framing of an issue can have a considerable effect on public perceptions, behaviours, and policies and thus, the investigation of the framing of obesity in the various cultural contexts is warranted. To restate, framing refers to the problem definition of an issue, or the perspective or attention given to a certain issue. A frame may be defined by the information included or excluded. Many of the studies conducted on the topic of obesity in the media have specifically examined the use of framing in media reporting (Lawrence, 2004, Sandberg, 2007, Saguy and Almeling, 2008, Saguy and Riley, 2005, Kwan, 2009, Saguy and Gruys, 2010). The main frames that have been

found in each of these studies are described below and include three overarching frames; Behavioural/Individual, Environmental/Systemic and Genetic/Biological. A number of other framing studies which do not fit into these broad categories are also outlined. The current review highlights that the behavioural and environmental frames are prominent in the news coverage of obesity and provides an overview of the on-going framing contests and the implications of various framing of the issue.

#### ***3.4.4.1 Prominent obesity frames and themes in news coverage***

Typically, the behavioural frame emphasises personal responsibility for health and includes sub-themes of dieting, physical activity, eating to excess, and lack of self-control, among others. Saguy and Riley (2005) found that the 'risky behaviour' frame was prominent in their study. Similarly, Saguy and Gruys (2010) found that news reports tended to attribute eating disorders (such as anorexia and bulimia) to a number of complex interconnected factors but, in contrast, predominantly blamed overweight and obesity on individual behaviours. Sandberg (2007) examined the framing of obesity in Swedish newspapers and found that overweight was principally presented either as a health risk or as a personal beauty dilemma. The way in which obesity is framed in media discourse has implications at both the individual and the broader societal level. The individual/behavioural frame implies obesity and obesity-related ill-health is due to a poor self-control and poor individual lifestyle choices and therefore places blame and responsibility for obesity on the individual themselves. At the societal level, this frame attaches stigma to overweight and obese people and as previous research has documented, can further

increase health disparities (Brownell, 2005, Carr and Friedman, 2005, MacLean et al., 2009, Puhl & Brownell, 2001, Puhl & Heuer, 2009). Furthermore, it is suggested that since cases of overweight and obesity are described as more common among ethnic minorities and the poor, news reporting on obesity is likely to reinforce existing stereotypes and therefore facilitate and perpetuate the persistence of weight-based stigmatisation and discrimination (Saguy and Gruys, 2010).

Researchers contend that cultural values influence how the media assign blame and responsibility (Saguy and Gruys, 2010, Malterud and Ulriksen, 2010). It is widely believed that morality plays a role in how blame is assigned, in that a culture where thin bodies are idealised, being overweight is associated with sloth and gluttony (Saguy and Gruys, 2010, Saguy and Riley, 2005, Saguy, 2005, Gracia-Arnaiz, 2010, Daneski et al., 2010, Gard and Wright, 2005). Saguy (2005) found that obesity is also moralised in France, although differently than in the US. Instead in the French media, obesity was described as an American issue and blamed tended to be placed on corporations rather than individuals.

Environmental or systemic frames have been found to be prominent in print and television news reports (Lawrence, 2004, Saguy and Gruys, 2010, Saguy and Riley, 2005, Malterud and Ulriksen, 2010, Kim and Willis, 2007). This frame may be established by citing environmental causes and solutions to obesity, for instance, mentions of economic circumstances, lack of facilities, or lack of access to and availability of healthy choices, amongst others. Saguy and Riley (2005) also discuss the frame of obesity as a disease. The framing of obesity as a disease of ‘epidemic’ proportions has implications for public understandings in that the researchers

contend that it creates a sense of fear of the spread of disease and implies that everyone is at risk. This frame may add to the stigma of being obese as those who are considered obese are also considered 'diseased'. The researchers state that this label may undermine the status of fat people.

Lawrence (2004) conducted one of the first studies of this kind on the topic of obesity in the news. She examined the evolution of the framing of obesity in news print coverage during selected years between 1985 and 2003 by sampling front-page *New York Times* articles and editorial items mentioning obesity. Lawrence's (2004) analysis revealed a "*vigorous framing contest*" was occurring between arguments emphasising individual responsibility for health and those emphasising social responsibility for health. Interestingly, Lawrence found evidence that the debate has been reframed in news discourse over the period examined. In more recent years, the portrayal of obesity had changed from predominantly emphasising personal factors to emphasising environmental causation. Kim and Willis' (2007) analysis of obesity in the US print and television news from 1995-2004 found that media mentions of personal causes and solutions to obesity greatly outnumbered societal attributions. However, like Lawrence (2004), they also found that over time there has been an increase in references to societal attributions of responsibility. Saguy and Riley (2005) similarly found evidence of these framing contests and explored the strategies employed by claimants in establishing their view and in discrediting competing claims. They concluded that "*what one might assume to be strictly arguments over scientific method and empirical facts are actually heated struggles over framing and morality*".

Barry et al. (2011) specifically examined the framings around childhood obesity in the American press over the period 2000-2009. This examination of news coverage found that obesity was a major media issue between 2003 and 2007 but that attention to the issue has decreased somewhat since 2007. Consistent with previous findings, they found that news stories reliably mentioned individual behavioural interventions most often as solutions to childhood obesity. However, the print media were more likely than television news to focus on environmental interventions.

The genetic/biological frame is one that has not received the same media attention as the behavioural and environmental frames. A biological/genetic frame may be described as one where a genetic or biological disorder is ascribed to obesity. Studies by Lawrence (2004) and Saguy and Almeling (2008) included such a category, yet it was not found to be a major frame in either study. Lawrence (2004) found that the biological frame was in only one out of ten articles in 1985 and only two out of 55 in 2003. Saguy and Almeling (2008) found that genetic frames were least common in each year examined, even when reporting on studies that mentioned genetic causes. The researchers argue that this fact demonstrates the extent to which the news tends to attribute body size to factors under personal control.

Building upon earlier research, Shugarta (2011) analysed a sample of television coverage of obesity between June 2008 and December 2009. The results revealed that a novel frame of 'fatalism' was prominent in coverage, featuring in over 60% of broadcasts. This fatalism was described as including health beliefs that related to fate, luck, and predetermination of weight outcomes. Thus, the power and ability to produce change or ameliorate personal weight status is considered to be

beyond the means of the individual, which can have considerable influences on the support for various interventions to obesity. Another prominent theme was that of ‘contemporary life’, and how modern lifestyles inhibit healthy weight management. This theme fits in with the broader environmental theme as it speaks to how the way we live now influences exercise and nutrition habits.

Kwan (2009) conducted a study which examined the various frames employed by interest groups in obesity debates and how they put their own ‘spin’ on the issue, typically to meet their own needs or to deflect attention from other aspects of the issue. This study is relevant to media research as such interest groups are often-quoted sources in media reports and thus, may have influence over the public understanding of obesity. Three groups at the forefront of the obesity debates were selected and texts were collected from the web sites of each organisation for the sample. These groups included the Centers for Disease Control and Prevention (CDC) which monitors obesity as a chronic disease, the National Association to Advance Fat Acceptance (NAAFA), which was established to improve the quality of life of fat people and eliminate body discrimination and finally, the Center for Consumer Freedom (CCF), which represents the food industry. Kwan found that in the CDC’s so-called medical frame, an alarmist tone was widely present. This frame emphasised weight trends, health costs of obesity and the chronic health conditions associated with obesity. The frame acknowledged multiple causes of obesity but stressed the relevance of behavioural factors, such as diet and exercise. Here, Kwan uses the term ‘medical frame’ to describe the dominant messages and discourse, including causes and solutions, employed by the CDC. As we can see, the ‘frame’ here goes beyond the causes and solutions to also include other features of the

perspective presented in the medical frame, including the consequences of obesity and prevalence statistics. So, although based on the causes and solutions offered, one may argue that this frame emphasises behavioural aspects of obesity, Kwan broadens this definition to include other aspects of the typical 'story' presented within the medical frame.

Kwan found that NAAFA adopted a 'social justice frame' in their discussion of obesity. This focused attention on issues of discrimination and stigma and underlined the various understandings of what constitutes a healthy weight. Like the medical frame, this frame also acknowledged the multiple causes of obesity but differed in that it emphasised that weight is at least partly beyond an individual's control. Both frames draw on medical research, though they tend to emphasise different findings in order to substantiate their respective claims. Finally, Kwan outlined the 'market choice frame', as employed by the CCF. This frame contended that the central issue in the obesity debate should concern the freedom of choice and emphasised that people should be allowed to consume whatever they like. The CCF also adopted an alarmist tone but warn of governmental control, interference and invasion of privacy. The CCF stressed that energy intake is not the cause of obesity and implicated sedentary lifestyles as the cause of the obesity epidemic. Like NAAFA, the CCF frame conveys how one may be 'fit and fat'. Kwan (2009) purports that all three of these frames have significant implications for how one thinks about overweight bodies. Yet, despite the reliance of all three groups on scientific evidence, the public discourse remains dominated by the medical frame. Kwan concludes that obesity is not simply a medical fact but is also a social fact that many parties vie to define (2009).



A number of qualitative studies have produced some interesting insights into the media discourse on obesity. Malteraud and Ulriken (2010) conducted a study which adopted a discourse analysis approach in the exploration of the Norwegian media coverage on obesity during a three-month period in 2007. They discovered that news reports linked gluttony to a lack of self-control, irresponsibility and ill-health and associated fat people with unhappiness. This finding is consistent with previous studies which have found an emphasis on individual responsibility for obesity. It was concluded that in the Norwegian media, cultural issues of blame and shame are readily associated with obesity (Malteraud and Ulriken, 2010). In a study conducted in the United States, Boero (2007) describes obesity as a “*post-modern epidemic*”, where conditions without a clear pathological basis become cloaked in the language and moral panic of traditional epidemics, such as contagious diseases. As described previously, moral panics may be characterised by the exaggeration or fabrication of risks and the projection of anxieties onto a stigmatised group who supposedly threaten the social order then become ‘folk devils’ in society (Cohen, 2002). Boero (2007) contends that although obesity is now a ‘taken for granted’ medical epidemic, blame is placed on the individual and yet there is a continued reliance on health professionals to help solve the problem.

Saguy and Almeling’s (2008) study provided a particularly useful insight into framing as it examined how science informs the media. The results suggests that the media are directed by scientific studies when representing obesity as a crisis but they also contend that the media were guilty of “*throwing fat on the fire*” by dramatising the findings through use of metaphor, imagery, and evocative terms (Saguy and Almeling, 2008). This study underlines a point made earlier in this review regarding

the influential role of interest groups and public relations practitioners and the function of press releases in encouraging journalists to adopt a certain frame in their reporting. The influence exerted by such interest groups must be considered when examining media content.

In studies examining the representation of gender and health issues in the media, research has revealed that women are generally regarded as gatekeepers for the health of others. Maher and colleagues (2010) examined the media discourse around childhood obesity and discovered that the maternal role was emphasised more than the paternal role. Furthermore, they found that there was a persistent expectation that mothers should provide healthy food and ensure children eat well. In particular, mothers who work outside the home and mothers with poor diets during pregnancy were blamed for childhood obesity. Studies also found that blame for childhood obesity was placed on parents, as parents were portrayed as not caring if their children were overweight (Bastian, 2011, Henderson et al., 2009).

Noted in a number of studies was the fact that sparse coverage is given to debates in the field of obesity research. Sandberg (2007) stated that there were very few debate articles found in the sample she studied. Similarly, Saguy and Almeling (2008) reported that only two news stories (3% of the sample for 2003) discussed the 'fit and fat' debate and Saguy (2005) found little scepticism in the French press regarding the so-called obesity epidemic. Rail and colleagues (2010) note that obesity debates have largely taken place in academia and away from the public and the media. Generally, debate articles would be characterised by thematic framing, where articles would have a broader scope in representing various perspectives on an

issue rather than a narrower, event-focused episodic frame (Iyengar, 1991). However, as previous research has indicated, news stories tend to be predominantly episodic in nature and therefore debate articles may not be as attractive to journalists as other new or ‘breaking’ obesity-related stories. Furthermore, previous research indicates that science news coverage is largely devoid of scientific uncertainty (Jensen, 2008) and Stocking (1999) contends that journalists make science more certain than it is. For these reasons, reporters may avoid debate articles and instead ‘frame’ the issue in one way or another.

Hilbert and Ried (2009) examined media coverage of obesity in German daily newspapers and specifically how coverage of obesity can differ between publication types. For instance, national and local papers offered more substantial and less inaccurate information than tabloids, whereas tabloids tended to use more personal accounts of obesity. Markedly, the national papers were more likely to attribute individual factors to obesity. Sandberg (2007) also employed this approach of examining a number of different publications. She found that although the tabloid press is often accused of being alarmist, the Swedish tabloid from which she sampled was found to be “*calming and reassuring*” regarding the issues of overweight and obesity (2007, p. 333). In contrast, the most alarming articles tended to appear in the publications generally read by the political and cultural elite and were those written by physicians and researchers. This may be reflective of those of a high social standing aligning themselves to the body as a project thesis of weight management (Bourdieu, 1984). These mixed findings highlight the value of examining the representation of obesity in various publication types with different target audiences. Not only will this account for a variety of readership profiles but it

is possible that different publication types differ in their portrayal of obesity in different countries. Therefore, focusing on only one or two publications may result in the exclusion of relevant obesity messages from an analysis.

In sum, previous literature has elucidated the prominence of the behavioural and the environmental frames in news coverage of obesity and how interest groups and social actors can vie to define and attach meaning to obesity. Gender differences have been widely revealed in the analysis of media content as there has been considerable variance in the social construction of men and women's typical relationship with diet, health and weight. It seems that women are conveyed as playing the caregiver role in the family, responsible for the health and diet of others, whereas men indicate a disinterest in weight and diet management. This review has also highlighted the relative dearth of debate articles regarding obesity, given the extent of the presence of these debates in academic fields.

#### ***3.4.4.2 Limitations of previous research***

Although these studies have provided an important insight into how obesity is represented in the media, it is necessary to note some of the limitations of previous research. For instance, the sampling method employed by Saguy and Almeling (2008) was purposive, in that they sampled articles that reported on specific scientific papers and findings. This limits the ability to generalise their results beyond the sample selected but nonetheless, provides a valuable insight into this relationship between science and the media. Although Boero (2007) states that her research drew on 751 articles, she focused more closely on just seven of these and

provides a detailed qualitative analysis of this relatively small number of articles. Lawrence (2004) provided a valuable overview of the on-going framing contests in the media, but as pointed out by Saguy and Gruys (2010), the analysis lacked an insight into issues such as gender and class and also only sampled front page articles from one publication. Although Saguy and Gruys conducted both quantitative and qualitative analyses on their sample, they chose to only sample articles from two publications. Hilbert and Ried (2009) and Sandberg (2007) both sampled articles from a number of publications which provided a data set that represented different newspaper sectors and audiences. However, Sandberg's analysis was conducted on articles written between 1997 and 2001 and thus the research may not provide a reflection of the more recent obesity discourse.

Unlike previous studies, Kim and Willis (2007) only categorised news reports as emphasising personal or societal factors, where previous studies have also included a genetic or biological category. However, the authors did address this and explained that they included genetic conditions in the personal category as the focus was on the cause of obesity, not who is to blame. The framing of obesity has implications in how it is understood by lay people and consistent with research, news reports which imply that obesity has a strong genetic component, typically has connotations for the acceptability of various interventions. For instance, when obesity is presented as a genetic condition or as a result of a genetic condition, this has different moral and social connotations than if obesity were presented as a result of poor individual choices. Such moral and social implications are of interest in the current study and therefore the inclusion of a genetic/biological category is of considerable interpretative importance.

Clearly, the media play a significant role in our lives, through risk communication, agenda-setting, issue framing and as influencers both at the individual and societal level and many relevant and practical recommendations have emerged in the studies examined in this review. Hilbert and Ried (2009) propose that in order to generalise media analysis results, it is important to employ a large sample of newspapers and articles and to study coverage over a period longer than a year. Lawrence's (2004) results also suggest that it is valuable to assess news reporting over time in order to examine the evolution of the debate of obesity. Furthermore, Saguy and Riley (2005) advise that future work on the topic should investigate how identified frames are employed in political struggles and the extent to which various frames are invoked in media discourse. Kwan believes the study of frame interaction and competing frames may illuminate understanding of the social processes at the core of the issue. Similarly, Allan et al. (2010) emphasise the importance of understanding the motivations and methods of claimants in framing the debate a certain way. They argue that it is vital to attend to the politics of framing and advise that it is imperative to address the motivations and methods of various claimants as they "*strive to gain ideological purchase for their preferred rendering of the facts*" (Allan et al., 2010).

According to Kersh (2009), although the main frames (of personal and environmental responsibility) seem to have been established in the obesity debate, the politics of obesity are still developing and it remains an emergent field. A number of studies have advocated that future research examine the relationship between frames and agents and especially investigations that assess the impact and representativeness of these frames on news consumers (Kim and Willis, 2007, Kwan,

2009). Saguy and colleagues assert that further work on the topic of obesity in the media is critical in order to better understand these framing battles and how they influence people and policy (Saguy and Riley, 2005, Saguy and Gruys, 2010). The portrayal of an issue such as obesity in the media has far-reaching implications, particularly regarding directions of future research, public policy, health communication, and weight stigma. Understanding how messages about obesity are portrayed may help public health practitioners in designing interventions and will inform health providers about assumptions or knowledge people may have about obesity and obesity-related illnesses.

As this thesis draws on health psychology as well as cognitive psychological research, the next section introduces a theory that will help in evaluating obesity-relevant beliefs. The Common Sense Model of Illness Representations is described in detail, including its process, characteristics and its value and application in the current research.

### **3.5 Illness representations and public understandings of obesity**

An important endeavour of health psychology is to understand the factors that influence a person's health behaviours and beliefs. Explanatory theory and health belief models help researchers and health practitioners understand and predict health behaviours and the application of such models to research can lead to the development of effective interventions. One health belief model which has received significant attention is that of Leventhal's Self-Regulation Theory, also known as the Common Sense Model ([CSM]; Leventhal et al., 1980, Leventhal et al., 1983). The

model was developed based on, and informed by, Leventhal's early psychological research, which concerned the effect of threat and fear communications in the mass media on the public (Leventhal and Leonard, 1970). Leventhal found that the presence of an 'action plan' in communications was more influential than the presence of fear in messages and concluded that emotions and cognitions were both important for assessing and managing a health risk (Leventhal, 1970, Leventhal and Tremblay, 1968). This research led to the subsequent development of the CSM, where qualitative methods were employed to establish how individuals discussed and thought of various illnesses and symptoms.

The Common Sense Model is a theoretical model focused on how factors influence health behaviours and health outcomes. According to the CSM, illness representations describe people's beliefs regarding a disease or symptom and can thus determine a person's assessment of an illness or health behaviour (Leventhal et al., 1992, Leventhal et al., 1998). The model is consistent with dual process theories of cognition and contends that a parallel process occurs in symptom evaluation, with cognitive and emotional aspects both potentially involved in triggering health behaviours (Leventhal, Diefenbach, & Leventhal, 1992). The parallel-response framework aims to understand how individuals adapt to health threats by examining threats from the individual's perspective and accordingly, how this perception may influence a response or coping strategy. The following sections will closely examine the Common Sense Model by first detailing the characteristics and content of illness representations. Secondly, the structure, organisation and process of development of illness representations will be examined and how these components operate to guide



coping and generate 'action plans'. Finally, an overview of how the Common Sense Model will be employed in the current research will be forwarded.

### **3.5.1 Characteristics and attributes of the CSM**

The model describes the contents or attributes of illness representations as containing five dimensions, which may be considered the 'building blocks' of illness representations (Hagger and Orbell, 2003). These dimensions are; identity (label of a symptom/disease), trajectory, causes, consequence, and control/solution. These components of an illness representation serve to create expectations of a symptom or disease. However, illness representations can differ between individuals based on their medical accuracy and on the level of development of their representations, meaning that individuals may experience the same illness in different ways (Cameron and Moss-Morris, 2004). Subsequently, a sixth dimension of illness coherence was added to the model (Weinman et al., 1996). This refers to whether the person thinks about a threat in a coherent way, that is, whether person's idea of the solution to an illness is aligned with their idea of the cause of the illness.

Hagger and Orbell (2003) outline the differences between concrete and more abstract elements of an illness representation, based on the sources of information available to individuals. They describe the symmetrical process where connections are made between abstract and more concrete sources of information. The abstract level concerns information such as cultural knowledge or social norms around an illness, or a general frame of reference for a symptom or illness, such as the flu. In contrast, concrete-sensory level information pertains to an individual's sensory and

perceptual processing of somatic symptoms (Leventhal et al., 1998). Symmetry between the abstract and concrete processes is described as an essential feature in order to interpret and confirm the interpretation, even if this interpretation is inaccurate (Leventhal et al., 1992). For instance, Baumann and Leventhal (1985) found that there was a common misperception among patients with high blood pressure that they could tell when their pressure was high, even though there is no evidence people can detect changes in blood pressure. This indicates that it is possible to have symmetry between symptoms and a diagnosis, though this information may be at odds with a purely biological or medical account of an illness.

The Common Sense Model, depicted in Figure 3.2, illustrates Leventhal et al.'s conceptualisation of the self-regulation model, outlining the impact of external and internal cues on representation formation and development. The model describes two processing systems, one creating the more 'objective' representation of the health threat or symptom and the other more subjective emotional processing system which can also function to affect an individual's perception of a symptom or disease (the illness representation). The model indicates that the social and cultural context, experiences of the individual, and personal traits and characteristics can all operate to influence an illness representation. In a cyclical fashion, this illness representation can then generate action plans or coping processes, which will lead to appraisal or re-appraisal of the symptoms and representation. This constant re-appraisal and exposure to both internal and external stimuli can also serve to modify the illness representation and thus, may in turn modify resulting health behaviours.

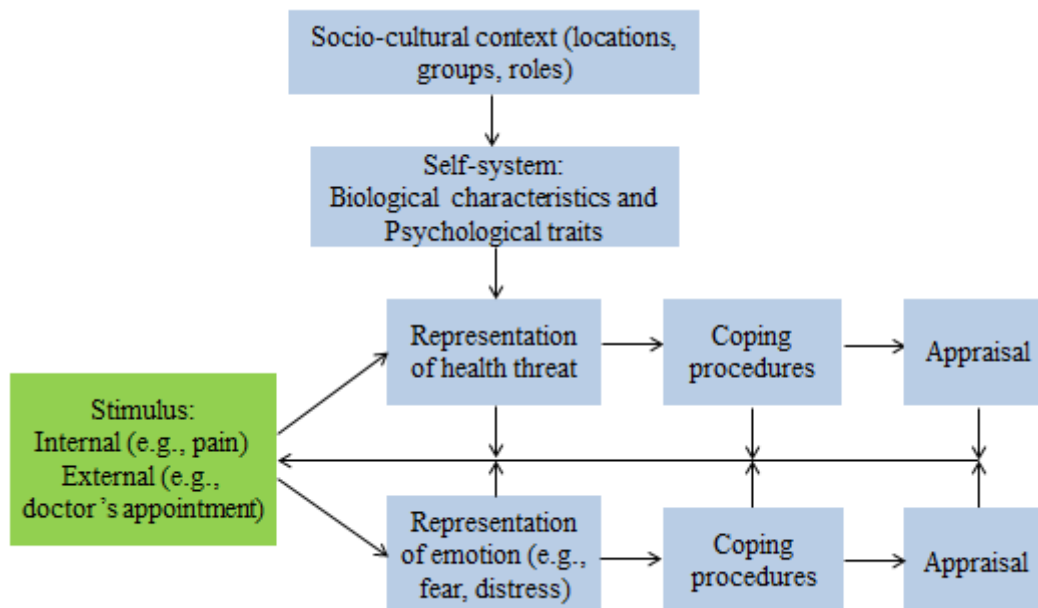


Figure 3.2 The self-regulation model of illness representations (Leventhal, Diefenbach and Leventhal (1992), reproduced with permission)

### 3.5.2 Organisation and structure of illness representations

Leventhal et al. (1992) hypothesise that at least two types of memory structures are necessary for the formation and activation of illness representations. They propose that a schematic, non-verbal memory structure must be necessary to retain and retrieve information relating to memories of experiences of illnesses and symptoms alongside a more conceptual memory structure, which provides general information regarding illness episodes. This type of memory consists of semantic concepts and expectations regarding a disease and may be learned based on exposure to relevant information.

Illness beliefs are hypothesised as organised in memory as a set of cognitions or a schema and exposure to relevant cues is theorised to make certain schemas more accessible and render them more applicable, thus influencing illness representations (Henderson et al., 2007, Leventhal et al., 1998). Through this parallel-process, an illness representation functions as an organised system, helping the individual to explain and interpret their illness experience. Therefore, message framing and exposure to illness-relevant information can influence an individual's conception of an illness. For instance, Martin et al. (2003) highlight a case where media reports of a study on the connection between chronic heartburn and oesophageal cancer prompted thousands of patients to visit their doctor, even though the majority were already being treated for the condition and their symptoms had not changed. This underlines the influence of the media on illness representations and how changes in an individual's understanding of an illness can promote health behaviours.

Research has lent support to the assertion that illness representations are stored in memory as schemas. Henderson et al. (2007) examined whether it is possible to activate specific schemas given certain illness specific information, without activating schema for other illnesses. They found that priming information consistent with the common cold (study 1) and cardiovascular disease (study 2) resulted in attentional biases in each condition compared to neutral words, suggesting illness-specific schemas (illness representations) can be activated. According to Leventhal et al., this indicates that schemata are implicit, organised, and influence behaviour and cognition when activated (Leventhal et al., 2008).

Leventhal et al. (1998) contend that schemas may be patterned in three distinct ways aligning to the types of illnesses represented. An acute pattern is one which is often due to an external cause, develops quickly, is manageable and may be categorised based on the associated symptoms (for instance a common cold). However, cyclical conditions and chronic conditions are hypothesised to have distinct schemata and organisation due to their typical features. Cyclical conditions, such as hay fever, may be expected to return a certain times of the year or after exposure to certain triggers. Chronic conditions, such as asthma and diabetes, are described as a third category, due to their prolonged and often serious nature, such conditions are hypothesised to be characterised by a distinct schema organisation.

Representations can be activated by stimuli at any level and can evolve over time based on exposure to relevant cues, such as health-related news items. When a representation changes or is activated to the extent that a health threat is perceived, problem-solving begins by formulating goals to generate action plans and relevant health behaviours (Leventhal et al., 1998). It is posited that belief systems may be implicit rather than explicit and thus, these may be difficult or impossible to represent verbally. According to Leventhal et al., “*if the representation has a purpose, it is to guide coping*” (Leventhal et al., 1980). Coping responses are described as embedded in ‘If-Then’ rules, where the contents of the illness representation (cause, consequences, control, timeline and identity) operate to generate action plan which are perceived as appropriate and consistent with the perception of the symptom and will also have associated outcome expectations (Anderson, 1993). Thus, the experience and nature of the illness threat constitutes the ‘if’ and the resulting health behaviour constitutes the ‘then’.

The CSM suggests that illness representations are important as they guide reactions to symptoms, diagnoses, and health-related information and behaviours. Illness representations are believed to stem from a variety of sources including education, personal experiences, and particularly relevant to the current study, the news media. Importantly, illness representations can evolve over time based on symptom change, intervention success or learning of new information (Leventhal et al., 1998). Due to the reliance of the public on the media for health information (Phillips et al., 1991, Carlsson, 2000, Hargreaves et al., 2003, Covello and Peters, 2002, Buttriss, 1997), the media is an important and valuable site in which to examine the representation of illnesses.

The CSM has been employed widely in previous research, in areas such as hypertension, cancer, heart disease and obesity (Babooram et al., 2011, Zerwic et al., 1997, Meyer et al., 1985, Llewellyn et al., 2007). Numerous studies have indicated the importance of illness representations and how beliefs regarding causes and cures can have implications for health behaviours. Regarding obesity, research has revealed that people tend to attribute the causes of obesity to behavioural, environmental and/or to heredity factors. It has been suggested that causal attributions of illness may influence illness outcomes and coping. For instance, research indicates that successful weight loss and maintenance can be predicted by an individuals' beliefs associated with obesity (Ogden, 2000). Furthermore, a meta-analysis conducted by Hagger and Orbell (2003) have demonstrated that illness representations are good predictors of a range of outcomes across many conditions and illnesses. Thus, the framing of a news story and specifically, how the causes,

consequences and solutions to obesity are reported and portrayed may be an important influence on individual's representation and understanding of obesity.

### **3.6 Summary**

This chapter has introduced previous research examining how the meaning around obesity may be influenced by the broader environment, particularly by the media discourse. This chapter also outlined previous research chronicling the representation of obesity in the media, the value of media analysis, and the opportunity to trace the emergence of the issue as one of media concern. The relative dearth of Irish and European research on the social meanings of obesity highlights the importance of understanding the issue at a local level. The Common Sense Model is of practical as well as theoretical interest in the current research. It is argued that while public (social) representations are important, individuals will modify these shared representations in light of their own illness experience and their exposure to information (Leventhal et al., 1980). In order to understand how health communication affects the receiver, it is also necessary to understand how individuals construct representations of illnesses (Leventhal et al., 1980). Therefore, the current research begins by adopting both the CSM and framing theory in order to better understand the media representation of obesity and how this may influence public understandings. An advantage of employing the CSM in media representations research is that it complements framing theory in that how a health issue is presented in the media is said to influence understandings (Entman, 1993). Entman (2004) states that two of the most important functions of framing are the

problem definition and the suggested remedy, paralleling the cause and solution dimensions of the CSM. This theoretical alignment demonstrates the compatibility of the theories, which overlap to an extent and can complement each other in the investigation of health discourses.

Studies have strongly indicated that the media is powerful in both making the public aware of health issues and that it has the potential to change people's behaviours and opinions (Dodd and Morse, 1994, Gamson and Modigliani, 1989, Noar, 2006) and therefore the media is a valuable research site in which to begin to examine the meanings of obesity, as this communication occurs at a level in society which can have widespread impact. The next chapter introduces the methods and considerations relevant to the investigation of media content and outlines the quantitative and qualitative approaches adopted in addressing the research aims in this first phase of the research.



# **Chapter 4 - Research Approach and Methodological Considerations**

## **4.1 Introduction**

Obesity is a significant social issue which has recently received considerable attention from academics, politicians and the media alike. This is resulting in the emergence of socially constructed meanings of obesity, which according to Kwan (2009) various parties and interests are vying to define. It is these constructions and understandings of obesity that are of interest in this research. By examining the media portrayal of obesity, the discussion of the issue in an online social field, and understanding individual-level beliefs regarding obesity, we can discern these various meanings in Irish society. For the purposes of clarity, the research framework is presented, outlining the studies that were conducted at the various stages of the research. This chapter introduces the research philosophy and mixed methods approach adopted, as well as the research questions and hypotheses guiding the first stage of the investigation. As there are two distinct phases to the research programme, this first methods chapter will provide information relevant to the media analysis and subsequently, a second methods chapter prefacing Phase II of the research will be presented. Before introducing the specific methods adopted and considerations relevant to this first phase, the overarching aim and specific objectives of the thesis are first outlined.

#### **4.1.1 Overall goal and research aims**

The overall goal of this thesis is to examine the various meanings of obesity in Irish society and to understand the culturally-dominant values and norms that shape responses to obesity and the obese. This thesis presents four pieces of research which aim to elucidate these meanings at three specific levels of inquiry, based on Bronfenbrenner's (1977) ecological model. Drawing data from these levels will assist in determining the extent to which public opinion and the meanings of obesity are cohesive across the various levels and will enable the assessment of whether there is an alignment between the media and citizens' construction of obesity.

In the first phase, the exo-level meanings of obesity will be interrogated, using both qualitative and quantitative techniques. Researchers working on this topic have advised that it is important to examine the portrayal of obesity in the news over time to understand how the issue has evolved (Lawrence, 2004). Furthermore, it is asserted that future work should identify dominant frames and the extent to which these are invoked in the media discourse to illuminate the social pressures at the core of the issue (Kwan, 2009, Saguy and Riley, 2005). Previous research and the research aims will guide this stage of analysis and following this, the findings of the media analysis will provide the basis for proposition and hypothesis generation to guide Phase II of the analysis. This second phase examines micro-level discussions in an online social field and individual-level understandings and meanings of obesity.

This chapter introduces the research framework, the methods, and considerations relevant to this first phase of research, which draws on two core

theories in the investigation of the media discourse; framing theory and the CSM. Taken together, these theories provide a basis for employing a common analytical framework across the three levels of inquiry. However, the analysis was not limited to these theories alone and the research was also informed by sociological theory and concepts.

#### **4.1.2 Research philosophy**

The epistemological position adopted toward research can have significant implications for research design and the type of conclusions that can be drawn. For instance, quantitative and qualitative approaches differ significantly in their underlying assumptions about the nature of knowledge and reality. Inherent in the adoption of a certain research philosophy are a number of research-relevant assumptions regarding the way one views the world. Thus, these assumptions will also underpin the methodology employed. The epistemology of a research project concerns what constitutes knowledge in a field of study (Saunders et al., 2009). The question of epistemology is typically determined at the outset of a project but may also be considered during the analysis. According to Braun and Clarke (2006), the research epistemology guides what one may say about a data set and how meaning is theorised. Therefore, adopting one epistemological position over another will shift the focus and the outcome of the research. For instance, quantitative research rests within the positivist philosophy, in that reality is said to be objective rather than subjective. Conversely, qualitative research is typically identified as interpretivist or constructivist in nature, in that multiple realities are considered to exist and these

perceptions are considered equally relevant and important (Saunders et al., 2009).

Pragmatism, however, offers a different means of addressing the philosophy of research. A pragmatic approach argues that the most relevant determinant of the research approach adopted is the research question, in that one approach may be more suitable than another to address research aims (Saunders et al., 2009). Tashakkori and Teddlie (2003) contend that it is more appropriate for the researcher to consider pragmatism on a continuum between positivistic and interpretivist rather than adopting a firm position at either end of the spectrum. Thus, a pragmatic approach will be adopted in the current research, facilitating the use of quantitative and qualitative methodologies, to fully interrogate the research questions. This perspective posits that the research questions are more important than engaging in philosophical debate and presents a practical approach to the investigation. Based on these epistemological and methodological considerations, the research framework, presented in Figure 4.1, summarises the research and the approaches adopted. Previous literature and theory drew attention to key questions and methodological approaches and thus, the material presented in Chapter 3 helped to steer each aspect of the research programme, ensuring a comprehensive analysis of the meanings of obesity at various level of inquiry. Using Bronfenbrenner's ecological model (1977) as a guide to investigate the meanings of obesity at various levels of society, the analysis began with the social and cultural context, which Bronfenbrenner denoted as the exo-level of analysis.

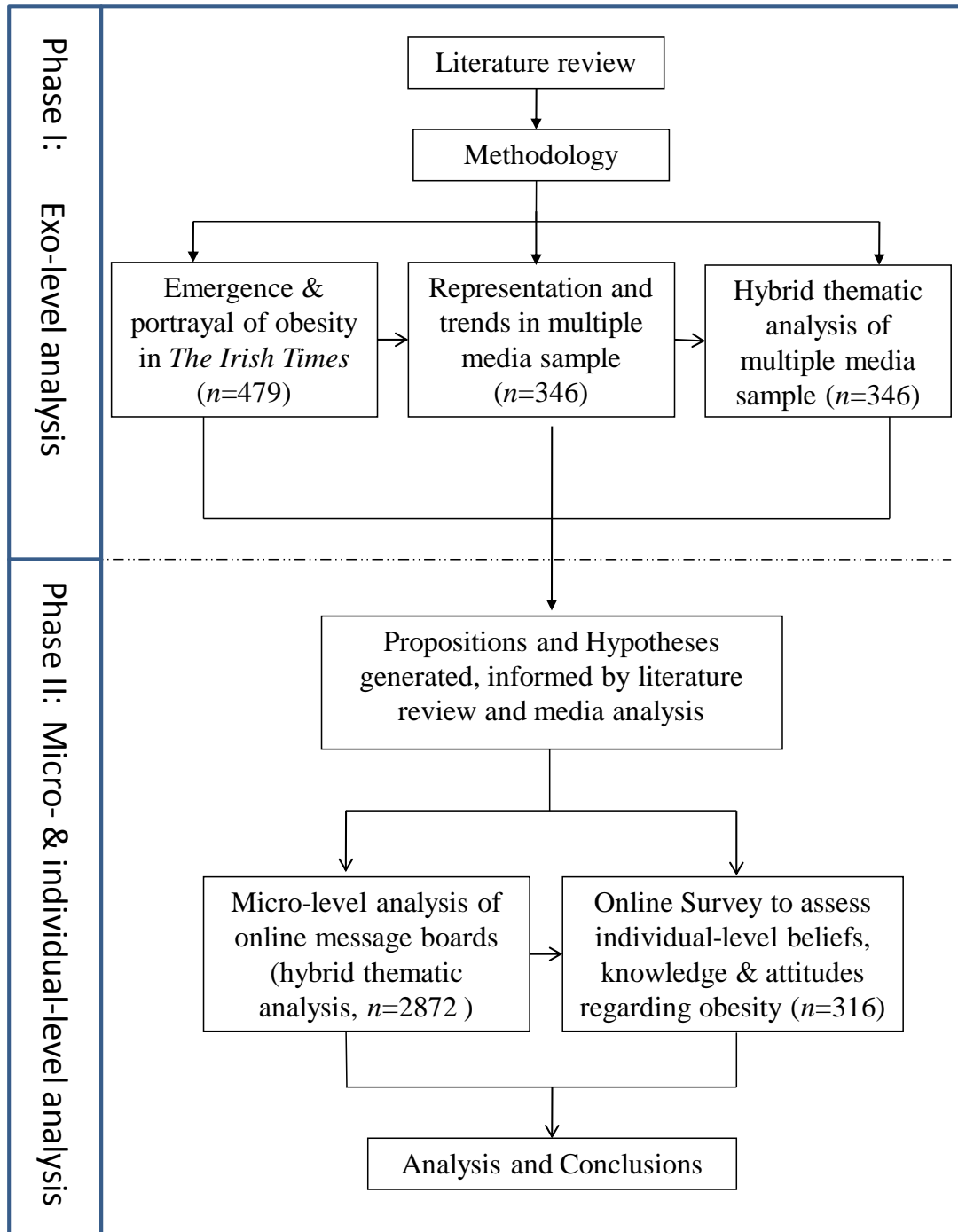


Figure 4.1 Research approaches and stages of inquiry

The media are thought to play a major role in the perceptions and judgements of all individuals in a culture (Entman, 1993), thus, the media offers a valuable insight into the norms and structures of explanation around obesity at the exo-level of society. Furthermore, based on agenda-setting and framing theory, it was expected that representations and constructions of the issue would be comparable at the community (micro) and individual-levels. Thus, the research programme was designed so that Phase I (the exo-level analysis) would inform the second phase of research. This necessitates a thorough analysis of the portrayal of the issue in the media to obtain the level of detail necessary for hypothesis and proposition formation for Phase II of the research. Consistent with a pragmatic mixed-methods approach, quantitative and qualitative methodologies were employed to interrogate the media data. As displayed in Figure 4.1, using a data set *Irish Times* articles, the emergence of obesity as an issue of media concern and broad trends in the portrayal of the issue over time were traced. Alongside this, a multiple newspaper sample was compiled from six popular broadsheet and tabloid news print publications. This second media data set was subject to a more detailed quantitative content analysis followed by a hybrid thematic analysis approach, facilitating the inclusion of both inductive and deductive elements in the analysis.

Based on these findings and on previous research identified as part of the literature review, a number of hypotheses and propositions were developed to guide Phase II of the research. As suggested by agenda-setting theory and framing theory (Entman, 1993, Entman, 1989, Iyengar, 1991, McCombs and Shaw, 1972), media attention and how the media present an issue can influence audience understandings. Therefore, this corpus of research facilitated the examination of micro-level and

individual level explanations and constructions of obesity based on dominant media portrayals of the issue. In this second phase of research, an online message board was searched for discussions relevant to obesity and a hybrid thematic analysis was conducted on the resultant sample. Finally, individual-level constructions of obesity were examined via a quantitative survey to assess beliefs and attitudes to obesity, again guided by the CSM and based on expectations congruent with findings from Phase I. More detail will be provided on each study later in this chapter. However, first the mixed methods approach to the research will be discussed, followed by a discussion of how the first phase of the research was conducted as well as the specific methods employed (content and thematic analysis).

#### **4.1.3 Research approach: Mixed methods**

As this research will be drawing data from various sources, providing insight into various aspects of the research puzzle, various methodologies will be employed in accordance with established best practice and previous research. Within this thesis, a combination of qualitative and quantitative techniques is used in order to best understand the construction of meaning at each level of inquiry. This approach is consistent with a pragmatic approach to research, which seeks to use the most appropriate research method to tackle the objectives at hand. Within academic fields, there has long been debate concerning the quantitative and qualitative methodological divide (Krippendorff, 2004). Proponents of the purely quantitative approach believe in conducting research strictly within ‘the scientific method’, where research aims to be objective, replicable, and should seek to answer specific

research questions and hypotheses (Neuendorf, 2002). Statistical analysis may be performed on the data and results will be in numerical form.

Qualitative research, on the other hand, involves a less rigid and more subjective approach to investigating the matter of interest. Generally, smaller samples are used and methods may include open-ended interviews or focus groups, where analysis takes place on the resulting text (Miles and Huberman, 1994). In qualitative research, context is of particular importance and the researcher makes inferences based on an in-depth analysis of the text (Altheide, 1996). Qualitative approaches have been criticised for their lack of objectivity, but they can succeed in tackling questions where quantitative methods may fail. Krippendorff is critical of the quantitative/qualitative split and asserts that fundamentally, all reading of texts is qualitative and in the analysis of textual data, both quantitative and qualitative methods are “*indispensable*” (2004, p. 87). A mixed methods approach is most appropriate for the current investigation to both provide indications of trends in media reporting as well as a more nuanced examination of the discourse and latent meanings in media communications.

A mixed method approach facilitates the use of quantitative and qualitative methods to collect and analyse data. Tashakkori and Teddlie (2003) contend that mixed methods designs are particularly useful as the approach enables data corroboration, as well as offering a means to draw upon the strengths of each approach while compensating for the limitations associated with both quantitative and qualitative research. Rossman and Wilson (1991) suggest three broad reasons to link quantitative and qualitative data:



- (a) to enable confirmation or corroboration;
- (b) to elaborate or develop analysis and provide richer detail; and
- (c) to initiate new lines of thinking through attention to deviant cases and to provide fresh insight.

Qualitative data are also very useful in validating and supplementing quantitative data. Silverman (2005) suggests that research questions may be thoroughly addressed by combining different research methods. According to Iyengar (1991), “*the importance of using multiple methods in communications research has long been acknowledged but seldom practised*”. Therefore, mixed methods research (i.e., both quantitative and qualitative) is highly appropriate in addressing the current research aims. Furthermore, this two-pronged approach to research offers a comprehensive means of addressing the issues at hand, while also lending greater credibility to the results and conclusions.

#### **4.2 Exo-level meanings of obesity: Introduction and hypotheses**

Given the public’s reliance on the media for health and science news (Carlsson, 2000, Dodd and Morse, 1994, Gamson and Modigliani, 1989, Hargreaves et al., 2003) the media is therefore an important research site at the exo-level in which to begin to examine the social meanings of obesity, as this communication occurs at a level in society which can have widespread impact. This exo-level of analysis refers to the cultural and sub-cultural contexts (geographic and ideological) of the individual that establish structures and patterns of behaviour and interaction.

Through the examination of media messages, insight into the cultural context and norms specific to the Irish context will be established and documented. The media are thought to play a major role in the perceptions and judgements of all individuals in a culture (Entman, 1993), thus, the media offers a valuable insight into the norms and structures of explanation around obesity at the exo-level of society.

Based on previous research and expectations congruent with the theoretical underpinnings of the research, a number of research questions and hypotheses were outlined both to guide the research and to limit the scope of the analysis. The first phase of the current research endeavoured to understand how obesity is portrayed at the exo-level by mapping the emergence of the issue as one of media concern and to chronicle the major issues and themes present in reporting of the issue. Studies from the US have indicated that the behavioural frame has been dominant in news reporting on obesity, but that the environmental frame has become increasingly prevalent over time (Lawrence, 2004, Kim and Willis, 2007). Lawrence's (2004) results also suggest that it is valuable to assess news reporting over time in order to examine the evolution of the debate of obesity. Furthermore, Saguy and Riley (2005) advise that future work on the topic should investigate how identified frames are employed in political struggles and the extent to which various frames are invoked in media discourse. These findings informed the generation of research questions and propositions to guide media analysis. A further aim was to explore the attributions made to obesity regarding causes, consequences, solutions, and descriptions of obesity, aligning with dimensions of the Common Sense Model of Illness Representations (Leventhal et al., 1992, Leventhal et al., 1998). This framework will constitute the common thread between each of the individual elements of the

research reported and operate as the primary models underpinning this research. Thus, the following broad questions and propositions guided the research:

**Research Question 1:** How has obesity been represented and framed in the Irish media?

**Research Question 2:** Has the portrayal of obesity evolved over the time period examined?

Research conducted in the US and Australia has suggested that the media are guilty of dramatising and sensationalising the issue of obesity (Saguy and Almeling, 2008, Holland et al., 2011). The current research seeks to address whether the Irish media are culpable of this to the same extent, if at all.

**Research Question 3:** To what extent does the media's reporting align with academic research and expert opinion and are there differences in the representation of obesity between different media channels?

Rail et al. have previously stated that the on-going academic debates, uncertainties, and controversies present in obesity research are not acknowledged publically and typically occur outside the public and media sphere (Rail et al., 2010). Similarly Saguy and Almeling (2008) and Sandberg (2007) have found only limited coverage of obesity debates in the media. Thus, the research sought to ascertain whether this was true of the Irish context:

**Research Question 4:** Do the print media portray the debates, controversies and uncertainties within the field of obesity?

Based on the tenets of framing theory, one would expect that the dominant trends in media reporting will influence how the issue is understood and perceived by lay citizen audiences (Iyengar, 1991, Entman, 1989). However, as the media analysis phase (Phase I) of the research informed the subsequent analysis of public discussions on obesity (Phase II), a number of specific hypotheses and propositions were developed for expected public understandings based on the media portrayal of the issue. A final broad research question is outlined here and will be further detailed using specific hypotheses following the elucidation of the results of the media analysis.

**Research Question 5:** To what extent is the media portrayal of obesity aligned with or representative of public beliefs, knowledge, and attitudes regarding obesity?

The media analysis includes two studies which together offer a detailed account of the media representation of obesity and each of these are discussed in turn. The objective of this phase is to chronicle the emergence of obesity as an issue of media concern, to examine how the issue has been portrayed over time, and to investigate the representation of the issue between media channels. However, first it is important to consider Irish media landscape and associated media consumption trends to further contextualise this research.

#### **4.2.1 Choosing a media source**

In order to understand how obesity has been portrayed and framed at the exo-level of inquiry, a media analysis was conducted. The media is believed to have a considerable impact on individuals' knowledge and beliefs as well as influencing the

public discourse on an issue (Lyons, 2000, Entman, 1989, McCombs and Shaw, 1972). Given the generally high levels of media consumption within the Irish population (JNRS, 2010), the media is a valuable site in which to examine the discourse on obesity as the media representation of obesity could provide insight into how the issue may be understood by the public. Furthermore, Ball and Crawford (2005) suggest that insights into cultural expectations regarding weight and related behaviours can be gained through the examination of the media. They assert that such media scrutiny can highlight recurring themes that may be indicative of broader cultural values and beliefs.

During study design, consideration was given to the potential media sources that data can be drawn from and what processes would be employed to analyse these data. Firstly, the issues of media trust and source credibility are explored before more specific detail is offered regarding the Irish media landscape. Given the vast array of media sources available, this strategy will help to discern the optimal sources and sampling strategy to ensure a spectrum of demographics and the widest possible audience. This process represents best practice in media research (Riffe, Lacy, & Fico, 2008) and will serve to enhance proposition generation toward understanding micro- and individual-level meanings of obesity.

Many studies have sought to compare credibility across various communication media, including television, internet, newspapers, and magazines. Kioussis (2001) found evidence that people generally regard newspapers to be most credible when compared with online and television news. This was replicated in a subsequent study and it was found that this credibility was based on perceived

honesty, balance, and currency (Abdulla et al., 2002). Thorson (2006) argues that only newspapers have the space and resources to provide a variety of issues and perspectives and an in-depth analysis of these issues. Although it may be argued that the internet also has these resources, it has been suggested that internet news is created mostly from the content of newspapers and other so-called legacy or traditional media (State of the News, 2010). For these reasons, newspapers were chosen as the best sampling source for the media analysis.

It is widely documented that media interest in obesity has increased significantly in recent years (Saguy and Almeling, 2008, Saguy and Riley, 2005, Gard and Wright, 2005, Kim and Willis, 2007, Lawrence, 2004). According to Udell and Mehta (2008), the reporting and discussion of these events in the print media has resulted in large public exposure to the issue. Clearly, this extensive coverage of obesity calls for a systematic examination and analysis of what obesity and obesity-related issues are being reported and what information is being conveyed to the public.

A 2003 study indicated that readership of daily newspapers in Ireland was higher than the EU norm (O'Donnell, 2003) and that on average, Irish adults spend longer reading newspapers than other Europeans (Elvestad and Blekesaune, 2008). The Joint National Readership Survey 2009/2010 revealed that 86% of the adult population are regular newspaper readers and of these, 54.7% read a daily newspaper and almost 70% read a Sunday paper (JNRS, 2010). There are several daily newspapers in the Republic of Ireland, including the *Irish Independent*, *The Irish Examiner*, *The Irish Times*, *Irish Daily Star*, and the *Evening Herald*. The best-

selling of these is the *Irish Independent*. *The Irish Times* is another leading broadsheet and is often referred to as Ireland's quality publication (Truetzschler, 2004) and as the paper of record (Mulcahy, 1995, O'Brien, 2008). The leading Sunday newspaper in terms of circulation is the *Sunday Independent*, which has over one million readers each week. These titles were chosen based on their high readership levels and the representation of a wide audience across the socioeconomic spectrum. Table 4.1 summarises the readership levels and target markets of the major Irish newspapers. In total, the four daily publications listed in Table 4.1 have a combined readership of 45.1% of the adult population and the two Sunday publications have a readership of 52.1% (JNRS, 2010).

Table 4.1 Newspaper readership by target market group (JNRS, 2010)

<b>Title</b> (estimated readership, % market)	<b>A,B</b>	<b>C1</b>	<b>C2</b>	<b>D,E</b>	<b>F</b>	<b>Total</b>
<b>The Irish Times</b> (359,000, 10.2%)	43%	39%	11%	5%	2%	100%
<b>Irish Independent</b> (560,000, 15.9%)	18%	34%	17%	16%	15%	100%
<b>Sunday Independent</b> (992,000, 28.2%)	18%	33%	18%	17%	14%	100%
<b>Irish Daily Star</b> (410,000, 11.6%)	5%	19%	30%	39%	7%	100%
<b>Evening Herald</b> (260,000, 7.4%)	4%	25%	29%	41%	1%	100%
<b>Sunday World</b> (843,000, 23.9%)	6%	22%	27%	35%	10%	100%
Key: A=Upper middle class; B=Middle class; C1=Lower middle class; C2=Skilled workers; D=Other working class; E=Lowest subsistence level; F=Large and small farmers						

#### **4.2.2 Analytical approaches**

Once newspapers were established as the optimal source for media sampling, the next step was to establish the best means of analysing the data to address the aims of the research. In keeping with the pragmatic and mixed methods approach to research, both quantitative and qualitative methods were employed in the analysis of media content. The quantitative aspect of the analysis employed content analysis, a method often used in media research.

To ensure relevant aspects of the media portrayal of obesity were not omitted, an inductive and deductive thematic analysis was also conducted on the multiple newspaper data set to provide insight into the latent meanings and perspectives of the issue, which cannot easily be captured in a purely quantitative examination of texts. The following sections introduce these methods and delineate the sampling, coding, and analytical processes as well as other pertinent considerations, including intercoder reliability.

##### ***4.2.2.1 Content Analysis***

Content analysis, an approach that has been widely employed in previous media analysis research, is one of the methods adopted in this thesis. Content analysis is a systematic and objective method through which topics, words, phrases or other units of media content can be distilled into meaningful categories to examine the representation of an issue. It acts as a means to quantitatively summarise news content (Neuendorf, 2002). In the words of Tenney, content analysis techniques have the potential to act as a kind of “*societal bookkeeping*” (Tenney,



1912), where trends in attention to various issues may be mapped and chronicled. Content analysis has met with a variety of definitions since its inception. An early depiction outlined it as a technique “*which aims at describing, with optimum objectivity, precision, and generality, what is said on a given subject in a given place at a given time*” (Lasswell et al., 1952). According to Bauer (2000), content analysis can be a hybrid technique, bridging the gap between statistical methods and the qualitative analysis of materials. It has been described as an empirically grounded method, exploratory in process, and predictive or inferential in intent (Krippendorff, 2004). Typically, the objective is to summarise rather than report all details of a data set (Neuendorf, 2002). The continuing growth of computational technologies and the ever-expanding availability on online data resources indicates that content analysis is an increasingly important and practical technique (Krippendorff, 2004).

Approaches to content analysis may be inductive or deductive in nature. Inductive approaches involve grounding the method in the texts and the researcher is required to apply their own categories and codes based on the data at hand. In contrast, deductive approaches compel the researcher to develop key categories and variables based on theory, previous research and congruent with the hypotheses being tested. Contingent on the approach to content analysis adopted, sampling strategies are often necessary, especially when dealing with a large data pool (Riffe et al., 2008). The researcher must define the population for the study including the message components being examined. Once the population has been defined, the researcher must decide if it is feasible to include all units in the sample for the analysis (referred to as a census) or whether it would be more suitable to adopt a sampling strategy in order to obtain a more manageable data set for analysis.

Random sampling is often considered a favourable strategy when an objective of the study is to generalise the findings (Riffe et al., 2008). Random sampling grants each unit the same likelihood of being included in the sample. Another widely used form of message selection is systematic sampling. This sampling method involves selecting every  $n^{\text{th}}$  unit from the population of interest, after determining a starting point. This procedure is particularly useful when dealing with texts from regular publications, such as daily newspapers (Krippendorff, 2004).

Content analysis offers many advantages for researchers of mass media; it facilitates the examination of how an issue is depicted and portrayed to the public, it affords researchers the opportunity to manage large data sets; it is unobtrusive by nature, using existing retrospective data, and has the ability to track changes over time (Krippendorff, 2004). It can provide fresh insights and illuminate understanding of a particular issue (Neuendorf, 2002). However, content analysis also has its limitations. For instance, there are restrictions to the inferences that can be made and conclusions that can be drawn from the results. Although it can enumerate what topics are discussed, it can fail to account for how these issues are portrayed to the public. The procedure can be labour-intensive and although associations may be identified, researchers are unable to assess causality (Kondracki et al., 2002).

Based on the characteristics of the sample source of newspapers, it is advised that systematic sampling is used in order to capture a representative sample from regular publications (Krippendorff, 2004, Riffe et al., 2008). Therefore, this approach was adopted in the current research and every second article was included in the study sample. The deductive content analysis process adopted in the current

research is summarised and illustrated in Figure 4.2 (coding information is presented in Appendix B).

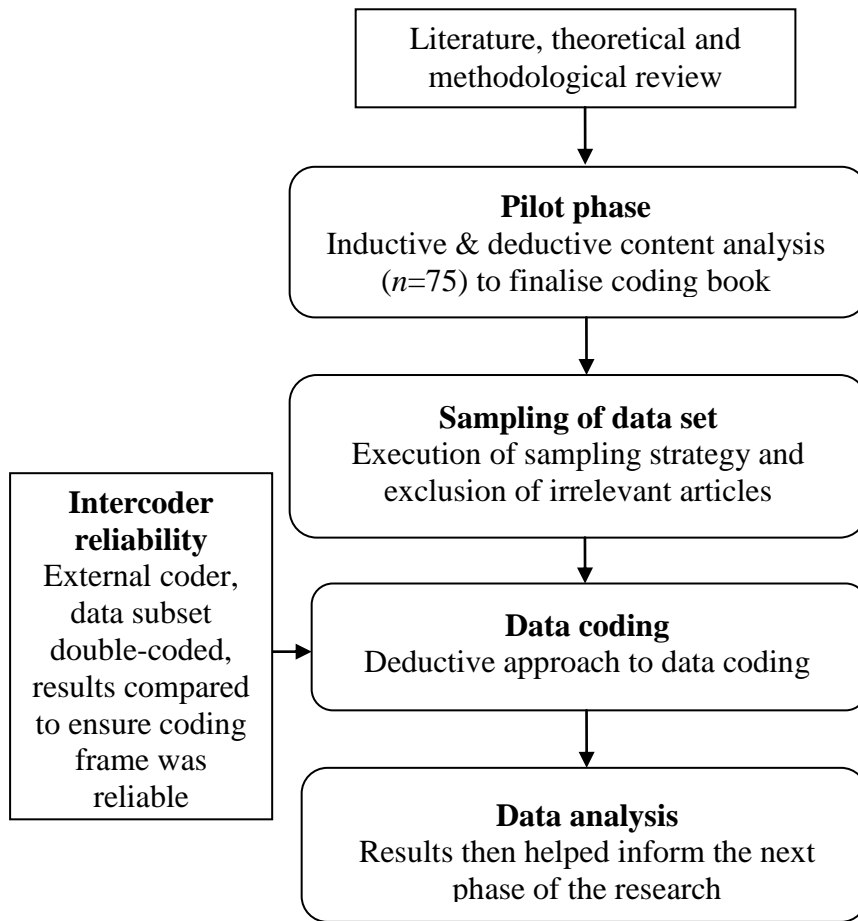


Figure 4.2 Summary of deductive approach to content analysis

#### 4.2.2.2 Thematic Analysis

In order to provide an in-depth analysis of the nuances and detail of reporting on obesity, a qualitative analysis was also conducted on the multiple newspaper sample. This section will introduce the qualitative research method adopted, thematic analysis, as well as provide a detailed summary of its application in the current research. Qualitative approaches have several advantages and strengths in research.

For instance, qualitative research emphasises peoples' lived experiences and social meanings within a specific context and therefore qualitative methods are useful for locating meanings individuals place on events and processes in their lives within their social world (Braun and Clarke, 2006). Qualitative research has a unique richness and potential for revealing complexity. According to Bradley and colleagues (2007), qualitative research is well suited for understanding experiences within a particular context and uncovering links among concepts and behaviours.

Although qualitative approaches have been criticised for their lack of objectivity, they can succeed in tackling questions and providing a thorough analysis of an issue where quantitative methods may fail. For instance, Entman (1993) warns of the pitfalls of only using content analysis in the assessment of framing in media texts. Content analysis can often treat all positive and negative mentions as equally salient and influential and consequently ignore other important characteristics of framing. Thus, the current research will employ thematic qualitative analysis in the examination of framing in media texts to facilitate a deeper, more nuanced understanding of prominent obesity meanings and frames.

Thematic analysis is a method employed in order to identify, analyse, and report patterns within a data set (Braun and Clarke, 2006). It is an accessible and theoretically flexible approach, which shares similarities with many other qualitative methods (Boyatzis, 1998). Themes may be defined as propositions or patterns that emerge from detail-rich data and are recurring overarching concepts or statements (Boyatzis, 1998). Braun and Clarke (2006) present their account of the process of thematic analysis, emphasising the importance of considering epistemology and rigor within research while ensuring a rich and detailed account of the data. The current

research will adopt these guidelines and will integrate other established accounts of thematic analysis in order to ensure quality in the approach taken, enhance rigor, and to best address concerns regarding validity, reliability, and ‘goodness’ of data (Boyatzis, 1998, Braun and Clarke, 2006, Miles and Huberman, 1994, Joffe and Yardley, 2004, Bradley et al., 2007).

The current research adopts a ‘hybrid’ approach (Attride-Stirling, 2001, Fereday and Muir-Cochrane, 2006) to thematic analysis, in that both deductive and inductive elements feature in the analysis. Similar to the approach of grounded theory (Glaser and Strauss, 1967), an inductive or bottom-up approach to coding and thematic analysis may be adopted. This means that as data are reviewed, codes are developed based on the reading of the raw information itself, and no preconceived codes are forced on the analysis (Bradley et al., 2007). It is a data-driven approach whereby the identified themes are strongly linked to the data (Braun and Clarke, 2006). In contrast, a deductive or theoretical approach to thematic analysis begins with an organisational framework or set of codes which initially guide the analysis. These preliminary codes help integrate existing concepts and guide the analysis toward addressing aims and research questions. This approach may result in a less detailed description of the data but will provide a richer analysis of certain pertinent elements. Miles and Huberman (1994) suggest that when adopting a deductive approach to coding, an initial coding list is useful to build on and extend theory. However, researchers warn of forcing data into categories, potentially diminishing the quality of research (Miles and Huberman, 1994, Bradley et al., 2007). Adopting a hybrid approach to the analysis will ensure that the analysis addresses the specific aims of the research, while also allowing unexpected or novel codes and themes to

emerge (Fereday and Muir-Cochrane, 2006). This approach is consistent with a pragmatic approach to the research and the flexibility offered by Braun and Clarke's conception of thematic analysis fits well with the goals of this research.

As this thematic analysis adopted a hybrid approach, featuring inductive and deductive techniques, the deductive aspect of the research will first be outlined. The deductive phase was concerned with mapping the portrayal of obesity based on dimensions of the Common Sense Model of illness representations (Leventhal et al., 1992, Leventhal et al., 1998). That is, this phase was concerned with understanding how the cause, consequences, solution and trajectory dimensions<sup>5</sup> of obesity were portrayed by the media. This investigation sought to elaborate on the results obtained via the quantitative content analysis of the media content. As previously discussed, content analysis is limited in its ability to reveal how these issues were discussed, just that these topics appeared in news content. This deductive approach using a qualitative lens seeks to illuminate salient aspects of the media discussion on obesity as well as providing insight into how these are contextualised and represented to the general public. However, the only predetermined categories imposed on the analysis were the four dimensions of the illness representation: cause, consequences, solution and trajectory. This ensured relevant information would not be omitted by an overly restrictive deductive process. The researcher sought information relevant to these categories and coded it as appropriate using the qualitative analysis software package *NVivo9* (more information available in Appendix D).

---

<sup>5</sup> Identity is a fifth dimension of the CSM, however, for the purposes of analysis, 'obesity' and 'excess weight' were considered labels relevant to the disease identity of interest and thus, a wider examination of identity was not warranted.

The inductive component of analysis drew on Braun and Clarke's (2006) good practice guidelines in conducting a thematic analysis. Figure 4.3 summarises this process. Common to most qualitative analyses is the first step of analysis which compels the researcher to immerse themselves in their data by repeated readings of texts in order to familiarise themselves with the content (Bradley et al., 2007, Braun and Clarke, 2006). Braun and Clarke (2006) contend that writing should begin at this early stage of analysis by noting initial ideas and thoughts during readings of the texts. The next stage of the process involves the generation of initial codes. Coding provides a formal system to organise data and codes are defined as the most basic element of the data that can be assessed in a meaningful way (Boyatzis, 1998, Bradley et al., 2007). In essence, codes identify features of the data and help the researcher organise and group the data.

Phase three of the analysis involves searching for themes once the data has been coded and these codes have been collated (Braun and Clarke, 2006). Researchers must step back from specific codes to focus on broader patterns within the data. At this stage, codes may be refined, or collapsed into others, or re-coded. The next phase involves a process of reviewing and refining themes. At this stage, it will become apparent that some themes do not have the data to support them and will therefore be refined or collapsed. Braun and Clarke (2006) advise that theme should *“cohere together meaningfully, while there should be clear and identifiable distinctions between themes”*. This necessitates a re-reading of all data extracts within a theme or sub-theme to ensure all data consistently add to and support the formation of a theme and also reflect the meanings in the data set as a whole (Braun and Clarke, 2006).

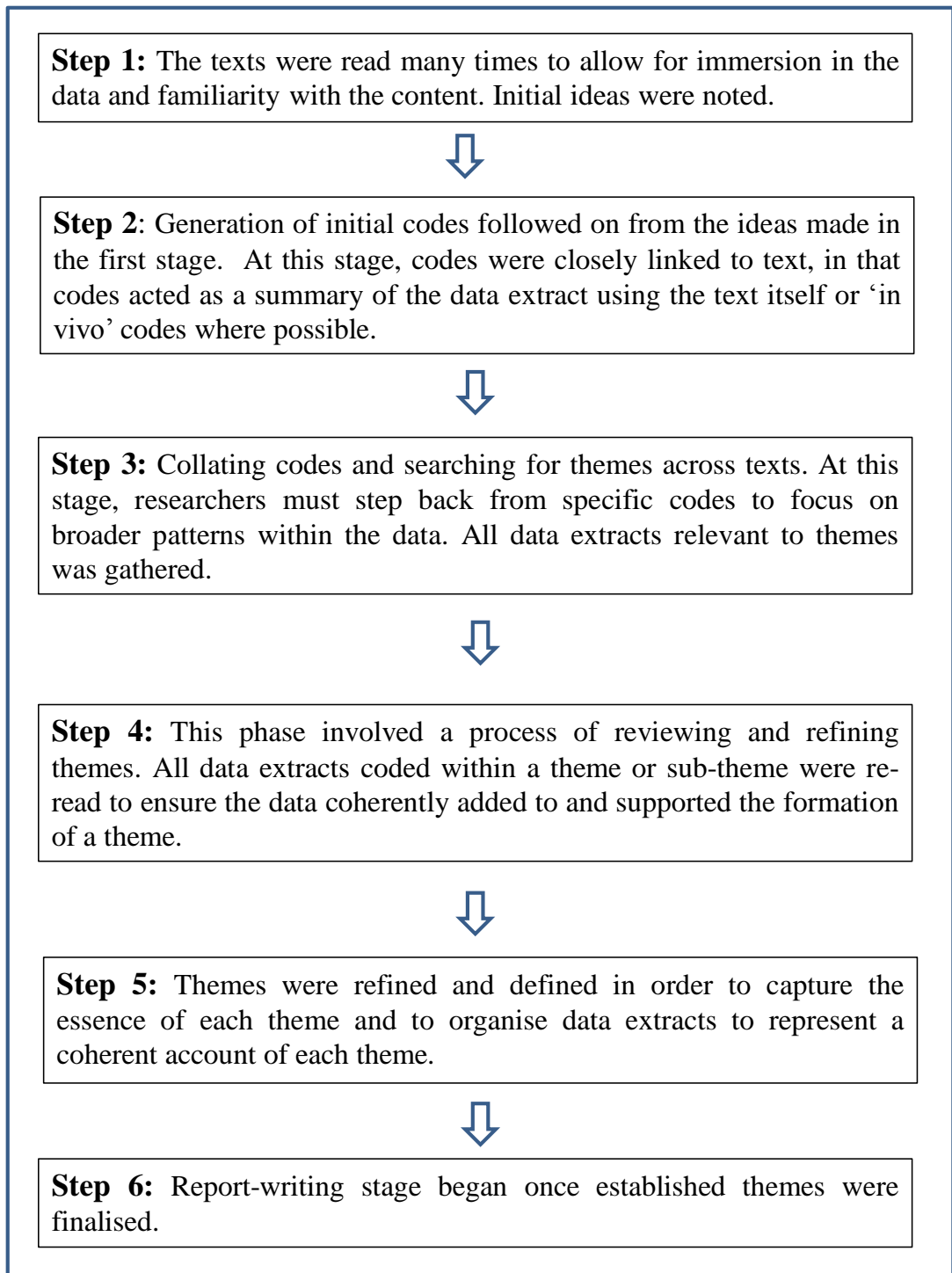


Figure 4.3. Inductive thematic approach adopted in the qualitative research



Thematic analysis is an iterative process and if the researcher believes that the final thematic structure does not reflect the contents of a data set, it is necessary to return to the previous stage and revise themes to ensure the research provides a thematic structure which successfully and accurately represents the data. In the final stage, themes are refined and defined and data extracts are organised to represent a coherent account of each theme (Braun and Clarke, 2006). This process will move into the final report-writing stage once established themes have been finalised.

Thematic analysis is a flexible approach, the integrity and accuracy of which may be improved by using computer software specifically designed to enhance quantitative research coding and the management of large data sets (Miles and Huberman, 1994, Miles and Weitzman, 1994, Joffe and Yardley, 2004). In the current study, *QSR International's* NVivo9 was used to assist the researcher in sorting, organising and coding data and to ensure the method was rigorously employed. More detail on this process, including best practice to ensure rigour and quality in qualitative research, advantages and limitation of computer-assisted coding as well as other pertinent considerations is available in Appendix D. The next section turns to the specifics of sample selection for each of the media data sets and details the analyses conducted on each data set.

### **4.3 Data sources, sampling and analysis**

For the exo-level analysis, two data sources were used. The first focused on a single source and provided breadth with regards to the number of years examined, while the second data set concentrated on a range of sources and a smaller number of

years. Through the analysis of both data sets, insights into changes over time and potential differences could be considered. An account of how the data was selected and managed is forwarded in the coming sections.

#### **4.3.1 Longitudinal data: *The Irish Times* 1997-2009**

An important first step in this research was to understand the emergence and portrayal of obesity in the Irish media. As previously mentioned, the evidence would suggest that the newsprint media offer the best opportunity to reach a wide audience, representing a trusted and credible communication medium. In the Irish context, *The Irish Times*, as ‘the newspaper of record’ (Mulcahy, 1995, O'Brien, 2008) offered a useful starting point to explore the representation of obesity, given that *The Irish Times* was the only news publication available in a searchable archive for an extended and continuous period. Central to this examination was the consideration of how obesity was represented over time and thus, trends in message framing and the portrayal of obesity were important. To this end, the CSM (Leventhal et al., 1998, Leventhal et al., 1980) provided a useful framework for categorising the data. However, this was not the sole consideration in the analysis. Prior to providing a full account of the coding process and the analysis, the sources and sampling of data is discussed.

The online newspaper archive, *LexisNexis*, was used to identify all articles and editorials in *The Irish Times* that dealt with obesity or overweight. *The Irish Times* (IT) was chosen for this stage of the analysis as it is considered the paper of record in Ireland, has a reputation as Ireland’s quality daily publication, and is

well-respected, particularly among social elites (Fahy et al., 2009, O'Brien, 2008). Furthermore, the IT is accessible online for all years of interest through the *LexisNexis* database, unlike other national publications. The IT is a broadsheet paper (target audience *ABC1*) with an estimated daily circulation of 105,742 and readership of 10.2% of the adult population (see Table 4.1, JNRS, 2010). It is most popular among urban populations, primarily read by middle and higher socioeconomic classes and there is no significant gender difference in readership (JNRS, 2010).

A search within the IT for major mentions (terms that appear in the headline, lead paragraph, or index of the article) of the terms 'obesity', 'obese' and 'overweight' was performed for the 13-year period 1997-2009. This period was chosen following a pilot study which examined the search results using variations of these terms. The pilot study sampled 75 randomly selected IT articles with the aim of assessing which years would offer a valuable insight into the portrayal of obesity and also was used to prepare and refine the coding book. As a result of this pilot investigation, years prior to 1997 were not included in the analysis as the period 1997-1999 was consistent in that coverage of the issue was relatively low. Therefore, the researcher was confident that 1997-2009 captured the period before and after coverage of obesity began to increase.

In order to gain an understanding of how the issue had been depicted in the publication over time, all articles and editorials identified by the search protocol were collated. However, a number of exclusion criteria were applied to ensure the articles were relevant and to ensure a manageable data set. Articles and editorials were included in the analysis if they contained 150 words or more and obesity or

excess weight issues were central to the article. Letters to the editor and articles that were repeated were excluded (see Figure 4.4). All remaining articles published during the period 1997-2009 were analysed ( $n=479$ ).

#### **4.3.1.1 Coding strategy**

Deductive content analysis was performed on the *The Irish Times* longitudinal data set. The purpose of the coding was to explore the content of obesity articles and to examine how the issue was depicted based on dimensions of the Common Sense Model (cause, consequence and solution) and using framing theory to understand dominant messages and message trends over time. The coding frame was developed during a pilot study with 75 randomly selected IT articles.

During the pilot stage, previous research provided a basis for development of the coding and the coding book, but this did not restrict the analysis. New codes were allowed to emerge to ensure relevant data were not omitted. A deductive quantitative content analysis was then conducted on the article set to provide an overview of the portrayal of obesity. This coding book is available in full in Appendix B.

Based on best practice in previous research, articles characteristics were recorded, including the page on which the article originally appeared, the length of article, and date and year of publication (Kim and Willis, 2007, Lawrence, 2004, Saguy and Almeling, 2008). Each article was coded for tone (positive, negative, or neutral) and articles that did not convey a clearly positive or negative tone and articles that presented a mixed tone were coded as neutral.

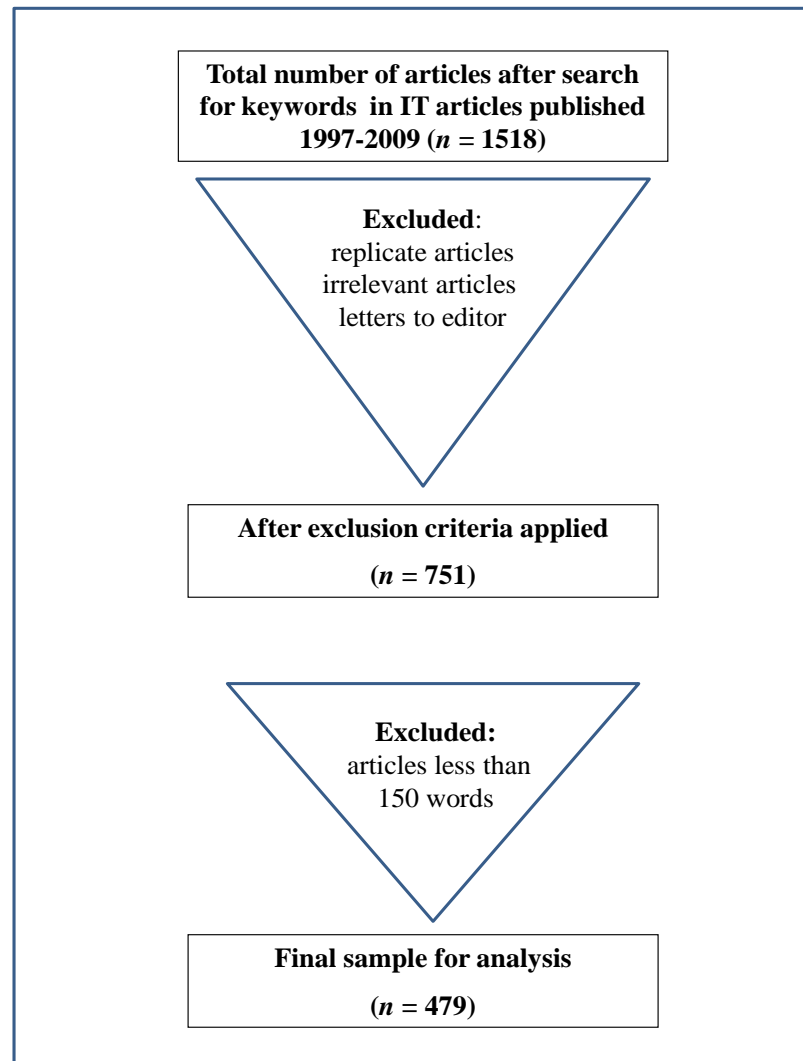


Figure 4.4 Selection strategy for content analysis of *Irish Times* articles

Articles were also coded for the presence (1) or absence (0) of various causes, consequences, and solutions to obesity. In keeping with the CSM, causes coding included: behavioural (e.g., diet, inactivity), environmental (modern lifestyles, advertising), and genetic/biological causes (e.g., predisposition). Consequences coding included: physical (e.g., cancer, diabetes), social and societal

(e.g., discrimination, economic costs), and psychological (e.g., disorder) themes and solutions included behavioural (e.g., healthier diet) and environmental (e.g., advertising regulation) categories. Following the pilot stage, which used an inductive process to generate new categories, coding for descriptions of obesity was introduced to the analysis. For instance, articles that contained a reference to obesity as a ‘time bomb’ or as a ‘battle’ were coded as containing a war metaphor. Other descriptions coded included: obesity as an epidemic, as a crisis, as a women’s issue, obesity as rising, as well as metaphors of the expanding waistline(s) of various countries, persons, or social groupings. The codes were represented numerically and were entered into IBM SPSS20 for statistical analysis.

#### **4.3.2 Cross sectional data: Multiple newspaper data set**

The multiple newspaper sample included a wider number of newspaper sources in order to obtain a deeper, more holistic and nuanced insight into the phenomena explored in the IT analysis as it was intended that this sample be subject to both deductive content analysis and hybrid thematic analysis. Clearly the challenge of this stage of the research was to achieve a sample size that allowed for a full examination of trends and differences between publications, while also being manageable for thematic analysis. Figure 4.5 represents the sampling process. News articles, opinion pieces and editorials were all included in the analysis and only letters to the editor were excluded. Systematic sampling was employed for the multiple newspaper sample and every second article was included in the analysis. According to Krippendorff (2004), this method is particularly useful when dealing

with text sampling daily newspapers. Each article was imported into *QSR International's* NVivo9 for coding and analysis.

A sample of 346 print news articles was drawn from six major publications in the Republic of Ireland, including three broadsheets and three tabloids (*Irish Times* (IT), *Irish Independent* (II), *The Sunday Independent* (SI), *The Sunday World* (SW), *The Star* (TS), and *Evening Herald* (EH)). The important distinction between broadsheet and tabloid publications was recognised and as such, both publication types were included in the analysis based upon the highest circulation and readership levels in each category (see Table 4.1). This ensured that media messages within the sample will reach across the socioeconomic spectrum and will add to the generalisability of the findings.

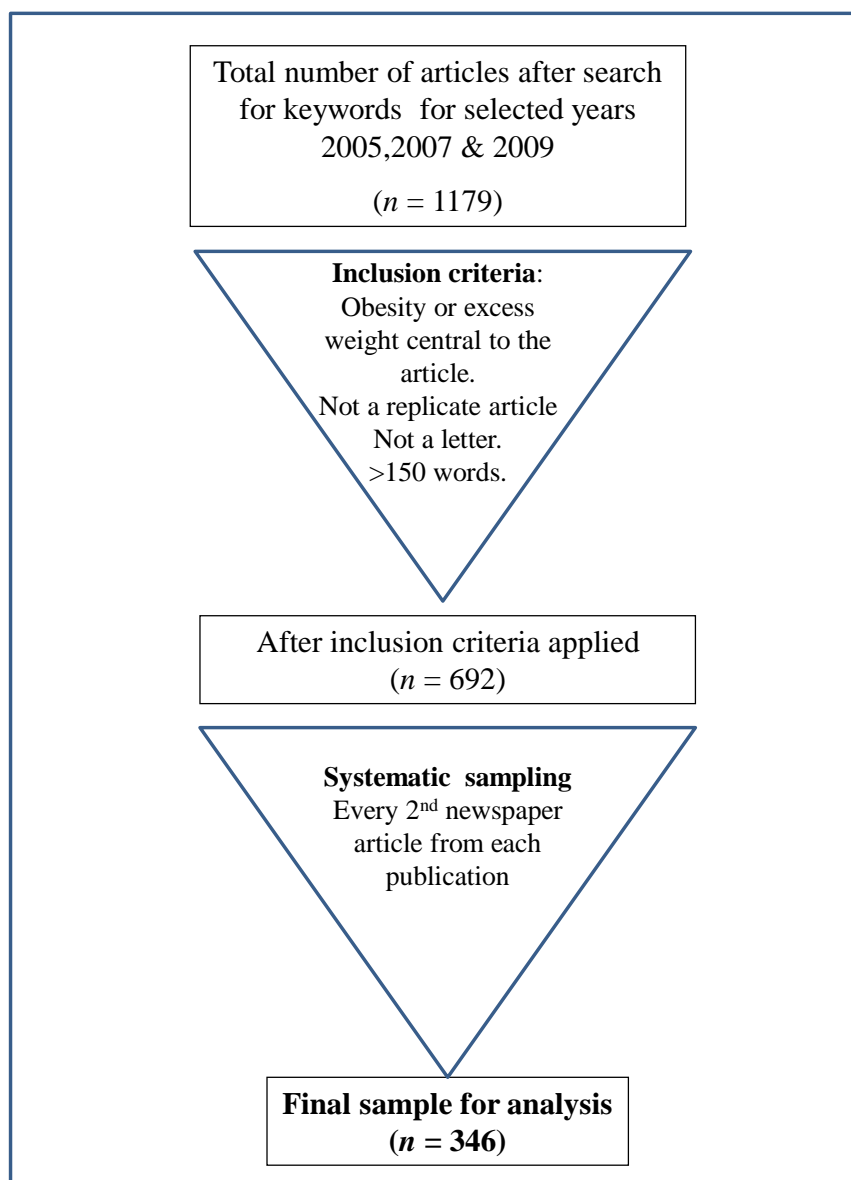


Figure 4.5 Multiple media analysis sampling strategy

The print media sample was drawn from the *LexisNexis* and the *safefood*<sup>6</sup> news archives, using the search terms ‘obese’, ‘obesity’ and ‘overweight’ for three

---

<sup>6</sup> *safefood* are the body responsible for the promotion of food safety in Ireland.



selected years of interest: 2005, 2007 and 2009. The first year, 2005, was selected for three reasons. The first was practical in that data were not available in a searchable archive before 2005 and therefore, the sample was restricted by what was available. Secondly, 2005 tied-in with the publication of the standout public health document for Ireland, the report of the National Task Force on Obesity (2005). Furthermore, using 2005 as the starting point of the research facilitated the inclusion of three time points (2005, 2007 and 2009) to allow for an examination of trends in reporting over time as well as offering some breadth to the analysis. Finally, Ireland experienced significant economic, social and employment changes over this period as a result of the global recession and thus it is feasible that this may have resulted in a shifting media focus on aspects of the issue.

This second content analysis coding frame was similar to the first and the same coding strategy was adopted. However, a number of variables were added to the *Irish Times* data set coding book to offer a more detailed examination of the multiple media data set. These included variables to record the sources quoted by media outlets, the main topic of articles, whether the body mass index was defined and explained in news reports and also if there was evidence of debates within the field of obesity research unfolding in news articles. Such insights would help to further inform how the issue was presented to the public. This complete coding book is available in Appendix B.

### 4.3.3 Inter-coder reliability

In keeping with recommendations for best practise in content analysis, an examination of inter-coder agreement was undertaken during both content analyses (Miles and Huberman, 1994, Krippendorff, 2004, Neuendorf, 2002, Lombard et al., 2002). This facilitated an assessment of the reliability and efficacy of the coding frames through the double-coding of a subset of articles (approx. 10%).

Regarding the *Irish Times* data set, coding was completed by the researcher and a second trained coder, who was 'blind' to the aims of study. The external coder training was conducted over a half-day. During training, samples of coded articles were provided and coding of sample articles was performed. Analysis revealed high percentage agreement between coders in *The Irish Times* data set (from 74-100%) and Cohen's kappa ranged from 0.66-1 for discrete variables with an average overall agreement level of 0.96. This high level of agreement demonstrates that the coding frame was sufficiently reliable. Using Cohen's kappa, levels of agreement within each variable were as follows: article characteristics (0.97), causes (0.95), consequences (0.93), solutions (0.96), and descriptions (0.96) of obesity. More information on Cohen's kappa and elaboration on all other statistical analyses performed in this thesis may be found in Appendix C.

An identical approach was used in the assessment of intercoder reliability in analysis of the multiple newspaper sample. Intercoder comparisons were performed and analysis revealed high levels of agreement between the researcher and a second trained coder. Again analysis revealed high percentage agreement between coders in the multiple newspaper sample (from 94-100%). Using Cohen's kappa, levels of

agreement within each variable set were as follows: article characteristics (0.68), causes (0.68), consequences (0.77), solutions (0.61), descriptions (0.66) and features in the reporting on obesity (0.83).

#### **4.4 Summary**

This chapter presented the research goals and the overarching research framework of this thesis. To set the scene for the research approach taken, the pragmatic epistemological stance drew attention to the value of a mixed methods approach, employing both quantitative and qualitative techniques in addressing the research questions. The methods implemented in the media analysis, namely content and thematic analysis, were outlined together with considerations relevant to data sampling and analysis. The next chapter describes the results of this first stage of the research, which employed deductive content analysis on two media data sets to examine the emergence of obesity as an issue of media concern and to investigate reporting trends and framing of the issue over time. Chapter 6 then develops this exo-level analysis of the social meaning of by extending a detailed qualitative investigation of the multiple newspaper sample. Together, Chapters 5 and 6 represent Phase I of the research and thus, the additional propositions generated by these results will be forwarded in Chapter 7 to guide the Phase II of the research.

# Chapter 5 - The Emergence and Portrayal of Obesity in the Media<sup>7</sup>

## 5.1 Introduction

The purpose of this chapter is to understand how obesity has been constructed at the exo-level in society. To investigate this, an examination of mass media accounts of obesity was undertaken. Quantitative content analysis was conducted in order to provide insights into the reporting of the issue over time, to trace the emergence of obesity as an issue of media concern, and to understand reporting and framing trends over time. Specifically, the analysis explored how obesity has been represented based on three dimensions of the illness representations framework (Leventhal et al., 1998, Leventhal et al., 1980): cause, consequence, and solution. As this was the first study of its kind to examine obesity in the Irish media, deductive content analysis was considered suitable and efficient in providing a rich overview of the issues which garnered attention and can inform how these issues were presented to the public.

As outlined in the methodology chapter, content analysis techniques were employed with the objective of exploring patterns and delineating trends evident in Irish media messages on obesity over time. This chapter outlines two quantitative content analysis studies conducted to address the hypotheses of the research. The

---

<sup>7</sup> Portions of this chapter have appeared in *Health Communication*, 6<sup>th</sup> October 2011 and its final and definitive form, the Version of Record, has been published (copyright Taylor & Francis) and is available online at: <http://dx.doi.org/10.1080/10410236.2011.592627>

first data set will be referred to as the *Irish Times* data set, which includes 479 *Irish Times* articles over a thirteen year period. This data set will facilitate a detailed investigation into the emergence of obesity as a major media issue in Ireland's paper of record (O'Brien, 2008, Fahy et al., 2009) and will provide insight into how the issue has been portrayed over time. Alongside this, the results of a second content analysis on a data set which includes three broadsheet and three tabloid publications, will be presented and will be referred to as the *multiple newspaper sample*. This sample allowed for an extension of the examination of news reporting on obesity by broadening the analysis to include an array of print media outlets, offering a more detailed examination over a shorter time period. The results of these studies will be presented together in order to fully interrogate each proposition. A discussion will follow these results and will consider the implications of these media representations, as well as what the results may lead us to expect from Phase II of this research. Collectively, these analyses seek to illuminate broad trends in reporting over a defined time period and whether differences exist between newsprint outlets.

## **5.2 The portrayal of obesity in the media**

The content analyses reported here drew on previous research examining obesity in the media (Lawrence, 2004, Saguy and Almeling, 2005, Kim and Willis, 2007), and employed framing theory (Entman, 1989, Iyengar, 1991) and the illness representations framework as the foundation of the study (Leventhal et al., 1998). Illness representations describe people's beliefs and expectations regarding a disease or symptom and the model describes illness representations as containing five

dimensions: identity (label), trajectory, causes, consequences, and solution. Given that obesity is considered a significant risk factor for a number of non-communicable diseases, in using this framework to examine reporting on obesity, one can gain insight into aspects of obesity that are particularly salient in the media. The tenets of framing theory suggest that the dominant portrayal of obesity can have implications for audience understandings of the issue. Furthermore, Leventhal et al. assert that illness representations govern an individual's assessment of a disease or health behaviour and thus, the media representation may also have implications for the enactment of health behaviours (Leventhal et al., 1980). For instance, previous research has indicated that beliefs on these dimensions can have implications for health and dietary behaviours (Wang and Coups, 2010) and how the public believe the obesity should be tackled (e.g., Ross et al., 2004).

Research in the field of message framing has indicated that the behavioural frame is widely present in news coverage on obesity (Lawrence, 2004, Saguy and Gruys, 2010, Saguy and Almeling, 2008, Kim and Willis, 2007). Typically, this frame emphasises personal responsibility for health and includes themes of diet, physical activity, eating to excess, and lack of self-control. Saguy and Gruys (2010) warn that the way in which body size is framed in media discourse can have important implications. For instance, the behavioural frame implies obesity and related ill-health is due to a lack of self-control and poor lifestyle choices and therefore places blame for obesity and responsibility for a solution on the individual. At the societal level, the behavioural frame attaches stigma to overweight and obese people and can further increase health disparities (Stuber et al., 2008).

The environmental/systemic frame is another prominent frame found in news reports (Lawrence, 2004, Kim & Willis, 2007). This frame refers to environmental causes and solutions to obesity, including mentions of socioeconomic status, food advertising, or poor availability of healthy choices. For example, Lawrence (2004) contends that because systemic frames broaden the focus (assigning responsibility to government, food manufacturers, and related interest groups), the more emphasis placed on this frame, the more conducive the environment will be to policies that place responsibility on these groups for addressing the issue.

It is important to note that articles could invoke both the behavioural and environmental frame, and as such, it is useful to think of these constructs as on a spectrum. Thus, the strong emphasis of an article on one frame represents an example of an extreme placement on the spectrum. This idea will be fully explored in later chapters, yet Lawrence's work highlights how one may chart changes in the framing of the issue by considering changes in the media's positioning on this spectrum over time. Lawrence (2004) found evidence that the debate on obesity had been reframed in news discourse in the US over the period examined, having shifted from predominantly emphasising personal factors to an increasing recognition of environmental influences. Kim and Willis's (2007) analysis of obesity in the US media found mentions of personal causes and solutions to obesity greatly outnumbered societal attributions. However, like Lawrence (2004), they also found that over time there had been an increase in references to environmental attributions.

In contrast, the genetic or biological frame is one that has not received the same level of attention in the media as the behavioural and environmental frames.

This frame may be described as one where obesity is ascribed to an inherited predisposition or biological disorder. Studies that included such a category did not find it to be a prominent frame (Lawrence, 2004, Saguy and Almeling, 2008).

In this analysis, the dimensions of the CSM will be overlaid with the key frames identified within the literature in order to assess the relative prominence of various CSM attributes and frame dimensions as well as trends over time. For instance, reported drivers of obesity, such as low quality diet and sedentary lifestyle, would both be considered ‘causes’ on the CSM framework. Then, as they can be considered behavioural issues, they would be considered as indicative of the behavioural frame. In this analysis, the reported causes and solutions to obesity will be used to establish frame prominence. Reported consequences of obesity are also of interest as another dimension of the CSM, although they do not load onto one of the frames already established in the literature.

Another element examined in the analysis was the use of descriptions and metaphors by journalists to depict and contextualise the issue of obesity. Although this is outside the purview of the CSM, these elements of news media coverage of obesity have been previously highlighted as having an impact on audience understandings of the issue and on implications for the acceptability of various interventions (Barry et al., 2009, Saguy and Almeling, 2008). Detail on the coding of these items was previously presented in Chapter 4, section 4.3.1.1

This analysis will provide the first indication of the extent and type of reporting on obesity in Ireland. Specifically, the analyses presented in this chapter will help answer four of the questions posed within this research:



**Research Question 1:** How has obesity been represented and framed in the Irish media?

It is widely documented that media interest in obesity has increased dramatically in recent years (Saguy and Almeling, 2008, Kim & Willis, 2007, Lawrence, 2004). Lawrence (2004) asserts that the upward trends in weight and obesity have been reflected in the increase in news reporting of the issue, though with some time lag in between. Furthermore, Lawrence estimates that there was a five-fold increase in media attention on obesity in the US since 1992. Therefore, this study aims to investigate if Irish reporting trends demonstrate a similar pattern:

**Research Question 2:** Has the portrayal of obesity evolved over the time periods examined?

While research questions 1 and 2 will be investigated using both media data sets, research questions 3 and 4 will then be interrogated using only the multiple newspaper sample. As outlined in the Chapter 4, variables were added to this second content analysis in order to provide a more detailed insight into the nuances of reporting on obesity. Specifically, the multiple newspaper sample will test the following research questions:

**Research Question 3:** To what extent does the media's reporting align with academic research and expert opinion and are there differences in the representation of obesity between different newsprint publications?

Rail et al. (2010) have previously stated that the on-going academic debates, uncertainties, and controversies present in obesity research are not acknowledged

publically and typically occur outside the public and media sphere. Thus, the research sought to investigate this issue:

**Research Question 4:** Do the print media portray the debates, controversies and uncertainties within the field of obesity?

### 5.3 Data set characteristics

Information regarding article selection, sampling and the methodology of these content analyses was previously presented in Chapter 4, section 4.3 and the coding books are available in Appendix B. For the purpose of clarity, the content analysis examining *Irish Times* longitudinal data set (479 articles over a 13-year period) will be referred to as the *Irish Times* (IT) data set and the content analysis which includes articles sampled from six major Irish print publications will be referred to as the multiple newspaper sample ( $n=346$ ).

The IT data set included 479 articles on obesity from *The Irish Times* from the period 1997-2009. The average length of article was 629 words (range 151-3617) and the average page number on which articles appeared was 11. Regarding the multiple newspaper sample, a total of 346 media messages from tabloid and broadsheets publications were examined. Broadsheet articles comprised a majority of the sample ( $n=240$ , 69.4%), indicating they were most likely to report on obesity and weight issues. This is not surprising, given the typically strong news focus of broadsheets, compared to the typical emphasis of tabloids on sport and celebrity news. Table 5.1 presents a profile of the data sets, comparing the characteristics of

the data sets. Figure 5.1 highlights three articles which are exemplars of reports with a positive, negative, and neutral/mixed tone.

Table 5.1 Media data set characteristics

	<b>IT data set</b>	<b>Multiple newspaper sample</b>
<i>n</i>	479	346
Average article length	629 words	472 words
Average page number	11	15
No. of front-page articles (%)	45 (9%)	20 (6%)
Tone		
Positive (%)	17%	8.7%
Negative (%)	31%	24%
Neutral (%)	52%	67.3%

#### 5.4 Coding process and framing dimensions

Articles were coded for the presence (1) or absence (0) of various causes, consequences, and solutions to obesity. Individual variables were then assigned to the relevant framing dimension based on previous research (Kim and Willis, 2007, Lawrence, 2004). For instance, on the ‘behavioural causes’ framing dimension, causes coded for included dieting and inactivity and on the ‘environmental causes’ dimension, variables coded included modern lifestyles, the influence of advertising, and poor availability of healthy choices. Consequences were coded using a different typology of frame classification as these elements did not load onto the behavioural, environmental or genetic frames. Instead, consequences were divided into two categories: physical/disease consequences (for example cancer) and non-physical consequences (which included social, economic and psychological consequences).

Table 5.2 provides some examples of raw data and how these data were coded and assigned to a frame.

Table 5.2 Examples of coding and formation of framing dimensions for analysis

<b>Raw data</b>	<b>Coded as</b>	<b>Framing sub-dimension</b>	<b>Overall frame</b>
Obese children are twice as likely to become obese adults and will have a much higher risk of contracting debilitating diseases, including heart problems, diabetes and cancer.	Consequences: -Cancer -Diabetes -Cardiac Problems	Physical illness/ disease consequences	Physical illness/ disease consequences
The Irish Heart Foundation (IHF) is calling on the Government to ban the TV advertising of foods high in fat, sugar and salt before the 9pm	Intervention: -Ban/Restrict TV advertising	Environmental Intervention	Environmental frame
The main issues for people on low incomes trying to eat healthy diets were availability, accessibility and affordability.	Causes: -Availability & accessibility of healthy food -Food price	Environmental causes	Environmental frame
The "thrifty gene" is a theory that has been knocking around since the 1960s: it is that by a process of natural selection, Pacific islanders have developed the ability to store fat more efficiently to get them through times of starvation.	Cause: -Genetic predisposition	Genetic causes	Genetic frame

## Obesity gene affects normal appetite control

A gene linked to obesity causes people to put on weight by keeping them hungry, scientists have learned.

Previous research had shown that the gene, known as FTO, was strongly associated with obesity. But it was not clear whether this was to do with appetite or burning calories.

The new study of 3,337 children shows that the gene's effects are due to a lack of normal appetite control.

Usually the act of eating "switches off" the appetite and creates a feeling of satiety or "fullness".

The FTO gene stops this happening, scientists at University College London found.

Children with two copies of a high-risk version of the gene were less likely to have their appetite suppressed by eating.

FTO is the first common obesity gene to be identified in Caucasian populations.

Adults with two copies of the gene are on average 3kg heavier than those without the gene.

People with a single copy are 1.5kg heavier.

The new findings are published in the *Journal of Clinical Endocrinology & Metabolism*.

# Teachers help cut childhood obesity

DR MUIRIS HOUSTON

THERE WAS encouraging news of success at tackling the problem of obesity in children, heart specialists at the European Society for Cardiology (ESC) meeting were told yesterday.

Prof Martin Wabitsch of the division of paediatric endocrinology and diabetes at the University of Ulm in Germany described how a year long intervention by primary school teachers has helped reduce body fat in 7- and 8-year-old children.

Some 1,000 children participated in the "Ulm Research on Metabolism, Research and Lifestyle in Children" study, which aimed to reduce the amount of time they watched TV and also motivated them to take physical exercise on an ongoing basis.

The children undertook five to seven minutes' physical activity every day while in school.

Other aspects of the programme were incorporated into 29 different lesson units each week.

"Children in the intervention group showed an average relative reduction of body fat mass of 260

grams after the one-year programme," Prof Wabitsch said.

In separate research, Prof Claudia Walther of the department of cardiology at the University of Leipzig looked at the effect of daily school exercise on 11- to 12-year-old boys and girls.

One group of children received daily school exercise lessons for a year; a second group continued with their regular two hours' sport activities per week.

The percentage of overweight children in the group who undertook daily exercise dropped from 13 per cent to 9 per cent, while there was no change in the control group.

"The results of this trial demonstrate that a simple intervention like daily school exercise lessons has a positive influence on body mass index and exercise capacity," Prof Wabitsch said.

Meanwhile, a programme aimed at reducing obesity levels in adolescents at 48 centres across Germany succeeded in reducing body mass index (BMI) readings in just over half of those who participated.

At the beginning of the

programme some 49 per cent of teenagers were obese, with 37 per cent labelled as extremely obese. A quarter of students had high blood pressure while one-third had high cholesterol.

All were attending either inpatient or outpatient weight control programmes. Dr Ulrike Hoffmeister of the department of epidemiology at the University of Ulm told the meeting, "51 per cent of the subjects had at least one cardiovascular risk factor at the beginning, which decreased to 28 per cent at the end of the intervention".

## Obesity epidemic has potential to bankrupt State

Societal failures that have created a toxic food environment, for children especially, must be addressed

JOHN GIBBONS

ANYONE ON the lookout for portents of widescale system failure need never attend an environmental conference. All you have to do instead is walk down the street in any Irish city or town to see at first hand the crisis that is playing out in the bodies of up to a million people in Ireland today.

It's a slow-moving disaster that threatens not just the lives of the people so affected, but has the potential to destroy our health system and quite literally bankrupt the State.

That calamity is obesity. Today, some 24 per cent of Ireland's population is obese. With our consumption patterns, as Mary Harney once famously remarked, "more Boston than Berlin" medical professionals are predicting that within 20 years, one in two Irish people will be obese, in line with the rampant epidemic in the US.

Obesity is the driver of a range of life-threatening "lifestyle" diseases. Specialist Dr Donal O'Shea told a conference in Dublin last week that pouring funding into cardiology, cancer and dementia without tackling the epidemic that is fuelling these conditions would be "a disaster".

The obesity epidemic is at once complex yet extraordinarily simple. Obese people are, in essence, behaving normally in a sick social environment. Or as the *British Medical Journal* put it: "The driving force for the increasing prevalence of obesity in populations is the increasingly obesogenic environment rather than any 'pathology' in individuals." This is a startling assertion.

In common with all other species, humans instinctively conserve energy, using just as much as we need to feed and breed. Our physiology was simply never designed to cope with having unlimited access to high-energy fats and sugars that today are embedded in the foods that pervade our lives. Nor were we physiologically designed to be able to get by with minimal mechanical effort. More and more cars mean less and less exercise.

Doctors can tinker around the edges, but this is first and foremost an immense social failure. The paradox is that this is a failure of success, the bitter fruit of decades of ever more sophisticated marketing of both foods and lifestyle that pits the marketing might of some of the world's biggest corporations in a hopelessly unequal battle against the individual good and public health in general.

Take high-fructose corn syrup. This is a cheap agricultural byproduct widely used in soft drinks such as Coca Cola, as well as a sweetener in many other processed foods.

Unlike glucose, which sends a signal to the brain that you are full, consuming calorie-soaked fructose appears to actually leave people feeling hungrier.

It is a tribute to the commercial and political muscle of the junk food and beverage industries that such high-calorie products devoid of nutritional value can be sold in unlimited quantities to any child in the country.

Marketing to children is a minefield of dishonesty. Take the "fun-size" portions of Kellogg's Frosties aimed squarely at very young children and featuring the loveable Tony the Tiger. One 25g box of Frosties contains 9g of sugar, or close to 40 per cent. Yet the small print says that this is 10 per cent of an adult's guideline daily amount of sugar.

Based on body weight, therefore, this one small serving is likely to deliver over one-third of your child's entire daily sugar requirement. Presenting nutritional information like this is about bamboozling, not informing, people.

The Irish food industry is outraged at proposals from Minister for Communications Eamon Ryan to limit the avalanche of junk food advertising aimed at children. The industry's Consumer Foods Council points to initiatives at self-regulation. As the Frosties example illustrates, voluntary codes are about as successful as voluntary taxes.

If obesity is the disease, television is its principal vector. "Television has turned the American child from the irresistible force into an immovable object," wrote educationalist Laurence J Peter. A study in Liverpool last year found that watching TV ads for food prompts children actually to increase the amount of food they eat. Parents have, as US president-elect Barack Obama reminded us, a responsibility to turn off the TV for their children's sake. Coincidentally, Liverpool City Council recently banned "happy meals".

McDonald's are lobbying to have this ban overturned, fearful others will also outlaw the use of toys as bribes to encourage young children to overeat junk food, while associating this food with play. Any takers on Dublin City Council?

Children are paying a fearful price for our collective societal failures. Apart from the burden of disease, discrimination and disability they face in life, psychological studies of obese children have found their "quality of life" scores to be as low as patients with cancer. So much for happy meals.

It's by no means all bad news. Next year, for instance, sees the roll-out of a €90 million EU-wide scheme to supply free fruit and vegetables to schoolchildren.

We tax cigarettes and alcohol to limit usage and to help pay for the downstream costs to society. The same rationale should apply to

Figure 5.1. Samples of positive, negative and natural/mixed tone in news articles

Regarding the analysis of framing dominance, articles were also coded based on their emphasis on one framing dimension, that is, each article was assigned a 'dominant' frame, based on the number of mentions of various causes and solutions. For instance, if an article cited three behavioural causes, two behavioural solutions, one environmental cause, and one environmental solution, it was coded as being a predominantly behavioural framed article (5 elements indicative of the behavioural frame versus 2 indicative of the environmental frame). Where there were an identical number of behavioural and environmental aspects cited (or environmental and genetic, etc.), the article was then coded as illustrating a mixed/neutral frame.

## **5.5 Content analysis results**

### **5.5.1 The representation of obesity**

The analysis indicated that the IT employed the behavioural frame as the dominant article frame, that is, it was the most prevalent frame found in the article data set ( $n=306$ ) and was more frequently employed than the environmental ( $n=71$ ), genetic ( $n=3$ ), or neutral/mixed ( $n=99$ ) frame (see Figure 5.2).

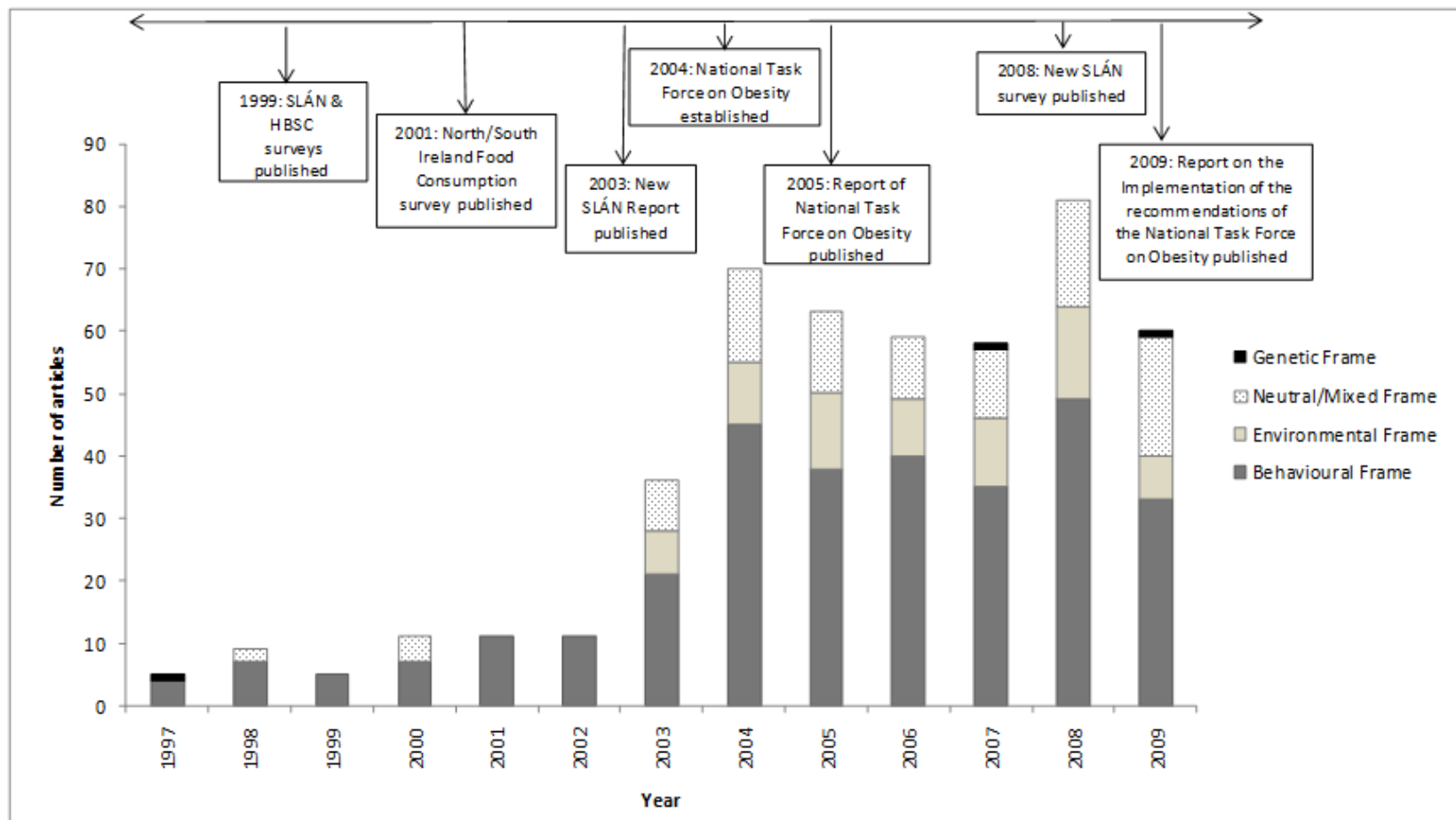


Figure 5.2 Number of IT articles per year by dominant frame with timeline of major national weight-related publications ( $n=479$ )



Moving beyond frame dominance, the IT analysis revealed that elements pertaining to the behavioural frame were evident in a total of 88% of articles, elements of the environmental frame in 57% of articles, while just 8% of the data set invoked aspects of the genetic/biological frame. This indicates that there was often overlap between framing dimensions, yet emphasises the pervasive nature of behavioural accounts of obesity.

This question was also interrogated using the multiple newspaper sample. Analysis revealed that in this sample too, the behavioural frame was significantly more frequently employed in media reports than the environmental frame. Elements loading onto the behavioural frame were evident in 75.4% of articles, compared to 44.2% for elements of the environmental frame and 5.8% for the genetic/biological frame. This indicates that the behavioural frame has been dominant in Irish print media reporting on obesity.

In order to examine whether there were significant differences in this framing, paired sample *t*-tests were conducted to examine the differences between the average number of behavioural, environmental, and genetic causes and solutions per article in the IT data set. Analysis revealed that behavioural causes<sup>8</sup> significantly outnumbered environmental and genetic causes. The results demonstrate that the mean number of behavioural causes cited was significantly greater than both the number of cited environmental ( $t(478)=16.93$ ,  $p<0.001$ , [99% CI 0.85, 1.16]) and

---

<sup>8</sup> To account for performing multiple comparisons on the *causes* dimension, the Bonferroni correction was applied for testing of *causes* to reduce the Type I error. Thus, a result was only considered significant if  $p<0.01$ .

genetic causes ( $t(478)=24.45$ ,  $p<0.001$ , [99% CI 1.30, 1.60]). As evident in Table 5.3, some of the most frequently cited causes included diet, inactivity, and socioeconomic status.

The average article in the IT data set also cited behavioural solutions ( $M=1.23$ ,  $SE=0.04$ ) significantly more frequently than environmental ( $M=0.7$ ,  $SE=0.04$ ) solutions ( $t(478)=8.98$ ,  $p<0.001$ , [CI 0.42, 0.65]). No discussion of genetic solutions was evident in the data set. As indicated in Table 5.3, some of the most frequently cited solutions included exercise, adopting a healthier diet, and government intervention.

Again, analysis was also conducted using the multiple newspaper sample. Paired-sample  $t$ -tests revealed statistically significant differences, lending further confirmation to the framing dominance evident in the IT data set. The average mention of behavioural causes ( $M=0.55$ ,  $SE=0.03$ ) significantly outnumbered environmental ( $M=0.28$ ,  $SE=0.02$ ) causes ( $t(345)=8.08$ ,  $p<0.001$ , [99% CI 0.18, 0.36]). Table 5.4 displays some of these frequently cited elements.

Similar to the IT finding, articles were more likely to cite behavioural causes than genetic causes ( $M=0.06$ ,  $SE=0.01$ ), ( $t(345)=17.21$ ,  $p<0.001$ , [99% CI 0.42, 0.57]). Regarding solutions to obesity, behavioural solutions ( $M=0.56$ ,  $SE=0.03$ ) again outnumbered references to environmental ( $M=0.28$ ,  $SE=0.02$ ) solutions, ( $t(345)=7.66$ ,  $p<0.001$ , [99% CI 0.19, 0.38]).

Table 5.3 The IT data set: Examples of frequently cited causes, consequences, solutions, and descriptions of obesity over time

<b>Dimension</b>		<b>1997 - 2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>Total</b>
<b>Causes</b>	Diet	12	7	30	33	22	15	35	33	<b>187</b>
	Inactivity	35	20	40	29	35	26	32	23	<b>240</b>
	Socioeconomic status	4	9	6	7	3	3	4	4	<b>40</b>
	Advertising	3	9	23	8	3	6	17	8	<b>77</b>
	Economy	2	1	1	0	0	1	2	3	<b>10</b>
	Modern life	6	2	4	5	10	7	9	2	<b>45</b>
	TV viewing	16	2	6	5	8	5	7	2	<b>60</b>
	Psychological	3	1	0	1	3	1	1	0	<b>10</b>
<b>Consequences</b>	Diabetes	21	10	33	29	19	21	36	20	<b>189</b>
	Psych disorder	7	3	6	4	3	7	5	6	<b>41</b>
	Economic costs	7	5	11	14	10	8	16	8	<b>79</b>
	Heart issues	21	11	24	25	18	22	23	15	<b>159</b>
	Mortality	5	3	9	13	13	5	6	9	<b>63</b>
	Blood pressure	10	3	13	10	10	8	12	7	<b>73</b>

Table 5.3 Cont

<b>Interventions</b>	Healthier diet	29	18	43	38	31	23	33	34	<b>249</b>
	Exercise	29	14	37	33	35	29	36	26	<b>239</b>
	Government	1	13	26	30	16	12	18	13	<b>129</b>
	Surgery	1	2	3	0	4	1	5	3	<b>19</b>
	Pharmacological treatment	6	1	2	3	2	4	5	4	<b>27</b>
	Advertising regulation	0	7	26	13	8	9	15	8	<b>86</b>
	Education	3	9	23	20	8	9	13	6	<b>91</b>
<b>Descriptions</b>	War metaphors	1	8	9	13	15	9	15	7	<b>77</b>
	Epidemic	8	8	16	18	11	7	14	6	<b>88</b>
	Expanding waistline metaphor	4	2	2	2	3	1	5	1	<b>20</b>
	Obesity as rising	0	1	12	4	6	16	16	8	<b>63</b>

Table 5.4 Multiple newspaper sample: Selected examples of various cited sources, causes, interventions, and features of obesity reporting over time

		2005	2007	2009	Total (%)
<b>Sources</b>	Expert	102	64	73	239 (69%)
<b>Causes</b>	Economy	0	3	7	10 (2.9%)
	Genetic	5	12	3	20 (5.7%)
	Inactivity	45	21	19	85 (24.6%)
<b>Solutions</b>	Healthier Diet	63	36	44	143 (41.3%)
	Exercise	54	29	36	119 (34.4%)
	Government	32	10	4	46 (13.3%)
<b>Features</b>	Cite debate	13	8	1	22 (6.5%)
	Dramatic headline	28	9	7	44 (12.7%)

This question also examined the reported consequences of obesity, an element which has been largely ignored in previous research. Consequences were entered into two categories: physical and non-physical consequences (including social, societal, and psychological consequences). Frequently cited consequences included diabetes, psychological disorder, and the economic costs associated with obesity. A paired sample *t*-test on the IT data set revealed that on average, physical consequences ( $M=1.66$ ,  $SE=0.08$ ) were significantly more frequent than non-physical consequences ( $M=0.46$ ,  $SE=0.04$ ), ( $t(478)=15.07$ ,  $p<0.001$ , [CI 1.04,

1.36]),. Analysis was also conducted on the multiple newspaper sample. Again, a similar findings was revealed as physical consequences ( $M=0.54$ ,  $SE=0.03$ ) were significantly more frequently cited than non-physical consequences ( $M=0.18$ ,  $SE=0.02$ ), ( $t(345)=11.86$ ,  $p<0.001$ , [CI 0.29, 0.45]).

### **5.5.2 Portrayal of obesity over time**

As evident from Figure 5.2 (presented earlier), attention to the issue of obesity increased over the *Irish Times* data set period, 1997-2009, with a sharp increase in coverage of the issue in 2003 and again in 2004, followed by a period of relative stability where attention remained relatively high and consistent. During the 2002-2004 period, there was a 600% increase in attention to the issue. The timeline, also presented in Figure 5.2, indicated that the increase in attention corresponds closely to some major obesity-related reports and particularly to the establishment of the National Task Force on Obesity (2004) and the subsequent publication of the report of the Task Force (2005). These policy decisions attracted significant levels of media attention and appear to have demonstrated an agenda-setting effect on the reporting of the issue.

Using the multiple media sample, the same examination of reporting trends over time was performed. Examination of the number of articles at 2005, 2007 and 2009 ( $n=156$ ,  $n=95$  and  $n=95$ , respectively), indicates that 2005 was the peak in coverage over this period and there was a decrease in attention to the issue in 2007 and coverage remained consistent to 2009. Alongside the IT data, it appears the

increase in media coverage of obesity occurred before 2005, followed by a period where attention to the issue declined and later stabilised.

Figure 5.2, previously presented, illustrates the increasing trend toward both the environmental framed articles and those which address multiple aspects of obesity (and hence have a mixed or neutral frame). This suggests that although the behavioural frame remains dominant, the representation of the issue is shifting away from a primarily behavioural account of obesity. Table 5.3 and Figures 5.3 and 5.4 illustrate how the frequency of reporting of causes, consequences and solutions to obesity as well as descriptions of obesity has changed over time in the IT data set. Figure 5.4 illustrates that there was an increase followed by a more recent decline in references to environmental solutions to obesity. Although behavioural solutions showed no significant change over time, there was an apparent decrease in references to behavioural causes over the period. Finally, Figure 5.4 also indicated the increasing use of descriptions of obesity using war metaphors and as an epidemic, indicating an increase in the use of dramatic language around the issue.

The multiple newspaper sample was also employed to examine trends in the reporting of obesity over time. From Fig. 5.5, it is evident that there was a decrease in references to behavioural causes over the three time points and also a slight decrease in environmental causes. Regarding environmental interventions, Fig 5.5 suggests there was a decreasing emphasis on environmental solutions since 2005.

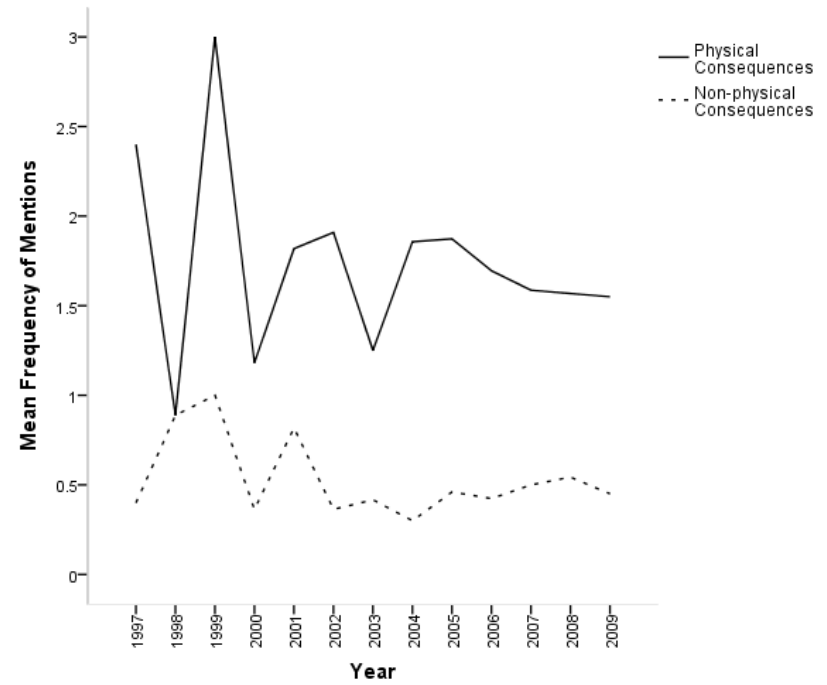
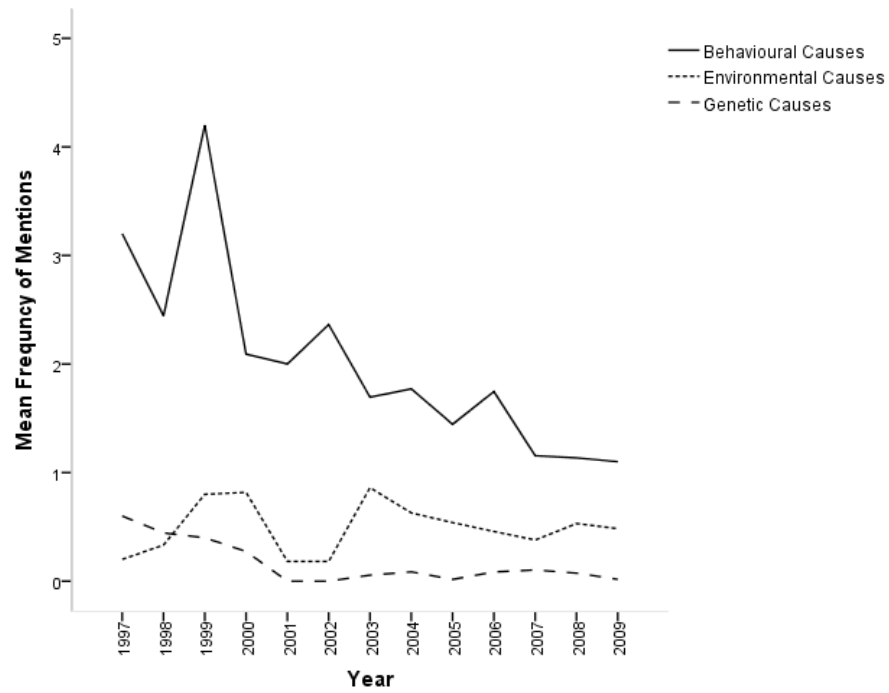


Figure 5.3 Mean Frequency of Causes and Consequences over time (by frame)



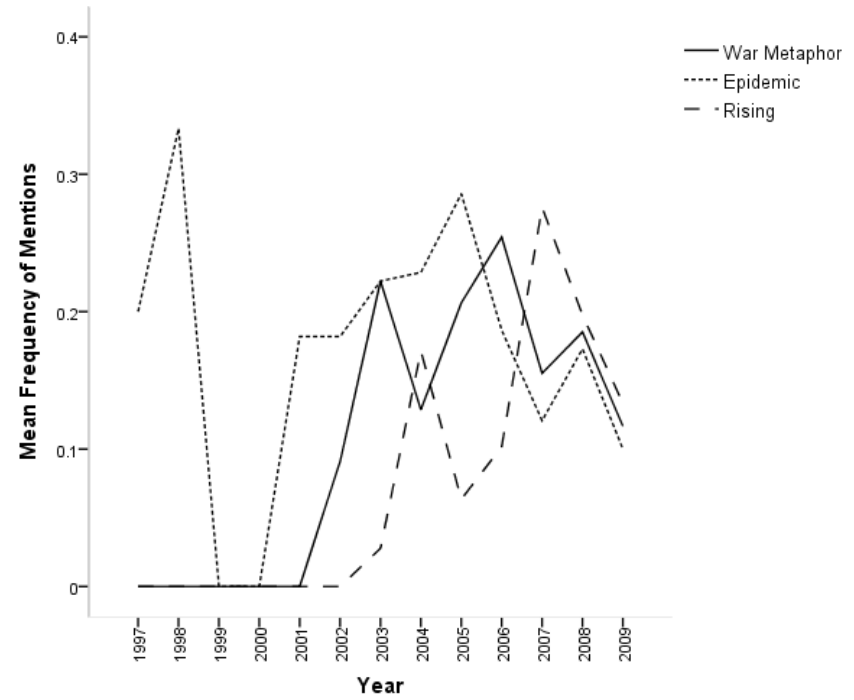
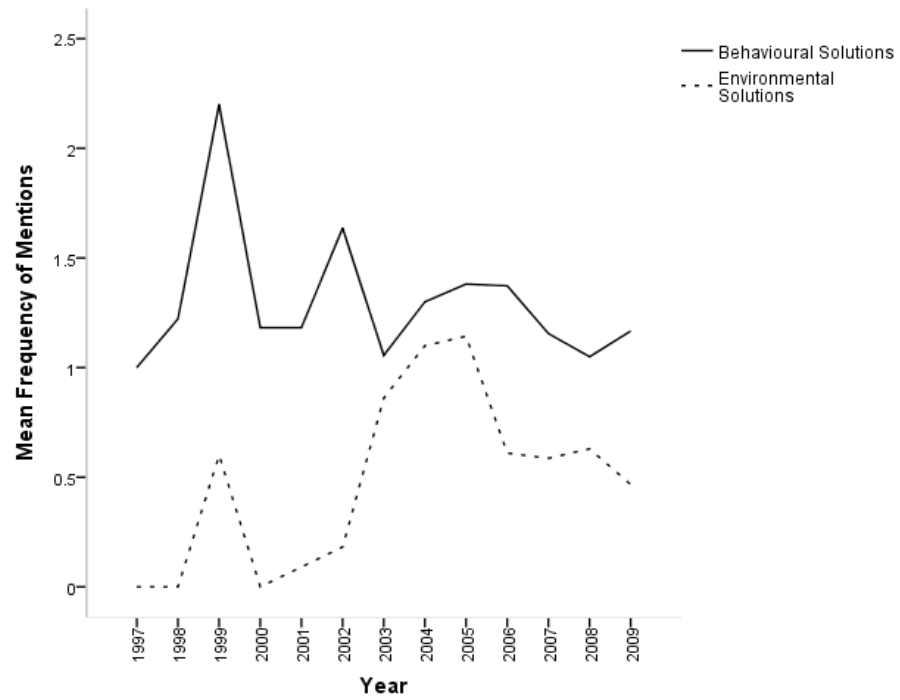


Figure 5.4 Mean Frequency of Solutions (by frame) and Descriptions of Obesity over time

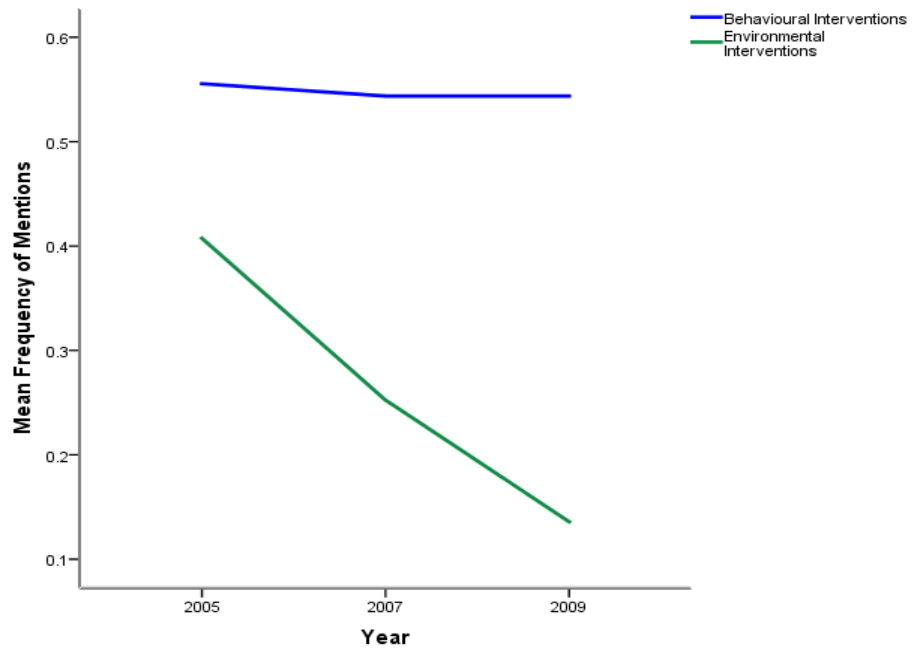
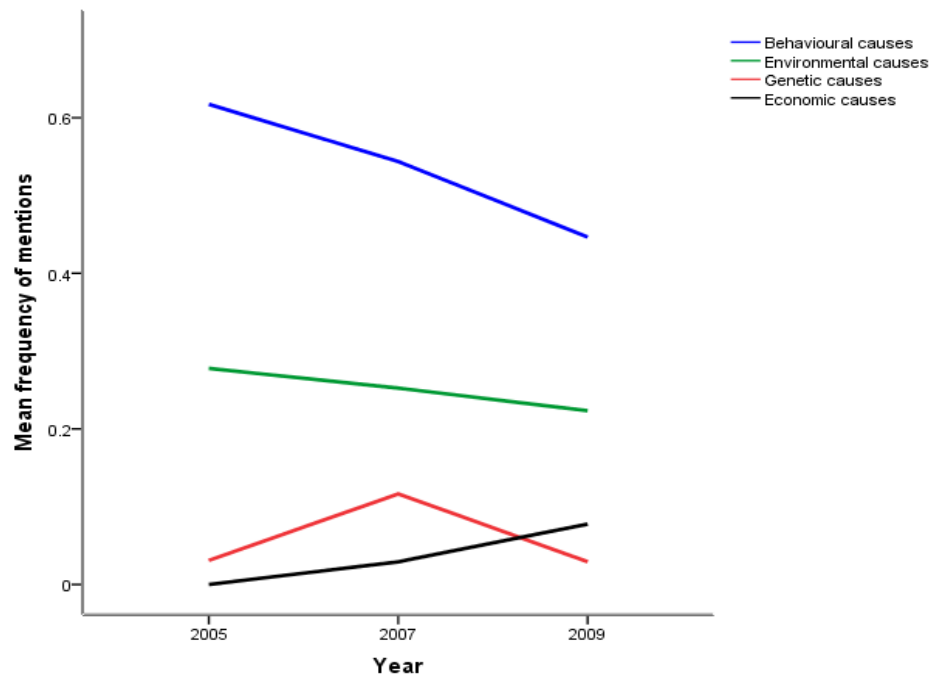


Figure 5.5 Multiple newspaper sample: Trends in mean frequency of mentions (per article) on the cause (top) and intervention framing dimensions (below)

### 5.5.3 Sources, publication differences, debates and dramatisation

Following the completion of the *Irish Times* analysis, the multiple media investigation was extended to include additional variables to record further detail in the reporting of obesity that did not fit with the CSM framing model. This investigation allowed for a deeper insight into the portrayal of obesity and allowed for an examination of the differences in reporting between publication types.

It was found that experts, that is, researchers, medics and academics in the field of obesity, were quoted in the majority of reports on obesity (referred to or quoted in 69.1% of media reports). This high figure indicates a reliance on health and obesity experts by the media. However, the second most frequently cited source were interest groups (15.9%), including the food industry (4.6%). Other cited sources included politicians (9.2%), celebrities (2.3%) and members of the public (4%).

Table 5.6 illustrates differences between tabloid and broadsheet representations of obesity. Tabloid accounts were more likely to dramatise the issue of obesity, as tabloids were more likely than broadsheets to use dramatic and sensationalist headlines ( $\chi^2(1)=5.21$ ,  $p=0.02$ ,  $\Phi(\phi)=0.12$ ). However, a surprising finding in the current analysis was the greater reliance of tabloids on expert sources compared to broadsheets ( $\chi^2(1)=6.09$ ,  $p=0.02$ ,  $\Phi=0.13$ ). This may be partly accounted for by the greater number of opinion pieces published in broadsheet publications. Generally, frame prominence was highly comparable between media channels. Only within a number of sub-themes were any noticeable differences observed between tabloid and broadsheet publications.

Broadsheet publications tended to report on environmental interventions more than tabloids ( $\chi^2(1)=9.26, p=0.02, \Phi=0.16$ ) and this was manifest in a higher volume of reporting on advertising regulation and educational interventions in broadsheets. Generally, reporting on the consequences of obesity was similar between publication types, but tabloids were more likely to cite cancer as a potential consequence of carrying excess weight. Table 5.7 provides information regarding the trends in framing over time. There were no significant differences between publication types in framing over time. Thus, the results indicate that tabloids were more likely to use sensationalist headlines and were also more likely to cite expert sources. However, no significant differences in frame prominence were evident.

Table 5.5 Differences between broadsheets and tabloids in reporting on obesity

		<b>Broadsheet (n, %)</b>	<b>Tabloid (n, %)</b>	<b><math>\chi^2</math></b>
<b>Sources</b>	<b>Expert*</b>	156 (65%)	83 (78%)	<b>6.09*</b>
	Lay citizen	8 (3%)	6 (6%)	1.03
<b>Causes</b>	Genetic	12 (5%)	8 (8%)	0.88
	Socioeconomic status	12 (5%)	1 (1%)	3.35
	Modern lifestyles	23 (10%)	6 (6%)	1.47
<b>Consequences</b>	<b>Cancer*</b>	22 (9%)	18 (17%)	<b>4.40*</b>
	Discrimination	8 (3%)	3 (3%)	0.60
<b>Intervention</b>	Healthier diet	96 (40%)	47 (45%)	0.57
	<b>Any environmental*</b>	79 (33%)	18 (17%)	<b>9.26*</b>
	Government	37 (15%)	9 (9%)	3.06
	Pharmacological	15 (6%)	9 (8%)	0.57
	<b>Advertising regulation*</b>	29 (12%)	5 (5%)	<b>4.50*</b>
	<b>Education*</b>	52 (22%)	13 (12%)	<b>4.26*</b>
<b>Other</b>	Cite debate	17 (7%)	5 (5%)	0.69
	<b>Dramatic headline*</b>	24 (10%)	20 (19%)	<b>5.21*</b>
	<b>Description obesity as rising*</b>	72 (30%)	20 (19%)	<b>4.67*</b>
	Epidemic metaphor	39 (16%)	12 (11%)	1.42

Note: Of the total sample of 346, broadsheets  $n=240$  (69.4%), Tabloids  $n=106$  (30.6%); \* denotes significance at the  $p<0.05$  level

Table 5.6 Frame and sub-frame prominence over time (%)

Frame	2005 ( <i>n</i> =156)	2007 ( <i>n</i> =95)	2009 ( <i>n</i> =95)	Overall ( <i>n</i> =346)	$\chi^2$ publication type
Behavioural	121 (78%)	69 (73%)	71 (75%)	261 (75%)	$\chi^2=0.10$ \$
Environmental	81 (52%)	43 (45%)	29 (31%)	153 (44%)	$\chi^2=1.03$ \$
Genetic	5 (3%)	12 (12%)	3 (3%)	20 (5%)	$\chi^2=2.07$ \$

Note: \$ denotes result is not significant,  $p>0.05$ .

Finally, there was some evidence of discussion of the controversy, debate and uncertainty surrounding obesity research. Debate articles or articles citing controversy regarding obesity research were infrequent ( $n=22$ , 6.5%). However, there were a number of articles discussing the fit and fat debate (2%), the debate regarding weight measurement (2%) and the debate regarding the risks associated with obesity (2.5%). Specifically, a more critical take on obesity was provided by broadsheets as they were slightly more likely to discuss debates, controversies and uncertainties compared to tabloids, although this difference was not statistically significant (broadsheets  $n=17$  (7%), tabloids  $n=5$  (5%)).

## 5.6 Discussion

These content analyses examined the representation of obesity in the Irish media and how this representation has evolved over time. This first stage of the research provided an overview of how the issue has been represented in the country's paper of record, as well as informing health communicators of the

overriding and trending messages and, arguably, the dominant understanding of obesity among *The Irish Times* audience segment. The purpose of the multiple media analysis was to build on the insights from *The Irish Times* data set. Drawing on data from six publications for three years (2005, 2007, and 2009), a more comprehensive account of the portrayal of obesity in the media and facilitated an examination of trends over time as well as differences between news print outlets in their coverage of obesity.

As demonstrated by *The Irish Times* data set, the number of articles on obesity per year has increased considerably and a significant correlation confirmed the strength of this association. As suggested by agenda-setting theory, the amount of coverage given to an issue signifies how important the issue is deemed to be (McCombs and Shaw, 1972). By this marker, obesity has become a major issue of media concern in Ireland, as evidenced by more than a 600% increase in coverage between 2002 and 2004. Since 2004, news coverage of obesity appears to have stabilised to some extent, having remained consistently high in subsequent years. This plateau in coverage may account for the failure to detect the same trend in the multiple newspaper sample. Increased media attention on obesity is not unique to Ireland, with similar trends reported in places such as the US (Saguy and Almeling, 2008, Lawrence, 2004) and Australia (Gard and Wright, 2005). This indicates that obesity has become a global media issue, likely as a result of increasing obesity rates worldwide.

The role of agenda setters in engaging the media in a topic is also evident. The attention of the media to obesity in Ireland reflects the heightened concern of

policy makers and the rapid increase in coverage between 2003-2004 parallels with the establishment of a National Taskforce on Obesity (NTFO). The remit of the Taskforce was to develop a national strategy to halt the rise and reverse the prevalence of obesity (Department of Health and Children, 2004). Both the establishment of the Taskforce and the publication of its report in 2005 were well reported.

Previous research indicates that a negative article tone may serve to dramatise and offer a more critical perspective on an issue (Grabe et al., 2001, Collins et al., 2006). *The Irish Times* is an independent daily broadsheet publication with a reputation for quality journalism (Fahy et al., 2009, O'Brien, 2008) and therefore, it is not surprising that the majority of articles on obesity were neutral in tone. However, it is notable that the number of negative articles in the data set was almost double that of the number of positive articles. An identical trend was evident in the multiple newspaper sample and together these findings suggest that a negative tone may be used by journalists to dramatise obesity. In accordance with previous research, analysis revealed that tabloid publications tend to adopt a more negative tone in their coverage of obesity (Hilbert and Ried, 2009). This finding fits with the thoughts of Nelkin (1995) who states that when reporting on science, the news media tend to favour the use of imagery and report on research as a series of dramatic events. In both analyses, the description of obesity as an 'epidemic' and war metaphors were most frequently used. These terms, in particular war metaphors, dramatise scientific findings on obesity and as noted by Saguy and Almeling (2008), are likely to contribute to alarmist reporting. While the description of obesity as an epidemic has been used by the WHO (2006) and in numerous academic papers



(therefore it is not unexpected that it is widely used in media reports), war metaphors tend to be descriptors used by reporters rather than academics (Saguy and Almeling, 2008). The current analysis suggests that war metaphors have become more frequent since 2003 indicating that the media are taking a greater control over the tone of the article and are relying less on the terminology used by the scientific community in conveying their message. However, there were no significant trends evident in the use of these descriptions and metaphors over time.

Both media data sets facilitated an exploration of how obesity has been represented along three dimensions of the illness representations framework (cause, consequence, and solution). The mean number of cited behavioural causes and solutions was significantly higher than references to both environmental and genetic aspects of obesity. This finding points to a dominant portrayal of obesity as a personal behavioural problem, with individual-based solutions. Illness representations research suggests that this finding has implications on how the public believe the issue obesity should be tackled (Ross et al., 2004). Arguably, emphasising behavioural solutions to obesity has the effect of underlining the belief that societal and governmental interventions are not warranted. Research has illustrated how stakeholders in obesity debates, who are often the sources quoted in news articles, frame obesity in terms of their own aims and agenda (Kwan, 2009). Lawrence (2004) asserts that this framing contest is occurring through the media. Consistent with previous findings (Kim and Willis, 2007, Lawrence, 2004), this research indicates that environmental solutions have become more prevalent over time, speaking to an increasing acknowledgment of external influences on obesity.

The reported consequences of obesity is a dimension that has not been frequently examined previously. Here, items were placed into one of two categories; physical consequences, and non-physical consequences (including social, societal, and psychological consequences). As predicted, mentions of physical consequences were significantly more frequent than non-physical consequences. However in the IT data, the number of articles reporting on economic costs as a societal consequence of obesity increased considerably over the period under review. Between 1997 and 2002 a total of just seven articles referred to these costs, whereas between 2003 and 2009 a figure of 72 was observed. A number of reasons for this increased attention can be forwarded. The highest number of articles discussing the economic consequences of obesity was found in 2008. This aligns with the beginning of global economic recession. Consequently, the media were more concerned with general economic issues and were more likely to consider this when discussing diet and health. Furthermore, it is no surprise that the number of references increased given the generally increasing prevalence of obesity and the publishing of studies detailing the potential economic costs associated with obesity (e.g., Vellinga et al., 2008, Müller-Riemenschneider et al., 2008). Irrespective of the reason for this increase, it points to a reframing of the issue by the media.

Lawrence (2004) suggests that a parallel to this perspective was observed in the reframing of the tobacco debate, which emphasised the effects of second-hand smoke and therefore framed smoking as a threat to all in society. Although there are no physical effects of obesity on non-obese others as there are for non-smokers exposure to second-hand smoke, the societal consequences of the two are comparable. Arguably, reframing the debate by describing obesity as a threat to

everyone in society encourages interventions aimed at the environment rather than those aimed at individuals. For instance, interventions such as examining fiscal policies on food (e.g., taxing certain foods) or banning vending machines from schools were among the interventions recommended by the NTFO aimed at the broader environment. Yet, evidence of this reframing of the debate was not supported by the multiple newspaper sample. However, the relatively limited time-span of the sample may account for the failure to detect any significant trends.

While the relative prominence of the behavioural, environmental, and genetic frames were similar across the two data sets, a number of divergent trends were observed between the two publication types. For example, although overall a high level of expert sources were employed (69% of all articles), contrary to expectations tabloids quoted expert sources in a higher percentage of their articles on obesity compared to broadsheets. This may be a mechanism to offer greater credibility to their news items, which are naturally steering toward sensationalism. Tabloids were also more likely to use dramatic headlines and broadsheets were considerably more likely to report on environmental interventions in obesity. The differences between the aspects of obesity emphasised by media outlets has significant implications for audience understandings of the issue based on the tenets of framing theory and the common sense model of illness representations (Martin et al., 2003, Entman, 1993, Entman, 1989). Considering that typically middle to higher socioeconomic groups are the target market for broadsheet publications (JNRS, 2010), one may expect regular broadsheet readers to be more receptive to interventions aimed at the broader environment, given the coverage the issue receives in such publications.

Finally, there was some evidence of coverage of obesity debate and controversies. While it must be stressed that these articles were in the minority (6.5%), they provided a useful insight into the uncertainties and controversies that the media attend to. For instance, the body measurement and categorisation debate was most frequent in the sample. However, due to the small number of articles on this issue, it is difficult to ascertain whether such articles would have any impact on individual beliefs and on the public discourse on the issue.

## **5.7 Summary**

This chapter examined the media representation of obesity using two data sets to understand the emergence of the issue as one of media concern, how the issue has been portrayed, and investigated trends in the framing of obesity over time. By conducting a content analysis using one publication over a long period (*The Irish Times* data set), a broad overview of trends and message content was enabled. The multiple newspaper sample then supported and built on many of the findings of the IT data set. There was considerable alignment in the framing of the issue between the two data sets, indicating the value of *The Irish Times* as an indicator of media trends. *The Irish Times* has a reputation as a quality publication and is influential among political and social elites as well as other media outlets and as such, it was a valuable starting point for the research.

The analysis of these media data contribute to theoretical research in health communication by linking the ideas of framing and illness representations. Previous research employing the CSM has indicated that beliefs regarding the cause of obesity

can influence health behaviours (Wang and Coups, 2010). Furthermore, consistent with the principles of framing theory, if obesity is predominantly described as a result of individual behaviours, that is how it will most likely be understood by the public. Based on the current findings and the theoretical underpinnings of the research, it is expected that Irish media consumers would believe that obesity is largely due to personal behaviours and choices, especially due to poor diet and sedentary lifestyles. The analysis suggests that obesity is predominantly understood as resulting in physical illness, the most prominent of which were heart conditions, cancer, and type 2 diabetes. Regarding solutions to obesity, personal behaviours have been emphasised, implying this is the dominant understanding audiences would have of solutions to tackle obesity.

Therefore, based on the typical reader profiles of broadsheet and tabloid publications and on the aforementioned differences in coverage of obesity between the two, one may posit that socioeconomic differences may predict support and belief in the value for environmental solutions to obesity. While content analysis of media offers an insight into the relative frequency of topic coverage and trends in reporting, only a discursive qualitative investigation can fully examine the nuance and treatment of issues such as socio-economic differences, cultural values and norms, dramatisation of news content, and controversy in the discourse on obesity. The next chapter examines this multiple media data set in detail using a hybrid thematic analysis, featuring both inductive and deductive elements. The deductive section will develop the analysis of the exo-construction of obesity by further interrogating the data set along the dimensions of the CSM (Leventhal et al., 1998, Leventhal et al., 1980). This mixed methods approach will offer a rigorous and

thorough approach to formulating a rounded and comprehensive understanding of the exo-level meanings of obesity.

## Chapter 6 - Qualitative Analysis of the Media

### Representation of Obesity<sup>9</sup>

#### 6.1 Introduction

Following the quantitative media analysis, the multiple newspaper sample was re-analysed using a qualitative methodology in order to attain a more thorough understanding of the portrayal of obesity. This thematic analysis allowed for an in-depth exploration of the meaning and nuances communicated and the themes which emerged provide an insight into the socially constructed meaning of obesity. It is through this analysis that one can shed light on the dispositions that individuals may hold regarding obesity and thus provide a basis for considering the beliefs and attitudes of the population regarding obesity. Firstly, a deductive phase of the analysis is outlined, where detail was sought regarding the dimensions relevant to illness representations (cause, consequences, solution and trajectory). Marking the beginning of the inductive phase of the research, the codes used in the content analysis were set aside and the data were examined with an open mind to allow themes and features of news reporting to emerge that it may not have been possible to capture using a purely quantitative approach.

---

<sup>9</sup> The first part of Chapter 6 was accepted for publication as an article in *Health Communication*, 3<sup>rd</sup> July 2012 and its final and definitive form, the Version of Record, will be published (copyright Taylor & Francis) and available online at: <http://dx.doi.org/10.1080/10410236.2013.866390>

The latter part of Chapter 6 appeared as an article in *Appetite*, 24<sup>th</sup> November 2012, whose final and definitive form (copyright Elsevier) is available online at: <http://dx.doi.org/10.1016/j.appet.2012.11.005>

Based on the findings outlined in this chapter and the previous content analysis chapter, a number of hypotheses and propositions based on this first phase of research (quantitative and qualitative media analysis results) will be forwarded to guide the next phase of research and to interrogate the meanings of obesity at the micro- and individual-levels of inquiry.

## **6.2 Analysis and results**

The analysis discusses three dominant themes in media coverage of obesity. The first theme represents the only deductively examined theme: *the construction of obesity along the dimensions of the Common Sense Model of Illness Representations* (Leventhal et al., 1998, Leventhal et al., 1980) and specifically, the purported causes, consequences, solutions and typical trajectory of obesity. These dimensions will constitute a common thread at each stage of the research and will facilitate cross-sample comparison of the dominant meanings and understandings of obesity at various levels of inquiry. Following this deductive stage of analysis, two themes emerged during the inductive phase: *social rules of thumb to attribute blame and judging the experts*. Each theme was rooted in a discourse of individual blame, as demonstrated in the previous chapter. However, through the explication of these themes, nuances prominent in the media's reporting become evident. The following codes are used in the reporting of media extracts: *The Irish Times* (IT), *Irish Independent* (II), *The Sunday Independent* (SI), *The Sunday World* (SW), *The Star* (TS), *Evening Herald* (EH). A table providing details and the reference of each article is available in Appendix D.



### **6.2.1 Theme 1: Illness representation (cause, consequences, solution and trajectory)**

Predictably, elements relevant to the illness representations theme were pervasive in media reports and took various forms. These are presented along the dimensions of the Common Sense Model and thus are sub-divided by discussion of the causes, consequences, solutions and purported trajectory of obesity. Within the cause dimension, *the interplay of self-regulation and the environment*, *genetic/developmental pathways*, and *mood management* are discussed. The examination of the reported consequences associated with obesity concerned *individual-level* and *societal-level consequences*. Analysis of interventions in obesity is discussed in terms of *proximal and distal solutions*, and finally, the minor trajectory dimension discusses the *persistence of obesity over time*. It must be noted that a number of sub-themes may be said to represent more than one category (e.g., the interplay between environmental and behavioural factors). However for the purposes of coding, each code was associated with one theme, based on the dominant message of the article.

#### ***Sub-theme 1: Illness Representation (IR) - Who is to blame?***

The analysis of causes dimension of the CSM is divided into the major sub-theme of *the interplay between self-regulation and the environment* and the comparatively minor sub-theme of *biological & psychological* causes.

*The interplay between self-regulation and the environment*

The most frequently observed cause of obesity cited in the article sample was that of self-regulation, which includes aspects of individual agency such as dietary habits, physical activity levels and self-motivation. This tendency toward individual blame may be examined by investigating the interplay between the purported influence of self-regulation of behaviours and the influence of the individual's environment. Broadly, poor lifestyles choices were blamed for obesity and mentions of these choices most often related to diet and activity, described as 'twin dangers'. Most reports stated that excess calories, which were not burned off through exercise, cause a build-up of fat which can lead to obesity.

“Experts blame unhealthy lifestyles with their mix of too much fast food, little exercise and an obsession with the latest fashions and gadgets” (TS<sub>6</sub>)

The suggestion in the articles was that Irish people eat snack and junk foods too often and parents who treat children with snack foods and provide unhealthy school lunchboxes are contributing to childhood obesity. However, drawing attention to the diets of children serves to condemn parents for failing to provide nutritionally balanced foods for their children. This aspect of parental blame overlaps with the next theme of *social rules of thumb to attribute blame*, pointing to a focus of the media on apportioning blame for obesity. The Irish diet was described as 'poor quality' on several occasions and as having “*one of the lowest rates of fruit and veg consumption in Europe*” (EH<sub>11</sub>). Portion control was commonly referenced as a major cause of obesity, where people have adapted to consuming larger portions and may not be cognisant of what constitutes healthy, regular-sized portions.

“You only need a child to have a tiny amount of excess food every day from birth to result in an obese child by two”. (EH<sub>12</sub>)

Young people were labelled as unwilling to exercise in favour of more sedentary pursuits such as television viewing and computer games, which were described as replacing physical activity in Irish life. Children were said to be ‘held captive’ indoors and ‘rooted’ in front of the television and adults were portrayed as too busy to engage in physical activity. Although the media conveyed that maintaining this energy in-energy out balance was ‘alarmingly simple’, it was frequently stated that individuals lack the willpower to make the lifestyle changes necessary to be healthy. Here we see evidence of the notion that anyone may achieve the ‘ideal’ body size and the only barrier to achieving this ideal is poor choices and behaviour on the part of the individual.

“A national consumer survey has shown most Irish people lack the time and motivation to adopt healthier lifestyles” (IT<sub>17</sub>)

Consumption and exercise behaviour were also further understood by a ‘calendar effect’, where breaking from normal routines during the holiday seasons caused weight gain. For instance, Christmas was readily associated with overindulgence and ‘gluttonous’ behaviour. In contrast, the New Year was described as representing a period of engagement in positive health behaviours in an attempt to undo the ‘guilt’ and ‘gluttony’ associated with overeating at Christmas. Such calendar effects imply a degree of structural control via societal tradition in excess consumption. Individuals conform to these social norms, which centre on large

family meals and overindulgence and then seek to undo these behaviours in the adoption of positive health behaviours for the start of a new year.

While aspects of self-regulation (or lack thereof) were prominently cited causes, the environment as a driver of obesity also attracted the gaze of the media. There was, however, evidence that the media reinforced individual blaming for obesity even through discussion of environmental aspects of the issue. A dominant implication was that individuals living in the obesogenic environment were failing to adequately navigate this environment and ultimately were selecting convenient and unhealthy options over more salubrious choices. For instance, the link between modern lifestyles and associated feelings of stress were said to be creating patterns that resulted in poor dietary choice. Commuting and longer working hours were described as resulting in feelings of stress and pressure and therefore traditional home cooking was described as unfeasible for some, especially among dual-earner households. ‘Dashboard dining’ was one particular focus, where ‘on-the-go’ eating habits have become a part of Irish lives due to the time pressures associated with the way we live now. Thus, individuals were portrayed as failing to overcome the barriers to healthy living inherent in modern life and associated with this a decline in traditional ways of living was suggested to parallel increasing weight trends.

“Ireland has become a fast-food nation with more takeaways and junk food outlets than post offices or churches” (II<sub>13</sub>)

Other environmental influences on food choice behaviour, such as economic and financial circumstances were acknowledged as contributing to the rise in obesity. Many articles drew explicit parallels between Ireland’s economic boom in the 1990s

and the rise in obesity, stating that economic prosperity had ‘triggered’ an obesity epidemic. Ireland was described as “*suffering from some of the diseases of affluence rather than poverty*” (IT<sub>9</sub>). However, Ireland’s more recent recession was also highlighted as contributing to obesity. It was stated on multiple occasions that the economic downturn was likely to worsen the problem of obesity, as people were forced to choose cheaper, energy-dense foods, resulting in people putting on ‘recession stones’. Although it appears that environmental aspects of obesity are under the microscope and the environment is said to be encouraging poor dietary choices, ultimately, it is still the individual who is blamed for poor weight management. Such representations suggest that the interplay between the individual and the environment may present challenges but individuals are making conscious decisions to consume or not to consume. Thus, despite attention to environmental aspects of obesity, the media still lay blame with the individual themselves.

“Far from getting leaner in these tough economic times the problem is likely to get worse as people struggling with tighter household income opt more for calorific staples and cheap take-aways” (II<sub>14</sub>)

It was implied that individuals in lower socioeconomic groups attempt to maximise calories and minimise waste in their food purchasing. This is consistent with Bourdieu’s (1984) conception of food as function, where often those of a lower socioeconomic status are compelled to consume foods to maximise energy provision. Bourdieu (1984) argued that food choice is an element particularly revealing of class fractures and is one of the most enduring aspects of early socialisation. However, the socioeconomic differences in weight and consumption trends were a relatively minor

issue and discussion on this topic tended to focus on food poverty issues, the poor quality of diet among such groups, the high cost of a ‘proper’ healthy diet, and the lack of access to healthy choices in both diet and exercise.

“Recently, increased attention has been paid to the role of social and environmental influences on food choices... lack of availability of healthy food choices in shops in poorer areas was a contributory issue. Cost was another obvious factor” (IT<sub>18</sub>)

Furthermore, lack of facilities and investment in providing healthier options were other causes cited which placed blame on the government for failing to address social inequalities. In these aspects, we begin to observe a discourse in which the media acknowledge the occasions where agency and the capacity for choice is taken from the individual or where personal choice is severely limited and as such, a powerful environmental driver of behaviour was implicated. Yet, this purely environmental framing of obesity was not evident to the same extent as the interplay between personal responsibility and environmental elements. Only a minority of reports discussed the low availability of, and access to, healthy choices and the failures of town planning to adequately plan for and provide, for example, cycle lanes and opportunities for children’s play.

Considerable emphasis was placed on the advertising and marketing industries, with the public described as overwhelmed by an industry telling them to “*consume, consume and consume some more*” (EH<sub>13</sub>). Consequently, children were pestering their parents to buy goods for them and this was a source of stress for parents who felt manipulated into purchasing food they would prefer to avoid.

Schools were described as ‘vehicles’ for the marketing of junk food to children through the use of advertising in schools and the sponsorship of children’s events. The use of celebrity endorsements and the promotion of children’s film characters on children’s meals were cited as exploiting children and as contributing to an obesogenic environment. However, the media’s complicity in the influence of advertising was scarcely acknowledged, appearing in just one media report.

### *Biological & Psychological causes*

Discussions of genetic and biological causes of obesity constituted a minor sub-theme in the analysis. Typically, these media messages discussed genetic tendencies towards gaining weight and toward sedentary lifestyles. Findings related to genes and gene sequences that may influence obesity were most frequent in articles discussing genetic drivers of obesity. Conversely, the genetic basis of obesity was also described as being an ‘excuse’ for people’s obesity and was occasionally greeted with scepticism in the media.

“There have been suggestions that a family history of obesity may mean that children are predisposed to gain weight” (SW<sub>4</sub>)

Psychological factors were also cited as possible causes of obesity, though there were only eight reports that mentioned a psychological basis to obesity and only three that discussed this cause at length. Generally, such stories related to comfort eating and emotional eating as a means of coping with stress.

“Most people don't have a problem with food, they have a problem with their emotions as 75% of overeating is as a result of emotional eating” (II<sub>7</sub>)

In sum, the media's discussion of the causes of obesity consistently links the condition with individual behaviour, thus placing responsibility for the disease on the individual themselves. The interplay between environmental causes and behavioural causes revealed that even when the former are the central issue of the article, often the individual is blamed for failing to circumvent and negotiate these environmental drivers of obesity.

***Sub-theme 2: IR – What are the repercussions?***

Consequences associated with obesity are divided along two sub-themes: the *individual-level consequences* of obesity and the broader *societal consequences* of excess weight.

*Individual-level consequences*

Individual-level consequences of obesity were prominent in the media's discussion of obesity and included physical, psychological, and social repercussions of excess weight. Diseases and illnesses associated with obesity were the most prevalent consequences discussed in the media sample. Cancer, type 2 diabetes, heart disease, high blood pressure and high cholesterol levels were among the physical illnesses mentioned most frequently. These accounts of illness were attributed to



research findings and many articles stressed that obesity is linked to an increased risk of various disorders.

“Being overweight or obese increases the risks of heart disease, diabetes, high blood pressure, stroke and some cancers” (EH<sub>14</sub>)

Diabetes is arguably the medical condition most closely linked to obesity (Seidell, 2000) and this association was widely cited in media reports. Increases in obesity prevalence was described as the “*the key driver of changes in the prevalence of Type 2 diabetes*” (IT<sub>11</sub>) and that “*obese people are up to 80 times more likely to develop diabetes*” (TS<sub>7</sub>). Mortality rates associated with obesity were also reported widely, stating “*obesity is now thought to be responsible for up to 2,500 deaths here every year*” (EH<sub>11</sub>).

Numerous articles discussed the “*health problems normally found in adults*” that are now also affecting younger age groups, as “*kids as young as two are being diagnosed as obese, putting them at risk of heart problems, high blood pressure and diabetes*” (EH<sub>12</sub>). The extensive coverage of this issue points to a serious concern for the impact of childhood obesity and also illustrates the media’s tendency towards reporting research that promotes fear (Altheide, 1997). In the media attention to the physical consequences of obesity, they are forwarding their credentials in recognising the seriousness of the issue, supporting a construction of obesity which highlights the pressing nature of the problem and the risks in failing to tackle weight trends. Such a discourse establishes a basis for a focus on individual behaviour and the self-regulation of weight and bolsters the media’s tendency to blame the individual (Puhl and Heuer, 2010, Kim and Willis, 2007). Furthermore, attention to

childhood obesity specifically serves to foster an emotive discourse of parent-blaming (Maher et al., 2010, Bastian, 2011), a matter which the next theme will explore in detail.

“The surge of obesity among children, in short, will result in a global explosion of illnesses that will drain economies, create suffering and cause millions of premature deaths” (SW<sub>2</sub>)

There was a general suggestion that as a consequence of the increase in obesity prevalence, Ireland’s health care service was ill-equipped to cope with the healthcare burden of obesity. Several articles pointed to insufficient government investment in tackling and managing the obesity ‘epidemic’ and the lack of obesity clinics and facilities to cope with the demand for treatment services.

“Around 30 people risk dying from obesity if they are not treated soon, a specialist warned today... 30 of the 500 people on the waiting list will die if the current level of inadequate funding is not increased” (EH<sub>15</sub>)

The social consequences of obesity for the obese individual received some attention in the media and typically related to the stigma of excess weight and its repercussions in employment and interpersonal relationships. The ‘plight’ of children gets particular attention as they are depicted as suffering taunting and bullying, impacting on their psychological well-being. One article stated that “*to be so fat in our society is a cardinal sin, attracting waves of public disapproval*” (EH<sub>1</sub>). Thus, as well as dealing with physical illnesses associated with excess weight, those with weight difficulties must also cope with society’s “*discriminatory and judgmental*”

views, where reactions to extremely obese people included individuals who “*stop in the street and stare and point*” (II<sub>11</sub>). Obese individuals were depicted as objects of contempt and disgust. This notion was reinforced through the media’s use of vivid and unflattering imagery, which aimed to repulse and disgust audiences with the result of perpetuating stereotypical portrayals of obese persons and reinforcing social norms of stigmatisation.

“His t-shirt looked like a tent, he was sweating profusely, and his legs and arms had huge tyres of fat. He had a treble chin and no neck, and his fingers were dwarfed by his monstrous hands” (EH<sub>1</sub>)

Psychological consequences were often cited and disorders such as depression and anxiety were also commonly discussed as a consequence of the stigma associated with obesity. There was recognition in the media of the ‘devastating’ effect of obesity on self-esteem and confidence, as one expert was quoted, “*the only person whose view is lower in terms of esteem is the patient themselves*” (II<sub>11</sub>).

#### *Societal-level consequences*

In the media’s attention to the societal consequences of obesity, they provide a discourse firmly rooted in individual blame. However, the wider effects of poor personal behaviours were described as negatively impacting on non-obese others. Such articles discussed the impact on businesses and the wider economic burden of obesity and its treatment. Most articles discussing the associated economic costs emphasised that obesity is costing taxpayers up to €1.8bn per year and that the

problem would damage society “*massively... both from an economic and social perspective*” (II<sub>16</sub>). The negative repercussions for businesses almost exclusively related to employees and there was a persistent portrayal of an overweight or obese employee as a liability. The suggestion was that due to weight-related illness absenteeism and low energy and productivity levels, employees carrying excess weight are likely to be harmful to business.

“It is estimated that obesity accounts for up to 6% of Ireland's total health care costs. These costs do not include a decrease in productivity due to illness and workdays lost. When employees choose a sedentary lifestyle, they affect their company's bottom line” (EH<sub>16</sub>)

Such a discourse clearly positions obesity as due to poor individual behaviour, implying that the employment of obese individuals will negatively impact businesses. Such a perspective serves to perpetuate weight stereotypes and stigma and also has the potential to encourage employment discrimination against obese persons.

### ***Sub-theme 3: IR – How can obesity be resolved?***

This sub-theme explores the media's representation of solutions to obesity and describes the interplay between proximal and distal interventions, emphasising the media's focus on Bourdieu's conception of the ‘body as a project’ approach to diet and weight management, an attitude that is considered to be typical of middle class standards of body treatment (Bourdieu, 1984).

*The interplay between proximal and distal interventions*

Within this sub-theme, the perspective of the media was typified by a ‘body as a project’ (Bourdieu, 1984) attitude to diet and weight-management. This ‘body as a project’ was demarcated by two prominent elements; dietary and exercise regimens. The dominant media message was that individuals must invest time and effort and overhaul their lifestyle in order to make the changes necessary to attain the prized body standard and to demonstrate attitudes consistent with societal norms.

Dietary change was a prevalent intervention discussed in the media. Reducing portion size was often cited as a measure to reduce consumption and thus, obesity. Media reports conveyed that people are no longer aware of what constitutes a normal portion size and therefore, it was described as vital that consumers educate themselves about the importance of choosing smaller portions. Reports also advised that “*five portions of fruit and vegetables a day should only be a minimum*” to help protect against ill health and act as a solution to obesity (IT<sub>13</sub>). It appears the media are positioning themselves as holding expert knowledge, building their cultural capital (Bourdieu, 1984), and situating themselves as a reliable and trusted source of diet and health information for the general public. However, although the media offered a considerable amount of specific dietary advice, this advice was often contradictory. This is consistent with previous research conducted in the UK, which found high levels of misreporting of dietary advice in the media (Cooper et al., 2011). Among the most consistent of the nutrition messages observed in the current analysis were the importance of eating a healthy breakfast, adopting a low fat diet, drinking water, eating lean meats and fish, and reducing fast food and snack food

consumption. Again, the focus was on behavioural interventions in obesity and actions and habits individuals had to instil in order to avoid obesity.

“Drink a pint of water before each meal. This takes the edge off your hunger. Eat fish as often as possible - three to four times a week. Don't skip meals especially breakfast. Don't Diet! Diets throw the body into chaos” (II<sub>17</sub>)

A recurring warning in media reports was the dangers and pitfalls associated with dieting. Frequently, it was reported that adopting a commercial diet regimen was associated with negative outcomes. Dieting was said to cause ‘nothing but misery’ and long-term positive results of dieting were said to be rare. Reports differentiated between ‘dieting’ and adopting a healthy, balanced diet, the latter of which was considered a more prudent undertaking for long-term weight management. Similarly, fad or crash diets were widely discussed and generally met with disdain in the media. Such diets were said to “*explode onto the market only to fizzle out when the next miracle arrives in a blaze of sensationalist marketing*” (TS<sub>8</sub>). Fad diets were purported to be used by those in search of a ‘quick-fix’ to weight loss and such individuals were condemned for looking for an ‘easy’ way out of obesity and failing to tackle the behavioural issues perceived to be at the heart of the problem. The search for a quick fix may be viewed negatively as it attempts to circumvent the lifestyle changes necessary to achieve weight loss. Furthermore, it is inconsistent with Bourdieu’s conception of the ‘body as a project’, where constant work and attention is required to meet social standards. Thus, a search for an ‘easy’ way to lose weight may be met with reproach as it is considered a virtuous endeavour to apply oneself long-term to achieve weight-loss. The ‘body as a project’

was a central thesis in the media's portrayal of solutions to obesity and was portrayed as the only successful approach to weight loss and healthy weight maintenance, even if this approach creates 'misery'.

Physical activity and sedentary behaviour was a major feature of intervention-related articles. Typically, exercise was described as a crucial part of a healthy lifestyle and as necessary 'in conjunction with' a healthy diet. It was said that "*diet and exercise are universally recommended as the first line of attack against excess flab*" (II<sub>6</sub>). In particular, the benefits of play for children were described as 'abundantly evident' and it was stated that it was necessary for parents and children to exercise together to instil good habits from a young age. Yet, there was also recognition of the challenges associated with physical activity. Specifically exercise was described as "*not so much fun*", although the after-effects can make it "*worthwhile*" (II<sub>18</sub>). Again, this represents an illustration of the sacrifices and commitment conveyed as required in effecting weight-loss. Although the short-term experiences of exercise were portrayed in a negative light, the long-term benefits of activity make it "*worthwhile*". Only a small number of reports contradicted the importance of exercise for weight management. Yet, even those articles contradicting the importance of exercise for weight management focused on other individual behaviours rather than on environmental drivers of food choice.

Medical interventions were also widely touted in the media, with pharmacological and surgical treatments both widely discussed. Notably, it was often qualified that the use of drug treatments was "*an adjunct to diet and exercise*", again positioning individual behaviours as pivotal in weight management (EH<sub>18</sub>). There

was an acknowledgement in reports that new drug treatments are often hyped up and considered as ‘the new wonder drug’. The possibility of effective weight-loss using drug treatments was also discussed and there was significant media attention to the controversy surrounding new drugs which became available over the counter. The tone of many reports was critical of the promise of such treatments and expressed concern for the results of the hype on the public’s belief in a ‘quick fix’ solution.

“Irish chemists are selling a new 'over the counter' diet pill to healthy thin young girls... every chemist approached by the newspaper was happy to sell the 'miracle' new weight loss pill Alli to a size-eight woman” (SI<sub>7</sub>)

For those who failed to adopt the body as a project position, bariatric surgery was described as an end of the line intervention. Surgical treatments, including gastric bands, gastric bypass, and liposuction were discussed widely. Generally messages regarding surgical interventions were an amalgam of stories detailing the risk and benefits associated with weight-loss surgery. Surgery was portrayed as risky due to the considerable risks associated with the operation, however, it was acknowledged that weight-loss surgery can also reduce the risk of diseases such as cancer and diabetes.

Indicating coherence with the portrayal of obesity along the *causes* dimension, even when looking to the environment for solutions, many of the solutions discussed by the media were designed to support the body as project thesis. Government intervention in the form of more cycle lanes, paths, playgrounds, and improved community design planning generally to enable and encourage activity and children’s outdoor play was a prominent feature of reporting. A prominent point of



debate taxation changes, where discussion centred on a proposed ‘fat tax’, which would seek to increase the VAT on luxury and energy-dense foods thus seeking to make them less attractive options to consumers. Another prevalent environmental intervention cited in media reports was the need to facilitate access to and “*availability of healthy options and portion sizes*” (IT<sub>14</sub>), thus making it easier for individuals to choose healthy options. Again it is evident that although the media discussion is centred on environmental-level solutions, this discussion is contextualized by how it will affect individual choice, thereby reinforcing the individual blame discourse strongly evident in reporting.

There were few aspects in the discussion of environmental interventions which took responsibility from the individual and pointed to wider structural influences. Advertising and marketing regulation was an issue widely reported and most articles called for tough curbs on food advertising, especially advertising aimed at children. Many reports were highly critical of the methods of advertisers and the food industry in targeting children through ‘aggressive marketing’. Numerous media reports also called for a total ban on food advertising to children in place of the voluntary codes of conduct that currently exist. A minority of reports described the advertising industry as a ‘soft target’ for blame and responsibility for obesity and argued that there is no conclusive evidence that banning junk food advertising would reduce obesity. However, it is notable that this argument was attributed to representatives of the food and advertising industry.

“Banning junk food ads aimed at impressionable youngsters must be considered by the Government if the fight against childhood obesity is to be

won... unless we put a ban or a partial ban on this kind of advertising more of our children would become obese” (II<sub>19</sub>)

The media’s persistent focus on individual behaviour and the conception of the body as a project represents a dominant portrayal of obesity in the print media and a coherence between the *cause* and *solution* illness representation dimensions. The ‘body as a project’ attitude expounded fits with the previous sub-theme of self-regulation and therefore it is apparent that journalists have adopted a clear position on the issue, implying that it is only by re-imagining the role of food and exercise within an individual’s life can one see the obesity crisis abate.

#### ***Sub-theme 4: IR - Trajectory of obesity***

Although the trajectory of obesity was a dimension that did not receive the same amount of media attention as the other dimensions, the media message regarding the typical trajectory of the problem tended to be relatively consistent. Typically, articles stated that obese children tend to grow into obese adults and for many people obesity is a life-long condition. People were described as likely to retain weight over time due to the difficulties in ‘turning things back’ and losing weight. Articles warned that a delay in addressing obesity may be fatal for those who deny and ignore their excess weight and that being obese when young is a threat to future health and well-being. It was implied that because obesity is usually marked by a gradual weight gain, symptoms are not as striking as other disease symptoms, such as pain.

“The majority of people go to see a doctor within one week of noticing a cold, cough or ingrown toenail; but the same people ignore obesity problems for a number of years before seeking professional help. This delay could be fatal” (II<sub>7</sub>)

### **6.2.2 Theme 2: Social rules of thumb to attribute blame**

The second theme presented is the inductively-revealed social rules of thumb to attribute blame. Within this theme, three sub-themes are outlined relating to the caricatured portrayal of men and women’s relationship with diet and weight, the positioning of women as responsible for the diet-management of others, and the language employed in the blaming of parents for childhood obesity.

#### ***Caricatured portrayal of gender***

Clear gender differences emerged regarding men and women’s typical relationship with diet and weight management. The positioning of males and females on these issues was in keeping with the traditional dominant social construction around gender, where women were portrayed as fixated with weight and dieting and men were represented as unconcerned with issues of diet and health (Gough, 2006, Gough, 2007, Davis, 1990). This chasm between typical male and female approaches to diet and weight management was widely acknowledged. Firstly, differences were observed in the nature of typical male and female diets, as well as their likelihood to adopt a healthy diet. Men’s diets were portrayed as low in fruit and vegetables and high in fat and meat content. This conforms to traditional stereotypical expectations

of men eating meat, greasy foods and drinking beer; consumption patterns which are considered indicative of masculinity and of a disinterest in a healthy diet (Stibbe, 2004). Dieting was depicted as a feminine issue and dieting and talking about weight issues was just ‘something that women do’, characterised by women spending “hours reading magazines in the hope of finding a new miracle diet” (II<sub>1</sub>). Weight consciousness was considered a women’s issue; women were described as having a greater self-awareness of weight and more of an awareness of weight issues generally. Resonant with previous research (Connell & Messerschmidt, 2005; Gough, 2006, 2007), articles portrayed the so-called ‘macho’ image as being the cultural norm.

“Men deal with food completely differently than women and their attitudes to it are tied up in macho ideas of risk taking and what it is to be a man” (SI<sub>1</sub>)

“We [men] just don’t think about our bodies in the same way women think about theirs. If a woman detects a milligram of extra fat, she runs to the gym” (IT<sub>1</sub>)

Notably, the tendency was to propagate caricatures of the stereotypical relationships men and women have with weight and diet. Extreme depictions of both men’s and women’s relationship to diet were frequent in media messages and these caricatures served to illustrate the extent of the differences in weight-related behaviors between genders. Recent research suggests that there are more overweight and obese men than overweight and obese women in Ireland (Irish Universities Nutrition Alliance, 2011) so arguably this depiction may represent an over-exaggeration of an underlying truth. An *Irish Times* article outlined what may be

considered a stereotypical conversation that could occur between two women regarding weight. However, in the article, the journalist subverts this norm and imagines this conversation occurring between two Irish men. The use of satire in this extract effectively illustrates the divergent approaches of men and women to diet and weight-management.

“Two lads are sitting in a bar, having a pint and a chat. “Look at you!” exclaims the first bloke. “You're so skinny - I hate you. You're like, what, a size zero?” The other bloke replies, “Oh, get away. I'm like an elephant. I've been going mad on the Guinness. I need to go to the gym big-time.” “No, no, you look like you've been running marathons.” “Oh, no, I've completely let myself go. I can hardly fit into these jeans.” This conversation couldn't, of course, have happened between two typical Irishmen. We just don't talk to each other like that.” (IT<sub>1</sub>)

This fictional exchange between two men was described by the journalist as absurd, to the point of being comical, as it is perceived to entirely contradict typical Irish male behaviour. Although this interaction was described as occurring between two men, through this extract one can examine how the media constructs and perpetuates traditional masculine and feminine roles regarding diet and weight. Femininity is regulated and separated from the hegemonic masculinity, which is demarcated by a distance between the ‘feminine’ activities of self-monitoring and the discussion of weight and importantly, unhappiness with weight. This indicates an expectation of women to constantly strive towards the societal ideal, in this case identified as being a ‘size zero’. Conversely, men are not subjected to the same pressures and the idea

that this pressure to attain a body size ideal would exist for men is deemed ridiculous.

The contextualisation of weight concerns as a women's issue was bolstered by evidence that weight interventions were situated as being primarily of concern to women, with several articles emphasising the benefits of various weight loss interventions to a woman's body shape. For example, one tabloid article discussed the promise of a new weight-loss drug and immediately positions the discussion as being of female concern by establishing the effect the drug can have on a woman's waistline, thus implying that the drug is solely for women's use.

“The drug can help a woman drop a dress size in four months... For a 12-stone woman this would mean shedding more than seven pounds” (TS<sub>1</sub>)

Not only were weight and diet issues considered a female concern, there was also evidence of the pressure exerted on females to achieve a certain body size ideal (Bordo, 2003). These pressures on women were acknowledged and were described as stemming from the media as well as celebrity culture, where an unrealistic 'size zero' ideal is promoted. In accordance with typical Western depictions (for example, Gracia-Arnaiz, 2010), the Irish media portrayed thinness as ideal, relating being slim to success and femininity, whereas excess weight was considered undesirable. Media reports strongly suggested that women's weight is closely linked to their emotional well-being. Arguably, the pressure exerted on females to conform to an 'ideal' weight has led to unhappiness with weight, as women of all ages find it difficult to meet this widely present, unrealistic standard of thinness.

“Women of reproductive age are bombarded with messages about diet, and body image... There is growing concern on the one hand about an epidemic of obesity, and on the other about a culture that promotes ‘size zero’ as desirable, irrespective of a woman's natural build.” (II<sub>2</sub>).

“The news comes as a shocking survey released last week shows how the majority of Irish women are becoming unhappy with their body image from as young as 13”. (SI<sub>2</sub>)

Compared to men, it was said that “*even overweight women worry much more about their diet*” (SI<sub>1</sub>). Implicit in this message is that overweight women are perceived as not caring about their diet. However, compared to men, “*even*” overweight women worry more about their diet, suggesting that overweight women are being separated from normal weight women and that different assumptions are made about women based on their weight. Furthermore, the use of the word ‘*even*’ suggests that it may be surprising to some that overweight women are worried about their diet. This representation of overweight is consistent with the typical stigma encountered in Western cultures, where overweight and obese people are considered lazy, unmotivated and uninterested in healthy living (Puhl & Heuer, 2009). Yet, even women who do not appear concerned about their diet do worry about their diet compared to men, who were rendered as detached from the feminine world of weight consciousness.

Although health and dietary concerns are predominantly considered to be within the feminine domain, men’s weight status is portrayed as a pressing issue, with serious consequences for health. There was recognition of the need to target

males specifically and to target them in a different way to which women are targeted in health campaigns. It was implied that men need special attention to alert them to immediate benefits as women are more able to see the long-term benefits of a healthy diet. Media reports also discussed health campaigns aimed at men, highlighting that such campaigns have focused on encouraging men to be independently health-conscious in both their diet and lifestyle choices and not to rely on women to monitor their health. Previous research has suggested that men tend to delay medical visits and utilise health services less than women (Green and Pope, 1999). As a result, health campaigns have specifically targeted men in an effort to communicate health messages. For instance, weight management campaigns have attempted to break down men's 'barriers' using humour and adopting the format of a car manual to compile a guide to weight issues (Men's Health Forum, 2005). It was said this will appeal more to men and it attempts to de-feminise weight concerns by adopting the style of a vehicle maintenance guide, which is perceived as a typically male domain. This is also indicative of a conception of body-as-machine thinking, an attitude which Gough (2006) has previously found characteristic of men.

“The book will be the definitive guide to men and weight/obesity - not only will the content be comprehensive but it will follow the format of a car manual. The guide will also be entirely focused on men and problems specific to them. The reasoning behind this is that many men are accustomed to using information presented in this way. A 'body as machine' metaphor resonates with the way men tend to think about health issues. The concept also aims to introduce an element of humour - which helps to break down men's 'internal barriers' to accessing health information and advice” (TS<sub>2</sub>).



It is revealing that only once was a brief mention of an element of ‘new’ masculinity recorded, where reputedly as a consequence of media exposure, some young Irish men are more concerned with their appearance. It was said that there are “*fewer beer bellies among the younger generation. They’re seeing young people on X Factor and want to look like that*” (IT<sub>1</sub>). However, in the same article, this ‘new’ masculinity is described as an attitude more common to California and to Mediterranean regions, areas renowned for their beaches and sunshine, and thus is portrayed as very much removed from the Irish way of life. Thus, while this mention may be evidence of a media slow to recognise new and alternative conceptions of masculinity, it speaks to the degree to which this construction of men’s relationship with food and weight is depicted as one-dimensional.

### ***Women as caregivers***

A recurring notion promulgated by the media was that when men partner with women, women take on the role as gatekeepers to their male partner’s diet and health. It was suggested that men who live with women tend to have healthier diets, as it was often stated that women do the cooking, shopping and food planning, that is, they are the caregivers of the household. Moreover, health advice “*is aimed at women, especially when it is provided via the media or commercial organisations*” (TS<sub>2</sub>). It was suggested that men often rely on women for a healthy diet and women must ‘badger’ men into seeking medical attention. Although men’s behaviour is described as ‘silly’ and as a ‘little boy’s’ attitude, it emphasises the degree to which health and particularly diet and weight management are considered outside the realm

of typical male behaviour. This pervasive discourse serves to augment and normalise stereotypical gender roles rather than putting the onus on men to look after their own health. This task instead falls to women, as clearly this caregiver role is perceived to be incompatible with dominant traditional ‘macho’ conceptions of masculinity.

“Healthier diets, specifically fruit and vegetable consumption are observed more commonly among persons who are married or living with someone, especially so for males” (SI<sub>1</sub>)

Women were also burdened with the principal responsibility for children’s health. It was implied that it is women who are the primary caregivers and decision-makers regarding food and the influence of the mother was said to be “*more significant*” than that of the father (SW<sub>1</sub>). Indeed, the only instance of a discussion of a paternal-specific input to children’s food intake observed in the sample was a discussion of how fathers use snack foods to pacify and indulge children. This underlines the prevailing notion of women as gatekeepers to diet and health and resonates with Murphy’s (2003) finding that it is typically mothers who are considered morally obligated for making responsible food choice. Furthermore, reports emphasising that the majority of food consumed by children is prepared in the home served to underline the importance of home-cooked meals and the failure of parents, specifically mothers, in providing children with high-quality, nutritious food. Women were represented as responsible for providing healthy choices, and this provision of healthy food is portrayed as a battle of wills, with mothers having to ‘act’ to provide healthy choices and fathers must stop providing unhealthy snacks to

children. Yet if the mother “*gives in*” she will be perceived as failing in her caregiving obligation to provide healthy food to her children (Murphy, 2003).

“Yes, kids can get fat while watching telly - but only if Mammy gives in to their bleating about how they don’t want salmon with steamed broccoli, but a 12-inch Hawaiian Classic from Four-Star Pizza. Timed to arrive in time for Zoey 101. Yes, kids can get fat watching telly - but only if daddy repeatedly opens up the family pack of Hunkey Dory's and plants his little darlings, with a bowl of M&Ms on the side, in front of Nickelodeon” (EH<sub>4</sub>)

Maternal nutrition quality in pregnancy and the influence of mothers’ consumption patterns and weight status were other concerns which directed blame for obesity towards women. Similar to Maher et al. (2010), there were clear indications that women in full-time employment were held accountable for childhood obesity. As a result of a rise in the number of women in employment and the number of dual-earner households in Ireland, women were also blamed for the time pressures that result in a reliance on convenient and easy to prepare rather than healthy home-cooked meals. Thus, it is mothers (and not fathers) who were portrayed as failing in their responsibilities towards their children due to the implied selfishness of not maintaining a healthy diet during pregnancy and working full-time. This depiction is consistent with the predominant representation of women in the media as operating to reinforce traditional societal roles for women (Davis, 1990). As noted by Maher et al. (2010), this portrayal serves to individualise mother and child relationships and ignores the broader social influences on diet and food choice, thus implicating mothers in the negative health outcomes of their children.

Kids whose mums work full-time when they are aged five to seven are more likely to be overweight later in life, reveals a new study... A rapid rise in childhood obesity rates in recent years has coincided with soaring numbers of working women (TS<sub>4</sub>)

### ***Emotive parent-blaming***

A persistent thread of emotive language was evident in the blaming of parents for their children's obesity. The reporting of parents' "*unconditional responsibility*" (EH<sub>1</sub>) for childhood nutrition laid the foundation for this discourse. Parents were encouraged to act as guardians of the diets and activities of children to ensure children's weight remained at a suitable level.

"Future food choices and eating habits are laid down in childhood and carried through to adulthood so it's extremely important that good eating patterns are set down early on" (SI<sub>3</sub>)

An emotive stance was widely adopted in the depiction of the duties and role of parents. Vivid and critical language was employed in the condemnation of parents for the part they were perceived to play in the escalating childhood obesity 'epidemic'. There was a preoccupation with shaming parents and eliciting emotional responses in readers via a blunt attribution of blame on those parents who were said to be failing in their caregiving role.

"If your kids look fat, then they are overweight; as a parent, that's your fault... Fat is your fault" (EH<sub>1</sub>).

'Fat' is considered an emotionally-loaded term compared to the clinical terms of 'overweight' or 'excess weight' (Wadden and Didie, 2003, Gray et al., 2011) and thus employing the term fat conveys the negative associations and social disapproval of fatness. 'Fat' was often used as a derogatory term for excess weight which could pertain to either overweight or obesity. However, it seems that differences were drawn between terms; 'overweight' was used as the medical term whereas 'fat' seemed to refer to the child's appearance and to the social construction of excess weight. Therefore, implicit in such communications is the necessity of parents to address the medical and the socially-constructed definitions of the issue so children can avoid the physical as well as the social repercussions associated with excess weight.

Crude and hostile assertions implied that excess weight in children is obvious and easy to address, insinuating parents were failing in their role at a basic level. Furthermore, the risk of children dying before their parents was a topic which attracted widespread attention and the emotive language used to frame the issue supported a sensational stance, highlighting the media's tendency toward research that lends itself to sensationalism and dramatisation (Nelkin, 1995). Sensationalism may be defined as a feature of news reporting that provokes emotional responses in media audiences (Grabe et al., 2001). The prospect of children becoming more vulnerable to traditionally 'adult' obesity-related diseases and dying before their parents was portrayed in dramatic terms as against the natural order and was said to represent parents' greatest fear and shame.

“Obese children, who will make this the first generation of children to start dying before their parents do... Growing numbers of our children will not outlive us, killed instead by an obesity epidemic that is fast approaching a reversal of generations of improved life expectancy” (IT<sub>3</sub>)

“Most ghoulish of all, they will be buried by the parents who outlive them”  
(II<sub>3</sub>)

Evocative language was employed by broadsheets and tabloids alike, speaking to a dominant manifestation of parent-blaming across the news media, communicating messages that appeal to the emotions of readers via this affect-laden narrative style. Implicating parents in causing their children disease and distress aims to induce guilt and to disgrace parents, presumably in an effort to compel parents into action. Parents were also condemned for the psychological problems that children may suffer as a result of the stigma of excess weight and for allegedly bringing hardship on their own children as a result of their feeding practices, implicated as “*killing their children with kindness*” (EH<sub>2</sub>). However, implicit in such portrayals was a need for further intervention to protect children against inadequate parenting to the point where it was suggested that these parents were guilty of negligence and child abuse. Such message framing may also have implications for public acceptance of the prospect of legal action against parents of obese children.

“On your child’s behalf, you are welcoming with open arms the chance of heart disease, and, later on, you will not be thanked for your negligence”  
(EH<sub>1</sub>)

“Punish the parents of obese kids... A group of doctors are calling for obesity in under-12s to be designated an act of neglect and for action against those parents” (EH<sub>2</sub>)

When childhood obesity is discussed in news stories through narratives that elicit disgust and shame, this may intensify the individual-blaming focus of the media discourse on obesity and may operate as a barrier to addressing wider environmental influences on obesity (Atanasova et al., 2012). Typically television news has been considered as more emotion-laden compared to print media, as print news is characterised by a more deliberative and less spontaneous type of communication (Cho et al., 2003). However, strong threads of emotion-laden language were evident in the current study conveying disgust and bestowing moral judgements on the parents of obese children, signifying the depth of feeling the issue evokes and the intertwined nature of weight and morality.

“I feel sorriest for children who are given access to all kinds of obesogenic foods as a sign of parental care and love. Other kids taunt their resulting obesity and they may avoid sporting activities that aggravates their weight” (IT<sub>4</sub>)

The news media appear to be setting out social rules and norms for good parenting and the quality of parenting may be assessed solely by looking at the child. It seems these judgements are made without conscious reflection and illustrates the powerful social structures guiding our judgements of parents as unfit. Such discourses situate poor feeding practices as within the lowest social sphere and the parents of obese children as criminal negligent and thus, impact on the social position of individuals

as their social and cultural capital may be threatened by their perceived parenting failure.

### **6.2.3 Theme 3: Judging the experts**

A number of media reports questioned the major claims of obesity research, emphasising uncertainty surrounding the obesity research findings and asserting there has been an over-exaggeration regarding the risks of obesity. This subset of articles questioned experts in the field and cited academic studies which contradict dominant understandings of obesity as a health threat. As revealed in the previous chapter, there was a clear trend toward newspaper articles using expert sources to lend credibility to their reporting of the crisis. However, this theme demonstrates that reporters questioned the expertise of the experts and their potential motives for drawing attention, or otherwise, to this crisis. Often, other expert sources would be quoted in the denouncement of the so-called ‘conventional view’ on obesity as a crisis and as a significant risk to health, serving to bolster the credibility of such views. Researcher expertise was questioned at two levels; the first concerned the conventional weight measurement techniques and the second addressed whether there was a meaningful link between weight management and health. In their critique of experts and of academic research, there was evidence of the journalists positioning themselves as experts on the experts, implying they had the tools to critically analyse the research output and opinion of obesity researchers.

“The science legitimising the war on obesity is very shaky indeed... Contrary to the conventional view, critical contributors to the obesity debate have



recently argued that the science legitimating the war on fat is highly uncertain. Some studies state that if you're fat and physically active you're more likely to live longer and be healthier than somebody who is lean and sedentary. It is not so simple as saying being fat gives you a heart attack.” (SL<sub>4</sub>)

Experts were also accused of having vested interests in the epidemic status of obesity. Obesity was described as “*this season's trendy health scare*” (IT<sub>3</sub>). Implicit in this statement was that obesity is only a temporary health threat that is likely to blow over and the alarm surrounding it to be replaced by another health concern. Pejorative descriptors of experts as ‘boffins’ and ‘eggheads’ were employed in articles and the veracity of the claims made by these experts was also brought into question. The tone of the extract suggested exasperation with experts and mistrust in their claims, implying that such claims go unquestioned when coming from expert sources.

“Grub boffins at New Zealand's University of Otago (eggheads who must be right, right?) found that because kids tend to munch on goodies during telly time, they are liable to fall prey to obesity” (EH<sub>4</sub>)

The methods used by experts were also called into question by the media. The central point of debate here concerned the measurement and categorisation of weight. In particular, the use of BMI to calculate weight was discussed and the limitations of the tool received much coverage. The BMI was described as providing a “*flawed definition of obesity*” as according to some reports, athletes and celebrities could meet the criteria for overweight and obesity due to their muscle mass (II<sub>20</sub>). As

BMI does not distinguish between muscle and fat and does not detail how fat is distributed, it was said that the scale “*over-estimates fat in athletic individuals, and underestimates it in the elderly*” (IT<sub>16</sub>) and that based on the index, “*Brad Pitt is overweight and George Clooney is obese*” (II<sub>20</sub>).

The use of celebrities as illustrations of who might be defined as obese as well as using other expert opinion to highlight that weight may not be necessary to attaining a healthy body allowed for the suggestion that the positions taken by many experts is creating unnecessary moral panic. Cohen (2002) describes moral panics as typified by the exaggeration of risks and the projection of anxieties onto a stigmatised group who allegedly threaten traditional values and social norms and thus become ‘folk devils’ in society. Reports also discussed how children have been ‘demonised’ and held accountable for obesity, where a decline in moral values is represented by a convenience culture where fast food, TV viewing, and computer games are perceived to have replaced the traditional way of life. It was questioned whether the “*moral panic over obesity may be disproportionate to the actual biological risks*” (SI<sub>4</sub>), implying that the risks associated with obesity have been overstated. The methods used by researchers in establishing the economic costs associated with obesity were also called into question, suggesting the high figures cited for the cost of obesity in Ireland had no basis in reality and was instead a vehicle to induce alarm.

“We are told that obesity costs us €500 million per year. How on earth would anybody know that? Think of a figure, double it, and then run with it to fan the flames of the latest official fear” (IT<sub>9</sub>)

In a further criticism of obesity researchers, there was discussion of the pressure on experts to conform to a scientific reporting convention, where recommendations are offered based on research. Here the journalist argues that even in the case of scientific uncertainty, there is a tendency of experts to fall back on standard recommendations regarding behavioural aspects of obesity.

“Worse, scientists - urged to mould a socially useful comment out of scientific uncertainty - often end up recommending more physical activity and self-restraint, thereby strengthening the illusion that a gluttonous, lazy youth has shaped its own downfall” (II<sub>4</sub>).

Added to this, journalists also questioned the motivations of stakeholders in obesity debates, particularly those who were perceived to have something to gain from the promotion of, or denial of, the existence of an obesity epidemic. So-called obesity ‘sceptics’, such as Paul Campos and Michael Gard<sup>10</sup>, questioned the obesity ‘orthodoxy’ and the “*vested interests in maintaining the idea of an obesity epidemic*” (SI<sub>4</sub>), including the pharmaceutical, weight loss, food, and advertising industries

“Although obesity is a health problem, Campos says it is exaggerated by an industry that seeks to promote weight-loss products” (EH<sub>16</sub>)

The reputed vested interests of the food industry were described as exerting considerable influence over policy makers through heavy lobbying practices.

---

<sup>10</sup> Paul Campos is a Professor of Law at the University of Colorado. He has written a book called *The Obesity Myth* and has contributed to a number of articles contesting the ‘epidemic’ status of obesity. Michael Gard is an Associate Professor at Charles Sturt University, Australia and has written a book called *The Obesity Epidemic: Science, Morality and Ideology*, which critically examined obesity science.

Consequently, efforts to regulate the food and advertising industries to impose new labelling laws and advertising restrictions were described as a *'fight'* between these industries and the government.

### **6.3 Discussion**

This thematic analysis employed both deductive and inductive approaches to investigate the portrayal of obesity in the Irish media. Three main themes were discussed in this chapter, the first of which was the deductively-assessed *Illness Representations* theme, examining the portrayal of obesity on the dimensions of the Common Sense Model. Next, a social constructionist lens was adopted in order to inductively examine the media sample for other significant themes. Two themes emerged from this investigation; *social rules of thumb to attribute blame* focused on the allocation of responsibility for obesity and gender roles and norms regarding weight and diet management, while *judging the experts* examined attempts to counter the pervasive expert opinion on obesity. The main finding emerging from this analysis is confirmation of the media's consistent, overarching focus on individual blame for obesity. Furthermore, the account of obesity provided by the media reflects traditional norms and beliefs about gender roles and responsibility for caregiving and weight and diet management. It appears the media are employing existing social norms to put forward a logical and 'socially acceptable' argument to explain and allocate blame for obesity.

The first theme concerned the representation of obesity via the examination of the dimensions of the Common Sense Model, that is, the media coverage of the

purported causes, consequences, and solutions to obesity, as well as discussion of the typical trajectory of obesity. Analysis suggests that the advice provided in the majority of articles was consistent with that of experts and indicates that reporting on obesity tends to align with academic research and expert opinion. Regarding the reported causes to obesity, elements of self-regulation, particularly diet and activity, were the major causes cited in media reports. This pattern is consistent with the quantitative media findings in the previous chapter and also aligns with previous studies, pointing to a dominant portrayal of the issue as a behavioural problem (Lawrence, 2004, Saguy & Almeling, 2008, Kim and Willis, 2007). However, the qualitative lens illuminated the interplay between the environment and the individual in the sample and indicated that even when environmental factors were considered in such articles, there was a persistent tendency to revert to the individual blame discourse, further highlighting the degree to which individuals are held accountable for obesity. For instance, the economic situation of the time was implicated in the obesity ‘epidemic’ regardless of whether the economy was in growth or in recession. During the ‘Celtic Tiger’ era, obesity was described as a disease of the wealthy and it was stated that prosperity was responsible for increasing body weights. Yet, during the recession many articles explicitly stated that obesity prevalence was likely to worsen as a result of a shift towards cheap and energy-dense foods and increased comfort eating, due to the stress associated with the debt and unemployment, again emphasising the resulting choices of individuals. Thus, the use of thematic analysis enabled a deep-dive into how obesity was portrayed, building on and furthering our understanding of dominant meanings of obesity in the media.

The pattern of reporting of the consequences of obesity was largely consistent with medical evidence regarding the disease and health risks associated with the condition. For instance, as reported by the Irish National Task Force on Obesity (2005), cancer, type 2 diabetes, heart conditions and high blood pressure are among the risks associated with obesity. This was mirrored in the media's reporting of the physical and disease consequences of obesity. Furthermore, the media reviewed how the Irish healthcare system is considered by many experts to be ill-equipped to handle the number of people now seeking treatment and the future burden of obesity. Such reporting allowed the media to employ expert opinion in the form of research findings to validate and support arguments made regarding individual and parental blame for obesity and childhood obesity. The media positioned themselves as holders of expert opinion by outlining the serious consequences of obesity and the need for immediate action to tackle the problem. This was further underlined in their criticism and examination of expert research. Thus, the credibility of arguments presented in the media may have been bolstered in the eyes of the public through their efforts to establish 'credentials' and cultural capital (Bourdieu, 1984).

Media attention to the psychological consequences of obesity centred on conditions such as depression and anxiety and these were associated with both the burden of carrying excess weight and the social disapproval and stigma that overweight and obese individuals encounter. Although the media acknowledged the harm, and extent, of the discrimination experienced by overweight individuals, the media served to perpetuate this stigma through their use of imagery which was intended to convey disgust and appal audiences. Furthermore, overweight and obese

employees were consistently described as a risk to business due to higher levels of absenteeism and lower levels of productivity. In this respect, the media are serving to promote social stigmas and uphold the persistence of negative stereotypes.

Reflecting the most frequently reported causes to obesity, the most frequently cited interventions also related to behavioural regulation. This coherence between illness representation dimensions is indicative of the media's alignment to Bourdieu's (1977, 1984) 'body as a project' thesis to weight and diet management. Specifically, adopting a healthy diet and lifestyle, with regular exercise and appropriate portion control were commonly cited as solutions to obesity. However, there were contradictions present in media reports concerning the value of exercise in obesity and also regarding dietary advice. This was compounded by the discussion of 'fad' diets, which tended to strongly contravene guidelines provided by the majority of nutritionists in the media. Fad diets also contravened body as a project rules around how one manages the body. For instance, easy and 'quick fix' options were met with disdain in the media and healthy weight management is considered to be a long-term project, requiring commitment and sacrifice.

Government action was frequently cited as a necessary intervention and there were calls for increased government investment to address the issue as well as calls for a cohesive, government-wide campaign. The prevalence of such reports framing the obesity 'crisis' as one in need of government intervention suggests that the environment may be amenable to some form of a societal intervention. Again, even in these calls for environmental intervention, this intervention was focused on

enabling individual to adopt healthier diets and to create an environment conducive to facilitating exercise and outdoor activity.

Advertising regulation was a feature of news reports discussing interventions purely aimed at the societal level. Such messages called for curbs on advertising or the banning of snack food advertisements targeting children. Consistent with previous research, representatives of the advertising and food industries often framed the issue as one where education, personal motivation and behaviour change are required for healthy weight management. Kwan's (2009) investigation of the frames employed by stakeholders in obesity debates revealed those representing the food industry tended to draw attention away from the need for government intervention and instead emphasised the importance of personal behaviour, such as exercise, in addressing obesity. Attention to such framings illuminates the motivations of various interest groups and allows for a critical perspective on such debates.

The nuance and insight provided by this deductive theme built on the quantitative media analysis and illustrates the value of the Common Sense Model in the examination of media representations of illness. The CSM offers a framework to examine how the issue of obesity has been portrayed, to chronicle the major concerns present in the media, to account for the allocation of blame and responsibility for obesity, and to provide an insight into how the issue may be understood by lay audiences. Analysis of this theme indicates that although the media tend toward the more sensational aspects of obesity, generally they represent the dominant causes, consequences and interventions to obesity well. Therefore, one



would expect that media consumers would have a developed understanding of the risks associated with obesity.

The tenets of the CSM assert that when an individual's illness representation evolves, it can result in an individual deciding to seek treatment or to engage in positive health behaviours, as suggested in these articles. However, this does not seem to be the case with obesity. There are a number of reasons why media messages and health campaigns may have failed to induce behaviour change. For instance, the 'prevalence heuristic' may operate where individuals do not feel at risk as there are many others perceived to be in the same situation (e.g., Jemmott et al., 1986). As the number of overweight and obese people is greater than the number of normal weight people in Ireland (61% overweight or obese compared to 39% normal weight), an individual may believe themselves to be of 'normal' weight even if this is not the case (IUNA, 2011). It has further been suggested that a failure to connect the symptoms of a condition with the consequences of a condition or symptom will result in a lack of motivation to seek attention or manage the symptom and that conditions which produce low level or slow changes may go unnoticed (Martin et al., 2003). In the case of obesity, the typically gradual increase in weight may not be perceived as significant enough to require medical attention, whereas a sudden increase in weight or otherwise startling symptoms may cause alarm and thus, be considered a threat in need of attention.

Turning to the inductive elements of the analysis, within the theme of *social rules of thumb to attribute blame*, three sub-themes were evident: the caricatured portrayal of gender, women as caregivers, and emotive parent-blaming for childhood

obesity. Similar to previous studies conducted on health discourses, there was a dominant portrayal of the traditional construction of masculinity evident, which is characterised by a 'macho' approach to living, a disinterest in health issues and a reliance on women for healthy dietary and behaviour practices (Courtenay, 2000, Gough, 2006, Gough, 2007, Sloan et al., 2010, Lyons & Willott, 1999). One striking feature of the current analysis was the extent to which this construction was evident. Previous research suggests that other 'hegemonic' masculinities are also present in news reporting (for example, Coyle and Morgan-Sykes, 1998), however, the current research uncovered only one brief mention of an alternative conception of masculinity and this conception was strongly associated with other countries and cultures. Thus, Irish men were principally portrayed as a homogenous group, with consistent apathetic attitudes to diet and health. Although Ireland has witnessed considerable sociocultural change in recent decades, clearly traditional views on gender remain prevalent and are widely expounded and perpetuated, both explicitly and implicitly, by the media. This portrayal of men's relationship with weight-management suggests that the traditional 'macho' approach to life is the culturally-dominant norm and expectation.

If the portrayal of men's attitudes to health in the media is an accurate reflection of reality, then men's denial and reticence in addressing weight issues may stem from the conception of health and diet as feminine issues. Thus, engaging in health behaviours may be construed by men as a threat to their masculinity. Health campaigns targeting men must be aware of the effect of such gender norms on health and seek to address the problems associated with such an attitude to weight management. However, recent research suggests that this 'macho' masculinity may

also impart some positive health behaviours (Levant et al., 2011). In particular, self-reliance has been associated with a higher likelihood of being motivated to avoid engaging in negative health behaviours (Wade, 2009). Therefore, a more nuanced understanding of the constructions of masculinity between and among various ethnicities may be required in order to effectively target and encourage men to partake in health behaviours in a manner consistent with both culturally-dominant and personally-relevant constructions of masculinity.

The extent to which women are held responsible for their own health and weight surveillance, as well as that of the men in their lives, was very clear in the sample. Although the media acknowledged the pressures on women to conform to a certain 'ideal' standard, the media did not address the pressure on women to look after the health of others. Instead, this appears to be a taken for granted role. Thus, it is feasible that women are affected by the expectations associated with being considered responsible for the health of others (Oakley, 1994). Previous research has demonstrated that media exposure to depictions of thinness is related to body image concern for women (Grabe et al., 2008) and this can result in internalisations of such depictions, leading to body dissatisfaction and disordered eating (Stice et al., 1994).

This theme underlines the degree to which dieting and weight management are perceived as feminine issues in the Irish media. This portrayal was bolstered by the media's stereotypical representation of men and women's relationship with weight and diet. The caricatures expounded by the media portrayed extreme versions of these stereotypes and served to emphasise the perceived differences between genders regarding weight and health issues. Whereas men were portrayed as

displaying apathy towards health and weight management, women's psychological well-being was consistently associated with weight. In the current analysis, thinness was linked to femininity and success, whereas overweight and obesity were described as undesirable and associated with unhappiness. Offer (1998) outlined the marriage market concept, which describes the social rewards associated with being slim in mate competition. This may partly account for why weight is, or is considered to be, more of a concern for women. Interestingly, although males are portrayed as a homogenous group, with the same attitude to health and diet, it appears there are separate assumptions made about women based on their weight.

A common thread in the discourse on obesity was the blame directed at women, both as the partners of men and as the mothers of children. Women were positioned as the primary caregivers, tasked with the responsibility for the nutrition and health of themselves and others. This is consistent with previous research on the representation of childhood obesity and the framing of mothers within the obesity discourse (Maher et al., 2010). Research indicates that even in dual-earner households, Irish women do more unpaid work in the home than men and that women's workload increases further among couples with young children (McGinnity and Russell, 2008). However, compared to men in households where they are the sole 'breadwinner', men in dual-earner households do more work in the home. Yet, this increasing domestic role of men is not adequately acknowledged in media reports. Instead, the media drew explicit parallels between the sharp rise in the number of Irish women in full-time employment during the economic boom and the increasing prevalence of childhood obesity, effectively implicating working women

in the so-called childhood obesity epidemic. It is important to note that the widespread attribution of blame was often attributed to academic research or experts.

Finally, the theme of *judging the experts* was manifest in a number of forms and underlined how journalists positioned themselves as experts on the experts and also served to highlight the reports that contravened the typical media rhetoric on obesity. The allegation that obesity claims have been exaggerated was one feature of such reports. Typically, vested interests were implicated in this exaggeration, as associated stakeholders were portrayed as having something to gain from the status of obesity as an ‘epidemic’. The pharmaceutical and weight-loss industries were mentioned a number of times as having the most to gain from raising alarm about the issue. Previous research has contended that it is vital to attend to the framings of various claimants in such a debate in order to illuminate their underlying motivations (Allan et al., 2010, Kwan, 2009).

Discussion of scientific uncertainty was another prominent feature in the articles analysed. The body mass index and its widespread use in obesity research was a central feature of this uncertainty. The referencing of celebrities, particularly those perceived by public as having the ‘ideal’ body type, who would meet the criteria for overweight or obese according to the BMI is likely to cast doubt and promote scepticism among lay audiences regarding the relevance and value of the tool. It is also feasible that this scepticism could become generalised to any weight measurement tool and encourage reliance on social definition of excess weight or personal perceptions of what it considered normal or average.

The use of pejorative terms directed at experts and the challenges of journalists to the methods and practices of obesity researchers may lead to mistrust in obesity experts. Such reporting of the controversy surrounding obesity and contradictory advice (evident in the illness representations theme) can lead to mistrust in nutrition and obesity experts among lay audiences. Previous research has indicated that trust in nutrition experts is a strong predictor of attention to nutritional recommendations (Bleich et al., 2007). Therefore, building trust in expert advice through the communication of consistent messages and through the public understanding of uncertainty may be an important factor in effective health communication for behaviour change. Yet, there is conflicting evidence regarding the effects of language use and uncertainty in science reporting. Burrell and Koper (1998) found that the use of powerful language and the avoidance of uncertainty significantly improved credibility in courtroom and classroom settings. However, Jensen (2008) found evidence that when media messages regarding scientific findings contained uncertainty or limitations discussed by the research scientist, both the scientist and the journalist were judged as more trustworthy. Thus, this suggests that uncertainty on the part of experts may be considered appropriate and heighten trust in certain contexts.

Yet, it could also be argued that the presence of such debates and uncertainty regarding obesity in the media may result in a 'nutrition backlash' (Patterson et al., 2001, Goldberg, 1992). Jensen (2008) advised that other forms of backlash may also exist relating to conflicting news or changing recommendations. Thus, the judging of the experts observed in the sample may be indicative of an obesity backlash. Furthermore, citizens construct their understandings of food and health around their

proximal social context, which in turn is framed by the wider social and political environment (Shaw, 2002). Consequently discourse and debate within the media will be interpreted based on current beliefs.

Given the results of this analysis, it raises the question of whether the same issues that have emerged in this investigation are also dominant in social fields and if they are representative of individual-beliefs regarding obesity. Specifically, issues including the prevalence of the individual blame discourse, trust in nutrition and obesity experts, and the gendered nature of the discourse on diet and health warrant exploration at the micro- and individual-level of inquiry. Furthermore, considering the condescending and hostile tone of some of these articles, the stigmatisation of the obese may also be prevalent in social fields. As the ‘body as a project’ position is the dominant perspective taken in the majority of articles, one may expect that those not conforming to this societal expectation to be judged harshly as possessing attitudes which are counter to the social norm. Thus, these issues will form a central part of Phase II of the analysis.

#### **6.4 Summary**

The current analysis drew a large sample of media reports from six print media publications, representing various socioeconomic groups in society based on target readerships and audiences (JNRS, 2010). This research offers the first qualitative investigation of the Irish media discourse on obesity and builds on previous work examining culturally-dominant conceptions of blame and responsibility for obesity and roles in health and illness, contributing to the growing

body of work examining media representations of health issues. However, the current research was not designed to evaluate factors related to how well the media portrayal reflects Irish people's beliefs about obesity.

The inductive qualitative approach, which adopted a more social constructionist perspective, revealed the media's reliance on individual blaming as well as a strong alignment to traditional gender and role identities, serving to reproduce meaning and expectations of health behaviours between genders. The way men are, or the dominant hegemonic masculinity, was blamed for this relationship with food and diet and the media failed to acknowledge men's increasingly complex relationship with food and diet (Monaghan, 2007, Monaghan, 2008). The lack of alternative conceptions emphasises the degree to which Irish men are portrayed as a homogenous group, with universally poor diets, ignorant of health issues, with a reliance on women for health guidance. A salient finding in the inductive investigation was the reliance on women, both as partners of men and as mothers of children, in upholding healthy practices and as the primary caregiver.

Obesity is a global issue and therefore a greater understanding of the discourse on obesity and its influences will help inform health promotion strategies and target behaviour change. This chapter provides an insight into the dominant media messages, and arguably, the dominant understanding of obesity and of where responsibility and blame lies for obesity among the Irish public. The next phase of the research will investigate the micro-level understanding of obesity using a popular online message board. However, before this is presented, the next chapter will outline the methodologies and considerations relevant to Phase II of the research.



Also, several hypotheses and propositions based on the results outlined here and in the previous quantitative media analysis chapter are proffered for the examination of the micro- and individual-level understandings and discussions of obesity.

# **Chapter 7 – Exploring the Micro- and Individual-level meanings and understandings of obesity: Methodological considerations**

## **7.1 Introduction**

Based on media analysis findings from chapters 5 and 6, a number of hypotheses and propositions will be forwarded in this chapter to guide the second phase of analysis. This second phase is concerned with examining the meanings of obesity at the micro and individual levels of inquiry. To assess micro-level meanings, a retrospective analysis of comments regarding obesity posted in an online message boards was performed and individual level beliefs and understandings were investigated using an online survey. This chapter presents the hypotheses and propositions guiding these investigations and introduces the methods, measures, and considerations relevant to the next stage of research.

## **7.2 Phase 2 propositions and hypotheses**

The overarching aim of this research is to understand the meanings of obesity at various levels of inquiry in Irish society and Figure 7.1 presents a summary of this second phase of research. As the results of the exo-level meanings were established in the previous chapters, the research now turns to the meanings in an online social field (a micro-level social environment) and those which are held by individuals.

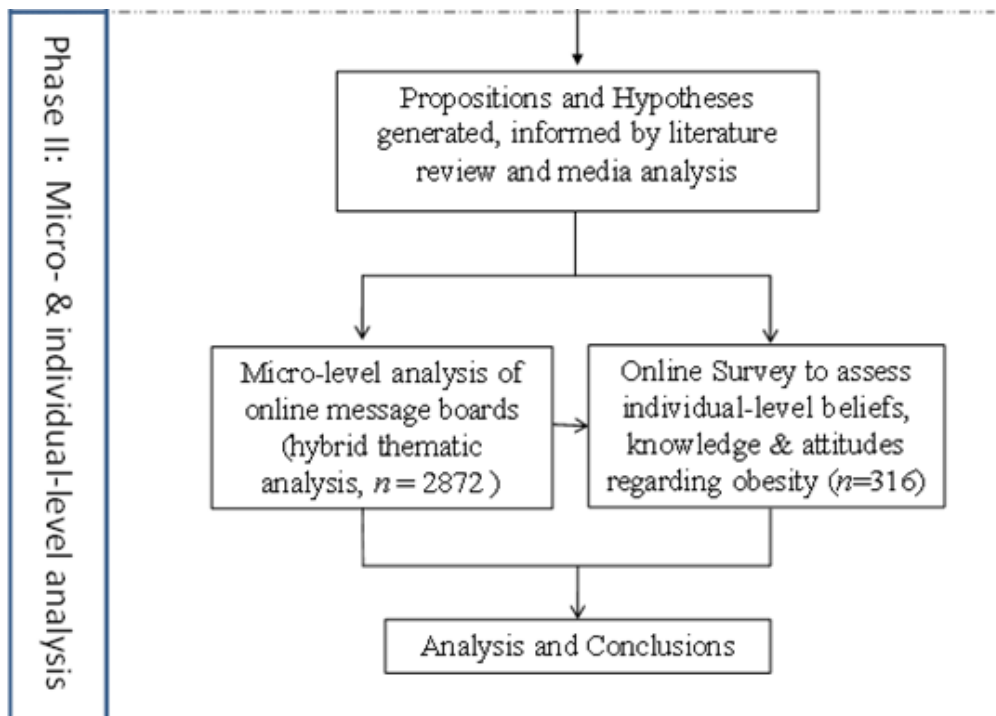


Figure 7.1 Summary of Phase II

A series of propositions and hypotheses are delineated below which guided Phase II of the analysis. A related aim of the research is to understand the alignment, if any, between dominant meanings at each level of analysis. Two propositions were forwarded to enable examination of the expected micro-level beliefs about obesity and to direct the deductive aspect of the qualitative investigation of this data set. Firstly, given the dominance of the behavioural frame in the media analysis, it is proposed that this framing and construction of obesity will also be prominent in online message board discussions of the issue. Similarly, based on the media analysis, it is expected that physical illness and disease consequences will dominate in the online discussion.

**Prop. 1:** In the investigation of the representation of obesity along dimensions of the CSM, it is expected behavioural causes and solutions to obesity (the behavioural frame) will be dominant.

**Prop. 2:** The majority of the discussion of consequences of obesity will focus on physical illness and disease consequences, rather than social and psychological issues.

A number of hypotheses were forwarded to enable examination of the expected individual-level beliefs about obesity. These hypotheses are based on the literature reviewed in Chapters 3 and 4 and on the results of Phase 1 of the current research which examined the exo-level constructions of obesity through analysis of media messages. For the purposes of clarity, the hypotheses are divided into a number of sub-sets including gender difference, self-efficacy and frame of explanation or obesity.

### **Prop 3: Gender differences**

Phase I of the research offered a valuable insight into the gendered nature of weight and obesity discourses. Based on this, it is proposed that differences will exist between men and women in their attitudes and beliefs relating to weight, diet and obesity.

#### **Prop 4: Frame of explanation for obesity**

Also of interest in Phase II of the research is an evaluation of the factors that help explain subscription to a behavioural and an environmental frame of explanation for obesity. To investigate this aspect, two regression analyses will be performed to examine the factors that might influence alignment to a behavioural or environmental frame. Based on previous research, it was expected that those who believe obesity is caused by poor dietary control and sedentary lifestyles will have more negative attitudes towards obese persons (Allison et al., 1991) and will be more likely be of a normal or underweight BMI category. Furthermore, the concepts and themes that emerged as important considerations in the media analysis are examined to assess their potential impact on frame alignments. These include trust in nutrition experts, risk knowledge, attitudes towards obese persons, body weight/shape self-efficacy and media consumption.

#### ***Weight perception***

Previous research has strongly indicated that individuals are generally poor at self-perceiving and categorising their own weight status (Powell et al., 2010, Maximova et al., 2008, Chaimovitz et al., 2008). The following hypothesis sought to interrogate the extent of this misperception in the Irish context, based on self-reported BMI categories, heights and weights of participants. As the media audit of obesity revealed weight-consciousness to be considered as a ‘feminine issue’, it was expected that women would be more sensitive to the perception of weight than men.

**H<sub>1</sub>:** *Compared with men, women will be more cognisant of what constitutes an obese body and thus, women will be more likely than men to categorise larger forms as obese.*

**H<sub>2</sub>:** *Overweight and obese BMI groups will be more likely than the normal and underweight BMI groups to underestimate their BMI weight status. Furthermore, men will be more likely than women to misperceive their weight status*

### ***Self-efficacy***

Based on previous research, it is expected that those of a higher self-reported body weight will indicate less belief and self-efficacy in perceived ability to control weight and body shape (Gallagher et al., 2006, Cain et al., 2010). This perceived efficacy may have implications for how individuals believe obesity is understood and how it should be tackled and therefore the following hypothesis was forwarded:

**H<sub>3</sub>:** *Participants in the overweight or obese categories will demonstrate lower levels of body weight/shape self-efficacy.*

As the propositions and hypotheses relevant to this next phase of analysis have been presented, it now useful to turn to an examination of the methodologies employed during this second phase. This chapter will detail the hybrid qualitative analytical approach in the examination of comments posted to an online message board, which investigated micro-level meanings of obesity. An online survey constituted the final empirical stage and examined individual-level understandings of obesity. As in Phase I, the Common Sense Model of Illness Representations

(Leventhal et al., 1998, Leventhal et al., 1980) continues to underpin the studies in this thesis, forming the common theoretical thread at each stage of the research. This approach was useful in that results from various studies could later be compared, based on understanding the meanings for obesity at various levels in society. This chapter will first turn to the qualitative analysis of the micro-level construction of obesity. The second phase of the research framework is presented in Figure 7.1 to provide an overview of the research pieces conducted at this stage.

### **7.3 Micro-level investigation: Qualitative analysis of message board comments**

This social media sample sought to examine the discourse on obesity and to gather insights into the meanings of obesity within an online social field of interaction. The sampling and analysis of this type of data is a relatively novel pursuit in the social sciences and therefore the chapter will first detail the advantages and challenges associated with research of this nature. Limitations and ethical considerations of the retrospective analysis of online messages will also be reflected on before an account of the approach taken in the current research is outlined.

#### **7.3.1 Social media and online interaction**

The internet and the evolving world of online communications offer considerable opportunities for social and health research (BPS, 2007). Although internet research methods are still in their infancy by comparison to more established research strategies, it is widely acknowledged that the internet provides a valuable site for social research (Hookway, 2008). The examination of online health

discourses via 'social media' is one such avenue of research which is beginning to attract the attention of social scientists. There are many different facets of social media through which individuals can communicate including blogs, internet message boards, and instant messaging chat rooms. The growing accessibility of the internet has led to a substantial increase in the uptake of social networking sites, such as *Twitter* and *Facebook*, whereby online users can communicate and virtually 'connect' with one another.

Another popular sphere of social media is internet message boards, also often referred to as discussion or bulletin boards. Such sites provide an asynchronous forum for discussion for site users usually through the use of a screen name or online alias, which provides a degree of anonymity for users if desired. Message boards have been studied for their facilitation of health discussions (Cousineau et al., 2006) and their ability to provide support to users on health issues (Lieberman and Goldstein, 2005). Gerhards and Schafer (2010) describe message boards and blogs as features of the internet-based public sphere, where there is openness to participation and can have moderate impact on society, compared to the high impact of the mass media. Public message boards can have from a few to many thousands of members and contain multiple 'threads' on various topics, where a thread represents a single conversation, usually on a specific topic. Private message boards also exist where users are invited to register and discussions may be 'locked' or limited to those users with permission to post from the board moderator. Such messages boards are typically of a sensitive and personal nature and interactions would not be publically available for viewing.



The internet is becoming a fixture of everyday life for many people around the world. Research suggests that in 2010, 66% of the Irish population were regular internet users (ITU, 2010) and studies in the US indicate that 80% of internet users look for health information online (Pew Internet and California Healthcare Foundation, 2011), underlining the importance of investigating such online commentaries on obesity. An examination of online discourses is important in order to understand the aspects of obesity and concerns encouraging people to discuss the issue online. In the current study, it is lay citizen discussions of obesity in social media that is of particular interest. Internet message boards offer a rich and interesting data set to health researchers and facilitates a deeper understanding of people's perceptions, beliefs, attitudes and behaviours regarding health issues. Conrad and Barker (2010) describe the analysis of internet data as an intriguing direction for future research on the social construction of meaning around illness. They call for research to build on existing knowledge by examining online interactions to better understand lay illness experiences, meanings and knowledge.

Netnography is a popular methodological approach to studying online interactions. Netnography emerged in the 1990s and was intended for use in online market research (Kozinets, 2002). Kozinets (2002) is the pioneer of the netnography (or online ethnography), which applies ethnographic techniques to the study of online cultures and communities. It is considered a more natural and less intrusive approach than focus groups or interviews as it uses information in publically-accessible forums to understand the needs, concerns, opinions and influences of online actors. However, netnography is limited by the public availability of such

online discussions and also by the typically narrow demographics of those using online forums.

Although netnography has received much attention, Langer and Beckman (2005) argue that netnography should not be the only methodology available for online research. They argue that the methods, principles, and ethics of mass media content analysis could easily be applied to online communication research. However, they highlight the differences between the public mass media and the comparatively grey area of online communication, where often, the decision of whether online discussions are considered public or private must be evaluated on a case-to-case basis. There is considerable debate regarding the ethics of online research and as of yet, there is no consensus regarding what is appropriate, what constitutes the designation of discussions as public or private and whether informed consent is necessary if online postings are considered public (BPS, 2007). These considerations will be discussed in detail shortly after first examining the benefits and shortcomings of research of this nature.

There are many advantages of online research, most notably the benefit of being able to 'lurk' online without detection if covert observation is required (Mann and Stewart, 2000). Furthermore, the use of screen names and aliases may induce posters to be more open and honest in their discussions and therefore online research may prove a richer data source for sensitive topics (Solomon, 1996). Web 2.0 offers a large volume of publically available retrospective data, often preserved in searchable archives, rendering online data collection cheap, efficient, and unobtrusive (BPS, 2007). However, the report of the BPS Working Group

highlighted a number of difficulties inherent in online research (2007). For instance, there is a lack of researcher control over the participants' environment in online research and when an investigation is concerned with pre-existing communications, the researcher is limited by what discussions have already occurred. This may make efforts to obtain informed consent particularly challenging. In many situations, the participant is likely to be unidentifiable and difficult, if not impossible, to contact and thus researchers must plan for such eventualities.

### **7.3.2 Ethical considerations**

The examination of online social media is a relatively new approach in the social sciences and as of yet, there is no consensus regarding the major ethical issues of anonymity, informed consent, assessing whether communications should be considered private or public (Brownlow and O'Dell, 2002, BPS, 2007). However, a number of academic papers have attempted to provide a framework for conducting ethical online research (Waskul and Douglass, 1996, Schrum, 1995, Eysenbach and Till, 2001, BPS, 2007). According to the BPS guidelines (2007), online research requires the application of the same controls that apply to traditional research and these same considerations should be given to participants, whether they are directly engaged in research or are merely being observed. However, it is widely acknowledged that due to the myriad research designs and perspectives, there can be no definitive set of rules to be adhered to (BPS, 2007, Eysenbach and Till, 2001). Generally, the task falls to the researcher and to ethics committees to decide on best practice, based on the sensitivity of the topic and the data of interest.

The current research drew on the guidelines of Kozinets (2002) and the BPS Working Group (2007) for online research. However, it was believed that if the researcher was to reveal her presence, this could unduly impact future interactions, when future postings were not of interest. Therefore, as only publically-accessible retrospective conversation threads were of interest, the researcher remained anonymous. The BPS Working Group advises that composite and paraphrased quotes should be employed in the reporting of the analysis. This approach is consistent with thematic analysis and therefore was adopted for the current research. Furthermore, the screen names employed by board members were treated the same way a person's real name would be treated, in that anonymity was paramount. Ethical approval for the sampling and analysis of online message board comments was granted by the UCC Social Research Ethics Board (see Appendix A). A thorough account of the ethical issues considered and addressed in this research is available in Appendix E.

### **7.3.3 Data source and sample**

The consideration of the ethical issues discussed by Kozinets (2010) and the BPS Working Group (2007) informed the selection of the message board chosen for the current analysis. Kozinets (2002) advises that communities should be favoured for investigation if they have the following characteristics: a user segment which is relevant to the research question, a high "*traffic*" of postings, a large numbers of individual posters, more detailed or rich data, and more between-member

interactions. Based on these considerations, the popular Irish-based online forum [www.boards.ie](http://www.boards.ie) was used in this analysis.

As of early 2012, the site had 422,000 registered accounts, more than 1.3 million threads and more than 20 million posts, covering a wide variety of topics and interests. The message board archives posts and threads as far back as 2003 and therefore it provides a useful resource in which to retrospectively examine the public discourse around obesity in various years of interest. Most of the forums are publically accessible without formal registration. The forums that were 'locked' to non-members or unavailable to certain board members were not included in the analysis, such forums are clearly intended as containing private communications and therefore were deemed unsuitable and unavailable for analysis.

A search was conducted within *boards.ie* for all posts containing the terms 'overweight', 'obese' or 'obesity' for each year of interest: 2005, 2007 and 2009. These years were chosen to align with the years sampled in the multiple media analysis. Within each annual data set, a random number generator was used to sample individual posts. Then, the researcher reverted to the original thread where the comment was posted and included this whole thread in the analysis in order to maintain important contextual information and to chart the discussion as it progressed. This process continued for each year of analysis. As each discussion thread contained between one to several hundred comments, there could be no typical sampling strategy employed or any limit placed on the random sampling process. Instead, through a process of trial and error in data saturation (Sandelowski, 1995, Pope et al., 2000), a file containing approximately 300 pages of single-spaced

12-point font of copied threads was considered a cut off point for each year analysed. The researcher copied the threads and comments into *Microsoft Word* (to subsequently import into *NVivo9* for coding and analysis). The final data set included a total of 2872 comments over the three years, after irrelevant and off-topic comments were excluded. A breakdown of this sampling is available in Table 7.1.

Table 7.1 Message board sampling

<b>Year</b>	<b>Total number of comments</b>	<b>Total number of comments analysed (after excluding irrelevant comments)</b>
<b>2005</b>	939	833
<b>2007</b>	866	741
<b>2009</b>	1444	1298
<b>Total</b>	3249	<b>2872</b>

#### **7.3.4 Data analysis**

The social media data were analysed using a ‘hybrid’ thematic analysis, comprising of both inductive and deductive elements. The first stage was deductive in that it sought to address the two propositions forwarded earlier; to examine portrayal and discussion of obesity based on the dimension of the CSM and to investigate the prevalence of debates and controversies on the topic. Furthermore, propositions emerging from Phase I of the research were examined in this micro-level sample analysis. However, new codes and themes were expected to emerge during an inductive phase of analysis. This inductive process followed was discussed previously in Chapter 4, section 4.2.2.2.

Following the analysis of the micro-level meanings of obesity, an analysis was undertaken to examine individual-level meanings, attitudes and beliefs regarding obesity. This study, which constituted the final empirical stage of the research, was conducted via an online survey and the aims and design of the study, details of the sample and the procedures involved are outlined in the subsequent sections.

#### **7.4 Individual-level analysis: Survey to assess beliefs, knowledge and attitudes**

As a final stage to the research, a survey was designed to examine individual-level meanings of obesity to facilitate and to understand whether dominant media meanings and frames of obesity aligned with public understandings. As evident in the Research Framework presented earlier (Figure 7.1), hypotheses were generated based up the literature review and findings from the media analysis. These in turn informed the content of the research instrument. The survey comprised a number of standardised measures, which have been widely used previously in research. Also, others were created for the purposes of this research to tap into concepts of interest, for instance, gender norms and roles regarding diet and weight management and attitudes towards the issue of obesity. However, aligning to the Common Sense Model, three established scales were included to assess individual beliefs on the cause, consequence and solution dimensions. Furthermore, relating to findings on obesity stigma in the media analysis, a validated scale to assess individual-level attitudes towards obese persons was also included in the survey instrument. The following sections outlines the survey design considerations, the materials and constructs employed, as well as participant sampling and data screening procedures.

### **7.4.1 Survey design**

Measures used in the survey included the Beliefs about Obesity Scale and Attitudes Towards Obese Persons scale (Allison et al., 1991), Obesity Risk Knowledge questionnaire (Swift et al., 2006), the Solutions to Obesity Scale (Ogden and Flanagan, 2008), and the Body Weight/Shape Self-efficacy Scale (Cain et al., 2010). Also included was an adapted version of the Nutrition Backlash Scale (Patterson et al., 2001) to evaluate expert trust and a measure to assess gender stereotyping beliefs, devised for this stage of inquiry based on dominant issues observed in the media analysis. Questions on demographic characteristics and media consumption were also included (full survey available in Appendix G).

### **7.4.2 Survey Materials**

This section turns to an examination of the individual constructs included in the final survey instrument. Table 7.2 summarises each construct and describes how they were employed in hypothesis testing. Due to time constraints, administration of a full-scale pilot was not possible. Instead, an initial check of factor structure was completed using the first fifty participants in the study to ensure factor structure was reliable and that the underlying structure of adapted scales was not altered and that newly developed scales demonstrated a structure suitable to address the aims of the individual construct<sup>11</sup>. These early analyses did not present any causes for concern and thus, the final factor and reliability analyses for all 316 participants are presented in the following sections.

---

<sup>11</sup> Due to the generation of new scales for hypothesis testing, this survey also acted as a pilot test of these measures.



Table 7.2 Summary of constructed included in survey, including factor breakdown and scale amendments

Constructs and Sources	Assessing	Number of factors (scale reliability $\alpha$ )	Amendments
<b>Beliefs About Obesity Scale</b> (Allison et al., 2001)	Beliefs about the causes of obesity	2 factors: 1) Behavioural causes ( $\alpha=0.86$ ) 2) Non-behavioural causes ( $\alpha=0.48$ )	Two additional items: -People often become obese because it is too expensive to maintain a healthy diet -Time pressures associated with modern life means that people can become obese because they have to choose convenient and quick options
<b>Obesity Risk Knowledge (ORK-10;</b> Swift et al., 2006)	Knowledge of consequences of obesity	1 factor: Obesity risk knowledge ( $\alpha=0.72$ )	-
<b>Solutions to Obesity Scale</b> (Ogden and Jubb, 2008, Ogden and Flanagan, 2008)	Participants evaluation of how helpful various solutions to obesity are	3 factors: 1) Behaviour and food changes ( $\alpha=0.81$ ) 2) Environmental initiatives ( $\alpha=0.68$ ) 3) Medical solutions ( $\alpha=0.59$ )	7 additional items relating to possible solutions for obesity, including items regarding taxes on unhealthy food, food availability, advertising, portion size, reducing fat content of foods, access to healthy foods and nutritional information on packaging.
<b>Attitudes towards Obese Persons</b> (Allison et al., 2001)	Assessment of individual attitudes towards obese individuals	4 factors: 1) Social difficulties ( $\alpha=0.79$ ) 2) Personality characteristics ( $\alpha=0.68$ ) 3) Abnormality ( $\alpha=0.63$ ) 4) Self-esteem ( $\alpha=0.55$ )	-
<b>Body weight/shape self-efficacy scale</b> (Cain et al., 2010)	Assesses self-efficacy in body weight and shape management	2 factors: 1) Avoidance & inability to control weight ( $\alpha=0.55$ ) 2) Resilience ( $\alpha=0.55$ )	-

<b>Expert Trust Scale</b> (adapted from Nutrition Backlash Scale, Patterson et al., 2001)	Assesses trust in nutrition/weight expert opinion and research	1 factor: Expert trust ( $\alpha=0.71$ )	2 items added to the scale -Healthy eating guidelines change too much -Scientific debate about diet leads me to doubt dietary advice
<b>Gender Roles &amp; Responsibility for Obesity Scale</b>	Examines gender roles and responsibility norms regarding obesity and weight management	3 factors: 1) Gender diet norms ( $\alpha=0.82$ ) 2) Parental blame for childhood obesity ( $\alpha=0.84$ ) 3) Social norms ( $\alpha=0.66$ )	Final scale items ( $n=16$ ) generated from list of 19 initial items, all based on media analysis results.
<b>Attitudes Towards the Issue of Obesity Scale</b>	Examines individual perceptions of seriousness of issue	1 factor: Perceived seriousness of the issue of obesity ( $\alpha=0.74$ )	Final scale items ( $n=3$ ) retained after initial list of 6 items reduced down following pilot study. Items based on media analysis.
<b>Personal Weight Satisfaction Scale</b>	Developed to gauge how participants felt about their own weight status	1 factor: Weight satisfaction ( $\alpha=0.75$ )	Six items originally pilot tested and five-item scale retained for use in analysis. Items based on previous literature and on media analysis results
<b>Contour Drawing Scale</b> (Thompson and Gray, 1995)	Examining the social perception of obesity	-	-
<b>Media Consumption</b>	Assesses media use and consumption level	-	-
<b>Frame Alignment</b>	Examines alignment to a behavioural, environmental and overall explanation of obesity	Scales developed from BAOP and Solutions to Obesity sub-scales	-

Due to the nature of the data collection process, there was no missing data for most of the constructs as participants were required to provide an answer for each item before progressing in the survey. Therefore, this allowed for summated scores and associated means and standard deviations to be computed and used in the analyses<sup>12</sup>. This section summarises each of the scales employed in the survey and extended information on each construct, including the associated factor analyses, is available in Appendix F.

### ***Beliefs about Obesity Scale***

The Beliefs about Obese Persons Scale (BAOP) is an 8-item 6-choice Likert scale (from -3 to +3) that measures the extent to which an individual believes that obesity is under the control of the obese person. This scale was included in the survey to align with the causes of obesity dimension of the CSM and to provide insight into participants' understandings of the drivers of obesity. The scale has been used widely in research conducted in the UK and USA (Parker et al., 1995) and its reliability and factor structure have been confirmed (Allison et al., 1991). The scores were summed, after the reverse scoring of items where appropriate, to achieve a final BAOP score. Higher scores on the scale indicate the belief that obesity is outside the control of the individual. Previous research has found good reliability on the scale, Cronbach's alpha ( $\alpha$ ) of between 0.65 and 0.82 (Allison et al., 1991). Kline (1999)

---

<sup>12</sup> Missing data was only an issue on three open-ended questions (reporting employment type, weight, and height). The processes for dealing with this will be discussed in the data screening section.

asserts that the general acceptability of scale reliability is above 0.7 and considered very good above 0.8.

Two additional items were included in the scale to measure the perceived environmental impact on obesity ('People often become obese because it is too expensive to maintain a healthy diet' and 'Time pressures associated with modern life means that people can become obese because they have to choose convenient and quick options'). These items were added in order to assess the degree to which an individual believed that the environment was a cause of obesity. This decision was based on the earlier findings of the media audit, which indicated that the discussion of environmental drivers of obesity were frequent in media coverage of obesity.

Results suggested that component 1 represents behavioural causes of obesity (35.28% of variance) and component 2 reflects non-behavioural causes of obesity (19.7% of variance). Reliability analyses were conducted on these sub-scales. Reliability was high for factor 1 and fair for factor 2 with Cronbach's alphas of 0.86 and 0.48, respectively. In the current study, the mean score<sup>13</sup> achieved on the 7-item behavioural causes sub-scale was 1.13 ( $s=1.3$ , range from -3 to +3) and the mean of the 3-item non-behavioural causes scale was -0.25 ( $s=1.33$ , range from -3 to +3).

---

<sup>13</sup> The mean score (and not the summated mean) was used for the Beliefs about Obesity Scale and the Solutions to Obesity scale, as these scores were then used to compute frame alignment scores. Thus, in order to calculate overall frame alignment, this required sub-scale scores that accounted for the fact that there may have been an unequal number of items loading onto various dimensions. More detail on these frame alignment scales is provided later in the chapter.

### ***Obesity Risk Knowledge (ORK-10; Consequences of obesity)***

The ORK-10 scale is a 10-item scale measuring knowledge of obesity-related health risks (Swift et al., 2006). Respondents are required to judge whether statements are ‘True’ or ‘False’, or else to report they ‘Don’t Know’ by ticking a box. The Obesity Risk Knowledge scale is designed to tap into individual-level knowledge regarding the consequences of and risks associated with obesity. In the current research, it was employed to gauge individual’s knowledge and beliefs about the consequences of obesity, aligning with the consequences dimension of the CSM. Scores on the scale can range between 0 and 10 with higher scores indicating higher levels of knowledge, that is, one point is scored for each correct response. Research has indicated that the scale demonstrates good reliability as a knowledge-based scale as Cronbach’s alpha greater than or equal to 0.7 (Swift et al., 2006).

Results of factor analysis indicated that one factor was present, explaining 29.5% of the variance (see Appendix F). Scale reliability was high with a Cronbach’s alpha of 0.72. The mean score in the current study was quite low at 2.86 ( $s=1.93$ , range 0-10).

### ***Solutions to Obesity (adapted from Ogden et al. 2001)***

The Solutions to Obesity Scale employed in the current analysis was based on that used by Ogden and colleagues (Ogden and Jubb, 2008, Ogden and Flanagan, 2008) with an additional seven items. The questionnaire asks participants to rate items relating to the efficacy and helpfulness of a number of ways of managing and

treating obesity. These solutions are based on existing behavioural, environmental and medical interventions in obesity and were rated on a 5-point Likert-type scales ranging from not at all helpful (1) to very helpful (5). The reliability of these items for each form of solution was assessed previously using Cronbach's alpha and reliability was between 0.6 and 0.8 for each sub-scale (Ogden and Flanagan, 2008, Ogden and Jubb, 2008). Each set of individual items are added to create a mean score for each of the solution sets. However, in the current analysis the scale was extended to include 7 additional items relating to possible solutions for obesity, including items regarding taxes on unhealthy food, food availability, advertising, portion size, reducing fat content of foods, access to healthy foods and nutritional information on packaging. Results of factor analysis on the scale are presented in full in Appendix F.

The results indicated that three components had eigenvalues greater than 1 and in combination explained 60.4% of the variance. The items that cluster on the same components suggest that component 1 represents behaviour and food changes (31.8%), component 2 reflects environmental initiatives (16.2% of variance) and component 3 represents medical solutions to obesity (12.4%) Reliability analyses were conducted on these sub-scales. Reliability was high for components 1 and 2 and good for component 3, with Cronbach's alphas of 0.81, 0.68 and 0.59, respectively. The mean score on first sub-scale, behaviour and food changes was 4.15 (7 items;  $s=0.78$ , range 1-5), on the environmental initiatives sub-scale (3 items) was 3.07

( $s=1.02$ , range 1-5) and the mean was 2.41 on the medical solutions sub-scale (2 items;  $s=1.85$ , range 1-5).

### ***Attitudes toward Obese Persons Scale***

The Attitudes toward Obese Persons Scale (ATOP) is a 20-item 6-point Likert-type scale (-3 to +3). Scores can range from -60 to +60 and higher scores on the scale indicate more positive attitudes towards obese persons. Previous research has indicated high levels of reliability, with Cronbach's alphas of above 0.8 (Allison et al., 1991). The results of factor analysis (Appendix F) indicated that four components had eigenvalues greater than 1 and in combination explained 48.7% of the variance (first component 17.65%, second 12.72%, third 10.93% and fourth 7.44%). Similar to Allison et al.'s findings (1991), the items that cluster on factor 1 represents the belief that *obese persons have social difficulties*, factor 2 reflects *personality characteristics of obese persons* and factor 4 represents *self-esteem of obese persons*. However, the third factor, not previously identified seems to indicate a dimension relating to *obese persons as abnormal*. Reliability analyses were conducted on these sub-scales and the scales demonstrated Cronbach's alphas of 0.79, 0.68, 0.63 and 0.55, respectively. In the current study, the summated mean score on the belief that *obese persons have social difficulties* scale was 24.54 ( $s=6.98$ , range 8-48), on the *personality characteristics of obese persons* sub-scale was 18.39 ( $s=4.95$ , range 6-33), on the *obese persons as abnormal* dimension was

13.1 ( $s=3.37$ , range 4-23) and 7.76 on the *self-esteem of obese persons* sub-scale ( $s=2.15$ , range 2-12)

### ***Body Weight/Shape Self-efficacy Scale***

Body Weight/Shape Self-efficacy was measured using the general subscale (17 items; 1 representing ‘strongly disagree’ to 5 representing ‘strongly agree’) of the Self-Efficacy Scale previously modified to reflect self-efficacy in the appearance/body shape domain. Previously, the scale has demonstrated good reliability (Cronbach’s  $\alpha$  of 0.93) and validity (Cain et al., 2010). Following factor analysis using varimax rotation (see Appendix F), the items that cluster on the same components suggest that the first component represents *avoidance and inability to effectively control body weight/shape* and component 2 reflects *body weight/shape management resilience*. Reliabilities were very high for the sub-scales, with Cronbach’s alphas of 0.90 and 0.85, respectively. The summated mean score was 35.48 for the 11-item *avoidance and inability to effectively control body weight/shape* sub-scale ( $s=8.3$ , range 16-55) and 19.55 for the 6-item *body weight/shape management resilience* sub-scale ( $s=4.54$ , range 6-30).

### ***Expert Trust Scale***

Items from this questionnaire were used to generate a measure of uncertainty and mistrust in experts and in expert communications on food and diet (Patterson et



al., 2001). Informed by the media analysis, four scale items were adopted from this scale for use based on their relevance to the investigation. Items excluded from this analysis included those relating to feelings associated with food and eating, items relating to low-fat options, and government initiatives. The researcher added items to the scale on attitude to changing dietary guidelines (“Healthy eating guidelines change too much”) and the effect of scientific debate on trust (“Scientific debate about diet leads me to doubt dietary advice”). Previously, the complete Nutrition Backlash scale has demonstrated good reliability (Patterson et al., 2001). The construct was measured on a 5-point Likert-type scale from ‘strongly disagree’ (1) to ‘strongly agree’ (5) and a higher score indicated a higher level of backlash (possible scale range 6-30). Following the pilot study, one scale item was excluded as it reduced the overall reliability of the scale (“Research on nutrition is going to help me live longer”). Thus, in the final survey a 6-item assessed expert trust.

Factor analysis (Appendix F) revealed that one component had an eigenvalue greater than 1 and this component explained 41.14% of the variance. The items that cluster confirm that the factor represents expert trust. Reliability was high for the scale, with a Cronbach’s alpha of 0.71. The summated mean scale score was 18.61 ( $s=3.82$ , range 6-30).

### ***Gender Roles & Responsibility for Obesity scale***

The items in this instrument were based on common stereotypes and descriptions of men and women’s relationship with diet and food revealed in the

media analysis. As this scale was designed by the researcher, a long list of 19 items was drafted and selection of items for inclusion in the final scale was based on a pilot test on a convenience sample ( $n=17$ ). Preliminary analyses of scale items included examination of the distribution of responses, oral and written feedback from participants on scale comprehension and a reliability scale check was conducted. Three items which suppressed scale reliability were excluded from the final scale. Thus, 16 items were retained for the analysis, with items scored on a scale of 1 to 5, where 1 represented 'strongly disagree' and 5 represented 'strongly agree'.

Factor analysis then conducted on the scale items using orthogonal varimax rotation suggested a three factor solution (Appendix F). The items that cluster on the same components suggest that component 1 represents gender diet norms for women and men, component 2 reflects parental blame for childhood obesity, and component 3 represents social norms. Reliabilities were very high for the gender diet norms and parental blame sub-scales with Cronbach's alphas of 0.82 and 0.84, respectively. The third component (social norms) was demonstrated good reliability with a Cronbach's alpha of 0.66. The summated mean score on the 9-item gender norms sub-scale was 29.32 ( $s=6.08$ , range 9-43), on the 4-item parental blame scale was 14.23 ( $s=3.5$ , range 4-20) and 7.88 on the 3-item social norms scale ( $s=1.62$ , range 2-10). These factors will be used to examine any variance in perception between the genders regarding attitudes towards diet, the responsibility of parents and alignments to dominant social norms.

### *Attitudes Towards the Issue of Obesity Scale*

A new scale was developed by the researcher to gauge how serious participants believed the issue of obesity to be. A list of six items was originally drafted and selection of items for inclusion in the final scale was based on a pilot test on a convenience sample ( $n=17$ ). Preliminary analyses of scale items included examination of the distribution of responses, oral and written feedback from participants on scale comprehension and a reliability scale check was conducted. Three items which suppressed scale reliability were excluded from the final scale. The final scale comprised three items scored on an 8-point Likert-type scale ranging from 0-7 (potential scale range 0-21). Scores were summated and a higher score indicated that an individual believed obesity to be a very serious issue. Due to the small size of the scale, an 8-point range was included to more accurately gauge differences in perceived seriousness of the issue, as there is concern five-point scales may be too restrictive, especially for new scales (Finstad, 2010, Preston and Colman, 2000).

Factor analysis on the scale revealed that one component had an eigenvalues greater than 1 and explained 66.95% of the variance (see Appendix F). It is suggested that this component represents the perceived seriousness of the issue of obesity. A reliability analysis was conducted on the scale and results indicated that reliability was high, with a Cronbach's alpha of 0.74. The summated mean scale score in the current study was 11.4 ( $s=3.26$ , range 0-21).

### ***Personal Weight Satisfaction Scale***

Based on the findings of the earlier qualitative work, it appears there is a significant unhappiness with body weight and shape and pressure toward a slim body ideal. Thus, a new scale was developed to gauge how participants felt about their own weight status. Six items were initially developed and subject to a pilot test ( $n=17$ ). The same procedure as for the *Gender Roles & Responsibility for Obesity Scale* and following this, one item was omitted as it was negatively influencing reliability (“My satisfaction with my weight is closely linked to my general happiness”) and a five-item scale was retained for inclusion in the survey.

A higher scale score indicated a higher level of satisfaction (1=strongly disagree, 5=strongly agree). Scores were reversed where appropriate and thus, scale scores could range from -15 to +10. Factor analysis indicated a one-factor solution (see Appendix F), explaining 51.08% of variance. It is suggested that the extracted component represents weight status satisfaction. A reliability analysis was then conducted on the scale and results indicated that reliability was high, with a Cronbach’s alpha of 0.75. In the current analysis, the summated mean score was 3.58 ( $s = 3.95$ , range -13 to 7).

### ***Media Consumption***

Based on the tenets on agenda-setting theory (McCombs and Shaw, 1972), participants’ media consumption level is predicted to affect how serious they believe the issue of obesity to be and framing theory takes this influence a step further and

contends that how an issue is presented in the media will affect how people think about and understand an issue (Entman, 1993, Iyengar, 1991). Therefore, items were included in the survey in order to provide a general indicator of participants' media consumption level. Respondents were asked to assess their average daily use of a range of media channels (television, reading newspapers, reading online news, listening to the radio, using social media, reading magazines) on a scale from 1-6, where 1 represented 'never or rarely' and 6 represented 'more than 4 hours' (potential scale range 6-36). These figures were aggregated for each individual to give an indication of their overall level of media consumption. The summated mean scale score was 14.63 ( $s=3.87$ , range 6-28).

### ***Social perception of obesity***

In order to assess what participants believed constituted an obese body, the Contour Drawing Rating Scale was included in the survey (Thompson and Gray, 1995). Participants were asked to record which of the drawings of male and female body shapes they believed would be categorised as obese, where the first drawing represents the thinnest figure and the ninth drawing the largest. Figure 7.2 illustrates these drawings. The drawings were designed to represent a progressive increase in waist-to-hip ratios (Thompson and Gray, 1995). As part of Thompson and Gray's (1995) original study, participants were asked to report which figures they believed to be obese. Their results revealed that participants were most likely to identify the seventh, eighth and ninth male figures as obese (17.7%, 51%, 88.2%) and the

seventh, eighth and ninth female drawing were similarly perceived as obese (15.7%, 53%, 90.2%). This same method is adopted in the current research. Although these drawings were not designed to be representative of a certain weight category or status, such analysis will provide a useful indicator of individual assessment of the social definition of what constitutes obesity as well as gender differences in perception of obesity.

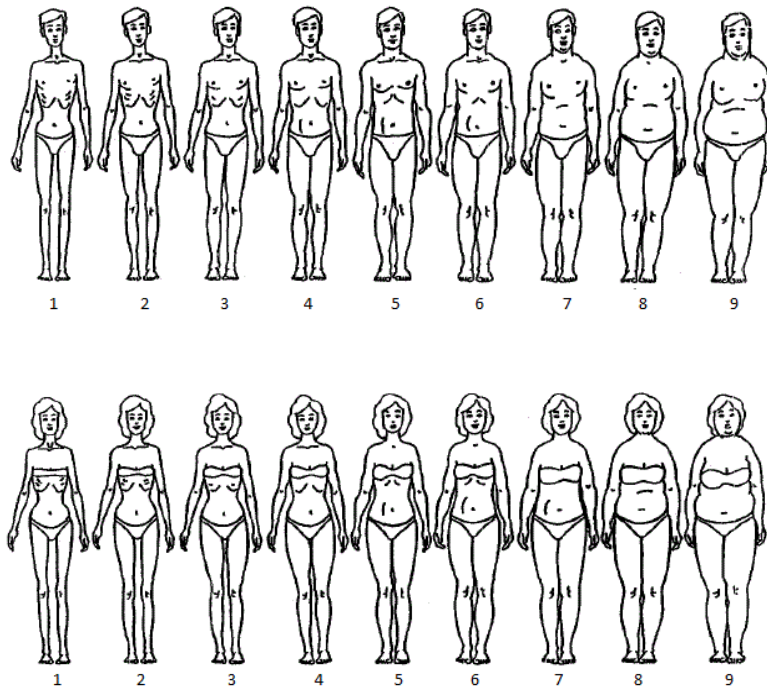


Figure 7.2 Contour Drawing Rating Scale drawings (reproduced with permission; Thompson and Gray, 1995)

### ***Frame Alignment (Individual explanation for obesity)***

Two new variables were computed for hypothesis testing to place each individual at one point on a scale denoting environmental and behavioural frame alignment. These single scales were calculated using the summed endorsement of causes and solutions from the behavioural and environmental dimensions of the Beliefs About Obesity Scale and the Solutions to Obesity Scale. Regarding the Behavioural Frame Alignment Scale, scores could range from -2 to 8 and the mean score in the current analysis was 5.4 ( $s=1.99$ ). The mean score on the Environmental Frame Alignment score was 3.97 ( $s=1.69$ , range -2 to 8).

### **7.4.3 Data screening**

Following best practise guidelines for data screening (Tabachnick and Fidell, 2007b, Allison, 1999, Gravetter and Wallnau, 2004, Hair et al., 2010), data were inspected using the explore function in PASW18 to assess each variable for normality of distribution, to locate any significant outlier, search for missing data and to investigate if values for skew and kurtosis were significantly different from normal. The standardised scores for skew and kurtosis were computed for each variable to assist in determining whether data transformations were necessary<sup>14</sup>. Each variable was examined individually for deviations from normality. Efforts were

---

<sup>14</sup> Assessments of normality also used the Kolmogorov-Smirnov (KS) test for each variable. However, this test has limitations as with larger samples, the result may be significant even if the distribution is not significantly different from normal. Thus, this statistic was not solely relied upon if other assessments of normality contradicted a significant KS result.

made to transform the ATOP and the ORK-10 due to the higher than normal values for kurtosis, however, transformations did not significantly improve normality and thus, the original data were analysed. However, the sub-scale of social norms on the Gender Roles & Responsibility for Obesity scale was transformed via reflection and using the square root which significantly improve the distribution. All other variables demonstrated distributions close to normality. Tabachnick and Fidell (2007b) advise that data points with standardised scores in excess of 3.29 are potential outliers, however, a number of large outliers are to be expected in large data sets. Scales were re-evaluated for the presence of outliers and influential cases following transformations, however, there were no data points suggesting cause for concern.

Due to the design of the survey, participants were required to answer each question before they could progress and therefore there were very few cases with missing data in the final data set. The only sections of the survey where this could not be enforced were the data entry points for the reporting of occupation, weights and heights, as participants had the option of entering these using a choice of measurement categories and thus, the response space was open-ended. As a result, there is a small percentage of data (6%) missing from the BMI variables and the occupations category (6%). There was no overlap in missing data, in that participants either did not report weight/height or occupation status, but not both.

In order to assess if there was any pattern among this sub-group of missing data, a dummy variable was computed to compare means on others variables



measured to ensure these participants did not significantly differ in some way from the majority of others (Tabachnick and Fidell, 2007b, Tabachnick and Fidell, 2007a). Results revealed that these participants only scored significantly different on two sub-scales; the Beliefs About Obesity scale and social norms sub-scale of the Gender Norms/Stereotypes scale. In order to ensure this sub-group was not significantly different on these sub-scales, further analysis was conducted and distributions were mapped to compare the overall group to the missing data group. These graphs indicated that the missing data group were not substantially removed from the overall group, though their scores on these scales were different from the overall group means. Therefore, this sub-group were unlikely to be significantly different from the larger group. However, due to the relatively small percentage of missing data, in consultation with a trained statistician, the decision was made to exclude these cases listwise where relevant (due to the problems that exist when employing pairwise deletion or means substitution) (Tabachnick and Fidell, 2007b). Given the sufficiently large data set, omitting these participants from relevant analyses was not expected to significantly impact hypothesis testing or would not unduly affect the power of the analyses.

#### **7.4.4 Survey sample and procedure**

Prospective participants were contacted and recruited via the Survey Panel Operator, *Qualtrics* ([www.qualtrics.com](http://www.qualtrics.com)) and were offered a small fee for their participation. This email briefly described the aims of the survey and what the survey

entailed. If participants consented to participate, they clicked on a link which allowed them to complete the survey online. They were then provided with more information on the survey (including informed consent form, see Appendix G) and were instructed to indicate their agreement to participate by ticking the box at the end of the web page.

A pilot test of the survey was first conducted with 17 participants to ensure the survey was easily understood and so those testing the survey could raise any concerns they may have regarding some of the questions which may tap into sensitive issues. However, as the most sensitive of the survey instruments have been widely used in the US and the UK previously without issue, it was not expected that any of the questionnaire items would cause undue distress (Puhl et al., 2010, Allison et al., 1991, Harvey et al., 2002). Contact numbers and web sites for counselling were also provided in the unlikely event that any participant experienced difficulties during the survey when discussing weight and obesity-related issues. All participants were presented with the survey instruments in the same order, yet, among individual scales, items were randomised. All participants were debriefed in full at the end of the survey (Appendix G) and this page explained the aims of the study in more detail as well as the implications to the current research.

In total, 316 participants were recruited and completed the survey in full. All participants were over 18 and all were Irish residents. There was a relatively even gender split with 161 male (50.9%) and 155 (49.1%) female participants. Participants' ages ranged from 18-64 years old and a mix of demographics were

sampled (Chapter 9 will present the sample characteristics in full). Based on recommendations regarding internet sampling<sup>15</sup>, surveys could only be completed once from each I.P address.

#### **7.4.5 Data management and analysis**

Data was stored on *Qualtrics* servers, which the researcher could access remotely via a secure account. When survey administration was complete, the participants' responses were downloaded to SPSS20 for statistical analysis. All data were anonymised immediately upon download and I.P. addresses were removed from the data file. These data are analysed in Chapter 9 and Appendix C of this thesis outlines the statistical methods employed during this stage of the analysis.

#### **7.5 Summary**

This chapter has outlined hypotheses and propositions relevant to Phase II of the research and introduced the research methodologies, sampling strategies, and analytical techniques employed during the micro-level (social media) and individual-level (survey) stages of inquiry. Particular attention was drawn to the advantages and disadvantages of online and social media research, as well as the controversial

---

<sup>15</sup> Birnbaum (2004). This avoided the possibility of multiple responses. Internet testing was employed as it was expected that participants would feel more comfortable describing their attitudes and beliefs regarding a sensitive issue like obesity anonymously and without a researcher present.

ethical considerations involved in such work. Issues relevant to survey design were discussed and the specific constructs used in the survey were summarised and assessed for their underlying structure.

These next chapters outline the results of this second phase of the research. Chapter 8 will first examine the micro-level understandings of obesity, via the qualitative analysis of online message board comments on obesity. Following this, the final empirical stage of the research, the online quantitative survey to assess beliefs, attitudes and individual-level constructions of obesity, will be detailed. Lastly, the final chapter will collate the main results and findings, offering implications associated with the results, delineating the contribution of the research, its strengths and weaknesses and forwarding recommendations for future research.

## Chapter 8 - Micro-level Constructions of Obesity<sup>16</sup>

### 8.1 Introduction

Following a detailed analysis of the exo-level construction of obesity, its portrayal and associated meanings, the analysis now turns to the examination of micro-level meanings of obesity. In this investigation, online discussions of obesity on an Irish-based message board were sampled to provide an insight into public understandings and interactions on the issue. In line with Bronfenbrenner's (1977) call for a convergence of naturalistic and experimental studies, the analysis of online discussions of obesity was retrospective and the researcher unobtrusively observed and analysed discussions without these discussions being compromised by experimenter demand effects or by social desirability bias. This analysis sought to understand how obesity is understood and discussed by lay audiences in order to provide insight into the social meanings of obesity at this level and to subsequently evaluate the alignment, if any, between exo, micro and individual-level meanings.

This chapter outlines the results of a qualitative analysis which featured both inductive and deductive elements. In order to understand public conceptions of obesity, the Illness Representations framework was employed (Leventhal et al., 1998, Leventhal et al., 1992) to examine the purported causes, consequences, solutions, and trajectory of obesity, and to constitute the deductive element of the

---

<sup>16</sup> Portions of Chapter 8 appeared in *Appetite*, 1 Jan 2014, whose final and definitive form (copyright Elsevier) is available online at: <http://dx.doi.org/10.1016/j.appet.2013.09.022>

analysis in order for these results to be comparable with the media analysis findings. This deductive element of the analysis also sought to investigate the two propositions generated based on the results of the media analysis and the dominant framings apparent from this investigation:

**Prop. 1:** In the investigation of the representation of obesity along dimensions of the CSM, it is expected behavioural causes and solutions to obesity (the behavioural frame) will be dominant.

**Prop. 2:** The majority of the discussion of consequences of obesity will focus on physical illness and disease consequences, rather than social and psychological issues.

The inductive aspect of the analysis then allowed for the emergence of other codes and themes from an open-minded reading of the retrospective interactions between online actors.

## **8.2 Results of social media analysis**

The analysis begins by presenting the results of the deductively-examined Illness Representations theme and the results of the investigation of the propositions outlined above. Following this, the two major themes that emerged from the inductive phase of the analysis will be outlined; *social rules of thumb to attribute blame* and *out group avoidance*. Using NVivo, it was estimated that approximately 15% of the messages in the sample were messages reacting to and discussing an obesity-relevant media story, highlighting the effect of the media on the public

discourse. In the following sections, pseudonyms are used for participants when that individual's gender is known. Otherwise, gender neutral names are employed.

### **8.2.1 Theme 1: Illness representation of obesity**

#### ***Who is to blame?***

As proposed, the majority of the discussion of the causes of and responsibility for obesity was centred on individual agency and lack of self-control. Specifically, the poor quality of the Irish diet and low levels of activity within the population were cited as the main causes of obesity, corresponding to the earlier media analysis. This focus on individual blame is consistent with Bourdieu's (1984) conception of the body as a project, and thus, those who fail to regulate body weight were condemned by dominant actors in the social hierarchy who subscribe to this perspective. The following quote supports Coveney's (1999) observation regarding the intertwined nature of nutritional and moral discourses, with the result of problematizing individual choice.

“People are fat because of a bad diet, eating far too much of the wrong foods.” (Simon)

However, a minority of individuals spoke out against the purely individual blame for obesity and associated character attacks on obese persons. For instance, psychological and medical causes were acknowledged by a subset of informants,

including stress and early trauma, the addictive aspects of food, and medical reasons for carrying excess weight.

“There is also a psychological/compulsive/addiction/medical element to obesity. It's not all down to lack of control. Being disgusted by obesity is like being disgusted by cancer.” (Jenna)

Jenna perceived obesity as an addiction or medical complication, akin to cancer, for which individual blame is inappropriate. Grønning et al. (2012) previously found that participants differentiated between obesity and cancer by highlighting that cancer was not associated with shame, whereas obesity was considered highly shameful. While limited within the current data, this set of divergent cases calling for a halt to the shaming of obese persons may be representative of rebellious elements, seeking to alter the predominant belief set. However, these informants were strongly opposed by the majority who were vehement in their placement of blame on obese persons themselves. Bourdieu (1989) referred to this as symbolic violence, where such interactions reveal power relations between individuals and lend legitimacy to dominant beliefs in this “*struggle for common sense*” (Bourdieu, 1989, p. 21).

“Obesity is always the persons fault. Yes, maybe 0.1% of the time there is a medical reason, but even then, they are still eating too much. You cannot get fat without eating too much.” (Darren)

Laziness was the factor most frequently implicated in obesity and was the dominant individual characteristic that was believed to be to blame for excess



weight. Again, this is indicative of Bourdieu's (1984) conception of the 'body as a project' attitude, featuring efforts to cultivate the body and a certain body image in the production of cultural capital. According to Williams (1995), this endeavour is very revealing of class-related habitus and is associated with those of a higher social status. It is clear that those not subscribing to this approach to body and weight management are viewed as morally inferior and as lacking moral worth, due to their perceived rejection of this social norm. There is evidence of frustration and anger at this 'laziness' and perceived lack of care and attention to obese bodies, which results in harsh judgements and condescending and hostile comments directed towards obese persons.

“Laziness for sure. All I see in peoples trolleys is convenience food, too lazy to cook and too lazy to get off their ass.” (Jo)

Here, the term convenience is regarded as synonymous with lazy, as the reliance on quick and convenient eating is associated with 'bad' foods and lack of care in an individual's diet. Bourdieu's (1984) conception of food as form versus food as function is useful here. Those perceived as taking little care in food preparation are considered lazy by those in the majority, who appear to adopt the attitude of 'food as form', where healthy and refined foods are prized and consumed in order to maintain and achieve the valued slim body ideal.

Parents were a significant source of blame and were perceived as responsible for childhood obesity. Most informants agreed on the pivotal role of parents and their

failure to adequately carry out this role was said to result in childhood obesity. The focus of such interactions included the need for parents to ensure children had a healthy diet, the importance of parents saying no, and the value of parents passing on their own healthy eating habits. Also prevalent was the alignment of childhood obesity with child abuse and negligence and thus, criminality on the behalf of parents.

“The parents are to blame, it’s up to you to make sure your child gets sufficient exercise and nutrition. There really isn't any excuse” (Sharon)

“More worrying is the surge in grossly fat children, they are screwed in later life condemned to a short life riddled with health problems and the main culprit is crap parents, any parent who would allow their child to become obese is in my opinion guilty of child abuse and not fit to be a parent.” (Sara)

Informants agreed that parents of obese children were “*most definitely guilty of child abuse*” (Sharon), as their action, or inaction, was responsible for children’s health problems. Moreover, there was discussion concerning eligibility for adoption with many supportive of the suggestion that prospective adoptive parents who are obese should be screened out of the process. This discussion highlights the strong moral connotations associated with obesity and the hostility directed at obese individuals due to a dominant perception that obese persons are inept, unable to care for themselves and thus, predicted to fail in their ability to care for others.

“If you can't be bothered to look after yourself properly then why should you be made responsible for the welfare of another?” (Ian)

Regarding the division of responsibility between parents, the consensus was that both parents had a duty of care over a child's diet and physical activity. However, on a number of occasions, mothers were isolated for blame and regarded as the parent who was expected to do the shopping and the cooking, as this was perceived as the status quo for most families.

“If the mother is responsible for cooking all the meals and all of the feeding then she should bear most of the responsibility if the kids are obese” (Linda)

“Every day I see obese teenage mothers pushing obese children in buggies and more often than not these children are stuffing their faces with something nutritionally void.” (Margaret)

Fathers, on the other hand, were generally perceived to play more of a role in managing the physical activities of children. However, it is notable that on a number of occasions, this traditional role of the father was portrayed as necessary to give the mothers a break from the full-time care of children. Again, apparent in such statements was the notion that mothers are the caregivers and the father's role often operated to relieve the primary caregiver.

“I think that they could be looking at the roles Dad's would have traditionally brought their children on walks (to get them out of mammy's hair for a while) and take them to sports activities” (Cam)

Socioeconomic variables and their effect on health, diet and exercise patterns were a frequent topic of discussion related to obesity. Socioeconomic status was widely implicated in obesity trends, with many informants agreeing that there were vast differences in typical food baskets in supermarkets, depending on the area of the country.

“I find it a lot easier to get healthy foods now from my current supermarket compared to the place I used to live which was generally a less-affluent area. This would obviously suggest that the demand is different suggesting that income does have something to do with it and once again personal responsibility plays a large part - making the right choices. The variation however would lead me to conclude that there are definite socio-economic factors involved. If you are working class (and studies have agreed with this) people tend to eat more processed food because it’s cheap. In more affluent areas, people tend to cook meals more from scratch.” (Jason)

Those in working-class areas were described as making dietary choices based on price and convenience, whereas those of higher socioeconomic groups were more likely to spend time preparing and cooking a meal rather than rely on convenience and ready-meal options. Jason’s quote, above, is indicative of not only Bourdieu’s (1984) conception of food as form versus food as function within various class fractures, but also of a display of cultural capital, as he demonstrates his knowledge and education by declaring that academic studies support his assertions, thus lending to the credibility of his argument. Furthermore, the individual is again implicated as

responsible for food availability issue, due to the lack of demand for healthier products in certain areas.

There was also discomfort conveyed at the discussion of class. A number of informants were reluctant to segregate people by class divisions, suggesting it was a derogatory term. Implicit in this statement is that a set of beliefs and values are presumed when one discusses a certain class. However, the term was only believed to be derogatory in relation to discussions of lower classes. The use of the terms 'affluent' and 'less affluent' instead of higher and lower class were deemed more appropriate by Brian:

“Discomfort discussing 'lower class': yes, 'class' is the wrong word and it's such an awful derogatory word to use. I suppose 'affluence' is a better one and as others have said our propensity to being overweight is dependent on our levels of 'affluence' and the areas we live in.”

The Irish Government were blamed for their alleged inaction regarding measures to halt and reverse obesity trends. There was a dominant view that the government had power to intervene in some areas, particularly regarding the taxation of unhealthy foods, enacting the recommendations of the National Task Force on Obesity and in promoting healthier behaviours in schools. The health system and the government's perceived inability to appropriately allocate funds was another factor frequently implicated in Ireland's increasing weight trends.

“We are going to continue to be fat because the government is not willing to do anything apart from a few ad campaigns and presentation slides about it. The government is naive and next to useless on this issue.” (Cal)

Interactions which discussed inadequate government engagement with obesity focused on the school-system and the lack of physical and nutrition education assigned to students. Furthermore, the ban on running in many school yards was widely condemned as unnatural and ridiculous and the government were criticised for failing to act to protect schools against a litigious element in society. This ban on running was considered indicative of the low regard of school systems for physical education.

“What kind of a society are we creating for our kids? I am not sure I want my little boy to grow up in a place where normal activities are banned for fear of legal action.” (Brad)

The advertising and marketing industries also were a target of blame due to their practices of targeting children and their promotion of quick fix products. By comparison, the food industry was only blamed in a small number of discussions and industrialised food production was the main factor implicated. Kay stated:

“We bombard children with advertising for junk, tell them through advertising that to be attractive you must be slim. Advertise unhealthy diet plans and all the while it’s a quick fix solution and wonder why we have a

growing obesity epidemic? It's fair to say that children are more susceptible to this than adults. Advertising is done the way it's done because it works."

In sum, although aspects of the environment were acknowledged, there was a clear emphasis on personal blame and individual-level failing for obesity, providing initial support for Proposition 1. A closer examination of the discussion of solutions to obesity will elucidate the extent to which the individual blame discourse predominates in this online social field.

### ***What are the repercussions of obesity?***

Generally there was a high level of aware of the illnesses and diseases associated with obesity. Heart disease, stroke, type 2 diabetes, high blood pressure, gallstones, osteoarthritis, sleep apnoea and various cancers were among the most frequently cited diseases.

"You develop high blood pressure, diabetes, heart disease, stroke, peripheral artery disease and all the results from having such diseases. Those are just the big diseases. People also do worse after surgery, snore and have no energy."

(Leslie)

However, it seems that these diseases were regarded common knowledge and thus not meriting ample discussion. Instead, more interactions were concerned with social consequences of obesity, including the economic costs and charges associated

with excess weight. In several instances, obesity was aligned with smoking as a preventable, self-inflicted disease which costs the taxpayer significant sums. The argument was made that the costs associated with both smoking and obesity should fall to the individual themselves, as they themselves are to blame for their ill health.

“Obesity-related conditions supposedly cost the health service in the region of €400m each year, whereas smoking-related illnesses cost over €1bn at this stage. Due to the fact that these are *preventable* expenses, I think those affected should foot the bill themselves, leaving some extra money to shore up the many gaps in our health service for those who don't bring their problems on themselves.” (Sophie)

Similarly, obese people were accused of being to blame for taking up hospital beds that are needed by allegedly more-deserving individuals. Thus, not only did informants resent the fact that their taxes were paying to treat obese patients, they resented that these patients were taking valuable hospital space from those who were not perceived as responsible for their condition. This resonates with the next theme evident regarding the stigma and judgements made about obese persons. It is apparent that because obesity is perceived primarily as due to poor individual self-control, it is socially acceptable to state obese persons do not deserve public treatment for what is considered to be an individual failing.



“When it's our tax euros paying for your bloody operation and stay in hospital it becomes my business. The fact is our hospitals are full enough and we don't need people using beds that could be easily avoided.” (James)

“My tax is going to pay for the medical treatment obese people are going to need (over and above those treatments required by the general population) so I have an interest in getting people active and healthy.” (Luke)

A number of informants described themselves as having a vested interest in the health and weight of others because they pay taxes towards the healthcare costs of the population. This argument was often used in the justification of weight stigmatisation and in debates calling for the introduction of a ‘fat tax’ system. A minority of others accused obese persons of taking valuable health resources from others and it was stated that due to the economic recession, the treatment of obese patients can no longer be justified.

“Fat people are robbing resources from people who need them. With this recession and public health cuts I cannot see how you can justify that. We already have a shoddy health system, just wait until all these chubby children grow up.” (Josh)

This again points to the highly moralised nature of obesity and as the locus of blame is perceived as solely within the individual, some individuals felt if treatment was to be cut from the health service, treatment provisions should be taken from those who are perceived as responsible for their illness. From Josh’s perspective, obese persons

are “*robbing resources*” from the more worthy, situating these individuals in an immoral, perhaps even criminal realm. This overwhelming focus on the societal and healthcare costs associated with obesity reveals Proposition 2 was not supported.

### ***What are the solutions to obesity?***

Unsurprisingly, given the focus on individual responsibility throughout the online discussions, individual solutions were emphasised as necessary for reducing weight and improving health, indicating coherence between dominant causes of, and solutions to, obesity and supporting Proposition 1. Specifically, a healthy, balanced diet and appropriate levels of exercise were described as paramount for weight loss. The adoption of fad or crash diets was warned against and individuals directed those seeking advice to discussion threads where dietary advice was offered and where there were guidelines and examples of what constitutes a healthy and balanced diet. However, those individuals described as significantly overweight or obese were advised to seek medical advice before embarking on a weight loss regimen.

“Don’t crash diet, undertake sudden exercise or expect quick results. Aim for slow and steady weight loss over a long period of time and be persistent. Exercise is just part of the plan, but I’d suggest getting started on a diet first. Your thought for the day from now on should be ‘no more excuses’” (Sam)

Here we see that in order to achieve weight loss, individuals feel that overweight others must accept that they have been ‘making excuses’, underlining how obese

people are condescended to and believed to avoid personal blame by excusing bad behaviour. Although this is considered an important step towards ameliorating obesity, it also resonates with the next theme regarding the judgements and assumptions made about obese persons. This speaks to a prevailing tone of the online discourse as one characterised by an emphasis on personal failings.

“An obese person is obese through choice; to solve their problem all they need to do is walk away from the table.” (Toby)

Government-based solutions discussed included school-based exercise interventions, fostering public transport links and encouraging the building of cycle lanes to make commuting by bike a safe and easy option. Taxation of high-calorie and junk foods was also widely discussed, yet many informants demonstrated discomfort at the idea of the ‘nanny state’ legislating choice.

“Unless you are going out to deliberately harm someone then you should be allowed do what you like - this trend of limiting people's freedoms is becoming more and more worrying.” (Jamie)

There were also a number of discussion threads where individuals shared their own successful weight loss strategies or those of others. Some of the most frequently mentioned included joining *Weight Watchers*, using liquid protein shake dietary supplements, and lifestyle change, where daily diet and exercise routines were completely transformed. Although this last intervention was recognised as the

most difficult to enact and maintain, it was also described as the most successful by those reporting significant weight loss.

“I literally had to turn my lifestyle on its head in every way to get to this & yes it was hard & I never thought I’d get to this [healthy] size, it may as well have been trying to climb Everest in my eyes” (Matt)

Other informants outlined the importance of instilling new healthy habits by “*religiously*” sticking to the diet and exercise regimen. Inherent in this statement is the explicit emphasis on the morality of weight; losing weight is viewed as morally virtuous and thus, sticking ‘religiously’ to a healthy diet is an important societal value. Couched in such accounts was the understanding that by adopting the ‘body as a project’ attitude, individuals were aligning themselves to what society demands of them and were endeavouring to reach this prized slim body ideal. This shift in attitude from food as function to food as form represents a complete lifestyle change, portrayed as difficult to enact but once ‘religiously’ maintained, was associated with numerous positive outcomes; being successful, feeling good about oneself, improving health outcomes, and receiving social recognition and praise for significant weight loss. This social recognition was described as a highly effective motivator and valued reward of weight loss.

Overwhelmingly, appearance-related motivations were most frequently observed in the sample and were a powerful influencer in the decision to lose weight, underlining the cultural emphasis on appearance as an indicator of moral character

and the pressure to meet culturally-defined body ideals. Individuals reported feeling encouraged and buoyed by the reactions they were receiving or reactions they imagined receiving from others as a result of significant weight loss. This external validation from peers was depicted as crucial to individuals pursuing weight-loss and seems itself to be an aim of weight-loss. Although it was described as often due to vanity, this was still considered an acceptable form of motivation, due to popular notion that it was worse to be overweight than to be vain. Although the term ‘vanity’ is generally used in a negative sense, it appears that when the goal is weight loss, vanity is socially-acceptable and even encouraged, which is again indicative of how highly moralised the issue of excess weight has become.

“I picture myself at my target weight, the reactions I will get from people who haven’t seen me since I was fat! Getting comments from friends regularly really spurs me on” (Janet)

Bariatric surgery was a major source of discussion on the message board, with a number of discussions centred on those who had recently undergone bariatric surgery and those seeking more information. Generally the tone of such interactions was positive with many informants reporting their happiness with the positive outcomes of the procedure. Those who had undergone bariatric surgery stated they felt they had a new lease of life or a new start; such was the inhibitory effect of living with obesity. This suggests that there was a feeling they were in another place due to the undesirable and restraining effect of their obesity and by shedding this

weight (and this label), individuals reported experiencing liberating and highly positive outcomes, particularly regarding their outlook on life and social functioning.

“I have lost 6 stone in total, new lease of life from it .... Be prepared for the cost of the new wardrobe!” (Wendy)

“I got mine done back in April and I cannot say how happy I am. I have lost 35lbs since I got operation I am over the moon! This is the start of my life, I am so happy” (Grace)

However, among the major concerns raised by prospective surgical candidates were the high costs involved, the provision of aftercare appointments (particularly if they were considering undergoing the procedure abroad), the risks associated with the surgery, and the “*horror stories*” people hear through peers and in the media.

### ***Trajectory of obesity***

Similar to the media analysis, the discussion of the trajectory of obesity was only a minor issue and the tenor of such discussions was in the same vein, in that obesity was portrayed as persisting from childhood throughout life. Being obese at a young age was described as “*permanent*” indicating it was perceived as very difficult to reverse once a certain point was reached.

“The childhood obesity issue is linked to adult obesity. If you are obese as a child you are very, very likely to be obese as an adult.” (Tim)

In sum, the emphasis on behavioural aspects of obesity regarding the discussion of both causes and solutions to obesity supports proposition 1 and indicates the dominance of the behavioural frame in this social field. However, Proposition 2 was not supported. The analysis suggests that the physical and disease consequences are well-known by the online actors and thus, not worthy of significant discussion. Instead, interactions were focused on the societal consequences and the economic and healthcare costs associated with obesity.

### **8.2.2 Theme 2. Social rules of thumb to attribute blame**

Theme 2 is the first of two themes that emerged during the inductive phase of the analysis. This first inductive theme relates to the weight-based judgements and stereotypes evident in online discourses and within this theme, two sub-themes were evident. These are *obesity: an undesirable identity* and *a disposition towards discrimination*.

#### ***Obesity: An undesirable identity***

Consistent with previous findings (e.g., Gilman, 2008), there was a dominant and consistently negative portrayal of characteristics associated with obesity where excess weight was described as “grotesque”, “repulsive”, “unattractive”, “disgusting” and individuals carrying excess weight were described as “slobs” and “fatties”, with “no self-control or willpower”. People also reported feeling annoyed

by and having “*no sympathy*” for obese people. The repeated use of the word sympathy suggested something outside the normal, for which people could be pitied. Yet, their situation is not even deserving of pity, such is the level of disregard for obese persons. A discomfort and disgust was conveyed when individuals found themselves seated next to overweight or obese individuals on buses, trains, or at events, suggesting that even an association with obese persons is eschewed.

“I do find obesity somewhat disgusting. I don’t know why, but I suppose that I would consider it caused by a lack of intelligence and awareness” (Tom)

“This huge guy (I’m not exaggerating) he must have been around 25 stone or over took up his entire seat, some of the aisle, and about half of mine. It was so uncomfortable, stuck beside him for hours. Plus he was sweating...it was so gross” (Andy)

This resonates with research examining the psychology of disgust. Rozin (1996b) outlined how socio-moral disgust may function to protect the social order. Within this conception, obesity may therefore be understood as a physical deformity (Haidt et al., 1997), where socio-moral disgust is a cultural product, typified by a character judgements made about the individual. Rozin (1996) describes avoidance and revulsion as two of the features of a disgust reaction and this fits with the data emerging from reactions to obese persons. An implicit fear of contagion was evident in the reported reactions to those carrying excess weight resulting in efforts to dissociate from overweight and obese individuals. This disgust meant that obesity



was considered unnatural and was even separated from other patterns of disordered eating by Michael:

“Being obese is just unnatural. The reason you can’t compare overweight and underweight as clinical states is that one requires immense discipline and the other involves a lack of discipline”

The use of the term ‘clinical states’ is suggestive of expertise and thus this board member, Michael, uses this terminology to bestow credibility to his opinion through demonstration of cultural capital (Bourdieu, 1984). Furthermore, Michael evidently subscribes to the ‘body as a project’ thinking (Bourdieu, 1984) as there is a clear perception that ‘immense discipline’ is required, suggesting the necessity of on-going self-monitoring and behaviours to maintain this valued body size, that is, an on-going body project. Notably, the quote also effectively illustrates both the perceived differences between extreme underweight and extreme overweight. While both are regarded as serious health issues, often being extremely underweight was described with reverence, as high levels of discipline were perceived to be required to be underweight and such levels of were deemed highly admirable. This reflects dominant Western values where a slim body is perceived as indicative of moral worth, where an obese body is suggestive of gluttony and a lack of self-control (Gracia-Arnaiz, 2010). It was potentially this distinction that led to Rose’s assertion that anorexia and bulimia were perceived as more credible disorders than overweight and obesity.

“Anorexia and bulimia are treated with more ‘credibility’ than being obese. Both are afflictions to do with food and are things that the person inflicts on themselves. But again, anorexia is treated with respect and it's perceived as being something that is difficult to overcome whereas being obese is just seen as being lazy” (Rose)

Differentiations were drawn between those that are overweight due to a medical condition beyond their control and those that are overweight due to “*self-indulgence*” and a lack of self-control. This is indicative of the interplay between morality and the perceived “*self-inflicted*” nature of excess weight, as those who over-indulge are considered unworthy of sympathy. For instance, David states:

“Fat people who are fat due to their own over-indulgence annoy me, I have no sympathy for them, but my heart bleeds for the people who can't control their weight issue though. That is very sad”

Here, David distinguishes between himself and abnormal others (‘fat people’), creating a social distance between himself and those afflicted with weight problems. It is evident through the condescending nature of the comment that his store of cultural capital and perceived dominance of opinion is used to enact symbolic violence, thus condemning ‘fat people’ for body failings and thus, indicating they are considered to be of a lower standing in the social hierarchy. However, there is also recognition of the possible underlying psychological or biological factors that might

inhibit effective weight control, emphasising that those who have control and do not practise control are not perceived as deserving sympathy.

Similarly, there was also a discussion to consider whether board members would trust “*a fat doctor*”, a thread prompted by a member’s viewing of a televised debate the previous evening on an Irish current events programme. Although for the most part respondents were of the belief that a doctor’s training and expertise negates the relevance of the doctor’s personal weight, there was also evidence that some would consider a doctor of a healthy weight preferable to one who is carrying excess weight. Several informants agreed that they would not trust advice on a subject like avoiding obesity from a person who is obese. Similarly, John reported that the only time it would be a factor is “*if the doctor lectured a patient about being overweight*” as such behaviour was perceived as “*hypocritical*” and inappropriate. Neil stated his preference for an “*equally trained doctor...who didn’t have this problem*” regarding advice and help on managing obesity. This suggests that a person’s status in society may be jeopardised because of their body weight and that other forms of capital, such as social and symbolic capital may be undermined due to body weight. This fits with the findings of Monaghan (2010a, 2010b), who previously found that being overweight or obese was perceived to influence a clinician’s credibility, trustworthiness and integrity. Thus, the typically prestigious position of a doctor in Western society may be threatened by their appearance as overweight or obese. Conversely, there was no evidence of board members arguing that people carrying excess weight or with a history of weight issues were more

likely to have informed and nuanced opinions, due to their personal experience with excess weight. This underlines the strong moral connotations to the issue of obesity (Daneski et al., 2010) as arguably, this would not be the case in the majority of other health conditions such as cancer, arthritis, or even a sports injury, where a doctor's or an individual's personal experience and insight would be of great benefit in advising a patient or a fellow message board member.

There was some contention and conflict on the 'default judgements' made about overweight and obese persons however, with several informants arguing that the stereotypical descriptions and labels associated with obese persons are not helpful for weight-loss motivation and that such labels were frequently untrue. Lucy described herself as in the process of dealing with her weight and outlined how such judgements would have affected her relationship with food and weight, while Paul refuted the snap judgements made about overweight individuals based on their weight.

“If I had been told that I was fat, lazy and disgusting it would only have confirmed my worst fears about myself and perhaps I would have eaten myself to death” (Lucy)

“Most overweight people I know are not lazy. They get on with their life and have lots of energy to work and raise their children, but their own health is not a main concern for them” (Paul)

Similarly, there was surprise at the tone and content of many such discussions, especially regarding interactions which served to dehumanise those carrying excess weight, where such individuals were described as “unnatural”, “not normal” and “inferior”. This conflict over obesity stigma may be suggestive of a struggle between dominant actors and rebellious challengers seeking to subvert the status quo. Bourdieu describes changes in the field as emerging due to these types of interactions, where capital acts as a form of social and power relation, as dominant actors operate to defend and maintain the existing state of affairs (Bourdieu and Nice, 1980). Nevertheless, the majority of those discussing the issue believed the intentional stigmatisation of overweight individuals was justified and necessary. Only a minority of informants were vehemently opposed to such actions, believing that intentionally stigmatising obesity would be counter-productive and could serve to worsen the situation for many struggling with weight issues. Commenting on the tone of such discussions and underlining the degree to which individuals sought to distance themselves from obese others, Anne contended:

“You talk about overweight people as if they were a different species”

Throughout the analysis, there was a strong belief that people who were overweight or obese were unable to have unbiased opinions on weight and diet issues. Enacting a kind of moral censorship, individuals adopted accusatory and condescending tones in denouncement and condemnation of others as overweight, based on the arguments they were making in the discussion. Such accusations tended to be made when obesity was defended, when the body mass index (BMI) was

criticised, or when people warned against judging others based on their weight alone. In response to this, the original comment posters were often compelled to reveal their own weight status and thus, to present evidence of their own cultural capital, in order to dispel the criticism of their opinion and to make themselves “*more credible*” in the discussion. The following quotes demonstrate how individuals jumped to this (often seemingly false) conclusion, based on others’ revealed dispositions towards defending those who carry excess weight.

“Fat people always say this” (Samantha)

“I’m assuming you are actually a fat person in denial” (Dean)

Yet, even in the defence of such accusations, those supportive of obese persons demonstrated that they too were mindful of the belief that their opinions would be perceived as more credible due to the fact that they were not overweight or obese themselves.

“So, you’ve deduced from my post that I’m a fat girl with a grudge? Nope, I’m far from it.” (Kate)

“Being overweight is not a crime and "fat people" shouldn’t be outcast. Do none of you have friends, relatives that are fat? Have a bit of respect. And before anyone asks I’m not overweight.” (Thomas)

On numerous occasions, such vindications would begin with the statement “*I’m not overweight but...*” or “*I’m not obese but...*”, highlighting that although represented in

a different form, the underpinning notion among the majority of posters was that an unpopular opinion would be perceived as more worthy and credible from someone not afflicted with a weight problem. This perceived opinion bias appears to be a dominant stereotype of obese persons.

### ***A disposition towards discrimination***

A disposition towards discrimination was pervasive across the message threads examined. This took the form of mockery, unfavourable judgements, and direct verbal attacks, which were described as more pronounced when aggressors were inebriated. Obesity stigma can result in discrimination against obese persons and consistent with previous findings (Puhl and Latner, 2007, Puhl and Heuer, 2009), there was evidence of ‘humorous’ mockery and discrimination directed at overweight and obese individuals. Such humour typically related to mock solutions for obesity and descriptions of obese individuals. There was also some evidence of self-mockery, as Ben, who was updating other board members on his personal weight loss efforts, signed off a comment with “*chin(s) up everyone*”.

“We get all the unemployed fatties and make them run on treadmills to power energy turbines. In one foul swoop, we’ve solved unemployment, obesity and the energy crisis.” (Scott)

Overweight people were recognised as “*targets of humorous abuse*” and humiliation and mockery were deemed appropriate for those who failed to adhere to

social standards for body condition. While message boards are a site of debate and open discussion, they also can operate as a site of abuse, where anonymity can lead to disinhibition and can offer concealment to berate and deride others (Barry et al., 2013). Many have discussed the conservative functions of humour in maintaining the social order (Billig, 2001, Li et al., 2012) but such humour directed at the undesirable obese out-group can also function to bolster in-group ties and to reinforce group cohesion. Individuals who found themselves the target of this humour described the effects of such episodes, providing insight into their experiences and specifically the psychological and social effects of obesity and weight stigma. These interactions served to highlight the vast and often “*devastating*” consequences associated with obesity stigma and how this stigma can serve to worsen the situation for the obese individual. Erica reported how this felt stigma affected her daily living:

“When you are overweight, you have a tendency to feel like shit all the time, you can separate yourself from friends, never go out, get depressed and become overly introverted. I’ve been there and it can be a vicious cycle because it can cause you to eat more. It’s gotten to the point now where I’ll avoid social situations and I’m constantly aware of my body. I hate how I look and it completely doesn’t suit my character.”

It is notable that even Erica (who describes herself as overweight) associates certain personality characteristics and evaluations with overweight and obese persons, indicating that she has internalised the dominant social norms and



stereotypes regarding excess weight. She believes that the default judgement that accompanies being overweight “*doesn’t suit*” her character, as there is a perceived mismatch between the implications that accompany the ‘overweight’ label and her self-perception. Evidently, these judgements can be a source of stress which can result in social withdrawal. Clearly, Erica is aware that according to society’s ideals, her weight is deemed inappropriate and she illustrates this when she speaks of her body as not suiting her or her career: “*My training is in design and I don't feel or look like what a designer should look like. I know that sounds odd, but my body doesn't suit my career*”. Implicit in these statements is an awareness of being judged, both personally and professionally, based on weight rather than on character or professional competence. This resonates with the first theme and demonstrates again how a person’s weight can diminish social and symbolic capital (Bourdieu, 1984).

Perhaps one of the most disturbing topics observed during the analysis was the corpus of narratives provided regarding individual experiences of being overweight or obese and the treatment received from family, friends, and strangers, due to body weight. Such interactions highlighted the degree to which these dispositions to discriminate are enacted across many fields of social interaction. Many reported being bullied about their weight from a young age, stating that it “*still haunts*” them. Incidents of verbal abuse were recounted and such episodes occurred across a variety of public places and social situations. Nicola describes one such upsetting event:

“I was in a bar last weekend when a professional, well-dressed man in a large group of other similar men and women shouted at me in front of the whole bar ‘Hey whale, nice blubber!’ I was really upset by this, not the fact that he said I was fat but the fact that this stranger – who was not even one of the 16 year old boys who used to call me a whole selection of ‘fat’ names – thought it would be funny to insult me”

Many informants related similarly distressing stories about treatment received at the hands of a stranger. Although alcohol was involved on several occasions, incidents were also reported to have occurred on college campuses and in public parks when individuals were exercising. This is indicative of a disposition towards discrimination across many fields of interactions and signifies the normative and pervasive nature of the acceptability of such attitudes. Shane asserted that such incidents are common and happen on a regular basis and this is why he did not leave his home at night for five years. He then explained of the necessity for obese people to “*brace themselves [when going out]*” as when inebriated, disinhibition resulted in individuals becoming more likely to engage in acts of explicit discrimination. Actions conveying weight discrimination under conditions of low social inhibition may be revealing of implicit attitudes and of individuals’ habitus.

A common pattern among posters attempting to lose weight was their unease at the idea of going to a gym or the thought of others seeing them exercising. Vartanian and Shaprow (2008) have previously found similar sentiments in their research on the effects of stigma on exercise and concluded that obesity stigma could

results in exercise avoidance and decreased activity levels. Even those who did attend a gym in their efforts to lose weight reported that it was still difficult for them to enter a gym at all. Such feelings were reported widely amongst self-reported overweight and obese individuals and consequently, they were advised that to exercise at night to avoid people and to feel less self-conscious.

“Thinking that people would judge me as being a disgusting lump has kept me out of the gym for years” (Jane)

This perception of how others will discriminate and stigmatise was particularly problematic when aligned to the gendered nature of food and weight. There was a recurring suggestion that women are especially vulnerable to such comments at any weight and to have someone unfavourably comment on a woman’s weight was described by Peter as “*the ultimate put down*” for a lot of women. However, this is not surprising given that women are more health-oriented and body-conscious and consequently, more vulnerable to weight-based insults. According to Offer (1998) and Bourdieu (1984), women are considered to have more to gain from self-monitoring of diet and of body weight, for instance, in terms of the marriage market.

Discussions of discriminatory experiences also prompted the question of whether ‘fatism’ is comparable to other forms of discrimination, such as sexism or racism. A number of informants aligned fatism with other forms of discrimination and queried why one form of discrimination was different to any other. Yet, there

was persistent belief that anti-fat attitudes are socially acceptable and justified in comparison to other forms of discrimination.

“However deeply racist or sexist etc. some may feel, they are encouraged to dampen these feelings. But being fat is different as it’s considered to be a result of gluttony, lack of self-control and laziness.” (Conor)

A differentiation was drawn between “*innate*” and “*superficial*” discrimination and comparing fatism with racism was described as “*trivialising racism*” because according to Stephen:

“Being fat is a lifestyle choice, your skin colour is not. You cannot choose your race, but you can choose your waist size so comparing racism with being anti-fat is as ridiculous as comparing apples and oranges”

However, it was not just overweight and obese individuals who were subject to judgement. Although comments made about normal weight individuals were in a minority compared to the assumptions and abuse aimed at overweight individuals, these findings signify that there is great sensitivity about weight and body image among people of all sizes, as individuals across the weight spectrum reported feeling subject to judgement based on their weight. Some of those reporting themselves as within the normal BMI weight range were critical of the “*double standards*” evident in the discussion of personal weight.

“I used to get annoyed by being told ‘there’s not a pick [of weight] on you’ like it’s a bad thing. A fat female co-worker said this to me one day in the

presence of a few others and then took it badly when I replied that there was enough on her for a banquet. Why should one be an insult and the other not?"

(Rob)

There was criticism of the comments that heavier individuals had made to 'normal weight' others, such as "*there's not a pick on you*" and "*you're very skinny*". Even though these comments were perceived by the majority as compliments, some took exception to being told they were very skinny and there was a perception that being labelled skinny was as "*just as bad as being called fat*", especially for men, where muscular forms are regarded as the ideal.

### **8.2.3 Theme 3: Out-group avoidance**

As evident from the analysis thus far, inherent in the online discussion of obesity was the notion that to be overweight or obese is undesirable and so too were the judgements and stereotypes that accompanied these labels. As a result of this, it seems that frequently, individuals were compelled to employ resistance strategies in order to avoid being categorised into and to deny membership of this unwanted social out-group. Individuals endeavoured to distance themselves from such labels by positioning themselves on the 'safe' side of the boundary between acceptable and unacceptable levels of weight, further highlighting the awareness of the negative judgements and biases that accompany excess weight. This resistance was evident in discussions of personal weight, weight measurement techniques and in interactions regarding what constituted 'fat', 'overweight' or 'obese'.

Discussions of whether one can be both fit and fat centred on the debate of whether weight was an accurate indicator of an individual's health status. Individuals were keen to separate themselves from the label of overweight or obese, and this was often manifested in a rejection of the medical tools used to categorise people into weight categories. Specifically, the BMI was a particular source of debate and criticism and the shortcomings of the measurement were used in arguments to discredit weight categorisation. Although there was generally widespread alignment to the healthist agenda (as evident in theme 1) and individuals adopted aspects of the healthist agenda in the blaming of overweight individuals (theme 2), there was evidence that some rejected those elements that would situate them within this undesirable out group.

“The problem with most of these weight tools is that they only apply within a certain range. Take me for example: I'm 5'8" and weigh 188lbs but according to the BMI I'm bordering on obese! I've a small bit of weight on my stomach because I haven't been training but that's about it" (Roger)

“I have a BMI of 32 currently. I don't consider myself obese, I would consider myself slightly overweight. If I got my BMI down to 28, then I'd consider myself normal" (Donna)

Such comments are indicative of narrative resistance, which Cordell and Ronai (1999) described as strategies used by overweight subjects to challenge and defy the dominant discursive constraint, in this case, the thin ideal. In rejecting these

undesirable labels, overweight and obese individuals attempted to create distance between themselves and the default negative social judgement of this out group in society (Tajfel, 1982). Roger's comment, above, is characteristic of what Cordell and Ronai (1999) termed an exemplar strategy, as even though Roger stated that his BMI status is bordering on obese, he endeavours to portray himself as an exception to the norm, insisting this label is not relevant to him.

These quotes illustrate that many do not feel that their BMI weight category is suitable, given their self-perception of weight status. Moreover, these extracts are suggestive of the disparity between medical and social definitions of excess weight. Increasing global weight trends and changing social weight norms have resulted in those of a normal weight being perceived as thin and often those in the overweight category are considered normal (Burke et al., 2010). This weight misperception was commonly reported and aligns with a mounting body of research which indicates that people are generally poor at accurately perceiving their own body size and weight category (Chaimovitz et al., 2008, Maximova et al., 2008, Powell et al., 2010, Warin et al., 2008). In the current research there were also accounts provided of a reliance on the so-called "*mirror test*" rather than on body fat and BMI indexes, underlining a sense of trust in the self-perception of socially acceptable body size and a comparative mistrust of medical measurements as an indicator of appropriate weight status. A US study suggests that the latitude of acceptance for a socially acceptable body size is quite large; of the 1317 participants, 87% considered their own body size as socially acceptable (Rand and Resnick, 2000). Thus, the reliance on self-

perception of weight is not a dependable indicator of excess weight and the associated health risks of this weight. Such attitudes highlight a rejection of elements of the healthist agenda, if this agenda would define the individual as being of an unhealthy or inappropriate weight.

“Lift off your shirt and stand in front of a mirror. Do you look fat? I’m not obese, I’m overweight and have the belly to prove it. I know this because I can see it, not because a doctor has told me. When I get skinny, I will also know because I will be able to see it” (Martin)

Despite this contention regarding weight categorisation, it was acknowledged that the misperception of personal weight is likely a factor in the denial of weight problems. The following quote indicates a belief that those carrying excess weight may have a distorted self-perception and thus, may fail to accurately perceive themselves as overweight. However, it seems that cognitive dissonance may occur when those who may be medically classified as overweight or obese resist this label by leaning towards the norms regarding the social acceptability of excess weight and reject the measure, or measures, that may place them in this undesirable, widely stigmatised group.

“I suppose it comes down to two things, they may be in denial about how serious their weight problem is. I mean, to everybody else they might look like a chunky lump, but it might take a while for that person to realise it themselves” (Patrick)



Previous qualitative research conducted by Grønning et al (2012) found evidence of obese persons providing an account that was said to explain their obesity. For instance, participants reported that pregnancy, psychological problems, early childhood trauma, and genetic predispositions were all cited as reasons for obesity. Evidence of fatalistic beliefs regarding the genetic basis of obesity was frequent in the current analysis. Following the debate around BMI and body fat measurements, many informants leveraged these criticisms to rationalise their own excess weight. Informants often pointed to family traits or characteristics such as being ‘big-boned’ or ‘broad-shouldered’ as explanations for their perceived inability to attain certain levels of weight loss and to account for why they were “*falsely*” classified as overweight or obese. There was also a common perception that depending on how weight was carried, people could escape being judged as overweight. Differentiations between well-built or broad-shouldered persons and fat persons were made, indicating that the definition of fat was socially perceived and the medical definition (BMI) was often considered to “*ignore*” potentially relevant body composition attributes, including body shape and bone density. Evidently, based on experience and family history, individuals believe they have an adequate reason to explain a body shape and posit that because this body frame is genetically-endowed, there is only so much that can be done to control body weight. This is another aspect of narrative resistance, which has been referred to as a ‘loophole’ or ‘excuse’ strategy, whereby individuals challenge the relevance of the medical definitions of obesity based on factors beyond their control (Cordell and Ronai, 1999, Scott and Lyman, 1968). By removing responsibility from the individual and

instead blaming a family trait, these informants sought to create a distance between themselves and the unwelcome 'obese' label. For instance, George asserted:

“I'm overweight, although I'm broad-shouldered and get away with it to a certain degree. It's a family thing, most of the men in my family on my father's side are like this. My family's BMI scores are very high, but we generally aren't in very bad shape- just big and very broad for our heights”

Very few individuals reported being comfortable with the fact they were overweight but stated that being overweight and happy was preferable to be a calorie counter who becomes obsessed with food, further attempting to rationalise one type of lifestyle as superior to another. Here again we see evidence of narrative resistance and 'othering', as this individual seeks to contextualise the behaviour of those who closely monitor and regulate their food intake as abnormal.

“I'm a bit fat really although but I'd rather be the way I am than a self-obsessed weight watchers cult member who constantly talks about how many 'points' there are in food” (Christopher)

The comparison of a weight loss support group to a religious cult is clearly intended to disparage weight surveillance, aligning the self-monitoring of food intake with extremism and fanaticism. As such, this individual painted excessive weight-surveillance as a negative characteristic and an obstacle to happiness, outside the realm of normal living. Thus, for a small number of informants, self-acceptance of overweight was depicted as favourable by comparison to obsessive calorie-counting.

However, others displayed anger and frustration at such justifications, as such reasoning was again perceived as making excuses for excess weight. April stated:

“A lot of fat people use the term curvy to excuse it and to justify being too lazy to be fit and healthy”

Narrative resistance was also evident through the critique of experts and their motivations. Those trusting of experts often directed other board members to web sites clarifying various weight and health statistics, including the Irish Nutrition & Dietetic Institute and the Irish Universities Nutrition Alliance web sites, indicating that the message board was useful and enabled further help-seeking and clarification. However, others were sceptical of expert sources and some stated they believed that experts had hidden agendas, claiming the population were knowingly deceived by experts or that experts too were attracted to “*hot topics*” in research and were influenced by the prospects of grants and academic acclaim.

“We are being misled about our diet and are being led to an early death because of our ignorance. A lot of medical research can be down to who's paying and what's ‘in vogue’. And of course there's the fame of ‘being right’”  
(Adam)

Such arguments allowed participants to challenge and defy medical indicators of weight and enabled resistance of dominant expert opinion and research. Remarks made by overweight individuals may be made in reaction to the narrow parameters of the ‘ideal’ body shape and operate as a mechanism for those experiencing

discrimination and stigma to communicate their rejection and resistance of the dominant and repressive social view of ideal weight (Cordell and Ronai, 1999). Thus, these rebellious elements of society are challenging the norm and seeking to resist being labelled as within this undesirable social group. By enacting narrative resistance, these individuals are struggling for legitimacy of their own position and weight status (Bourdieu, 1984).

### **8.3 Discussion**

The focus of this chapter was to examine the meanings of obesity at the micro-level of inquiry on a popular online, multi-topic message board. The aims of the analysis were to deductively assess dominant public illness representations and to unveil other prominent themes via an inductive thematic approach. The inductive component of the study revealed two themes: *social rules of thumb to attribute blame* and *out-group avoidance*. This hybrid thematic approach to the investigation enabled a greater understanding of how individuals debate, rationalise, and contextualise obesity.

According to Leventhal et al., illness representations describe people's beliefs regarding a disease or symptom and hence can determine a person's assessment of an illness or health behaviour and guide reactions to symptoms, diagnoses, and health-related information (Leventhal et al., 1992, Leventhal et al., 1998). The deductive phase of the social media analysis sought to examine the

dominant illness representation of obesity based on interactions, revealing that the consequences and solutions to obesity were taken-for-granted and as such, not worthy of significant discussion. The causes of obesity however attracted much debate and relating to this debate, instances of weight-based stereotypes often emerged. Obesity was primarily considered a result of individual agency; poor self-control and laziness were most commonly cited. Aligned to this, common solutions for obesity also related to relinquishing 'excuses' for obesity and engaging in lifestyle changes to improve diet and physical activity levels.

Social recognition, prospective recognition and praise associated with successful weight loss were described as highly effective motivators and valued rewards of weight loss endeavours. When obese persons lost a significant amount of weight, they reported being highly conscious of a change in how they were perceived by others. Generally, there was a belief that they were more accepted, others acted more positively towards them, and they were seen as more attractive by the opposite sex. Furthermore, they described weight loss as liberating, so much so, that they reported having a new lease of life. In effect, they were no longer burdened and inhibited by the 'default' judgements that accompanies being of a certain weight and had rid themselves of an undesirable identity.

Giddens' (1979, 1984) structuration theory is useful in examining the agency-structure dualism evident in discussion of illness representations, specifically regarding causes and solution to obesity. Individual agency was strongly implicated as both the cause and solution to obesity, suggesting a dominant understanding of the

problem as one where environmental aspects are not considered relevant. Only a minority of informants debated such assertions and as evident within the theme regarding the biased opinions of obese persons, often such individuals challenging the overwhelming individual blame for obesity demonstrated their own bias by the confirmation of their own weight status. Giddens (1984) refers to the “*duality of structures*” to highlight that structures can be the medium and the outcome of social practices. For instance, individual agency can operate to change these social structures and practices but the ability to act may be limited by the interplay between agency and structure. However, regarding the representation of obesity, such social structures dominate in their blaming of the individual and environmental factors are minimised or ignored. Despite the considerable body of research that has implicated the influence environmental factors, for instance socioeconomic status and gender on diet and weight (Smith and Brunner, 1997, Inglis et al., 2005, Sobal and Stunkard, 1989), the dominant belief in these online discussions is that of obesity as attributable to personal agency alone.

There is a certain irony in this finding regarding the powerful influence of social norms on blaming individuals. As it is dominant social structures and actors perpetuating these beliefs, people are conforming to these norms in their blaming of individuals for obesity. These social structures are exerting a powerful normative influence and ironically, although individual agency is blamed for obesity, the majority of individuals are relying and reifying these dominant social norms and

values instead of demonstrating agency in their consideration of obesity and obese persons, resulting in the normalisation of weight-based stigma.

This weight stigma was pervasive throughout the sample, evident at both the manifest and latent level in the online discourse. Consistent with previous research (Puhl and Brownell, 2001, Puhl and Heuer, 2009), multiple manifestations of obesity stigma were apparent in the social meanings of obesity and the associated stereotypes. There was also evidence of dispositions toward discrimination, featuring humour targeted at humiliating obese individuals and in the revealed experiences of obese persons. Previous research has found that moral and character judgements are made about obese individuals because of their weight and that they are often the target of humour and abuse (Puhl and Brownell, 2001). Yet, there was evidence that this stigma was also present among those who reported being overweight or obese. For instance, there was evidence of obese persons engaging in self-mockery and while it was relatively tame compared to some of the experiences of stigma outlined, this is further evidence that obese individuals themselves have internalised this stigma and may also serve to perpetuate and reinforce these beliefs and behaviours (Crandall, 1994). This is consistent with previous findings where significant levels of anti-fat bias among overweight and obese participants on implicit association tests was evident, suggesting these values have become internalised (Wang et al., 2004). This strongly implies that obesity stigma and the blaming of individuals is a dominant disposition in society, even among those afflicted with weight problems,

and the current analysis suggests that it is constituted and reproduced by online actors.

There were, however, instances of challenges to existing stereotypes and stigma, particularly relating to character judgements made about obese individuals. Yet, often those who challenged dominant stereotypes were accused of being overweight or obese themselves, and hence were perceived to have ‘biased’ opinions. Such interactions reflect a pervasive view that people carrying excess weight, regardless of their professional expertise or social status, were perceived as holding opinions which are not credible. Given that the social meaning of obesity is linked to ignorance, lack of knowledge, and a lack of control, it is not surprising that the views of obese and suspected obese board members were dismissed. The lived experiences of these informants were judged as a source of excuses rather than of experiential knowledge and the interaction of obese persons with their environment accounted for little. It appears that being of a normal weight bestows a cultural capital, featuring a mind-set of treating the ‘body as a project’, an attitude that is associated with an elevated position within society. Those carrying excess weight were viewed differently, in that they were considered ‘outside’ the norm and were widely condemned and ridiculed due to their failure to achieve the socially-valued standard of slimness.

This finding was bolstered by a parallel confirmation that the credibility of an argument seemed to depend on an individual’s weight status. Those opposing the dominant view and demanding equity of treatment for the obese framed their



arguments within a clarification of their (normal) weight status. This resonates back to the first theme, where the social meaning of obesity would suggest a default conception of the traits of obese persons. This perception even extended to physicians, as several people agreed that they would prefer a doctor of a healthy weight over a doctor who is overweight, even if their level of training was identical. This finding aligns with that of Monaghan (2010b, 2010a) who found that being overweight and obese was perceived to influence clinician's credibility, trustworthiness and integrity; a view which was broadly held even among healthcare practitioners who reported being overweight. Similarly, Puhl et al. found that physician's body weight can result in biased attitudes of patients and can affect levels of trust in expert advice and patient disposition to follow advice (Puhl, Gold, Lueducke and DePierre, 2013). This 'default' perception of the obese person is revealing of dominant societal dispositions towards stereotypical judgements of those carrying extra weight. Due to this, the motivations of those raising argument which conflicted with the majority were questioned and, given the anonymous nature of online discussion boards, body size accusations were made.

Discrimination against obese persons was also discussed in the context of other forms of discrimination, including racism and sexism. Such interactions supported previous findings in that anti-fat attitudes tend to be more tolerated and socially acceptable than racist attitudes due the perceived controllability of obesity (Puhl and Brownell, 2001, Crandall, 1994). Thus, being obese was considered a lifestyle choice where individuals brought stigma and discrimination on themselves,

through poor self-control and weight management; characteristics that are considered undesirable and distasteful. The explicit nature of such explanations and justifications for obesity stigma serve to emphasise how normative it is to hold such views. Therefore, a discussion of Bourdieu's conception of 'doxa' is useful. Doxa was a term used by Bourdieu to describe how beliefs become perceived as universal and self-evident due to the alignment between objective structures and an individual's habitus (Throop and Murphy, 2002). Thus, a doxic situation may be described as one where individuals misrecognise a social structure as natural, and because it fits with their habitus, it remains unquestioned and is continually socially patterned and reproduced as objective, further bolstering the dominant belief. Based on this, it is suggested that the stigmatisation of obese persons may be considered a doxic situation in this online field of interaction.

Although not anticipated, the analysis also revealed discussions regarding assumptions and judgements made about those describing themselves as being of a healthy weight or within the normal BMI range. Several informants reported being annoyed and upset by comments (often made by overweight individuals) about their weight, including that they were too skinny, must spend all their time in the gym, and must starve themselves. Although it must be noted that such posts were in the minority, they represent an interesting and revealing set of divergent cases, which strongly emphasise the sensitive nature of body image. This is also indicative of the fact that increasingly, those of a normal BMI are in a relative minority compared to those who are carrying excess weight. In Ireland, for instance, recent estimates

suggest that approximately 24% of the Irish adult population is obese and 37% is overweight (Irish Universities Nutrition Alliance, 2011). Thus, in total, 61% of Irish adults are carrying excess weight and social comparison may cause those of a normal weight (39% of adults of a normal BMI) to be considered thin by comparison.

An increasing number of studies imply that weight perception norms have evolved and that the resulting misperception of appropriate weight may be an important factor in development of overweight and obesity (Powell et al., 2010, Burke et al., 2010, Rand and Resnick, 2000). For example, a US study found that of the 1317 participants, 87% considered their own body size as socially acceptable and among the overweight and obese participants, 85% and 48% in each respective weight category considered their size socially acceptable (Rand and Resnick, 2000). Evidence from the current analysis supports the assertion that this shift in weight norms is also an issue among message board users, the majority of whom were Irish. In accordance with previous findings explicated by Warin et al. (2008), individuals were often surprised to learn that they would be classified as obese using medical definitions and expressed they did not consider this label appropriate. As a result, some distanced themselves from this label and asserted they would not consider themselves as obese, thereby separating themselves from the aforementioned default judgements that accompany this label. There is a contradiction here between the dominant subscription to the healthist agenda revealed in the deductive phase of the research and the rejection of an aspect or aspects of this discourse that would serve to categorise individuals as carrying excess weight. Clearly, there is a boundary

being established between the social and medical meanings of obesity and where this boundary should exist is being negotiated by actors in order to ensure they are categorised as within the normal group or on the 'safe' side of this boundary. One of the major facets of this negotiation centred on the debated value of the BMI and other weight measurement and categorisation techniques.

Crossley (2002) notes that there is evidence of increasing public distrust in science and health professionals and consequently, public health operatives may face public resistance to health messages. Recent findings by Bleich et al. (2007) have found that there is a high degree of distrust in obesity experts specifically. Despite the reliance on the BMI in medical and research settings, issues with its use and debate regarding its limitations have been prominent in the academic literature (Gard and Wright, 2005, Wilson and McAlpine, 2006). Yet, contrary Rail et al.'s suggestion (2010), the public are cognisant of such debates as it seems this is one issue of contention that has filtered into the public sphere.

#### **8.4 Summary**

This research harnessed the popularity of social media to offer insights into discourses on obesity in a social field, illuminating the pervasive nature of obesity stigma. Such an approach offers a novel means of understanding the public discourse on health issues and this study contributes to other early explorations of such online discourses on obesity (Monaghan, 2010a, 2010b). The analysis revealed the

predominance of the individual blame discourse within this online social field and the strength of the anti-obesity sentiment, signifying that obesity stigma is highly acceptable. It was hoped that such an examination facilitated input across demographics, however, due to the nature of the research it is very difficult to draw conclusions regarding the demographics of board members, beyond what information was self-reported. However, research suggests that internet users tend to be younger, though internet use is growing among older age groups (AMAS, 2012).

The next chapter turns to the final empirical chapter of the thesis; the analysis of individual-level understandings of obesity. Given the dominance of the individual-blame discourse, an important aspect of the next chapter will involve assessing dominant individual-level frames of explanation for obesity. A quantitative online survey, designed based on existing literature and the media analysis findings, will facilitate insights into prevailing attitudes and beliefs regarding obesity using an Irish population sample.



De Brún, A. 2013. *An examination of the construction of meanings for obesity in Ireland*. PhD Thesis, University College Cork.

Please note that Chapter 9 (pp. 300-335) is currently unavailable due to a restriction requested by the author.

CORA Cork Open Research Archive <http://cora.ucc.ie>

## **Chapter 10 - General Discussion and Conclusions**

### **10.1 Thesis aims**

The primary purpose of this research was to examine the social construction of obesity at three levels of analysis: the exo-level, the micro-level and the individual level. Given the increasing weight trends in Ireland, insight into how obesity is understood and the factors influencing beliefs, attitudes and behaviours is a pivotal first step in designing interventions to maximise positive behavioural change. A pragmatic approach was adopted to address two overarching aims of the research: to examine the dominant representations and meanings of obesity at various levels of inquiry; and to examine the alignment, if any, between the constructions of obesity at these various levels. The research was divided into two phases: the first examined the exo-level meanings of obesity via the quantitative and qualitative analysis of media content. This first phase of the research, alongside previous literature, also generated propositions and hypotheses to guide Phase II, which examined the micro-level construction of obesity by analysing online message board discussions and individual-level understandings of the issue, ascertained via an online survey. This chapter reviews the research that has been conducted, examines the alignment between dominant meanings of obesity at various levels of inquiry and underlines the theoretical and original research contribution of this research. The strengths and limitations of the research as well as implications of the findings and directions for future research are also outlined.

## 10.2 Summary of the research

The first empirical stage of the research audited Irish media content using quantitative content analysis. This facilitated an overview of the main issues receiving coverage and frames employed in reporting on obesity using two data sets; the first sampled from *The Irish Times* (IT), Ireland's paper of record (O'Brien, 2008), over a 13-year period and the second using three broadsheet and three tabloid publications, sampling articles from three years of interest. As hypothesised based on previous research (Kim and Willis, 2007, Lawrence, 2004), the behavioural frame was dominant in both samples, speaking to a dominant construction of obesity in the media as a consequence of personal behaviour, with an emphasis on poor dietary habits and sedentary lifestyles. There was evidence of an increase in the prominence of the environmental frame over time, but also an indication that the publication of the Report of the National Task Force on Obesity (2005) may have influenced reporting trends, encouraging the media to attend to environmental drivers of weight. The IT media sample illustrated that there was a considerable increase in media attention to obesity up to 2004/2005, with coverage remaining relatively consistent up to 2009. Investigation of the reported consequences of obesity in both the *Irish Times* and multiple newspaper samples, a dimension that has not been examined in previous research, revealed that physical consequences were significantly more frequent in media reports than non-physical consequences. These samples provided insight into the broad trends in media reporting and provided a snapshot of issue and frame prominence over time, enabling the detection of the emergence of obesity as an issue of media concern.



The next stage of the research adopted a qualitative lens, employing a hybrid approach to thematic analysis in a further interrogation of the multiple newspaper sample. This allowed for an in-depth exploration of the meaning and nuances that are not easily or adequately captured *via* a purely quantitative analysis of texts. This investigation highlighted the extent to which traditional roles and norms regarding gender are expounded by the media. Consistent with previous research, there was evidence of a dominant construction of men and women's relationship with weight and diet, with men depicted as apathetic and removed from the predominantly feminine world of weight and health-consciousness (Courtenay, 2000). Female blame for obesity featured strongly in that women were blamed as the mothers of obese children and as the partners of men.

According to Bordo (2003), this indictment of women as culpable for increasing weight trends may represent societal unease with modernity and the changing roles of women. Maher et al. (2010) and Bordo (2003) argue that the attention to and demands on women and women's bodies intensify during periods of social change. Thus, the rapid and significant change experienced in Ireland in recent years may be encouraging a discourse aimed at restraining progress and bolstering expectations of women's traditional role as the caregiver. The emergence of a traditional hegemonic masculinity in the media alongside the rather traditional take on the expectations of role of women is at odds with a modern and evolving Irish way of life. The final sub-theme revealed the portrayal of the parents of obese children as culpable for childhood obesity. The tone of many of these articles was

unsympathetic, even hostile, and reports were often condescending, implying that the solution to childhood obesity was simple but parents were too ignorant or uncaring to take action.

*Judging the experts* was the second inductive theme in the analysis, presenting the body mass index and other weight categorisation techniques as major flaws in the research and investigation of obesity. Contrary to Rail et al.'s assertion (2010) that obesity debates occur outside the public sphere, there was some, albeit limited, evidence of media attention to the debates, uncertainty and controversy regarding aspects of obesity research. The implications associated with the presence of such articles in the media are addressed later in this chapter.

Finally, the deductively-examined illness representation theme closely scrutinised reporting of the causes, consequences, solutions and the trajectory of obesity. Analysis revealed a persistent focus on individual-blaming in the media, often even when environmental aspects of the issue were central to the article. Although the media acknowledged the prospective negative impact of individual blame and outlined the extent of the stigma and discrimination experienced by overweight individuals, coverage cultivated and perpetuated this stigma through use of imagery intended to convey disgust and to appal audiences. Although disparities in the portrayal of the issue between broadsheet and tabloid publications were expected, it was surprising to find broadly similar accounts of the issue between formats, with relatively few differences observed. It is suggested that this high

degree of message alignment speaks to the dominance of the individual blame discourse throughout the media.

In order to investigate the meanings of obesity at the micro-level of analysis, a hybrid qualitative analysis of online discussions on a popular Irish-based message board was conducted. In total, 2,872 comments were analysed from three years of interest (selected to correspond to the years sampled in the multiple media analysis). The focus of the deductive element of this thematic analysis was to delineate the dominant illness representation of obesity in this medium to facilitate subsequent comparisons of the representation of obesity between the samples analysed. The deductive phase of the social media analysis sought to examine the dominant illness representation of obesity based on community interactions and revealed that the physical illness consequences of obesity were taken-for-granted and as such, not worthy of significant discussion, whereas societal-level consequences were a prominent source of discussion and debate. Individual agency was strongly implicated as both the cause and solution to obesity, suggesting a dominant understanding of the problem as a behavioural issue, where the importance of environmental aspects are minimised. Common solutions for obesity also related to relinquishing ‘excuses’ for obesity and engaging in lifestyle change to improve diet and physical activity levels. The causes of obesity, however, attracted debate and relating to this, instances of weight-based stereotypes often emerged.

The inductive aspect of the analysis revealed two themes: social rules of thumb to attribute blame (with sub-themes of *obesity: an undesirable identity* and a

*disposition toward discrimination*) and out-group avoidance. The results of this investigation were analysed predominantly through a sociological lens (Bourdieu, 1984, 1985, 1977, Giddens, 1984). Illustrations of the inductively-revealed theme of social rules of thumb to attribute blame were pervasive at both a manifest and latent level throughout the sample. Consistent with previous research, multiple manifestations of obesity stigma were apparent in the construction of meaning of obesity and the stereotypes that accompany the 'obese' label (Puhl and Heuer, 2009, Puhl and Brownell, 2001). Social actors perpetuated this dominant understanding of obesity and reified the social order through their comments. For instance, there was evidence of a disposition toward discrimination, featuring humour targeted at humiliating obese individuals. It appears that being of a normal weight and adopting the mind-set of treating the 'body as a project', an attitude that is associated with an elevated position within society, bestows a cultural capital (Bourdieu, 1984). Those carrying excess weight were considered 'outside' the norm due to their failure to achieve the socially-valued standard of slimness. This led to unfavourable character judgements and assumptions about obese persons. While research has indicated that meanings can be attached to certain foods and certain food behaviours (Steim and Nemeroff, 1995, Cronin et al., 2012), it is clear from this research that in the Irish context, there are consistent and widely-held meanings attached to certain body sizes and weight. This resonates with previous research conducted in other western nations (Puhl and Heuer, 2009, Malterud and Ulriksen, 2010, Carr and Friedman, 2005). Obese persons were considered lazy, perceived as responsible for their obesity, and as targets of social ridicule and derision.

The micro-level analysis revealed a dominant subscription to the biomedical and healthist agenda, however, there was evidence of narrative resistance and negotiation of the medical and social constructions of obesity and often, a rejection of an element or elements of the biomedical agenda that would have served to locate an individual in this undesirable ‘inappropriate weight’ out-group. Ostensibly, the mismatch between individuals’ self-perception and perception of the weight status of others is often inconsistent with the label that a BMI assessment would assign and thus this backlash against the BMI may be evidence of the confirmation bias, where individuals’ seek information that confirms their beliefs and discredit or ignore information that contradicts these beliefs (Gilovich et al., 2002). Seemingly, there is a boundary being established and exactly where this line exists between normal weight and excess weight is being negotiated by actors, often attempting to situate themselves on the ‘safe’ side of this boundary. That is, online actors endeavour to prove that they can be considered as situated in the ‘normal’ range to defend against the obese label and thus avoid the stigma and judgements that accompany excess weight. They are seeking to create a distance between themselves and discriminated others by engaging in narrative resistance to dispel aspects of the medical definitions of excess weight which could render them within these undesired categories.

In the final empirical stage of the research, an online survey was completed to test a series of hypotheses forwarded following the media analysis. Existing scales and measures were used where possible to tap into the concepts and constructs of interest. Again, constituting a common thread through the thesis, the understanding

of obesity using the dimensions of the CSM was also interrogated. As hypothesised, analysis revealed that the majority of participants more closely aligned themselves to the behavioural frame of explanation for obesity. One of the more pronounced findings of this sample analysis was the gap between men and women in the perception and self-perception of weight and in their attitudes toward the issue of obesity. Corresponding to societal gender norms, women described themselves as less satisfied with their current weight and were more likely to report aspirations of weight loss. Women also tended to be more sensitive in matters of weight perception; they were more accurate regarding their own weight self-perception and were more likely than men to categorise large figures as obese on the Contour Drawing Scale (Thompson and Gray, 1995).

Finally, the factors predicting alignment to a frame of explanation (behavioural and environmental) for obesity were interrogated. Regarding behavioural frame alignment, the most significant predictors were *personality characteristics of obese persons, obese persons as abnormal, avoidance and inability to control body weight/shape, body weight/shape management resilience, body mass index, and student status*. As an individual's weight increased, the closer their alignment was to a behavioural account of obesity. The diversity between the student sample and other socioeconomic sub-groups could represent a particular cause for concern. This student group believed obesity to be more a product of an obesogenic environment than a behavioural issue, suggesting that they may regard the enactment of health behaviours as futile in avoiding and addressing obesity.

Thus, this young sub-group may be particularly at-risk of developing habits and a mind-set incongruent with a healthy lifestyle and healthy weight management. However, of the two regression models examined, the behaviour frame model proved most successful in accounting for the variance of an individual's explanation for obesity (24%). By comparison, the environmental model only account for 16% of variance, yet, this model did highlight the predictive ability of gender and *self-esteem of obese persons*, in that being female and believing that obese persons feel self-conscious and inferior to others were key in determining alignment to this frame of explanation for the issue

### **10.3 Theoretical and original research contribution**

From a theoretical perspective, the common thread throughout this thesis was the use of the Common Sense Model as a framework through which to understand the meanings of obesity at the various levels of analysis (Leventhal et al., 1998, Leventhal et al., 1980). One of the strengths and a major theoretical contribution of this thesis is the link created between framing and the CSM in the development of a singular analytical framework for application in the examination of health and illness representations. This body of work has outlined the commonalities in the theoretical underpinnings of the CSM and framing and the degree of overlap signifies that these theories can complement each other in the investigation of dominant elements of health discourses. Both theories posit that how an issue is portrayed in the media can impact on audience understandings, illness cognitions, and health behaviours and

thus, the framework presented and employed in this thesis can operate as a bridge between communication theories and health belief models.

Based on theories of media effects (McCombs and Shaw, 1972, Entman, 1989, Iyengar, 1991), one would expect that the dominant portrayal of obesity in the mass media would filter down through the various social systems to impact on the micro-level discourse and individual-level beliefs about obesity. It is widely acknowledged that, for lay citizens, the media is one of the primary sources of health information (Entman, 1989, Nelkin, 1996, Lupton, 1999) and framing theory posits that how an issue is presented and discussed will influence the public understanding of that issue (Entman, 1993, Entman, 1989). This thesis provides further support for such an assertion, given the highly comparable accounts of obesity at each level. This strongly implies a dominant understanding of obesity in society as a behavioural problem and the relevance of other pertinent aspects of the issue, such as environmental drivers and genetic influences, are minimised or even disregarded. Figure 10.1 summarises the major findings from the investigation of each level of inquiry. Together, an integrated and holistic view emerged regarding the pervasive thread of individual blame dominant across and within these various sub-systems analysed.

It is proposed that the prevalence and intensity of the individual blame discourse facilitates and encourages the stigmatisation of obese bodies. As evidenced in the social media analysis, the perceived controllability of obesity was the major



argument made in the rationalisation of obese persons as lazy, deserving blame and as responsible for bringing health problems and social disapproval on themselves.

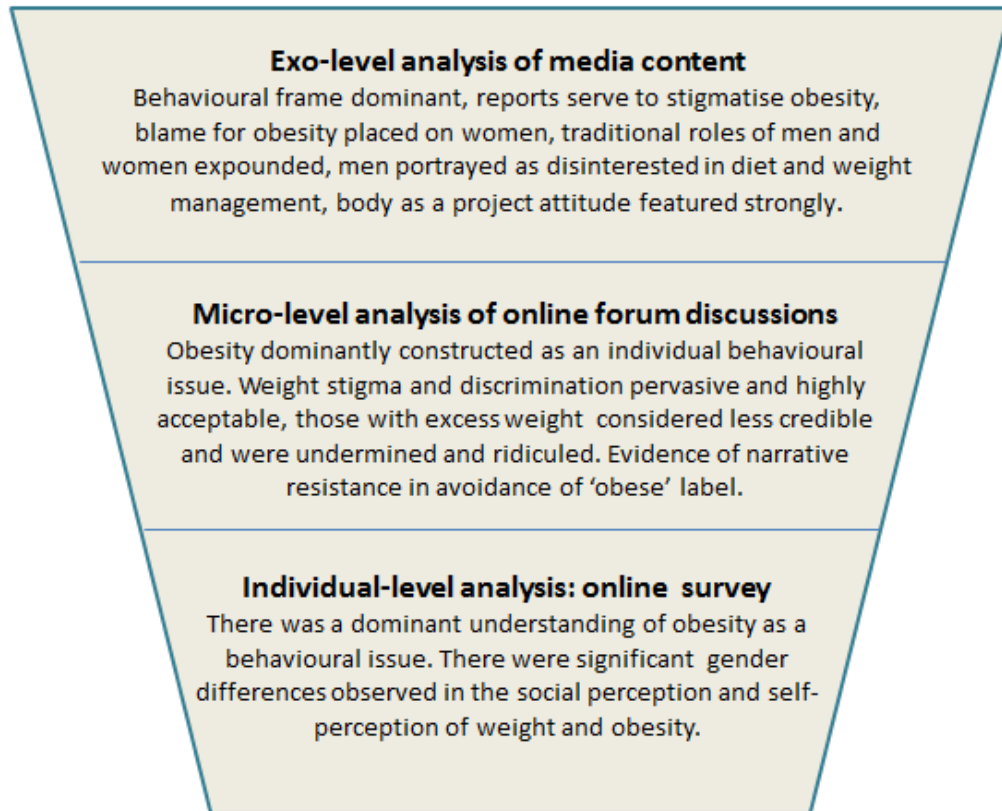


Figure 10.1 Summary of the dominant construction of obesity at each level of analysis

Crandall (1994) has previously described the controllability of weight as central to anti-fat attitudes and therefore it was not surprising that this constituted a significant feature of social media interactions on the issue. Further insight into these negative

perceptions of obese persons was provided by the inductive phase of this analysis, as the acceptability of weight-based discrimination became evident by its separation from other more socially unacceptable forms of discrimination, such as sexism and racism.

An analysis employing framing and the CSM informs two audiences: firstly it helps public health practitioners consider how they may better tailor communications to target audiences and secondly, it helps scholars researching health and illness to understand how media portrayals may be understood by audiences. The CSM is a valuable tool in the examination of media representations of health and illness as understanding individuals' illness representations may illuminate why some individuals seek treatment and engage in health behaviours and others do not. This thesis offers a framework to examine how health issues are portrayed, to chronicle major concerns or issues as presented in the media, and to provide an insight into how the issue may be understood by news audiences. It is proposed that such a framework is of specific value in the examination of emerging health risks in the media, using both a quantitative and qualitative lens, and in the examination of the evolution of health and illness narratives, given the public's reliance on the media for health information (Hargreaves et al., 2003, Carlsson, 2000, Lupton, 1999). However, the practical application of this framework may be extended beyond media analyses alone and could also be applied to the evaluation of health campaigns and to the analysis of individual and focus group interviews.

In the Irish context, this thesis forwards a detailed investigation of the social meanings of obesity in a country recording rates of overweight and obesity that are amongst the highest in Europe. Current estimates indicate that approximately 37% of the Irish adult population is overweight and 24% is obese (Irish Universities Nutrition Alliance, 2011), representing a 67% increase in obesity since 1990. Therefore, it is apparent that health campaigns aimed at halting and reversing weight trends have thus far met with little success. This thesis contributes to research in the field as it has revealed four major barriers to effective weight management. Firstly, mass media health campaigns have typically focused on conveying information and increasing knowledge. However, research indicates that knowledge alone is not sufficient to effect behaviour change (Derzon and Lipsey, 2002). Indeed, in the current research it was evident that although significant gender differences exist in behaviour, no significant gender differences were observed in obesity risk knowledge or expert trust, supporting the argument to look beyond traditional health campaigns.

Secondly, the inaccurate self-perception of weight emerged as a significant issue and as a consequence of individuals' failure to recognise themselves as overweight or obese, they are unlikely to perceive a need to change their behaviours. The degree of weight misperception evidenced, particularly among men, may be due in part to the prevalence heuristic, which may operate to distort perceptions of what constitutes a normal BMI. This then enables social comparison whereby the individual likens themselves to the majority of others to gauge the perceived

appropriateness of their weight. As previously outlined, the majority of Irish adults are now overweight or obese (61% combined), compared with those of a normal weight and those underweight<sup>27</sup> (39% combined) in the minority (IUNA, 2011) indicating that social comparison is likely based on a comparison to an overweight body, thus distorting perceptions of normality. Furthermore, the social media analysis provided clear signs of a reliance on the so-called “*mirror test*” or the self-perception of appropriate weight. These perceptions are driven by social norms and previous research has illustrated how the latitude of acceptance for socially-appropriate weight can be wide-ranging (Rand et al., 1997, Rand and Resnick, 2000). This reliance on social markers of excess weight was aligned with a shift away from the dependence on medical indicators of weight, with the BMI representing a particular target of criticism. The social media analysis also illustrated how narrative resistance is enacted, as those who would be classed as overweight or obese by medically-sanctioned categorisation tools demonstrated cognitive dissonance in that they exhibited resistance against this ‘obese’ label through finding fault with expert methods of weight categorisation (Festinger, 1954).

Figure 10.2 summarises the influences and processes involved in the social construction of meaning around obesity as elucidated by the findings presented in this thesis. From the macro- and exo-levels, socio-cultural body image and weight management norms, ideals, and gender identities constitute a pervasive and significant influence on micro-level discourses and individual-level beliefs, attitudes,

---

<sup>27</sup> Less than 1% of the population are believed to be underweight (IUNA, 2011).

and behaviours. For instance, the influence of gender norms and ideals and the impact of these norms on individual self-perception of weight are significant findings that have been highlighted previously as a risk factor for overweight and obesity (Edwards et al., 2010, Sánchez-Villegas et al., 2001).

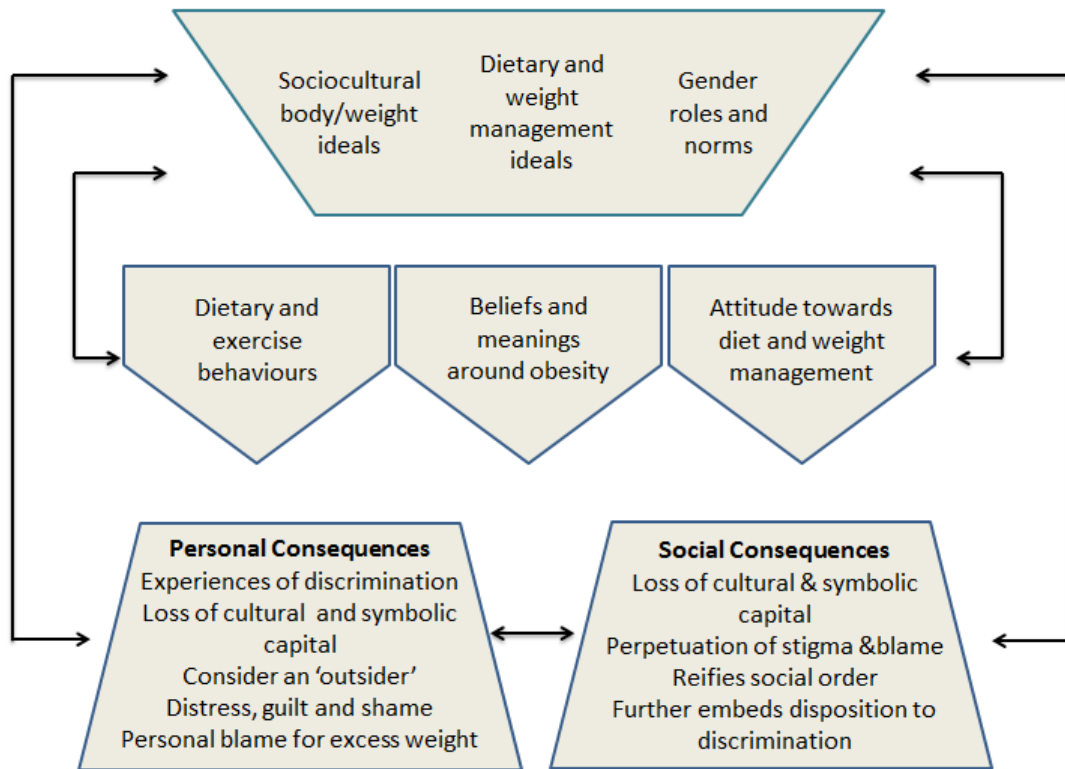


Figure 10.2 Summary of the influences on and outcomes of dominant beliefs and meanings of obesity

In the current research, it was evident that gender plays a significant role in the issue of obesity and weight management. Women were more sensitive to what

constitutes an obese body and accordingly, were more likely to self-perceive excess weight. However, the social acceptability of excess weight in men may inhibit men from regarding their weight as excessive or as a potential health risk. Similarly, the media analysis suggested that men perceive dieting and weight management as a female domain and thus, this traditional conception of masculinity (Courtenay, 2000) may further inhibit men taking action to achieve and maintain a healthy weight. The ubiquitous nature of these macro and exo-level influences represent a powerful structural influence in reifying and perpetuating this belief set, resulting in a social environment that facilitates and enables the stigmatisation of obese persons. In turn, individual beliefs and attitudes as well as and micro-level discourses and reinforce these structures, ensuring maintenance of the social order (Bourdieu, 1984).

The ‘body as a project’ attitude, as described by Bourdieu (1984) was a widely present social ideal and an obese body represents the antithesis of this socially valued approach to weight and body management and is thus met with disapproval, disdain and disgust in society. It is apparent from the individual-level analysis that it is those at the higher end of the weight spectrum who have internalised and aligned themselves to these beliefs most strongly. Arguably, this group may be more cognisant of this expectation, as they are aware they are perceived as failing to meet social standards of weight management and body ideals.

Bourdieu (1984) describes those challenging the dominant societal ideals as ‘rebellious elements’ in society. However, even among those who defended obese persons and objected to the default judgements made about a person based on their

weight, it is evident that these individuals too are aware that their opinion will be deemed more credible if they are not overweight or obese themselves. This indicates that those with a socially-valued body size possess more cultural capital than those who are overweight and obese. Consequently, the credibility of the opinions and beliefs of obese persons was reduced and their input ridiculed as making excuses for their alleged poor self-control and unhealthy behaviours. Furthermore, those defending obese persons against negative stereotyping were often compelled to reveal their own weight status in order to dispel any personal attacks on their beliefs and motivations in defending obese persons, lending further support to the assertion that the 'obese' label results in diminished cultural and symbolic capital of the individual. Thus, stigmatisation of obese bodies represents a significant barrier to addressing obesity and the enactment of positive health behaviours.

#### **10.4 Strengths and limitations of the research**

This research aimed to evaluate the dominant meanings of obesity at multiple levels of inquiry in order to better understand portrayals and understandings of obesity in Irish society. According to Cameron (1963), "*not everything that can be counted counts and not everything that counts can be counted*". This quote effectively describes the problems inherent in the reliance on one method alone in the investigation of a research question. A key strength of the current research was the adoption of a multiple and mixed methods approach, which used diverse methodologies in addressing the research aims and in testing hypotheses. The first

phase of the research programme highlighted the value of a multiple methods approach: the quantitative media approach provided insight into *what* issues were discussed, where the qualitative media analysis facilitated a deeper examination and provided insight into *how* obesity was discussed. Furthermore, this approach can highlight the limitations of relying on any one technique. Although the quantitative investigation of the multiple newspaper sample revealed a strong, though not dominant, prominence of the environmental frame, the qualitative investigation elucidated that often when environmental aspects of obesity were discussed blame was still placed on the individual for their failure to adequately navigate this obesogenic environment. This underlines the value of a mixed methods approach in thoroughly addressing research questions and also illustrates how one method can control for the shortcomings of another.

This investigation also harnessed the popularity of web 2.0 technologies in the analysis of micro-level discussions on obesity. The value and the potential of online research cannot be overstated. Although there are controversial ethical issues to address in the planning and design of online research projects (BPS, 2007, Kraut et al., 2004), online interactions and social media exchanges offer a wealth of data to researchers and can be of great benefit in discerning citizen understandings of various social, health, and science issues. The retrospective analytical approach adopted in the analysis of social media discussions enabled insights into how individuals rationalise, contextualise, and debate obesity and obesity stigma, the



latter of which is something which may not be a freely or openly expressed in a focus-group or otherwise researcher-led setting.

Another significant strength of the current research was its multi-disciplinary approach. Researchers have previously discussed the need to move away from mono-disciplinary work, as this limited view serves to inhibit progress of a more holistic understanding of the determinants of obesity, food choice and weight (Mela, 1999, Köster, 2009). Pan and Kosicki (1993) describe framing theory as at the intersection between Psychology and Sociology and the same may be said of this thesis. Restricting the research to one school of thought would have constrained the analysis, thereby limiting the value of the research. Adopting theories from various paradigms allowed for the data to be interpreted using a suitable perspective and avoided inhibiting the analysis. Furthermore, the construction of obesity is itself a multi-faceted issue, stemming from sociological norms and roles as well as from individual (psychological) attitudes and beliefs. Thus, given the aims of this thesis, it would have been overly reductive to focus on a single theoretical perspective. Thus, this multi-disciplinary approach facilitated a more thorough examination of the construction of obesity at these various levels of inquiry.

However, there were inevitably limitations experienced in the current research. Firstly, difficulties were encountered in attempts to access and sample other media formats including radio and online news articles. There is no searchable archive available in Ireland from which obesity-relevant radio broadcasts could be searched and sampled. The researcher endeavoured to investigate other possible

information channels, including private and commercial databases, but the number of broadcasts compiled after an extensive search were too few ( $n=5$ ) to merit inclusion in the sample. Thus, these were subsequently excluded from the analysis as they were unlikely to be representative of radio coverage on obesity. Similarly, an online news archive, [www.rte.ie](http://www.rte.ie), was chosen as it is the news web site of Ireland's national broadcaster (but is without an associated commercial news print publication), but again there were concerns that this database was incomplete due to the small number of articles collated following the search ( $n=17$ ). Thus, these difficulties limited the scope of a multiple media analysis and therefore, the focus on print media alone limits the ability to generalise the findings across all media.

Regarding Phase II of the research, it was expected that the social media analysis and online survey studies facilitated input across demographics and including a range of ages; however, due to the nature of the research it is very difficult to draw conclusions regarding the demographics of participants and message board members, beyond the information they self-reported. However, Irish research suggests that internet users tend to be younger, though internet use is growing among older age groups (AMAS, 2012). Furthermore, educational profile of the survey sample was skewed in that third-level education was oversubscribed and therefore not closely representative of the general population. Consequently, this too limits the generalisability of the results. Furthermore, inaccuracies when dealing with self-reported weights and heights (and the computation of BMI scores from this data) must be acknowledged. While self-report data is always susceptible to bias and error,

the reliance on participants to provide sensitive information, such as weight, is especially vulnerable to misreporting (Wetmore and Mokdad, 2012) and despite efforts to ensure anonymity to participants, this is a shortcoming of the study.

### **10.5 Implications and applications of the research**

According to Dorfman (2003), framing analysis is especially useful to health communication and can assist in identifying areas to address in creating campaigns to advance health-centric public policy. This research presents the first examination of obesity coverage in the Irish media, providing an overview of how the issue was represented in the country's paper of record over an extended period, as well as informing health communicators of the overriding and trending messages and, arguably, the dominant understanding of obesity among regular readers of Irish print news publications. The content analyses presented in this thesis have implications for practitioners in that the results presented may be useful to those seeking to evaluate media coverage of obesity and monitor the information provided to the public. According to Atkin et al. (2008), information regarding the topics that attract more attention than others may be used by communication professionals in designing messages to balance the media stories in the public sphere, thus ensuring the public are fully informed on all aspects of obesity.

Increasingly, research suggests that people are turning to the internet for information-seeking, support-seeking and to enable motivation (Bennett and Gough,

2012, Saperstein et al., 2007, Sillence et al., 2007). Therefore, the communication opportunities for health researchers, clinicians and public health communicators cannot be overstated. Message board platforms offer a means for health communicators to reach interested groups directly and widely. Furthermore, this type of direct communication ensures that messages cannot be parsed or translated through any other party, something for which the media have often been criticised (Cooper et al., 2011). Weight-loss message boards may be particularly beneficial for patient follow-up and the provision of a support network for those seeking to maintain and sustain weight-loss and health behaviours (Bennett and Gough, 2012, Hwang et al., 2010). The need for social support in weight loss has been widely acknowledged (Pentecost and Taket, 2011, Perri et al., 1993, Gallagher et al., 2006) and as such, this online support can be an effective substitute for real-life support systems for those without an offline social support system or those reluctant to seek professional help. The message board may thus be considered a social environment or online 'field' of interaction (Bourdieu, 1984), that can bestow support and social and cultural capital akin to real-life social environments and networks.

Yet, while social media spaces can operate as sites of social support, they can also constitute a platform in which to malign and deride others. Analysis of the discussion of obesity in the online forum indicates a lack of social support and understanding towards obese persons. Interventions aimed at reducing stigma and creating a more supportive and inclusive social environment will be important to improve the everyday living of obese persons, their psychological well-being and

would encourage rather than inhibit enactment of health behaviours. From a public health perspective, there is a need to consider the negative consequences of normalising discrimination of overweight citizens through the dominant biomedical agenda. Creating social conflicts and providing a platform for discrimination is detrimental to the physical and psychological health of obese persons (Levy and Pilver, 2012, Puhl and Heuer, 2010). The healthist agenda must seek to separate itself from the pervasive body image ideals formed as part of the socialisation process, as perceived self-worth and self-esteem can be undermined based on evaluating one's self against these ideals (Hawkins et al., 2004). An individual can be further undermined when they are publically humiliated and dehumanised due to their weight status. Health professionals must consider more nuanced approaches to dealing with the obesity crisis, as the consequences of a blunt attribution of blame on individual behaviour has resulted in the shaming of those carrying excess weight and in the shared belief that being obese results in lower standards in various aspects of living. Thus, this group are obliged to consider all consequences of patient interactions and communications they present and when communicating to be cognisant of the food/health/body image triplex (Lupton, 1996) and seek to ensure a clear distinction is made between the moral discourse and weight advice (MacLean et al., 2009).

Related to this point, the results of this thesis also present a case for addressing standards of reporting of weight issues in the media. This study emphasises the importance of the communication of consistent and clear messages to

the public, both directly and through the media, by health promoters. The provision of obesity information and reporting guidelines to journalists would also benefit the quality of reporting on obesity research. The Yale Rudd Center and the University of Sydney have both published media guidelines aimed at journalists, with the goal of improving the quality and accuracy of reporting on obesity (Rudd Center for Food Policy & Obesity, 2011, Bonfiglioli, 2007). Among the guidelines suggested include emphasising the importance of evidence-based research and of avoiding stigmatising portrayals of obese persons. The Yale Rudd Center also offers journalists the use of non-stigmatising photos depicting overweight and obese individuals via the Yale Rudd Center web site. Previous research conducted has indicated that the photos used to depict obese persons in the media tend to be unflattering and perpetuate stereotypes of excess consumption of unhealthy foods and laziness (Heuer et al., 2011). Furthermore, evidence suggests that such depictions can serve to increase negative attitudes towards obese persons (Heuer et al., 2011). Based on the tenets of media influence theories (Entman, 1989), efforts to minimise or eliminate weight stigmatisation at this level could have a resulting impact at the micro- and individual levels.

Recent campaigns attempting to purposively stigmatise smoking and drink driving has led to a debate regarding the benefits of such approaches to obesity (Abrams, 2013). Burris (2008) contends that there is little evidence that stigma works any better than other approaches and many researchers believe that this could potentially do more harm (MacLean et al., 2009, Puhl and Brownell, 2001, Puhl and

Heuer, 2009). Furthermore, although counter-intuitive, it seems that as overweight and obesity have become more prevalent, the manifestation of weight-based stigma has also increased (Latner and Stunkard, 2003, Andreyeva et al., 2008), indicating that weight stigma is not inversely associated with obesity. In fact, stigma may even exacerbate the ill-health of an obese individual, potentially resulting in an avoidance of physical activity due to fear of mockery and cycles of emotional eating (Schwartz and Brownell, 2007). It can result in social withdrawal and the development of psychological difficulties (Conrad, 1987), even after significant weight loss (Levy and Pilver, 2012). Furthermore, experiences of overt stigma are also associated with poor weight loss treatment outcomes in overweight and obese adults (Wott and Carels, 2010). Indeed, Stuber et al. (2008) contend that stigma itself may contribute independently to the health risks associated with obesity. As this research has highlighted, it is obese persons themselves who are most likely to blame the individual and thus, they also most likely to feel the impact of this stigma. Thus, interventions aimed at reducing the stigmatisation of obese individuals, would constitute an important step for improving the health and quality of life of obese persons.

Given the findings presented in relation to gender, weight perception and attitudes towards weight management, it is important to examine new means of addressing the problem and encouraging health behaviours. Previous research has suggested drawing on the principles of market segmentation techniques to target certain groups to effect change in attitudes and belief regarding diet and weight

management (Bogue et al., 2005). This approach would tailor specific messages to target groups, drawing on what is known about the group and specific risks and attributes which increase the risk of obesity. Based on the work conducted in this thesis, certain at-risk groups have been identified as important targets for behaviour and attitude change.

The survey sample analysis strongly makes a case for the specific targeting of men in health campaigns in order to improve the accuracy of men's weight perception. The gender disparity observed in the social perception and self-perception of weight points to an area of concern, requiring the attention of health communicators and practitioners. Previous research suggests that men do not recognise themselves as carrying excess weight (Kuchler and Variyam, 2003) and this failure to recognise what markers signify a risky weight status could pose a significant health threat. The CSM suggests that the identification of oneself as carrying excess weight and coherence between the perceived cause, consequence and solution of an illness will result in the formation of an action plan to address the health threat (Leventhal et al., 1983, Martin et al., 2003). Thus, triggering an accurate self-perception of weight in men is important to constitute a first step in recognising and addressing a health problem. However, clearly a major challenge will be the credibility of messages from experts, given the resistance to weight measurement and categorisation techniques evident at the exo- and the micro-levels of analysis. It will be increasingly important to enhance the credibility of health and weight messages by instilling trust in experts as trust in nutrition experts is a strong



predictor of attention to nutritional recommendations (Bleich et al., 2007). This trust is best achieved via the communication of clear and consistent messages, as the delivery of contradictory information in the media can be met with scepticism, confusion, and anger (Goldberg, 1992).

Another potential group of concern based on the individual-level analysis was the typically younger student group, who were more likely to believe that obesity is outside the control of the individual. Verplanken and Wood (2006) assert that typically, food choice and health behaviour habits are resistant to informational intervention but this type of downstream intervention may become useful at certain periods in the life course when habits are particularly susceptible to change. Late adolescence and the transitioning to independent living during college as a period of ‘re-orientation’ may represent sensitive periods for healthy habit formation and thus, interventions aimed at this at-risk group may be particularly effective (Köster and Mojet, 2007, Köster, 2009). Specifically, efforts to improve student’s perceived ability to control their weight through the enactment of health behaviours constitutes an important target. At a basic level, research suggests that interventions aimed at improving cooking skills in certain population sub-groups may have an associated impact on interest in healthy eating and a shift away from convenience choices (van der Horst et al., 2011, Wrieden et al., 2007). It could therefore be beneficial to integrate mandatory nutrition courses during second-level education that feature nutrition education, enhancement of cooking skills and provide information regarding the consequences of unhealthy lifestyles.

However, Verplanken and Wood (2006) also argue that interventions aimed at changing habit and automatic behaviours should also target upstream solutions. Upstream interventions are those which occur before a habit can become engrained and thus establishes new and positive behavioural cues, preventing negative habit formation before it can be formed. Such interventions target changing social norms and supporting positive habit formation. Examples may include improved town planning, the development of cycle lanes, play areas and relevant planning structures and guidelines should be put in place to encourage rather than inhibit positive health behaviours, making healthy choices the easy choice. Upstream interventions may also include targeting food composition and ingredient changes. The demand for low-calorie alternatives of popular food stuffs offers a viable and lucrative opportunity for new product development. The market for diet foods and functional food continues to grow and products aimed at supporting healthy living are an important element of how the food environment can adapt to the needs of the consumer. However, due to men's tendency to avoid dieting and weight surveillance (Sloan et al., 2010, Gough, 2007), it will be important for low fat and low calorie foods to become the norm and as the marketing of products as 'diet' foods may discourage men's acceptance of healthier alternatives. Another upstream intervention which has attracted much debate in recent years is the taxation of high-calorie low-nutrient food. Given the concerns about the potential impact of such a fiscal measure, particularly on low socioeconomic groups, such interventions require further research before the true extent of their potential impact is fully comprehended.

While environmental changes can be factored into the current and future planning at a government and a local level, arguably, perspectives on obesity will be slower to change. Bourdieu (1977, 1984) and Giddens (1984) speak to unconscious influence of social structures on shaping and guiding beliefs, attitudes, and behaviours. These dominant perspectives and attitudes towards gender roles, body ideals and obesity (and obese persons) are strongly ingrained in society, deeply held in the psyches of the population, and reinforced in daily living (Giddens, 1984, Bourdieu, 1984). These strongly embedded dispositions are framing our thoughts and actions around obesity and do not look far beyond the individual regarding blame and responsibility for obesity. This is perpetuated within newspaper media, is a strong line of discussion online (and a baseline justification for discrimination) and is evident at the individual level, particularly by those with self-reported BMIs of over 30 (that is, those self-reporting their weight status as obese).

As such, macro-level influences are linked to strongly embedded dispositions regarding weight, appearance and gender which appear highly resistant to change. These structural influences and resulting beliefs, especially regarding gender norms and roles are impacting on weight trends and dietary patterns and more widely on general health (Wizeman and Pardue, 2001, WHO, 2011). This is despite the efforts of ‘rebellious elements’ in social media spaces to challenge and resist the default judgements that are attached to the obese label. Often, these actors seeking change become targets for personal criticism themselves. Not only are these ideals and norms resistant to change, but the intertwined nature of these beliefs, norms, ideals

and expectations makes it difficult to unpick a target for intervention beyond the need for increased social support, endeavours to reduce weight stigma and the more immediate effects achievable through modification to the physical environment.

## **10.6 Directions for future research**

The results and conclusions presented in this thesis also proffer a basis for further research on this issue. For instance, it has been observed in the current research and previously by Allison et al. (1991) that the belief that obesity is due to poor self-regulation of behaviour is associated with more negative attitudes towards obese persons. It is proposed therefore that communication strategies that convey the complex, multifaceted nature of obesity (outlined in Butland et al., 2007) may serve to have a related impact on implicit attitudes towards obese persons, potentially alleviating the stigma and consequences of this stigma on physical and psychological health (Levy and Pilver, 2012, Puhl and Heuer, 2009, Puhl and Heuer, 2010).

Given the considerable evidence of the impact of framing on people's perceptions and decision-making (for review, see Gamson et al., 1992), future research should also examine if the presentation of various emphasis frames (Chong and Druckman, 2007, Druckman, 2001) can affect individuals' illness representations and whether any observed change can persist over time. As presented previously, there is a dearth of research on the long-term impact of frames (Druckman and Nelson, 2003), but given the evidence indicating the malleability and evolution

observed in illness representations (Ogden and Jubb, 2008), perhaps these schemata may be more easily triggered if information in the media is perceived as personally relevant and also relevant to the individual's understanding of the illness.

The misperception of weight and conflict between social perceptions and medical definitions of excess weight constitutes a particularly important platform for further research. As observed in the media analysis, the use of the body mass index and other weight categorisation methods were among the most prominent of the debate articles examined in the sample. Although there were only a relatively small number of articles contesting the BMI in the media analysis, given the breadth of discussions and debate on the issue in the online forum, this may signal that such articles have a disproportionate effect on news audiences and may encourage the public to seek further information from online sources. Furthermore, the interplay between the alignment to the dominant biomedical discourse and the negotiation and resistance to being labelled as carrying excess weight is an interesting feature of the research, indicative of the degree of negativity associated with the 'obese' label and placement in an undesirable out-group. Future research investigating this negotiation and cognitive dissonance may be important to inform how communication strategies can more effectively impact on audiences to foster accurate weight perceptions and to effect positive behaviour change.

The inductive thematic analysis of media content also revealed some notable findings which could have considerable impact on audience views. By explicitly blaming parents for children's diseases and psychological problems related to excess

weight, media messages aimed to induce guilt and to encourage parents to address the problem. However, it is feasible that this message framing can have repercussions on the public's perception of the parents of obese children. For instance, this framing positions the parents of obese children as negligent and thus, may have implications for the acceptability of legal interventions aimed at child protection. This framing and the degree to which emotion-laden language was evident on this issue serves to underline the highly moralised nature of the issue and the impact of such reports on lay beliefs merits further research.

Of the two regression models examined in the final empirical stage of the research, the behavioural model explained more variance, accounting for 24% of an individual's frame of explanation for obesity. This is a significant first step towards understanding the relevant factors impacting on and associated with beliefs and meanings of obesity. Future research should seek to extend and further interrogate variables potentially relevant to understanding this phenomenon. A heightened understanding of lay beliefs and meanings around illness is important for practitioners, communicators, and researchers. Previous research has indicated that the beliefs regarding obesity can affect support for public policies (Barry et al., 2009), but these beliefs can be modified based on the presentation and framing of information (Major, 2009, Ogden and Jubb, 2008). Such research may help in designing communication strategies which aim to reduce the stigma attached to obesity and to provide the public with a more holistic understanding of obesity.

## **10.7 General summary**

This thesis sought to interrogate the social meanings and constructions of obesity at various levels of analysis (Bronfenbrenner, 1977, Brown, 1995). At the exo-level, the media analysis examined the representation of obesity in the Irish print media using quantitative and qualitative techniques. This mixed methods analysis enabled an analysis of trends in reporting over time as well as a thorough analysis of the nuance of how the issue was reported. This level of detail and previous research operated as a basis for the generation of hypotheses to guide the second phase of the research, which explored micro-level and individual-level constructions of obesity. The micro-level analysis employed online message boards to investigate how individuals discussed, unravelled and negotiated the meaning of obesity and finally, a survey examined individual-level beliefs and attitudes towards obesity. Within each level of analysis, the behavioural frame was dominant, speaking to an overarching understanding of obesity as a product of poor dietary habits and sedentary living, where environmental and genetic aspects are minimised or dismissed. The pervasive nature of obesity stigma was apparent and the label of ‘obese’ constitutes a negative character judgement and accompanies a stigma. These findings, alongside the significant gender differences in the social perception of weight were among the strongest results emerging from the research.

This thesis adopted a novel approach to the investigation of health discourses in the media by examining media content via an analytical framework using framing theory and the Common Sense Model of illness representations. The CSM operated

as the common thread connecting these analyses, enabling comparisons of these meanings across levels of inquiry. However, this thesis also adopted a multi-disciplinary approach, applying both psychological and sociological theories to the analysis and contextualisation of the results to deepen the interpretative and explanatory power of the research. This allowed for a nuanced and detailed insight into the social meanings of obesity at various levels. This research is timely, given the increasing weight trends in Ireland over the past decade (IUNA, 2011). Now that obesity is firmly on the public health and media agendas, an understanding of the meanings associated with obesity will help inform how citizens think about this issue, offering targets for intervention, education, and further research.



## References

- Abdulla, R. A., Garrison, B., Salwen, M., Driscoll, P., Casey, D., Gables, C., & Division, S. (2002). The credibility of newspapers, television news, and online news. Paper presented at the Association for Education in Journalism and Mass Communication, Miami Beach, Florida. <http://com.miami.edu/car/miamibeach1.pdf>
- Abrams, L. (2013). A Case for Shaming Obese People, Tastefully. *The Atlantic*. Retrieved from <http://www.theatlantic.com/health/archive/2013/01/a-case-for-shaming-obese-people-tastefully/267446/>
- Abramson, L. Y., Garber, J., & Seligman, M. E. P. (1980). Learned helplessness in humans: An attributional analysis. In J. Garber & M. E. P. Seligman (Eds.), *Human Helplessness: Theory and Applications*. New York: Academic Press.
- Adams, C. H., Smith, N. J., Wilbur, D. C., & Grady, K. E. (1993). The Relationship of Obesity to the Frequency of Pelvic examinations - Do Physician and Patient Attitudes Make a Difference? *Women & Health*, 20(2), 45-57.
- Adams, T. D., Gress, R. E., Smith, S. C., Halverson, R. C., Simper, S. C., Rosamond, W. D., . . . Hunt, S. C. (2007). Long-Term Mortality after Gastric Bypass Surgery. *New England Journal of Medicine*, 357(8), 753-761. doi: 10.1056/NEJMoa066603
- Allan, S., Anderson, A., & Petersen, A. (2010). Framing risk: nanotechnologies in the news. *Journal of Risk Research*, 13(1), 29 - 44.
- Allison, D. B., Basile, V. C., & Yunker, H. E. (1991). The measurement of attitudes toward and beliefs about obese persons. *International Journal of Eating Disorders*, 10(5), 599-607.
- Allison, P. D. (1999). *Multiple Regression: A Primer*. London: Pine Forge Press.
- Altheide, D. L. (1996). *Qualitative Media Analysis*. California: Sage.

- Altheide, D. L. (1997). The news media, the problem frame, and the production of Fear. *Sociological Quarterly*, 38(4), 647-668. doi: 10.1111/j.1533-8525.1997.tb00758.x
- AMAS. (2012). *State of the Net*. Retrieved 1 May, 2012, from <http://amas.ie/online-research/state-of-the-net/state-of-the-net-issue-24-spring-2012/>
- Anderson, J. R. (1993). *Rules of the mind*. Hillsdale, NJ: Erlbaum.
- Andreyeva, T., Puhl, R. M., & Brownell, K. D. (2008). Changes in perceived weight discrimination among Americans, 1995–1996 Through 2004–2006. *Obesity*, 16(5), 1129-1134. doi: 10.1038/oby.2008.35
- Ashe, M., Graff, S., & Spector, C. (2011). Changing places: Policies to make a healthy choice the easy choice. *Public Health*, 125(12), 889-895. doi:<http://dx.doi.org/10.1016/j.puhe.2011.04.010>
- Atanasova, D., Koteyko, N., & Gunter, B. (2012). Obesity in the news: directions for future research. *Obesity Reviews*, 13(6), 554-559. doi: 10.1111/j.1467-789X.2012.00985.x
- Atkin, C. K., Smith, S. W., McFeters, C., & Ferguson, V. (2008). A Comprehensive Analysis of Breast Cancer News Coverage in Leading Media Outlets Focusing on Environmental Risks and Prevention. *Journal of Health Communication: International Perspectives*, 13(1), 3-19.
- Attride-Stirling, J. (2001). Thematic networks: an analytic tool for qualitative research. *Qualitative Research*, 1(3), 385-405.
- Avenell, A., Brown, T. J., McGee, M. A., Campbell, M. K., Grant, A. M., Broom, J., . . . Smith, W. C. S. (2004). What are the long-term benefits of weight reducing diets in adults? A systematic review of randomized controlled trials. *Journal of Human Nutrition & Dietetics*, 17(4), 317-335. doi: 10.1111/j.1365-277X.2004.00531.x

- Babooram, M., Mullan, B. A., & Sharpe, L. (2011). Children's perceptions of obesity as explained by the common sense model of illness representation. *British Food Journal*, 113(2), 234-247.
- Balanda, K. P., Barron, S., Fahy, L., & McLaughlin, A. (2010). *Making Chronic Conditions Count: Hypertension, Stroke, Coronary Heart Disease, Diabetes. A systematic approach to estimating and forecasting population prevalence on the island of Ireland*. Dublin: Institute of Public Health, Ireland.
- Ball, K., & Crawford, D. (2005). The Role of Socio-cultural Factors in the Obesity Epidemic. In D. Crawford & R. W. Jeffery (Eds.), *Obesity Prevention and Public Health* (pp. 37-54). Oxford: Oxford University Press.
- Bandura, A. (2001). Social Cognitive Theory of Mass Communication. *Media Psychology*, 3(3), 265-299. doi: 10.1207/s1532785xmep0303\_03
- Barlow, S. E. (2007). Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity: Summary Report. *Pediatrics*, 120(S4), S164-S192. doi: 10.1542/peds.2007-2329C
- Barnett, V., & Lewis, T. (1978). *Outliers in Statistical Data*. New York: John Wiley & Sons.
- Barry, C. L., Brescoll, V. L., Brownell, K. D., & Schlesinger, M. (2009). Obesity metaphors: how beliefs about the causes of obesity affect support for public policy. *The Milbank Quarterly*, 87(1), 7-47.
- Barry, C. L., Brescoll, V. L., & Gollust, S. E. (2013). Framing Childhood Obesity: How Individualizing the Problem Affects Public Support for Prevention. *Political Psychology*, n/a-n/a. doi: 10.1111/pops.12018

- Barry, C. L., Jarlenski, M., Grob, R., Schlesinger, M., & Gollust, S. E. (2011). News Media Framing of Childhood Obesity in the United States From 2000 to 2009. *Pediatrics*. doi: 10.1542/peds.2010-3924
- Bartlett, F. C. (1932). *Remembering*. London: Cambridge University Press.
- Baskin, M. L., Ard, J., Franklin, F., & Allison, D. B. (2005). Prevalence of obesity in the United States. *Obesity Reviews*, 6, 5-7.
- Bastian, A. (2011). Representations of childhood obesity in Australian newsprint media and academic literature. *Australian and New Zealand Journal of Public Health*, 35(2), 135-139. doi: 10.1111/j.1753-6405.2011.00660.x
- Baumann, L. J., & Leventhal, H. (1985). "I can tell when my blood pressure is up, can't I?" *Health Psychology*, 4(3), 203-218. doi: 10.1037/0278-6133.4.3.203
- Beardsworth, A., & Keil, T. (1997). *Sociology on the menu*. London: Routledge.
- Bennett, E., & Gough, B. (2012). In pursuit of leanness: The management of appearance, affect and masculinities within a men's weight loss forum. *Health*. doi: 10.1177/1363459312454149
- Bianchini, F., Kaaks, R., & Vainio, H. (2002). Overweight, obesity, and cancer risk. *The Lancet Oncology*, 3(9), 565-574.
- Billig, M. (2001). Humour and Embarrassment: Limits of 'Nice-Guy' Theories of Social Life. *Theory, Culture & Society*, 18(5), 23-43. doi: 10.1177/02632760122051959
- Birnbaum, M. H. (2004). Human research and data collection via the Internet. *Annual Review of Psychology*, 55, 803-832.
- Blair, S. N., & LaMonte, M. J. (2006). Commentary: Current perspectives on obesity and health: black and white, or shades of grey? *International Journal of Epidemiology*, 69-72.

- Bleich, S., Blendon, R., & Adams, A. (2007). Trust in Scientific Experts on Obesity: Implications for Awareness and Behavior Change. *Obesity*, 15(8), 2145-2156.
- Boero, N. (2007). All the News that's Fat to Print: The American "Obesity Epidemic" and the Media. *Qualitative Sociology*, 30(1), 41-60.
- Bogue, J., Coleman, T., & Sorenson, D. (2005). Determinants of consumers' dietary behaviour for health-enhancing foods. *British Food Journal*, 107(1), 4-16. doi: 10.1108/00070700510573168
- Bonfiglioli, C. (2007). Reporting obesity: A resource for journalists. Retrieved 20th September 2011, from <http://sydney.edu.au/medicine/public-health/cool/publications/reporto.php>
- Bonfiglioli, C., King, L., Smith, B., Chapman, S., & Holding, S. (2007). Obesity in the media: Political hot potato or human interest story? *Australian Journalism Review*, 29(1), 53-61.
- Bordo, S. (2003). *Unbearable weight: Feminism, Western culture and the body*. London: University of California Press.
- Bouchard, C. (1991). Current understanding of the etiology of obesity: Genetic and nongenetic factors. *American Journal of Clinical Nutrition*, 53(6), S1561-1565.
- Bouchard, C., & Blair, S. N. (1999). Introductory comments for the consensus on physical activity and obesity. *Medicine & Science in Sports & Exercise*, 31(11), S498-S501.
- Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge, UK: Cambridge University Press.
- Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. Cambridge, MA: Harvard University Press.

- Bourdieu, P. (1985). The genesis of the concepts of "habitus" and "field". *Sociocriticism*, 2(2), 11-24.
- Bourdieu, P. (1989). Social space and symbolic power. *Sociological Theory*, 7(1), 14-25.
- Bourdieu, P., & Nice, R. (1980). The production of belief: contribution to an economy of symbolic goods. *Media, Culture & Society*, 2(3), 261-293. doi: 10.1177/016344378000200305
- Bousfield, W. A. (1953). The Occurrence of Clustering in the Recall of Randomly Arranged Associates. *The Journal of General Psychology*, 49(2), 229-240. doi: 10.1080/00221309.1953.9710088
- Boyatzis, R. E. (1998). *Transforming Qualitative Information: Thematic Analysis and Code Development*. London: Sage.
- BPS. (2007). Report of the Working Party on Conducting Research on the Internet: Guidelines for ethical practice in psychological research online. Retrieved 1st September, 2011, from <http://www.bps.org.uk/sites/default/files/documents/>
- Bradley, E. H., Curry, L. A., & Devers, K. J. (2007). Qualitative Data Analysis for Health Services Research: Developing Taxonomy, Themes, and Theory. *Health Services Research*, 42(4), 1758-1772. doi: 10.1111/j.1475-6773.2006.00684.x
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32(7), 513-531. doi: 10.1037/0003-066x.32.7.513
- Brown, P. (1995). Naming and framing: The social construction of diagnosis and illness. *Journal of Health and Social Behavior*, 35, 34-52. doi: 10.2307/2626956

- Brownell, K. D. (2005). The chronicling of obesity: growing awareness of its social, economic, and political contexts. *Journal of Health Politics, Policy and Law*, 30, 955-964.
- Brownell, K. D., & Horgen, K. B. (2003). *Food fight: the inside story of the food industry, America's obesity crisis, and what can be done about it*. New York: McGraw-Hill.
- Brownlow, C., & O'Dell, L. (2002). Ethical Issues for Qualitative Research in On-line Communities. *Disability & Society*, 17(6), 685–694.
- Buchwald, H., Avidor, Y., Braunwald, E., Jensen, M. D., Pories, W., Fahrbach, K., & Schoelles, K. (2004). Bariatric Surgery: A Systematic Review and Meta-analysis. *Journal of the American Medical Association*, 292(14), 1724-1737. doi: 10.1001/jama.292.14.1724
- Burke, M. A., Heiland, F. W., & Nadler, C. M. (2010). From "Overweight" to "About Right": Evidence of a Generational Shift in Body Weight Norms. *Obesity*, 18(6), 1226-1234.
- Burrell, N. A., & Koper, R. J. (1998). The efficacy of powerful/powerless language on attitudes and source credibility. In M. Allen & R. W. Preiss (Eds.), *Persuasion: Advances through meta-analysis* (pp. 203-215). Cresskill, NJ: Hampton Press.
- Burris, S. (2008). Stigma, Ethics and Policy: A Response to Bayer. *Social Science & Medicine*, 67, 43.
- Butland, B., Jebb, S., Kopelman, P., McPherson, K., Thomas, S., Mardell, J., & Parry, V. (2007). *Tackling Obesities: Future Choices Project Report*, 2nd Edition, from <http://www.foresight.gov.uk>

- Buttriss, J. (1997). Food and nutrition: attitudes, beliefs, and knowledge in the United Kingdom. *American Journal of Clinical Nutrition*, 65(6), S1985-S1995.
- Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology*, 42(1), 116-131.
- Caelli, K., Ray, L., & Mill, J. (2003). 'Clear as Mud': Toward Greater Clarity in Generic Qualitative Research. *International Journal of Qualitative Methods*, 2, 2.
- Cain, A. S., Bardone-Cone, A. M., Abramson, L. Y., Vohs, K. D., & Joiner, T. E. (2010). Prospectively predicting dietary restraint: The role of interpersonal self-efficacy, weight/shape self-efficacy, and interpersonal stress. *International Journal of Eating Disorders*, 43(6), 505-512. doi: 10.1002/eat.20740
- Cameron, L. D., & Moss-Morris, R. (2004). Illness-related Cognition and Behaviour. In A. Kaptein & J. Weinman (Eds.), *Health Psychology*. Oxford: Blackwell Publishing.
- Cameron, W. B. (1963). *Informal Sociology: A Casual Introduction to Sociological Thinking*. New York: Random House.
- Campos, P. (2004). *The Obesity Myth: Why America's Obsession with Weight is Hazardous to your Health*. New York: Gotham Books.
- Campos, P., Saguy, A. C., Ernsberger, P., Oliver, E., & Gaesser, G. (2006). The epidemiology of overweight and obesity: public health crisis or moral panic. *International Journal of Epidemiology*, 35(1), 55-60.
- Canoy, D., & Buchan, I. (2007). Challenges in obesity epidemiology. *Obesity Reviews*, 8(S1), 1-11.



- Carlsson, M. (2000). Cancer patients seeking information from sources outside the health care system. *Support Care Cancer*, 8(6), 437-438.
- Carr, D., & Friedman, M. A. (2005). Is Obesity Stigmatizing? Body Weight, Perceived Discrimination, and Psychological Well-Being in the United States. *Journal of Health and Social Behavior*, 46(3), 244-259.
- Casazza, K., Fontaine, K. R., Astrup, A., Birch, L. L., Brown, A. W., Bohan Brown, M. M., . . . Allison, D. B. (2013). Myths, Presumptions, and Facts about Obesity. *New England Journal of Medicine*, 368(5), 446-454. doi: doi:10.1056/NEJMsa1208051
- Caswell, H. (2009). A summary of findings from the 5-year Lippene project. *Nutrition Bulletin*, 34, 92-96.
- Central Statistics Office (2007). 2006 Census of Population - Principal Socio-Economic Results. Retrieved April 19th, 2010, from [http://www.cso.ie/newsevents/pr\\_2006pser.htm](http://www.cso.ie/newsevents/pr_2006pser.htm)
- Central Statistics Office (2009). Population and Migration Estimates. Retrieved 9 September, 2010, from <http://www.cso.ie/releasespublications/documents/population/current/popmig.pdf>
- Central Statistics Office (2012). Labour Market: Seasonally Adjusted Standardised Unemployment Rates. Retrieved 20 March, 2013, from <http://www.cso.ie/statistics/sasunemprates.htm>
- Chaimovitz, R., Issenman, R., Moffat, T., & Persad, R. (2008). Body perception: Do parents, their children, and their children's physicians perceive body image differently? *Journal of Pediatric Gastroenterology and Nutrition*, 47(1), 76-80. doi: 10.1097/MPG.1090b1013e31815a31834.

- Chakravarthy, M. V., & Booth, F. W. (2004). Eating, exercise, and "thrifty" genotypes: connecting the dots toward an evolutionary understanding of modern chronic diseases. *Journal of Applied Physiology*, 96(1), 3-10. doi: 10.1152/jappphysiol.00757.2003
- Chambers, S. A., & Traill, W. B. (2011). What the UK public believes causes obesity, and what they want to do about it: A cross-sectional study. *Journal of Public Health Policy*, 32(4), 430-44. doi: 10.1057/jphp.2011.45
- Chang, V. W., & Christakis, N. A. (2003). Self-perception of weight appropriateness in the United States. *American Journal of Preventive Medicine*, 24(4), 332-339. doi: 10.1016/s0749-3797(03)00020-5.
- Cho, J., Boyle, M. P., Keum, H., Shevy, M. D., McLeod, D. M., Shah, D. V., & Pan, Z. (2003). Media, terrorism, and emotionality: Emotional differences in media content and public reactions to the September 11th terrorist attacks. *Journal of Broadcasting & Electronic Media*, 47(3), 309-327. doi: 10.1207/s15506878jobem4703\_1
- Chong, D., & Druckman, J. N. (2007). Framing theory. *Annual Review of Political Science*, 10(1), 103-126. doi: doi:10.1146/annurev.polisci.10.072805.103054
- Church, C., Moir, L., McMurray, F., Girard, C., Banks, G. T., Teboul, L., . . . Cox, R. D. (2010). Overexpression of FTO leads to increased food intake and results in obesity. *Nature Genetics*, 42(12), 1086-1092. doi: doi:10.1038/ng.713
- Cohen, S. (2002). *Folk Devils and Moral Panics* (3rd ed.). Oxon: Routledge.
- Cole, T. J., Bellizzi, M. C., Flegal, K. M., & Dietz, W. H. (2000). Establishing a standard definition for child overweight and obesity worldwide: International survey. *British Medical Journal*, 320, 1-6.

- Collins, P. A., Abelson, J., Pyman, H., & Lavis, J. N. (2006). Are we expecting too much from print media? An analysis of newspaper coverage of the 2002 Canadian healthcare reform debate. *Social Science & Medicine*, 63(1), 89-102.
- Comrey, A. L., & Lee, H. B. (1992). *A first course in factor analysis* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Comuzzie, A. G., & Allison, D. B. (1998). The Search for Human Obesity Genes. *Science*, 280(5368), 1374-1377. doi: 10.1126/science.280.5368.1374
- Connell, R. W. (1995). *Masculinities*. Cambridge, UK: Polity Press.
- Connell, R. W., & Messerschmidt, J. W. (2005). Hegemonic Masculinity: Rethinking the Concept. *Gender and Society*, 19(6), 829-859.
- Conrad, P. (1987). The experience of illness: Recent and new directions. *Research in the Sociology of Health Care*, 6, 1-31.
- Conrad, P. (1992). Medicalization and Social Control. *Annual Review of Sociology*, 18, 209-232.
- Conrad, P., & Barker, K. K. (2010). The Social Construction of Illness: Key Insights and Policy Implications. *Journal of Health and Social Behavior*, 51(S1), S67-S79. doi: 10.1177/0022146510383495
- Cooper, B. E. J., Lee, W. E., Goldacre, B. M., & Sanders, T. A. B. (2011). The quality of the evidence for dietary advice given in UK national newspapers. *Public Understanding of Science*. doi: 10.1177/0963662511401782
- Cordell, G., & Ronai, C. R. (1999). Identity management among overweight women: Narrative resistance to stigma. In J. Sobal & D. Maurer (Eds.), *Interpreting Weight: The Social Management of Fatness and Thinness* (pp. 29-47). New York: Aldine de Gruyter.

- Courtenay, W. H. (2000). Constructions of masculinity and their influence on men's well-being: a theory of gender and health. *Social Science & Medicine*, 50(10), 1385-1401.
- Cousineau, T. M., Rancourt, D., & Green, T. C. (2006). Web Chatter Before and After the Women's Health Initiative Results: A Content Analysis of On-line Menopause Message Boards. *Journal of Health Communication: International Perspectives*, 11(2), 133-147.
- Covello, V. T., & Peters, R. G. (2002). Women's perceptions of the risks of age-related diseases, including breast cancer: Reports from a 3-year research study. *Health Communication*, 14(3), 377 - 395.
- Coveney, J. (1999). The science and spirituality of nutrition. *Critical Public Health*, 9(1), 23-37. doi: 10.1080/09581599908409217
- Coyle, A., & Morgan-Sykes, C. (1998). Troubled men and threatening women: The construction of 'crisis' in male mental health. *Feminism & Psychology*, 8(3), 263-284. doi: 10.1177/0959353598083003
- Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior*, 11, 671-684.
- Craik, F. I. M., & Tulving, E. (1975). Depth of processing and the retention of words in episodic memory. *Journal of Experimental Psychology: General*, 104(3), 268-294. doi: 10.1037/0096-3445.104.3.268
- Crandall, C. S. (1994). Prejudice against fat people: Ideology and self-interest. *Journal of Personality and Social Psychology*, 66(5), 882-894. doi: 10.1037/0022-3514.66.5.882

- Cronin, J. M., McCarthy, M. B., & Collins, A. M. (2012). Covert distinction: How hipsters practice food-based resistance strategies in the production of identity. *Consumption Markets & Culture*, 1-27. doi: 10.1080/10253866.2012.678785
- Crossley, M. L. (2002). Resistance to health promotion: A preliminary comparative investigation of British and Australian students. *Health Education*, 102(6), 289-299.
- Czernichow, S., Kengne, A. P., Stamatakis, E., Hamer, M., & Batty, G. D. (2011). Body mass index, waist circumference and waist-hip ratio: Which is the better discriminator of cardiovascular disease mortality risk? Evidence from an individual-participant meta-analysis of 82,864 participants from nine cohort studies. *Obesity Reviews*, 12(9), 680-687. doi: 10.1111/j.1467-789X.2011.00879.x
- Daneski, K., Higgs, P., & Morgan, M. (2010). From gluttony to obesity: Moral discourses on apoplexy and stroke. *Sociology of Health & Illness*, 32(5), 730-744. doi: 10.1111/j.1467-9566.2010.01247.x
- Davis, D. (1990). Portrayals of women in prime-network television: Some demographic characteristics. *Sex Roles*, 23, 325-332.
- Day, P. (1997). The media and the scientific message. *Journal of Health Services and Research Policy*, 2(2), 65-66.
- Department of Health and Children (2004). Minister for Health and Children launches National Taskforce on Obesity. Retrieved 14th April 2010, from <http://www.dohc.ie/press/releases/2004/20040310.html>
- Department of Health and Children (2006). The Obesity Challenge: The Social & Economic Responsibility of Government. Retrieved 09 May, 2012, from [http://business2000.ie/pdf/pdf\\_10/dept\\_of\\_health\\_10th.pdf](http://business2000.ie/pdf/pdf_10/dept_of_health_10th.pdf)

- Department of Health and Children. (2009). Report of the Inter-sectoral Group on the Implementation of the Recommendations of the National Task Force on Obesity. Retrieved from <http://www.lenus.ie/hse/bitstream/10147/73033/>
- Derenne, J. L., & Beresin, E. V. (2006). Body image, media, and eating disorders. *Academic Psychiatry, 30*(3), 257-261.
- Derzon, J. H., & Lipsey, M. W. (2002). A Meta-Analysis of the Effectiveness of Mass-Communication for Changing Substance-Use Knowledge, Attitudes, and Behavior. In W. D. Crano & M. Burgoon (Eds.), *Mass Media and Drug Prevention: Classic and Contemporary Theories and Research* (pp. 231-258). Mahwah, NJ: Lawrence Erlbaum Associates.
- Dodd, T. H., & Morse, S. (1994). The impact of media stories concerning health issues on food product sales. *Journal of Consumer Marketing, 11*, 17-24.
- Dorfman, L. (2003). Studying the news on public health: How content analysis supports media advocacy. *American Journal of Health Behavior, 27*, S217-S226).
- Dorfman, L., Wallack, L., & Woodruff, K. (2005). More than a message: Framing public health advocacy to change corporate practices. *Health Education and Behavior, 32*(3), 320-336. doi: 10.1177/1090198105275046
- Drewnowski, A., & Darmon, N. (2005). The economics of obesity: Dietary energy density and energy cost. *American Journal of Clinical Nutrition, 82*(1), S265-273.
- Druckman, J. N. (2001). On the limits of framing effects: Who can frame? *Journal of Politics, 63*, 1041-1066.
- Druckman, J. N., & Lupia, A. (2000). Preference Formation. *Annual Review of Political Science, 3*(1), 1.

- Druckman, J. N., & Nelson, K. R. (2003). Framing and deliberation: How citizens' conversations limit elite influence. *American Journal of Political Science*, 47(4), 729-745. doi: 10.1111/1540-5907.00051
- Eckersley, R. (2006). Is modern Western culture a health hazard? *International Journal of Epidemiology*, 35(2), 252-258. doi: 10.1093/ije/dyi235
- Edwards, N. M., Pettingell, S., & Borowsky, I. W. (2010). Where perception meets reality: Self-perception of weight in overweight adolescents. *Pediatrics*, 125(3), e452-e458. doi: 10.1542/peds.2009-0185
- Eisenson, J., Auer, J. J., & Irwin, J. V. (1963). *The Psychology of Communication*. New York: Appleton-Century-Crofts.
- Elgesem, D. (2002). What is special about the ethical issues in online research? *Ethics and Information Technology*, 4, 195-203.
- Elliott, B. J. (1994). A content analysis of the health information provided in women's weekly magazines. *Health Libraries Review*, 11(2), 96-103. doi: 10.1046/j.1365-2532.1994.1120096.x
- Elvestad, E., & Blekesaune, A. (2008). Differences newspaper readers in Europe: A multilevel study of individual and national. *European Journal of Communication*, 23(4), 425-447.
- Encinosa, W. E., Bernard, D. M., Steiner, C. A., & Chen, C.-C. (2005). Use and costs of bariatric surgery and prescription weight-loss medications. *Health Affairs*, 24(4), 1039-1046. doi: 10.1377/hlthaff.24.4.1039
- Entman, R. M. (1989). How the media affect what people think: An information processing approach. *The Journal of Politics*, 51(2), 347-370.
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43(4), 51-58.

- Entman, R. M. (2004). *Projections of Power: Framing News, Public Opinion, and U.S. Foreign Policy*. Chicago: University of Chicago Press.
- Ernsberger, P., & Haskew, P. (1987). *Rethinking Obesity: An Alternative View of its Health Implications*. New York: Human Sciences Press.
- ERSI. (2010). *Irish Economy*. Retrieved 9 September, 2010, from [http://www.esri.ie/irish\\_economy/](http://www.esri.ie/irish_economy/)
- Eurostat. (2010). *Statistics in Focus 30/10*. Luxembourg: European Union.
- Eveland, W. P. (2001). The cognitive mediation model of learning from the news: Evidence from nonelection, off-year election, and presidential election contexts. *Communication Research*, 28(5), 571-601. doi: 10.1177/009365001028005001
- Eveland, W. P. (2002). News information processing as mediator of the relationship between motivations and political knowledge. *Journalism & Mass Communication Quarterly*, 79(1), 26-40.
- Eysenbach, G., & Till, J. E. (2001). Ethical issues in qualitative research on internet communities. *British Medical Journal*, 323(7321), 1103-1105. doi: 10.1136/bmj.323.7321.1103
- Eysenck, M. W., & Keane, M. K. (2005). *Cognitive Psychology*. New York: Psychology Press Ltd.
- Fahy, D., Trench, B., & Clancy, L. (2009). Communicating contentious health policy: Lessons from Ireland's workplace smoking ban. *Health Promotion Practice*, doi:10.1177/1524839909341554
- Fereday, J., & Muir-Cochrane, E. (Writers). (2006). Demonstrating rigor using Thematic Analysis: A hybrid approach of inductive and deductive coding and theme development, *International Journal of Qualitative Methods*, 5(1),



- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(117-140).
- Field, A. E., Austin, S. B., Camargo, C. A., Jr, Taylor, C. B., Striegel-Moore, R. H., Loud, K. J., & Colditz, G. A. (2005). Exposure to the Mass Media, Body Shape Concerns, and Use of Supplements to Improve Weight and Shape Among Male and Female Adolescents. *Pediatrics*, 116(2), e214-220. doi: 10.1542/peds.2004-2022
- Field, A. E., Cheung, L., Wolf, A. M., Herzog, D. B., Gortmaker, S. L., & Colditz, G. A. (1999). Exposure to the Mass Media and Weight Concerns Among Girls. *Pediatrics*, 103(3), e36. doi: 10.1542/peds.103.3.e36
- Finstad, K. (2010). Response interpolation and scale sensitivity: Evidence against 5-point scales. *Journal of Usability Studies*, 5(3), 104-110.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, Mass: Addison-Wesley.
- Fiske, S. T., & Taylor, S. E. (1991). *Social Cognition*. New York: McGraw-Hill.
- Flegal, K. M. (1999). The obesity epidemic in children and adults: Current evidence and research issues. *Medicine & Science in Sports & Exercise*, 31(11), S509-514.
- Flegal, K. M. (2005). Epidemiological aspects of overweight and obesity in the United States. *Physiology & Behaviour*, 86, 599-602.
- Flegal, K. M. (2006). Commentary: The epidemic of obesity- what's in a name? *International Journal of Obesity & Related Metabolic Disorders*, 35, 72-74.

- Flegal, K. M., Carroll, M. D., Ogden, C. L., & Curtin, L. R. (2010). Prevalence and trends in obesity among US adults, 1999-2008. *Journal of the American Medical Association*, 303(3), 235-241.
- Flegal, K. M., Graubard, B. I., Williamson, D. F., & Gail, M. H. (2005). Excess deaths associated with underweight, overweight, and obesity. *Journal of the American Medical Association*, 293(15), 1861-1867. doi: 10.1001/jama.293.15.1861
- Flegal, K. M., Graubard, B. I., Williamson, D. F., & Gail, M. H. (2007). Cause-specific excess deaths associated with underweight, overweight, and obesity. *Journal of the American Medical Association*, 298(17), 2028-2037.
- Flegal, K. M., Graubard, B. I., Williamson, D. F., & Gail, M. H. (2009). Excess deaths associated with underweight, overweight, and obesity. *Journal of the American Medical Association*, 293(15), 1861-1867.
- Flegal, K. M., Kit, B. K., Orpana, H., & Graubard, B. I. (2013). Association of all-cause mortality with overweight and obesity using standard body mass index categories: A systematic review and meta-analysis. *JAMA*, 309(1), 71-82. doi: 10.1001/jama.2012.113905
- Fogelholm, M., & Kukkonen-Harjula, K. (2000). Does physical activity prevent weight gain a systematic review. *Obesity Reviews*, 1, 95-111.
- Ford, E. S., Williamson, D. F., & Liu, S. (1997). Weight change and diabetes incidence: Findings from a national cohort of US adults. *American Journal of Epidemiology*, 146(3), 214-222.
- Frank, L. D., Schmid, T. L., Sallis, J. F., Chapman, J., & Saelens, B. E. (2005). Linking objectively measured physical activity with objectively measured urban form: Findings from SMARTRAQ. *American Journal of Preventive Medicine*, 28(2, S2), 117-125.

- Friedman, K. E., Reichmann, S. K., Costanzo, P. R., Zelli, A., Ashmore, J. A., & Musante, G. J. (2005). Weight stigmatization and ideological beliefs: Relation to psychological functioning in obese adults. *Obesity*, 13(5), 907-916.
- Friel, S., Nic Gabhainn, S., & Kelleher, C. (1999). The National Health & Lifestyle Surveys: Survey of Lifestyle, Attitudes and Nutrition, (SLÁN) & The Irish Health Behaviour in School-Aged children survey (HBSC). Dublin: Health Promotion Unit, Department of Health and Children.
- Friel, S., Walsh, O., & McCarthy, D. (2006). The irony of a rich country: Issues of financial access to and availability of healthy food in the Republic of Ireland. *Journal of Epidemiology and Community Health*, 60(12), 1013-1019. doi: 10.1136/jech.2005.041335
- Furst, T., Connors, M., Bisogni, C. A., Sobal, J., & Falk, L. W. (1996). Food choice: A conceptual model of the process. *Appetite*, 26(3), 247-266. doi: 10.1006/appe.1996.0019
- Gaesser, G. A. (2002). *Big Fat Lies: The Truth About Your Weight and Your Health*. California: Gurze Books.
- Gallagher, K. I., Jakicic, J. M., Napolitano, M. A., & Marcus, B. H. (2006). Psychosocial factors related to physical activity and weight loss in overweight women. *Medicine and Science in Sports and Exercise*, 38(5), 971-980.
- Gamson, W. A., Croteau, D., Hoynes, W., & Sasson, T. (1992). Media images and the social construction of reality. *Annual Review of Sociology*, 18, 373-393. doi: 10.2307/2083459

- Gamson, W. A., & Modigliani, A. (1989). Media discourse and public opinion on nuclear power: A constructionist approach. *American Journal of Sociology*, 95(1), 1. doi: doi:10.1086/229213
- Gard, M., & Wright, J. (2001). Managing uncertainty: Obesity discourses and physical education in a risk society. *Studies in Philosophy and Education*, 535-549.
- Gard, M., & Wright, J. (2005). *The Obesity Epidemic: Science, Morality and Ideology*. Oxon: Routledge.
- Gerhards, J., & Schafer, M. S. (2010). Is the internet a better public sphere? Comparing old and new media in the USA and Germany. *New Media & Society*, 12(1), 143-160. doi: 10.1177/1461444809341444
- Ghanem, S. (1997). Filling in the tapestry: The second level of agenda-Setting. In M. E. McCombs, D. L. Shaw & D. H. Weaver (Eds.), *Communication and Democracy: Exploring the Intellectual Frontiers in Agenda-Setting Theory*. New Jersey: Lawrence Erlbaum Associates, Inc.
- Giddens, A. (1979). *Central Problems in Social Theory*. Berkeley: University of California Press.
- Giddens, A. (1984). *The Constitution of Society*. Berkeley: University of California Press.
- Gilman, S. L. (2008). *Fat: A cultural history of obesity*. Cambridge: Polity Press.
- Gilovich, T., Griffin, D. W., & Kahneman, D. (2002). *Heuristics and Biases: The Psychology of Intuitive Judgement*. Cambridge: Cambridge University Press.
- Gitlin, T. (1980). *The whole world is watching: Mass media in the making and unmaking and the New Left*. Berkeley: University of California Press.

- Glaser, B. G., & Strauss, A. L. (1967). *The Discovery of Grounded Research: Strategies for Qualitative Research*. New York: Aldine De Gruyter.
- Glasser, S. P. (2008). The Media and Clinical Research. In S. P. Glasser (Ed.), *Essentials of Clinical Research*. Alabama: Springer.
- Goffman, E. (1963). *Stigma: Notes on the Management of Spoiled Identity*. New York: Jason Aronson, Inc.
- Goffman, E. (1974). *Frame Analysis*. New York: Free Press.
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4), 597-607.
- Goldberg, J. P. (1992). Nutrition and health communication: The message and the media over half a century. *Nutrition Reviews*, 50(3), 71-77. doi: 10.1111/j.1753-4887.1992.tb01272.x
- Gortmaker, S. L., Swinburn, B. A., Levy, D., Carter, R., Mabry, P. L., Finegood, D. T., . . . Moodie, M. L. (2011). Changing the future of obesity: Science, policy, and action. *The Lancet*, 378(9793), 838-847.
- Gough, B. (2006). Try to be healthy, but don't forgo your masculinity: Deconstructing men's health discourse in the media. *Social Science & Medicine*, 63(9), 2476-2488.
- Gough, B. (2007). 'Real men don't diet': An analysis of contemporary newspaper representations of men, food and health. *Social Science & Medicine*, 64(2), 326-337.
- Grabe, M. E., Zhou, S., & Barnett, B. (2001). Explicating sensationalism in television news: Content and the bells and whistles of form. *Journal of Broadcasting & Electronic Media*, 45(4), 635-655. doi: 10.1207/s15506878jobem4504\_6

- Grabe, S., Ward, L. M., & Hyde, J. S. (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin*, 134(3), 460-476. doi: 10.1037/0033-2909.134.3.460
- Gracia-Arnaiz, M. (2010). Fat bodies and thin bodies. Cultural, biomedical and market discourses on obesity. *Appetite*, 55(2), 219-225. doi: 10.1016/j.appet.2010.06.002
- Gravetter, F. J., & Wallnau, L. B. (2004). *Statistics for the Behavioral Sciences* (6th ed.). Belmont, CA: Thomson Wadsworth.
- Gray, C., Hunt, K., Lorimer, K., Anderson, A., Benzeval, M., & Wyke, S. (2011). Words matter: A qualitative investigation of which weight status terms are acceptable and motivate weight loss when used by health professionals. *BMC Public Health*, 11(1), 513.
- Green, C. A., & Pope, C. R. (1999). Gender, psychosocial factors and the use of medical services: A longitudinal analysis. *Social Science & Medicine*, 48(10), 1363-1372. doi: 10.1016/s0277-9536(98)00440-7
- Grogan, S., & Richards, H. (2002). Body image: Focus groups with boys and men. *Men and Masculinities*, 4(3), 219-232. doi: 10.1177/1097184x02004003001
- Grønning, I., Scambler, G., & Tjora, A. (2012). From fatness to badness: The modern morality of obesity. *Health*. doi: 10.1177/1363459312447254
- Guba, E. G., & Lincoln, Y. S. (1981). *Effective evaluation*. San Francisco: Jossey-Bass Publishers.
- Haas, J. S., Kaplan, C. P., Gerstenberger, E. P., & Kerlikowske, K. (2004). Changes in the use of postmenopausal hormone therapy after the publication of clinical trial results. *Annals of Internal Medicine*, 140(3), 184-188.

- Hagger, M. S., & Orbell, S. (2003). A meta-analytic review of the Common-Sense Model of Illness Representations. *Psychology & Health*, 18(2), 141-184.
- Haidt, J., Rozin, P., McCauley, C., & Imada, S. (1997). Body, psyche, and culture: The relationship between disgust and morality. *Psychology & Developing Societies*, 9(1), 107-131. doi: 10.1177/097133369700900105
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (7th ed.). New Jersey: Pearson Prentice Hall.
- Hargreaves, I., Lewis, J., & Spears, T. (2003). *Towards a Better Map: Science, the Public and the Media*. London: Economic and Social Research Council.
- Harrington, J., Perry, I., Lutomski, J., Morgan, K., McGee, H., Shelley, E., . . . Barry, M. (2008). *SLÁN 2007: Survey of Lifestyle, Attitudes and Nutrition in Ireland: Dietary Habits of the Irish Population*, Department of Health and Children. Dublin: The Stationery Office.
- Harvey, E. L., Summerbell, C. D., Kirk, S. F. L., & Hill, A. J. (2002). Dieticians' views of overweight and obese people and reported management practices. *Journal of Human Nutrition & Dietetics*, 15(5), 331-347. doi: 10.1046/j.1365-277X.2002.00385.x
- Hawkins, N., Richards, P. S., Granley, H. M., & Stein, D. M. (2004). The impact of exposure to the thin-ideal media image on women. *Eating Disorders*, 2(1), 35-50. doi: 10.1080/10640260490267751
- Heiat, A. (2003). Impact of age on definition of standards for ideal weight. *Preventive Cardiology*, 6(2), 104-107.
- Helms, S. C. (2001). Translating privacy values with technology. *Boston University Journal of Science and Technology Law*, 7, 288-326.

- Henderson, C. J., Hagger, M. S., & Orbell, S. (2007). Does priming a specific illness schema result in an attentional information-processing bias for specific illnesses? *Health Psychology, 26*(2), 165-173.
- Henderson, J., Coveney, J., Ward, P., & Taylor, A. (2009). Governing childhood obesity: Framing regulation of fast food advertising in the Australian print media. *Social Science & Medicine, 69*(9), 1402-1408.
- Herbert, A., Gerry, N. P., McQueen, M. B., Heid, I. M., Pfeufer, A., Illig, T., . . . Christman, M. F. (2006). A common genetic variant is associated with adult and childhood obesity. *Science, 312*(5771), 279-283. doi: 10.1126/science.1124779
- Heuer, C. A., McClure, K. J., & Puhl, R. M. (2011). Obesity in the news: Do photographic images of obese persons influence antifat attitudes? *Journal of Health Communication: International Perspectives, 16*(4), 359-371.
- Hilbert, A., & Ried, J. (2009). Obesity in print: An analysis of daily newspapers. *Obesity Facts, 2*(1), 46-51.
- Hogue, M.-C. B., Doran, E., & Henry, D. A. (2012). A prompt to the web: The media and health information seeking behaviour. *PLoS ONE, 7*(4), e34314. doi: 10.1371/journal.pone.0034314
- Holland, K. E., Blood, R. W., Thomas, S. I., Lewis, S., Komesaroff, P. A., & Castle, D. J. (2011). 'Our girth is plain to see': An analysis of newspaper coverage of Australia's future 'fat bomb'. *Health, Risk & Society, 13*(1), 31 - 46.
- Holmes, B. J. (2009). Media coverage of Canada's obesity epidemic: Illustrating the subtleties of surveillance medicine. *Critical Public Health, 19*(2), 223 - 233.
- Hookway, N. (2008). 'Entering the blogosphere': some strategies for using blogs in social research. *Qualitative Research, 8*(1), 91-113. doi: 10.1177/1468794107085298



- Hoverd, W. J., & Sibley, C. G. (2007). Immoral bodies: The implicit association between moral discourse and the body. *Journal for the Scientific Study of Religion*, 46(3), 391-403.
- Howell, D. C. (2002). *Statistical Methods for Psychology* (5th ed.). Pacific Grove, CA: Duxbury.
- Hu, F. B., Li, T. Y., Colditz, G. A., Willett, W. C., & Manson, J. E. (2003). Television watching and other sedentary behaviors in relation to risk of obesity and type 2 diabetes mellitus in women. *Journal of the American Medical Association*, 289(14), 1785- 1791. doi: 10.1001/jama.289.14.1785
- Hu, F. B., Stampfer, M. J., Manson, J. E., Grodstein, F., Colditz, G. A., Speizer, F. E., & Willett, W. C. (2000). Trends in the incidence of coronary heart disease and changes in diet and lifestyle in women. *New England Journal of Medicine*, 343(8), 530-537. doi: 10.1056/nejm200008243430802
- Hutcheson, G. D., & Sofroniou, N. (1999). *The multivariate social scientist: Introductory statistics using generalized linear models*. London: Sage.
- Hwang, K. O., Ottenbacher, A. J., Green, A. P., Cannon-Diehl, M. R., Richardson, O., Bernstam, E. V., & Thomas, E. J. (2010). Social support in an Internet weight loss community. *International Journal of Medical Informatics*, 79(1), 5-13. doi: 10.1016/j.ijmedinf.2009.10.003
- IARC. (2002). *IARC handbooks of cancer prevention: Weight control and physical activity*. Lyon, France: IARC Press.
- Inglis, V., Ball, K., & Crawford, D. (2005). Why do women of low socioeconomic status have poorer dietary behaviours than women of higher socioeconomic status? A qualitative exploration. *Appetite*, 45(3), 334-343. doi: 10.1016/j.appet.2005.05.003

- Inthorn, S., & Boyce, T. (2010). 'It's disgusting how much salt you eat!': Television discourses of obesity, health and morality. *International Journal of Cultural Studies*, 13(1), 83-100.
- Irish Health. (2012). Diabetes Clinic. Retrieved 25 February, 2012, from <http://www.irishhealth.com/clin/diabetes/features2.html?artid=12306>
- Irish Nutrition and Dietetic Institute (1990). *Irish National Nutrition Survey*. Dublin: Irish Nutrition and Dietetic Institute.
- Irish Universities Nutrition Alliance. (2011). National Adult Nutrition Survey. Summary Report on Food and Nutrient intakes, Physical Measurements, Physical Activity Patterns and Food Choice Motives Retrieved 19 May, 2011, from <http://www.iuna.net/>
- ITU. (2010). ITU Internet Usage. Retrieved 5 May, 2011, from <http://www.itu.int/en/pages/default.aspx>
- Iyengar, S. (1991). *Is anyone responsible? How television frames political issues*. Chicago: University of Chicago Press.
- Iyengar, S., Peters, M. D., & Kinder, D. R. (1982). Experimental demonstrations of the "not-so-minimal" consequences of television news programs. *The American Political Science Review*, 76(4), 848-848.
- Jakicic, J. M., Marcus, B. H., Gallagher, K. I., Napolitano, M., & Lang, W. (2003). Effect of exercise duration and intensity on weight loss in overweight, sedentary women: A randomized trial. *Journal of the American Medical Association*, 290(10), 1323-1330. doi: 10.1001/jama.290.10.1323
- Jemmott, J. B., Ditto, P. H., & Croyle, R. T. (1986). Judging health status: Effects of perceived prevalence and personal relevance. *Journal of Personality and Social Psychology*, 50(5), 899-905. doi: 10.1037/0022-3514.50.5.899

- Jensen, J. D. (2008). Scientific uncertainty in news coverage of cancer research: Effects of hedging on scientists' and journalists' credibility. *Human Communication Research*, 34, 347-369.
- JNRS. (2010). Joint National Readership Survey 2009/10. Retrieved 1 October, 2010, from <http://www.jnrs.ie/survey.htm>
- JNRS. (2011). Joint National Readership Survey. Retrieved 4 November, 2012, from <http://www.jnrs.ie/survey.htm>
- Joffe, H., & Yardley, L. (2004). Content and thematic analysis. In D. F. Marks & L. Yardley (Eds.), *Research Methods for Clinical and Health Psychology*. London: Sage.
- Just, M. A., & Carpenter, P. A. (1992). A capacity theory of comprehension: individual differences in working memory. *Psychological Review*, 99(1), 122-149.
- Jutel, A. (2005). Weighing health: The moral burden of obesity. *Social Semiotics*, 15(2), 113-125.
- Kahneman, D., Slovic, P., & Tversky, A. (1982). *Judgement Under Uncertainty: Heuristics and Biases*. New York: Cambridge University Press.
- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An analysis of decision under risk. *Econometrica*, 47(2), 263-292.
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20, 141-151.
- Katzmarzyk, P. T., Church, T. S., & Blair, S. N. (2004). Cardiorespiratory fitness attenuates the effects of the metabolic syndrome on all-cause and cardiovascular disease mortality in men. *Archives of Internal Medicine*, 164(10), 1092-1097. doi: 10.1001/archinte.164.10.1092

- Katzmarzyk, P. T., Church, T. S., Janssen, I., Ross, R., & Blair, S. N. (2005). Metabolic syndrome, obesity, and mortality. *Diabetes Care*, 28(2), 391-397. doi: 10.2337/diacare.28.2.391
- Kelleher, C. (1999). Health and the Celtic Tiger: Progress of health promotion in modern Ireland. *Health Education Research*, 14(2), 151-154. doi: 10.1093/her/14.2.151
- Kelly, B., Halford, J. C. G., Boyland, E. J., Chapman, K., Bautista-Castano, I., Berg, C., . . . Summerbell, C. (2010). Television food advertising to children: A global perspective. *American Journal of Public Health*, 100(9), 1730-1736.
- Kersh, R. (2009). The politics of obesity: A current assessment and look ahead. *The Milbank Quarterly*, 87(1), 295-316.
- Kim, S.-H., & Willis, L. A. (2007). Talking about obesity: News framing of who is responsible for causing and fixing the problem. *Journal of Health Communication*, 12(4), 359-376.
- Kim, S., & Popkin, B. M. (2006). Commentary: Understanding the epidemiology of overweight and obesity - a real global public health concern. *International Journal of Epidemiology*, 35, 60-67.
- Kinder, D. R. (2007). Curmudgeonly advice. *Journal of Communication*, 57(1), 155-162. doi: 10.1111/j.1460-2466.2006.00335.x
- Kinder, D. R., & Sanders, L. M. (1996). *Divided by color: Racial politics and democratic ideals*. Chicago: University of Chicago Press.
- Kiousis, S. (2001). Public trust or mistrust? Perceptions of media credibility in the information Age. *Mass Communication and Society*, 4(4), 381-403.
- Kirby, P. (2004). Development theory and the Celtic Tiger. *European Journal of Development*, 16(2), 301-328.

- Kitzinger, J. (2000). Media templates: Patterns of association and the (re)construction of meaning over time. *Media, Culture & Society*, 22(1), 61-84. doi: 10.1177/016344300022001004
- Klapper, J. T. (1960). *The effects of mass communication*. New York: Free Press.
- Kline, P. (1999). *The handbook of psychological testing* (2nd ed.). London: Routledge.
- Kondracki, N. L., Wellman, N. S., & Amundson, D. R. (2002). Content analysis: Review of methods and their applications in nutrition education. *Journal for Nutrition Education and Behaviour*, 34(4), 224-230.
- Köster, E. P. (2009). Diversity in the determinants of food choice: A psychological perspective. *Food Quality and Preference*, 20(2), 70-82. doi: <http://dx.doi.org/10.1016/j.foodqual.2007.11.002>
- Köster, E. P., & Mojet, J. (2007). Theories of food choice development. In L. Frewer & H. C. M. V. Trijp (Eds.), *Understanding consumers of food products*. Cambridge, UK: Woodhead Publishing.
- Kosti, R., I., & Panagiotakos, D., B. (2006). The epidemic of obesity in children and adolescents in the world. *Central European Journal of Public Health*, 14(4), 151-159.
- Kozinets, R. V. (2002). The field behind the screen: Using netnography for marketing research in online communities. *Journal of Marketing Research*, 39, 31-72.
- Kozinets, R. V. (2010). *Netnography: Doing Ethnographic Research Online*. London: Sage.
- Kraut, R., Olson, J., Banaji, M., Bruckman, A., Cohen, J., & Couper, M. (2004). Psychological research online: Report of Board of Scientific Affairs'

- Advisory Group on the conduct of research on the Internet. *American Psychologist*, 59(2), 105-117. doi: 10.1037/0003-066X.59.2.105
- Kremers, S. P., de Bruijn, G. J., Visscher, T. L., van Mechelen, W., de Vries, N. K., & Brug, J. (2006). Environmental influences on energy balance-related behaviors: a dual-process view. *International Journal of Behavioral Nutrition and Physical Activity*, 3(9).
- Krippendorff, K. (2004). *Content Analysis: An Introduction to its methodology* (2nd ed.). London: Sage.
- Kuchler, F., & Variyam, J. N. (2003). Mistakes were made: Misperception as a barrier to reducing overweight. *International Journal of Obesity and Related Metabolic Disorders*, 27(7), 856-861.
- Kumanyika, S. K. (2008). Environmental influences on childhood obesity: Ethnic and cultural influences in context. *Physiology & Behavior*, 94(1), 61-70. doi: 10.1016/j.physbeh.2007.11.019
- Kwan, S. (2009). Framing the fat body: Contested meanings between government, activists, and industry. *Sociological Inquiry*, 79(1), 25-50. doi: 10.1111/j.1475-682X.2008.00271.x
- Langer, R., & Beckman, S. C. (2005). Sensitive research topics: Netnography revisited. *Qualitative Market Research: An International Journal*, 8(2), 189-203.
- Lappalainen, R., Kearney, J., & Gibney, M. (1998). A pan EU survey of consumer attitudes to food, nutrition and health: an overview. *Food Quality and Preference*, 9(6), 467-478. doi: 10.1016/S0950-3293(98)00018-4
- Larson, N., & Story, M. (2009). A Review of environmental influences on food choices. *Annals of Behavioral Medicine*, 38(0), 56-73. doi: 10.1007/s12160-009-9120-9

- Larsson, S. C., & Wolk, A. (2007). Overweight, obesity and risk of liver cancer: A meta-analysis of cohort studies. *British Journal of Cancer*, 97(7), 1005-1008.
- Lasswell, H. D. (1948). The structure and function of communication in society. In L. Bryson (Ed.), *The communication of ideas: A series of addresses* (pp. 37-51). New York: Harper.
- Lasswell, H. D., Lerner, D., & Pool, I. d. S. (1952). *The Comparative Study of Symbols*. Stanford: Stanford University Press.
- Latner, J. D., & Stunkard, A. J. (2003). Getting worse: The stigmatization of obese children. *Obesity research*, 11(3), 452-456. doi: 10.1038/oby.2003.61
- Lawlor, D. A., & Chaturvedi, N. (2006). Treatment and prevention of obesity - are there critical periods for intervention? *International Journal of Epidemiology*, 35, 3-9.
- Lawrence, R. G. (2004). Framing obesity: The evolution of news discourse on a public health issue. *Harvard International Journal of Press/Politics*, 9(3), 56-75. doi: 10.1177/1081180x04266581
- Lecheler, S., & de Vreese, C. H. (2011). Getting real: The duration of framing effects. *Journal of Communication*, 61(5), 959-983. doi: 10.1111/j.1460-2466.2011.01580.x
- Levant, R. F., Wimer, D. J., & Williams, C. M. (2011). An evaluation of the Health Behavior Inventory-20 (HBI-20) and its relationships to masculinity and attitudes towards seeking psychological help among college men. *Psychology of Men & Masculinity*, 12(1), 26-41. doi: 10.1037/a0021014
- Leventhal, H. (1970). Findings and theory in the study of fear communications. In B. Leonard (Ed.), *Advances in Experimental Social Psychology* (Vol.5, pp. 119-186): Academic Press.

- Leventhal, H., Diefenbach, M., & Leventhal, E. A. (1992). Illness cognition: Using common sense to understand treatment adherence and affect cognition interactions. *Cognitive Therapy and Research*, 16(2), 143-163.
- Leventhal, H., Leventhal, E. A., & Contrada, R. J. (1998). Self-regulation, health, and behavior: A perceptual-cognitive approach. *Psychology & Health*, 13(4), 717 - 733.
- Leventhal, H., Meyer, D., & Nerenz, D. (1980). The common-sense representation of illness danger. In S. Rachman (Ed.), *Contributions to Medical Psychology* (pp. 7-30). New York: Pergamon Press.
- Leventhal, H., Safer, M. A., & Panagis, D. M. (1983). The impact of communications on the self-regulation of health beliefs, decisions, and behavior. *Health Education & Behavior*, 10, 3-29.
- Leventhal, H., & Trembly, G. (1968). Negative emotions and persuasion. *Journal of Personality*, 36(154-168).
- Leventhal, H., Weinman, J., Leventhal, E. A., & Phillips, L. A. (2008). Health psychology: The search for pathways between behavior and health. *Annual Review of Psychology*, 59(1), 477-505. doi: doi:10.1146/annurev.psych.59.103006.093643
- Levy, B. R., & Pilver, C. E. (2012). Residual stigma: Psychological distress among the formerly overweight. *Social Science & Medicine*, 75(2), 297-299. doi: 10.1016/j.socscimed.2012.03.007
- Lewis, A. B., John, M. O., & Enid, G.-B. (2007). Obesity: Genetic, molecular, and environmental aspects. *American Journal of Medical Genetics*, (A24), 3016-3034. doi:10.1002/ajmg.a.32035
- Li, J. S., Barnett, T. A., Goodman, E., Wasserman, R. C., & Kemper, A. R. (2012). Approaches to the Prevention and Management of Childhood Obesity: The



Role of Social Networks and the Use of Social Media and Related Electronic Technologies, A Scientific Statement From the American Heart Association. *Circulation*. doi: 10.1161/CIR.0b013e3182756d8e

Lieberman, M. A., & Goldstein, B. A. (2005). Self-help on-line: An outcome evaluation of breast cancer bulletin boards. *Journal of Health Psychology*, 10(6), 855-862. doi: 10.1177/1359105305057319

Lin, L., & Reid, K. (2009). The relationship between media exposure and antifat attitudes: the role of dysfunctional appearance beliefs. *Body Image*, 6(1), 52-55.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. California: Sage.

Lissau, I. (2004). Overweight and obesity epidemic among children: Answer from European countries. *International Journal of Obesity*, 28, S10-S15.

Livingston, E. H. (2010). The incidence of bariatric surgery has plateaued in the U.S. *The American Journal of Surgery*, 200(3), 378-385.

Llewellyn, C. D., McGurk, M., & Weinman, J. (2007). Illness and treatment beliefs in head and neck cancer: Is Leventhal's common sense model a useful framework for determining changes in outcomes over time? *Journal of Psychosomatic Research*, 63(1), 17-26.

Lobstein, T., & Dobb, S. (2005). Evidence of a possible link between obesogenic food advertising and child overweight. *Obesity Reviews*, 6(3), 203-208.

Lobstein, T., & Millstone, E. (2007). Context for the PorGrow study: Europe's obesity crisis. *Obesity Reviews*, 8(S2), 7-16.

Lombard, M., Snyder-Duch, J., & Bracken, C. C. (2002). Content analysis in mass communication: Assessment and reporting of intercoder reliability. *Human Communication Research*, 28(4), 587-604.

- Lupton, D. (1996). *Food, the body and the self*. London: Sage.
- Lupton, D. (1999). Editorial: Health, illness and medicine in the media. *Health*., 3(3), 259-262. doi: 10.1177/136345939900300301
- Lyons, A. C. (2000). Examining media representations: Benefits for health psychology. *Journal of Health Psychology*, 5(3), 349-358.
- Lyons, A. C., & Willott, S. (1999). From suet pudding to superhero: Representations of men's health for women. *Health*., 3(3), 283-302. doi: 10.1177/136345939900300303
- MacLean, L., Edwards, N., Garrard, M., Sims-Jones, N., Clinton, K., & Ashley, L. (2009). Obesity, stigma and public health planning. *Health promotion international*, 24(1), 88-93.
- Maher, J., Fraser, S., & Wright, J. (2010). Framing the mother: Childhood obesity, maternal responsibility and care. *Journal of Gender Studies*, 19(3), 233-247.
- Major, L. H. (2009). Break it to me harshly: The effects of intersecting news frames in lung cancer and obesity coverage. *Journal of Health Communication: International Perspectives*, 14(2), 174-188.
- Malterud, K., & Ulriksen, K. (2010). "Norwegians fear fatness more than anything else": A qualitative study of normative newspaper messages on obesity and health. *Patient education and counselling*, 81(1), 47-52.
- Markham, A. (2004). Internet Communication as a Tool for Qualitative Research. In D. Silverman (Ed.), *Qualitative Research: Theory, Method, and Practices* (2nd ed.). London: Sage.
- Martin, R., Rothrock, N., Leventhal, H., & Leventhal, E. (2003). Common Sense Models of Illness: Implications for Symptom Perception and Health-related Behaviors. In J. M. Suls & K. A. Wallsto (Eds.), *Social psychological*

*foundations of health and illness* (pp. 199-225). Oxford: Blackwell Publishing.

Mays, N., & Pope, C. (2000). Assessing quality in qualitative research. *British Medical Journal*, 320(7226), 50-52. doi: 10.1136/bmj.320.7226.50

Maximova, K., McGrath, J. J., Barnett, T., O'Loughlin, J., Paradis, G., & Lambert, M. (2008). Do you see what I see? Weight status misperception and exposure to obesity among children and adolescents. *International Journal of Obesity*, 32(6), 1008-1015.

McCombs, M. E., & Shaw, D. L. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, 36(2), 176-187. doi: 10.1086/267990

McGee, D. L. (2004). Body mass index and mortality: A meta-analysis based on person-level data from twenty-six observational studies. *Annals of Epidemiology*, 15(2), 87-97.

McGinnity, F., & Russell, H. (2008). *Gender Inequalities in Time Use: The Distribution of Caring, Housework and Employment Among Women and Men in Ireland*. Equality Series. Retrieved 22 July 2011, from <http://www.lenus.ie/hse/bitstream/10147/76678/1/EqualityInequalities.pdf>

Mela, D. J. (1999). Food choice and intake: The human factor. *Proceedings of the Nutrition Society*, 58(03), 513-521. doi: doi:10.1017/S0029665199000683

Mela, D. J. (2001). Determinants of food choice: Relationships with obesity and weight control. *Obesity Research*, 9(Suppl. 4), 249S-255S.

Menashe, C. L., & Siegel, M. (1998). The power of a frame: An analysis of newspaper coverage of tobacco issues, United States, 1985-1996. *Journal of Health Communication*, 3, 307-325.

- Meyer, D., Leventhal, H., & Gutmann, M. (1985). Common-sense models of illness: The example of hypertension. *Health Psychology*, 4(2), 115-135. doi: 10.1037/0278-6133.4.2.115
- Miles, J. N. V., & Shevlin, M. E. (2001). *Applying Regression and Correlation*. London: Sage.
- Miles, M. B., & Huberman, M. (1994). *Qualitative Data Analysis*. London: Sage.
- Miles, M. B., & Weitzman, E. A. (1994). Choosing Computer Programs For Qualitative Data Analysis. In M. B. Miles & M. Huberman (Eds.), *Qualitative Data Analysis*. London: Sage.
- Monaghan, L. F. (2007). Body Mass Index, masculinities and moral worth: Men's critical understandings of 'appropriate' weight-for-height. *Sociology of Health & Illness*, 29(4), 584-609. doi: 10.1111/j.1467-9566.2007.01007.x
- Monaghan, L. F. (2008). *Men and the War on Obesity: A Sociological Study*. Oxon: Routledge.
- Monaghan, L. F. (2010a). Physician Heal Thyself, Part 1: A qualitative analysis of an online debate about clinicians bodyweight. *Social Theory & Health*, 8(1), 1-27. doi: 10.1057/sth.2008.21
- Monaghan, L. F. (2010b). Physician Heal Thyself, Part 2: Debating clinicians bodyweight. *Social Theory & Health*, 8(1), 28-50. doi: 10.1057/sth.2008.20
- Morrill, A. C., & Chinn, C. D. (2004). The Obesity Epidemic in the United States. *Journal of Public Health Policy*, 25(3/4), 353-366.
- Muennig, P., Jia, H., Lee, R., & Lubetkin, E. (2008). I think therefore I am: Perceived ideal weight as a determinant of health. *American Journal of Public Health*, 98(3), 501-506. doi: 10.2105/ajph.2007.114769

- Mulcahy, A. (1995). Claims-making and the construction of legitimacy: Press coverage of the 1981 Northern Irish hunger strike. *Social Problems*, 42(4), 449-467.
- Mullen, N. (2009). *Rise in demand for obesity surgery*, Irish Medical Times. Retrieved from [www.imt.ie/news/2009/07/rise\\_in\\_demand\\_for\\_obesity\\_sur](http://www.imt.ie/news/2009/07/rise_in_demand_for_obesity_sur)
- Müller-Riemenschneider, F., Reinhold, T., Berghöfer, A., & Willich, S. (2008). Health-economic burden of obesity in Europe. *European Journal of Epidemiology*, 23(8), 499-509. doi: 10.1007/s10654-008-9239-1
- National Nutrition Surveillance Centre (2003). Dietary habits of the Irish population: Results from SLÁN Annual Report 2003. Retrieved 3 March, 2011, from <http://www.dohc.ie/publications/pdf/diethab.pdf?direct=1>
- Nelkin, D. (1995). *Selling Science: How the Press Covers Science and Technology*, revised edition. New York: W. H. Freeman.
- Nelkin, D. (1996). An uneasy relationship: The tensions between medicine and the media. *The Lancet*, 347(9015), 1600-1603.
- Nelson, T. E., & Oxley, Z. M. (1999). Issue framing effects on belief importance and opinion. *The Journal of Politics*, 61(04), 1040-1067. doi: doi:10.2307/2647553
- Nelson, T. E., Oxley, Z. M., & Clawson, R. A. (1997). Toward a psychology of framing effects. *Political Behavior*, 19, 221-246.
- Neuendorf, K. A. (2002). *The Content Analysis Guidebook*. London: Sage.
- Neville, L., Thomas, M., & Bauman, A. (2005). Food advertising on Australian television: The extent of children's exposure. *Health Promotion International*, 20(2), 105-112. doi: 10.1093/heapro/dah601

- Newcombe, M. A., McCarthy, M. B., Cronin, J. M., & McCarthy, S. N. (2012). "Eat like a man". A social constructionist analysis of the role of food in men's lives. *Appetite*, 59(2), 391-398. doi: dx.doi.org/10.1016/j.appet.2012.05.031
- NICE (2006). Obesity: The prevention, identification, assessment and management of overweight and obesity in adults and children. Retrieved 5 November, 2010, from <http://guidance.nice.org.uk/CG43>
- Noar, S. M. (2006). A 10-year retrospective of research in health mass media campaigns: Where do we go from here? *Journal of Health Communication: International Perspectives*, 11(1), 21 - 42.
- Nunnally, J., & Bernstein, I. (1994). *Psychometric Theory*. McGraw-Hill.
- O'Brien, M. (2008). *The Irish Times: A History*. Dublin: Four Courts Press.
- O'Donnell, S. (2003). News consumption in Ireland and the European Union: Traditional media vs. the Internet. *Irish Communications Review*, 9.
- Oakley, A. (1994). Who cares for health? Social relations, gender, and the public health. *Journal of Epidemiology and Community Health*, 48(5), 427-434. doi: 10.1136/jech.48.5.427
- National Task Force on Obesity (2005). *Obesity: The Policy Challenges*. The Report of the National Taskforce on Obesity. Retrieved 14 January 2011, from [http://www.dohc.ie/publications/pdf/report\\_taskforce\\_on\\_obesity.pdf?direct](http://www.dohc.ie/publications/pdf/report_taskforce_on_obesity.pdf?direct)
- Offer, A. (1998). Epidemics of abundance: Overeating and slimming in the USA and Britain since the 1950s. *Discussion Papers in Economic and Social History*, 25, 1-37.
- Ogden, C. L., Carroll, M. D., Curtin, L. R., McDowell, M. A., Tabak, C. J., & Flegal, K. M. (2006). Prevalence of overweight and obesity in the United States, 1999–2004. *Journal of the American Medical Association*, 295, 1549–1555.

- Ogden, J. (2000). The correlates of long-term weight loss: a group comparison study of obesity. *International Journal of Obesity & Related Metabolic Disorders*, 24(8), 1018.
- Ogden, J., & Flanagan, Z. (2008). Beliefs about the causes and solutions to obesity: A comparison of GPs and lay people. *Patient Education and Counseling*, 71(1), 72-78.
- Ogden, J., & Jubb, A. (2008). How consistent are beliefs about the causes and solutions to illness?: An experimental study. *Psychology, Health & Medicine*, 13(5), 505-515.
- Oliver, J. E. (2006). The politics of pathology: How obesity became an epidemic disease. *Perspectives in Biology and Medicine*, 49(4), 611-627.
- Paeratakul, S., White, M. A., Williamson, D. A., Ryan, D. H., & Bray, G. A. (2002). Sex, race/ethnicity, socioeconomic status, and BMI in relation to self-perception of overweight. *Obesity research*, 10(5), 345-350. doi: 10.1038/oby.2002.48
- Pan, Z., & Kosicki, G. M. (1993). Framing analysis: An approach to news discourse. *Political Communication*, 10, 55-75.
- Pan, Z. D., & Kosicki, G. M. (2005). Framing and understanding of citizenship. In S. Dunwoody, L. Becker, G. Kosicki & D. McLeod (Eds.), *The evolution of key mass communication concepts*. Cresskill, NJ: Hampton.
- Parker, S., Nichter, M., Nichter, M., Vuckovic, N., Sims, C., & Ritenbaugh, C. (1995). Body image and weight concerns among African American and white adolescent females: Differences that make a difference. *Human Organization*, 54(2), 103-114.

- Patterson, R. E., Satia, J. A., Kristal, A. R., Neuhouser, M. L., & Drewnowski, A. (2001). Is There a consumer backlash against the diet and health message? *Journal of the American Dietetic Association*, 101(1), 37-41.
- Patton, M. Q. (2002). *Qualitative evaluation and research methods (3rd ed.)*. Thousand Oaks, CA: Sage.
- Pentecost, C., & Taket, A. (2011). Understanding exercise uptake and adherence for people with chronic conditions: A new model demonstrating the importance of exercise identity, benefits of attending and support. *Health Education Research*, 26(5), 908-922. doi: 10.1093/her/cyr052
- Perri, M. G., Sears, S. F. J., & Clark, J. E. (1993). Strategies for improving maintenance of weight loss: Toward a continuous care model of obesity management. *Diabetes Care*, 16(1), 200-209.
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. *Advances in experimental social psychology*, 19(1), 123-205.
- Phillips, D., Kanter, E., Bednarczyk, B., & Tastad, P. (1991). Importance of the lay press in the transmission of medical knowledge to the scientific community. *New England Journal of Medicine*, 325(16), 1180-1183.
- Pi-Sunyer, F. X. (1999). A review of long-term studies evaluating the efficacy of weight loss in ameliorating disorders associated with obesity. *Clinical Therapeutics*, 18(6), 1006-1035.
- Pingitore, R., Spring, B., & Garfieldt, D. (1997). Gender differences in body satisfaction. *Obesity Research*, 5(5), 402-409. doi: 10.1002/j.1550-8528.1997.tb00662.x
- Pope, C., Ziebland, S., & Mays, N. (2000). Analysing qualitative data. *British Medical Journal*, 320, 114-116.



- Popkin, B. M. (2010). Recent dynamics suggest selected countries catching up to US obesity. *American Journal of Clinical Nutrition*, 91(1), S284-S288.
- Popkin, B. M., & Gordon-Larsen, P. (2004). The nutrition transition: worldwide obesity dynamics and their determinants. *International Journal of Obesity*, 28, S2–S9.
- Powell, T. M., de Lemos, J. A., Banks, K., Ayers, C. R., Rohatgi, A., Khera, A., . . . Das, S. R. (2010). Body size misperception: A novel determinant in the obesity epidemic. *Archives of Internal Medicine*, 170(18), 1695-1697. doi: 10.1001/archinternmed.2010.314
- Preston, C. C., & Colman, A. M. (2000). Optimal number of response categories in rating scales: Reliability, validity, discriminating power, and respondent preferences. *Acta Psychologica*, 104(1), 1-15. doi: 10.1016/S0001-6918(99)00050-5
- Price, V., & Tewksbury, D. (1997). News values and public opinion: A theoretical account of media priming and framing. In G. A. Barrett & F. J. Boster (Eds.), *Progress in communication sciences: Advances in persuasion* (Vol. 13). Greenwich: Ablex.
- Puhl, R. M., & Brownell, K. D. (2001). Bias, discrimination, and obesity. *Obesity*, 9(12), 788-805.
- Puhl, R. M., & Heuer, C. A. (2009). The stigma of obesity: A review and update. *Obesity*, 17(5), 941-964.
- Puhl, R. M., & Heuer, C. A. (2010). Obesity stigma: Important considerations for Public Health. *American Journal of Public Health*, 100(6), 1019-1028. doi: 10.2105/ajph.2009.159491
- Puhl, R. M., & Latner, J. D. (2007). Stigma, obesity, and the health of the nation's children. *Psychological bulletin*, 133(4), 557-580.

- Puhl, R. M., Masheb, R. M., White, M. A., & Grilo, C. M. (2010). Attitudes toward obesity in obese persons: A matched comparison of obese women with and without binge eating. *Eating and Weight Disorders*, 15(3), e173-e179.
- Rail, G., Holmes, D., & Murray, S. J. (2010). The politics of evidence on 'domestic terrorists': Obesity discourses and their effects. *Social Theory & Health*, 8(3), 259-279.
- Rand, C. S. W., & Resnick, J. L. (2000). The "good enough" body size as judged by people of varying age and weight. *Obesity*, 8(4), 309-316.
- Rand, C. S. W., Resnick, J. L., & Seldmant, R. S. (1997). Assessment of socially acceptable body sizes by university students. *Obesity research*, 5(5), 425-429. doi: 10.1002/j.1550-8528.1997.tb00665.x
- Rankinen, T., Zuberi, A., Chagnon, Y. C., Weisnagel, S. J., Argyropoulos, G., Walts, B., . . . Bouchard, C. (2006). The Human Obesity Gene Map: The 2005 update. *Obesity*, 14(4), 529-644.
- Rich, E., & Evans, J. (2005). Fat ethics: The obesity discourse and body politics. *Social Theory & Health*, 3(4), 341-358.
- Riffe, D., Lacy, S., & Fico, F. G. (2008). *Analyzing media messages: Using quantitative content analysis in research* (2nd ed.). Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc.
- Robinson, T. N. (1999). Reducing children's television viewing to prevent obesity: A randomized controlled trial. *Journal of the American Medical Association*, 282(16), 1561-1567. doi: 10.1001/jama.282.16.1561
- Roddy, S., Stewart, I., & Barnes-Holmes, D. (2010). Anti-fat, pro-slim, or both?: Using two reaction-time based measures to assess implicit attitudes to the slim and overweight. *Journal of Health Psychology*, 15(3), 416-425. doi: 10.1177/1359105309350232

- Ross, S., Walker, A., & MacLeod, M. J. (2004). Patient compliance in hypertension: role of illness perceptions and treatment beliefs. *Journal of Human Hypertension*, 18, 607-613.
- Ross, V. M., O'Brien, C. M., Burke, S. J., Faulkner, G. P., & Flynn, M. A. T. (2009). How affordable is healthy eating? *Proceedings of the Nutrition Society*, 68. doi:10.1017/S0029665109990632
- Rowe, M., Angeletou, S., & Alani, H. (2011, 9-11 Oct. 2011). Anticipating discussion activity on community forums. Paper presented at The Third IEEE International Conference on Social Computing. Boston, 9-11 October 2011,
- Roy, S. C., Faulkner, G., & Finlay, S. J. (2007). Fit to print: A natural history of obesity research in the Canadian news media. *Canadian Journal of Communication*, 32(3-4), 575-594.
- Rozin, P. (1996a). The socio-cultural context of eating and food choice. In H. I. Meiselman & H. J. H. MacFie (Eds.), *Food Choice, Acceptance and Consumption* (pp. 83-104). London: Blackie Academic & Professional.
- Rozin, P. (1996b). Towards a psychology of food and eating: From motivation to module to model to marker, morality, meaning, and metaphor. *Current Directions in Psychological Science*, 5(1), 18-24.
- Rudd Center for Food Policy & Obesity, Y. U. (2011). *Guidelines for the Portrayal of Obese Persons in the Media*. Retrieved 2 October, 2011, from [http://www.yaleruddcenter.org/what\\_we\\_do.aspx?id=318](http://www.yaleruddcenter.org/what_we_do.aspx?id=318)
- Russell, H., Layte, R., Maitre, B., O'Connell, P. J., & Whelan, C. T. (2004). *Work-Poor Households: The Welfare Implications of Changing Household Employment Patterns*. Dublin: The Economic and Social Research Institute.
- Russell, H., McGinnity, F., Callan, T., & Keane, C. (2009). *A Woman's Place: Female Participation in the Irish Labour Market*. Equality Research Series

Retrieved December 1, 2010, from <http://www.esri.ie/UserFiles/publications/20091113090533/BKMNEXT153.pdf>

Russell, H., & O'Connell, P. J. (2004). Women returning to employment, education and training in Ireland: An analysis of transitions. *The Economic and Social Review*, 35(1), 1-25.

safefood (2012). The cost of overweight and obesity on the Island of Ireland. Retrieved on 2 April 2013, from <http://www.safefood.eu/SafeFood/media/SafeFoodLibrary/Documents/Publications/Research%20Reports/Final-Exec-Summary-The-Economic-Cost-of-Obesity.pdf>

safefood (2013, 8th April 2013). [safefood 'Stop the Spread' post-campaign evaluation].

Saguy, A. C. (2005). French women don't get fat? French news reporting on obesity. *Health At Every Size*, 19(4), 219-234.

Saguy, A. C. (2013). *What's Wrong with Fat?* Oxford: Oxford University Press.

Saguy, A. C., & Almeling, R. (2008). Fat in the fire? Science, the news media, and the “obesity epidemic”. *Sociological Forum*, 23(1), 53-83.

Saguy, A. C., & Gruys, K. (2010). Morality and health: News media constructions of overweight and eating disorders. *Social Problems*, 57(2), 231-250. doi: doi:10.1525/sp.2010.57.2.231

Saguy, A. C., & Riley, K. W. (2005). Weighing both sides: Morality, mortality, and framing contests over obesity. *Journal of Health Politics, Policy and Law*, 30(5), 869-922.

Sánchez-Villegas, A., Madrigal, H., Martínez-González, M. A., Kearney, J., Gibney, M. J., De Irala, J., & Martínez, J. A. (2001). Perception of body image as indicator of weight status in the European Union. *Journal of Human*

*Nutrition and Dietetics*, 14(2), 93-102. doi: 10.1046/j.1365-277X.2001.00281.x

Sandberg, H. (2007). A matter of looks: The framing of obesity in four Swedish daily newspapers. *Communications*, 32(4), 447-472. doi: 10.1515/commun.2007.018

Sandelowski, M. (1995). Sample size in qualitative research. *Research in Nursing & Health*, 18(2), 179-183. doi: 10.1002/nur.4770180211

Santry, H. P., Gillen, D. L., & Lauderdale, D. S. (2005). Trends in bariatric surgical procedures. *Journal of the American Medical Association*, 294(15), 1909-1917. doi: 10.1001/jama.294.15.1909

Saperstein, S. L., Atkinson, N. L., & Gold, R. S. (2007). The impact of Internet use for weight loss. *Obesity Reviews*, 8(5), 459-465. doi: 10.1111/j.1467-789X.2007.00374.x

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students*. Essex, UK: Pearson.

Schank, R. (1999). *Dynamic memory revisited*. Cambridge: Cambridge University Press.

Schank, R. C., & Abelson, R. P. (1977). *Scripts, Plans, Goals and Understanding: An Inquiry into Human Knowledge Structures*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Scheufele, D. (1999). Framing as a theory of media effects. *Journal of Communication*, 49(1), 103-122.

Schrum, L. (1995). Framing the debate: Ethical research in the information age. *Qualitative Inquiry*, 1(3), 311-326. doi: 10.1177/107780049500100303

- Schwandt, T. A., Lincoln, Y. S., & Guba, E. G. (2007). Judging interpretations: But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation *New Directions for Evaluation*, 114(114), 11-25.
- Schwartz, M. B., & Brownell, K. D. (2007). Actions necessary to prevent childhood obesity: Creating the climate for change. *The Journal of Law, Medicine & Ethics*, 35, 78-89.
- Scott, M. B., & Lyman, S. M. (1968). Accounts. *American Sociological Review*, 33(1), 46-62. doi: 10.2307/2092239
- Seale, C. (2005). Using computers to analyse qualitative data. In D. Silverman (Ed.), *Doing Qualitative Research*. London: Sage.
- Seidell, J. C. (2000). Obesity, insulin resistance and diabetes - a worldwide epidemic. *British Journal of Nutrition*, 83(Suppl. 1), S5-S8.
- Seidell, J. C. (2010). Waist circumference and waist/hip ratio in relation to all-cause mortality, cancer and sleep apnea. *European Journal of Clinical Nutrition*, 64(1), 35-41.
- Seligman, M. E. P. (1975). *Helplessness: On depression, development and death*. San Francisco: Freeman.
- Sentinelli, F., Romeo, S., Arca, M., Filippi, E., Leonetti, F., Banchieri, M., . . . Baroni, M. G. (2002). Human resistin gene, obesity, and type 2 diabetes. *Diabetes*, 51(3), 860-862. doi: 10.2337/diabetes.51.3.860
- Shaw, A. (2002). "It just goes against the grain": Public understandings of genetically modified (GM) food in the UK. *Public Understanding of Science*, 11, 273-291.
- Shuchman, M., & Wilkes, M. S. (1997). Medical scientists and health news reporting: A case of miscommunication. *Annals of Internal Medicine*, 126(12), 976-982.

- Shugarta, H. A. (2011). Heavy viewing: Emergent frames in contemporary news coverage of obesity. *Health Communication, 26*(7), 635-648.
- Sillence, E., Briggs, P., Harris, P. R., & Fishwick, L. (2007). How do patients evaluate and make use of online health information? *Social Science & Medicine, 64*(9), 1853-1862. doi: 10.1016/j.socscimed.2007.01.012
- Silverman, D. (2005). *Doing Qualitative Research: A Practical Handbook*. London: Sage.
- Sloan, C., Gough, B., & Conner, M. (2010). Healthy masculinities? How ostensibly healthy men talk about lifestyle, health and gender. *Psychology & Health, 25*(7), 783 - 803.
- Slothuus, R. (2008). More than weighting cognitive importance: A dual-process model of issue framing effects. *Political Psychology, 29*(1), 1-28. doi: 10.2307/20447096
- Smith, G. D., & Brunner, E. (1997). Socio-economic differentials in health: The role of nutrition. *Proceedings of the Nutrition Society, 56*(1A), 75-90.
- Snyder, L. B., & Hamilton, M. A. (2002). A meta-analysis of US health campaign effects on behavior: Emphasize enforcement, exposure and new information and beware the secular trend. In R. C. Hornik (Ed.), *Public Health Communication: Evidence for Behavior Change*. New Jersey: Lawrence Erlbaum Associates, Inc.
- Sobal, J. (1995). The Medicalization and Demedicalization of Obesity. In D. Maurer & J. Sobal (Eds.), *Eating Agendas: Food and Nutrition as Social Problems*. Hawthorne, New York: Aldine de Gruyter.
- Sobal, J. (2002). Social and Cultural Influences on Obesity. In P. Bjorntorp (Ed.), *International Textbook of Obesity* (pp. 305-322): John Wiley & Sons, Ltd.

- Sobal, J., & Stunkard, A. J. (1989). Socioeconomic status and obesity: A review of the literature. *Psychological bulletin*, 105(2), 260-275. doi: 10.1037/0033-2909.105.2.260
- Speakman, J. R. (2004). Obesity: The integrated roles of environment and genetics. *Journal of Nutrition*, 134(8), 2090S-2105.
- Srikanthan, P., Seeman, T., & Karlamangla, A. (2009). Waist-Hip-Ratio as a predictor of all-cause mortality in high-functioning older adults. *Annals of Epidemiology*, 19(10), 724-731.
- Stanovich, K. E., & West, R. F. (2000). Individual differences in reasoning: Implications for the rationality debate? *Behavioral and Brain Sciences*, 23(05), 645-665. doi: doi:10.1017/S0140525X00003435
- State of The News. (2010). Retrieved 21 April, 2010, from [http://www.stateofthemedialife.org/2010/online\\_nielsen.php](http://www.stateofthemedialife.org/2010/online_nielsen.php)
- Stein, R. I., & Nemeroff, C. J. (1995). Moral overtones of food: Judgments of others based on what they eat. *Personality and Social Psychology Bulletin*, 21(5), 480-490. doi: 10.1177/0146167295215006
- Stevens, J., McClain, J. E., & Truesdale, K. P. (2006). Commentary: Obesity claims and controversies. *International Journal of Epidemiology*, 35, 77-78.
- Stice, E., Schupak-Neuberg, E., Shaw, H. E., & Stein, R. I. (1994). Relation of media exposure to eating disorder symptomatology: An examination of mediating mechanisms. *Journal of Abnormal Psychology*, 103(4), 836-840. doi: 10.1037/0021-843X.103.4.836
- Stillman, F. A., Cronin, K. A., Evans, W. D., & Ulasevich, A. (2001). Can media advocacy influence newspaper coverage of tobacco: Measuring the effectiveness of the American stop smoking intervention study's (ASSIST)



media advocacy strategies. *Tobacco Control*, 10, 137-144. doi: 10.1136/tc.10.2.137

Stuber, J., Meyer, I., & Link, B. (2008). Stigma, prejudice, discrimination and health. *Social Science & Medicine*, 67(3), 351-357.

Suler, J. (2004). The online disinhibition effect. *Cyberpsychology and Behavior*, 7, 321-326.

Swift, J. A., Glazebrook, C., & Macdonald, I. (2006). Validation of a brief, reliable scale to measure knowledge about the health risks associated with obesity. *International Journal of Obesity*, 30, 661–668. doi: 10.1038/sj.ijo.0803165

Tabachnick, B. G., & Fidell, L. S. (2007a). *Experimental Designs Using ANOVA*. Belmont, CA: Duxbury Press.

Tabachnick, B. G., & Fidell, L. S. (2007b). *Using Multivariate Statistics* (5th ed.). Boston: Allyn and Bacon.

Tenney, A. A. (1912). The Scientific Analysis of The Press. In K. Krippendorff & M. A. Bock (Eds.), *The Content Analysis Reader* (2008). London: Sage.

Tepper, B. J., Choi, Y.-S., & Nayga, Jr, R. M.. (1997). Understanding food choice in adult men: Influence of nutrition knowledge, food beliefs and dietary restraint. *Food Quality and Preference*, 8(4), 307-317.

Tewksbury, D., Jones, J., Peske, M. W., Raymond, A., & Vig, W. (2000). The interaction of news and advocate frames: Manipulating audience perceptions of a local public policy issue. *Journalism and Mass Communication Quarterly*, 77(4), 804–829.

Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. New Haven: Yale University Press.

- Thompson, J. K., & Heinberg, L. J. (1999). The media's influence on body image disturbance and eating disorders: We've reviled them, now can we rehabilitate them? *Journal of Social Issues*, 55, 339-353.
- Thompson, J. K., & Stice, E. (2001). Thin-ideal internalization: Mounting evidence for a new risk factor for body-image disturbance and eating pathology. *Current Directions in Psychological Science*, 10(5), 181-183. doi: 10.1111/1467-8721.00144
- Thompson, M. A., & Gray, J. J. (1995). Development and validation of a new body-image assessment scale. *Journal of Personality Assessment*, 64(2), 258-269.
- Thorson, E. (2006). Print news and health psychology: Some observations. *Journal of Health Psychology*, 11(2), 175-182.
- Throop, C. J., & Murphy, K. M. (2002). Bourdieu and phenomenology. *Anthropological Theory*, 2(2), 185-207. doi: 10.1177/1469962002002002630
- Todorov, A., Chaiken, S., & Henderson, M. D. (2002). The heuristic-systematic model of social information processing. In J. P. Dillard & M. Pfau (Eds.), *The persuasion handbook: Developments in theory and practice*. California: Sage.
- Truetzschler, W. (2004). Ireland. In M. Kelly, G. Mazzoleni & D. McQuail (Eds.), *The Media in Europe: The Euromedia Handbook* (3rd ed., pp. 115-125). London: Sage.
- Tunaley, J. R., Walsh, S., & Nicolson, P. (1999). The meaning of body size and eating in the lives of older women. *Ageing & Society*, 19(6), 741-759.
- Tuomilehto, J., Lindstrom, J., Eriksson, J. G., Valle, T. T., Hamalainen, H., Ilanne-Parikka, P., and the Finnish Diabetes Prevention Study Group. (2001). prevention of type 2 diabetes mellitus by changes in lifestyle among

- subjects with impaired glucose tolerance. *New England Journal of Medicine*, 344(18), 1343-1350. doi: 10.1056/nejm200105033441801
- Tuorila, H., & Pangborn, R. M. (1988). Prediction of reported consumption of selected fat-containing foods. *Appetite*, 11, 81-95.
- Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211(4481), 453-458. doi: 10.1126/science.7455683
- Udell, T., & Mehta, K. (2008). When two sides go to war: Newspaper reporting of television food advertising restrictions as a solution to childhood obesity. *Health, Risk & Society*, 10(6), 535-548.
- van der Horst, K., Brunner, T. A., & Siegrist, M. (2011). Ready-meal consumption: Associations with weight status and cooking skills. *Public Health Nutrition*, 14(2), 239-245.
- Vartanian, L. R., Herman, C. P., & Polivy, J. (2007). Consumption stereotypes and impression management: How you are what you eat. *Appetite*, 48(3), 265-277. doi: 10.1016/j.appet.2006.10.008
- Vartanian, L. R., & Shaprow, J. G. (2008). Effects of weight stigma on exercise motivation and behavior. *Journal of Health Psychology*, 13(1), 131-138. doi: 10.1177/1359105307084318
- Velicer, W. F., & Jackson, D. N. (1990). Component analysis versus common factor analysis: Some issues in selecting an appropriate procedure. *Multivariate Behavioral Research*, 25(1), 1-28.
- Vellinga, A., O'Donovan, D., & De La Harpe, D. (2008). Length of stay and associated costs of obesity related hospital admissions in Ireland. *BMC Health Services Research*, 8(1), 88.

- Verplanken, B., & Wood, W. (2006). Interventions to break and create consumer habits. *Journal of Public Policy & Marketing*, 25(1), 90-103. doi: 10.2307/30000528
- Wadden, T. A., & Didie, E. (2003). What's in a name? Patients' preferred terms for describing obesity. *Obesity*, 11(9), 1140-1146.
- Wade, J. C. (2009). Traditional masculinity and African American men's health-related attitudes and behaviors. *American Journal of Men's Health*, 3(2), 165-172. doi: 10.1177/1557988308320180
- Wallack, L., Dorfman, L., Jernigan, D., & Themba, M. (1993). *Media Advocacy and Public Health: Power for Prevention*. California: Sage.
- Wang, C., & Coups, E. (2010). Causal beliefs about obesity and associated health behaviors: Results from a population-based survey. *International Journal of Behavioral Nutrition and Physical Activity*, 7(1), 1-7. doi: 10.1186/1479-5868-7-19
- Wang, S. S., Brownell, K. D., & Wadden, T. A. (2004). The influence of the stigma of obesity on overweight individuals. *International Journal of Obesity & Related Metabolic Disorders*, 28(10), 1333-1337. doi: 10.1038/sj.ijo.0802730
- Wang, Y. (2001). Cross-national comparison of childhood obesity: The epidemic and the relationship between obesity and socioeconomic status. *International Journal of Epidemiology*, 30(5), 1129-1136. doi: 10.1093/ije/30.5.1129
- Wang, Y., & Zhang, Q. (2006). Are American children and adolescents of low socioeconomic status at increased risk of obesity? Changes in the association between overweight and family income between 1971 and 2002. *American Journal of Clinical Nutrition*, 84(4), 707-716.

- Wannamethee, S. G., & Shaper, A. G. (1999). Weight change and duration of overweight and obesity in the incidence of type 2 diabetes. *Diabetes Care*, 22(8), 1266-1272. doi: 10.2337/diacare.22.8.1266
- Wansink, B., Painter, J. E., & North, J. (2005). Bottomless bowls: Why visual cues of portion size may influence intake. *Obesity*, 13(1), 93-100.
- Wardle, J., Haase, A., Steptoe, A., Nillapun, M., Jonwutiwes, K., & Bellisie, F. (2004). Gender differences in food choice: The contribution of health beliefs and dieting. *Annals of Behavioral Medicine*, 27(2), 107-116. doi: 10.1207/s15324796abm2702\_5
- Wardle, J., Parmenter, K., & Waller, J. (2000). Nutrition knowledge and food intake. *Appetite*, 34(3), 269-275.
- Warin, M., Turner, K., Moore, V., & Davies, M. (2008). Bodies, mothers and identities: Rethinking obesity and the BMI. *Sociology of Health & Illness*, 30(1), 97-111. doi: 10.1111/j.1467-9566.2007.01029.x
- Waskul, D., & Douglass, M. (1996). Considering the electronic participant: Some polemical observations on the ethics of on-line research. *The Information Society: An International Journal*, 12(2), 129 - 140.
- Weaver, D. H. (2007). Thoughts on agenda setting, framing, and priming. *Journal of Communication*, 57(1), 142-147.
- Weinman, J., Petrie, K. J., Moss-morris, R., & Horne, R. (1996). The illness perception questionnaire: A new method for assessing the cognitive representation of illness. *Psychology & Health*, 11(3), 431-445.
- Welborn, T. A., & Dhaliwal, S. S. (2007). Preferred clinical measures of central obesity for predicting mortality. *European Journal of Clinical Nutrition*, 61, 1373-1379.

- Wellman, N. S., & Friedberg, B. (2002). Causes and consequences of adult obesity: health, social and economic impacts in the United States. *Asia Pacific Journal of Clinical Nutrition*, 11(Suppl), S705–S709.
- West, C., & Zimmerman, D. H. (1987). Doing gender. *Gender & Society*, 1(2), 125-151. doi: 10.1177/0891243287001002002
- Wetmore, C. M., & Mokdad, A. H. (2012). In denial: Misperceptions of weight change among adults in the United States. *Preventive Medicine*, 55(2), 93-100. doi: <http://dx.doi.org/10.1016/j.ypmed.2012.04.019>
- Whelton, H., Harrington, J., Crowley, E., Kelleher, V., Cronin, M., & Perry, I. J. (2007). Prevalence of overweight and obesity on the island of Ireland: results from the North South Survey of Children's Height, Weight and Body Mass Index, 2002. *BMC Public Health*, 7, 187-196.
- WHO. (2003). *Diet, nutrition and the prevention of chronic diseases*. WHO Technical Report Series 916. Retrieved 14th April, 2010, from [http://www.who.int/nutrition/publications/obesity/WHO\\_TRS\\_916/en/index.html](http://www.who.int/nutrition/publications/obesity/WHO_TRS_916/en/index.html)
- WHO. (2004). *Obesity: preventing and managing the global epidemic*. WHO Technical Report Series 894. Retrieved 14th April, 2010, from [http://www.who.int/nutrition/publications/obesity/WHO\\_TRS\\_894/en/index.html](http://www.who.int/nutrition/publications/obesity/WHO_TRS_894/en/index.html)
- WHO. (2006). *European Charter on Counteracting Obesity*. Retrieved 14th April 2010, from <http://www.euro.who.int/Document/E89567.pdf>
- WHO. (2008). Obesity and overweight, 2011. Retrieved 18 May, 2012, from <http://www.who.int/mediacentre/factsheets/fs311/en/index.html>
- WHO. (2011). What do we mean by "sex" and "gender"?. Retrieved June 23, 2011, from <http://www.who.int/gender/whatisgender/en/index.html>

- Williams, S. J. (1995). Theorising class, health and lifestyles: can Bourdieu help us? *Sociology of Health & Illness*, 17(5), 577-604. doi: 10.1111/1467-9566.ep10932093
- Wilson, A. R., & McAlpine, D. D. (2006). The effectiveness of screening for obesity in primary care: Weighing the evidence. *Medical Care Research and Review*, 63(5), 570-598. doi: 10.1177/1077558706290942
- Wise, D., & Brewer, P. R. (2010). Competing frames for a public health issue and their effects on public opinion. *Mass Communication and Society*, 13(4), 435 - 457.
- Wizeman, T. M., & Pardue, M.-L. (Eds.). (2001). *Exploring the biological contributions to human health: Does sex matter?* Washington, D.C.: National Academy Press.
- Wolf, A. M., & Colditz, G. A. (1998). Current estimates of the economic cost of obesity in the United States. *Obesity Research*, 6(2), 97-106.
- Wott, C. B., & Carels, R. A. (2010). Overt weight stigma, psychological distress and weight loss treatment outcomes. *Journal of Health Psychology*, 15(4), 608-614. doi: 10.1177/1359105309355339
- Wrieden, W. L., Anderson, A. S., Longbottom, P. J., Valentine, K., Stead, M., Caraher, M., . . . Dowler, E. (2007). The impact of a community-based food skills intervention on cooking confidence, food preparation methods and dietary choices – an exploratory trial. *Public Health Nutrition*, 10(02), 203-211. doi: doi:10.1017/S1368980007246658
- Yang, W., Kelly, T., & He, J. (2007). Genetic epidemiology of obesity. *Epidemiological Review*, 29(1), 49-61. doi: 10.1093/epirev/mxm004
- Zaller, J. (1992). *The Nature and Origins of Mass Opinion*. New York: Cambridge University Press.

Zerwic, J. J., King, K. B., & Wlasowicz, G. S. (1997). Perceptions of patients with cardiovascular disease about the causes of coronary artery disease. *Heart & Lung: The Journal of Acute and Critical Care*, 26(2), 92-98. doi: 10.1016/s0147-9563(97)90068-6

Zimmerman, F. J., & Bell, J. F. (2010). Associations of television content type and obesity in children. *American Journal of Public Health*, 100(2), 334-340. doi: 10.2105/ajph.2008.155119



## **Appendix A: UCC Ethics approval letters**





## **Appendix B: Content analysis coding books**

## **Irish Times sample coding book**

Coder I.D.: Assign number according to person who coded article

1. Aoife De Brún
2. External coder

News report characteristics

Publication: News print publication from which article was drawn:

1. The Irish Times
2. The Irish Independent
3. The Star
4. Evening Herald
5. The Sunday Independent
6. The Sunday World

Year: Note year

Date: The date on which the article was published. Enter date in DDMMYY format, e.g., 12<sup>th</sup> August 2008 = '120808'

Headline: Copy headline into SPSS as String variable. Not to be analysed here, just for reference.

Page on which articles appears: Page of newspaper on which articles appears.

Length of article: Record the number of words in article.

Tone of news report:

1. Positive: Good news story about obesity, positive tone
2. Negative: Negative story, warning/worrying tone
3. Neutral: Presents the facts of the issue

Causes of Obesity:

Causes of obesity = items cited as basis of/causing/responsible for/contributing/ as a factor/ leading to/ to blame for/a root /origin /source/ foundation/ core/ of... overweight/ obesity/ excess weight/ fat/ bulge etc.

For all categories below, code 1 if the described citation is present, code 0 if not present.

- Economy: e.g., if report mentions economic factors including, but not limited to, the Celtic Tiger, recession, factors influencing jobs/finances
- Fast Food: e.g., if report mentions fast food outlets, ready-made meals, quick food, high energy density, low nutritional foods as a causes, junk food, TV dinner, snack foods, convenience foods
- Advertising: e.g., if report mentions advertising, ads, commercials, marketing, packaging, labelling, sponsorship etc. as a cause
- Inactivity: e.g., if report mentions lack of activity, inactivity, lack of exercise, lack of sporting pursuits, laziness, sloth, couch potato, sedentary lifestyles, immobile, stationary, idleness
- Portion Size: e.g., if report mentions portion size as a relevant causational factor.
- Biological Disorder: e.g., if report mentions a biological disorder/ syndrome
- Genetic Predisposition: e.g., if report mentions genetic predispositions/ tendencies/ inclination/ predilection/ bias/ as a causational factor
- Consuming Too Much: e.g., if report mentions eating/drinking too much/ overeating/ overstuffing/ to excess/ surplus/ overload/ overindulge
- Consuming Wrong Foods: e.g., if report mentions eating the wrong/ incorrect/ improper/ unsuitable/ inappropriate/ bad foods/drinks as a cause of obesity
- General diet unspecified: If report mentions diet as a factor but does not specify what kinds of diet cause obesity.

- Time on Computers: e.g., if report mentions video games, internet, time spent on computers as causational factors in obesity
- Watching TV: e.g., if report mentions TV viewing/ time in front of the box/ telly/ tube as a factor
- Food Price: e.g., if report mentions food prices/ costs/ as a factor
- Poor Education/Lack of knowledge: e.g., if report mentions education / knowledge / awareness / lack of information as a factor
- Cultural Norms: e.g., if report mentions cultural or societal norms as a causational or contributing factor in obesity
- Socioeconomic Class: e.g., if report mentions socioeconomic class/ status/ the poor/ middle class/ rich / wealthy/ upper class as a factor
- Parents: e.g., if report mentions parents as responsible for causing obesity
- Yoyo dieting: e.g., if report mentions yoyo dieting as a factor, switching between diets, always on fad diets
- Modern Lifestyles: e.g., time spent commuting, reliance on motorised transport, less time, more time pressure, modern hectic lifestyles, longer working hours etc.
- Emotion/Stress/Psychological problem: e.g. if report mentions any of these, comfort eating, etc.
- Consumer Choice: e.g., if report mentions consumer choice/consumer behaviours, access or lack of access to certain food types
- Other Cause: e.g., if report mentions causes other than those specifically cited above
- Name other cause: Enter other causes in string variable for reference



Unless stated otherwise, code 1 if present, 0 if not present

Consequences of Obesity:

Consequences of obesity = items cited as a consequence of / result/ effect/ upshot/ product of/ outcome/ due to overweight/ obesity/ excess weight/ fat/ bulge etc.

Illness: One or more physical illness-related consequences of excess weight mentioned.

- Mortality: Mentions of statistics related to early mortality, chances of death, early/premature mortality as a possible consequence of obesity
- Heart Disease: mentions of heart disease, heart attacks, CHD, heart failure etc
- Cancer: mentions of any type of cancer as a possible consequence of obesity
- Stroke: mentions of stroke as a possible consequence
- Hypertension: mentions of hypertension or blood pressure abnormalities/problems as a possible consequence
- Diabetes: mentions of diabetes as a possible consequence
- Cholesterol Levels: mentions of cholesterol level changes as a possible consequence
- Unspecified Physical Consequence: any mention of unspecified physical consequence(s)

- Other Physical Consequence: any mention of an other specified physical consequence not coded for above
- Name other Consequence: Enter other mentioned consequences, not listed above, in string variable for reference

Psychological/Social Consequences:

- Psychological Consequences: mentions of psychological disorders, specific or otherwise that are said to be a consequence of obesity
- Stigma: mentions of shame, stigma, disgrace, dishonour as a consequence of excess weight/obesity.
- Discrimination: mentions of discrimination, experiences of discrimination, evidence of discrimination, bias, prejudice, inequality, unfairness
- Charges on individuals for excess weight: mentions of extra charges for overweight obese people – could include service charges, e.g. airline seat or taxes or health premiums
- Other Social Consequence: mentions of other social consequences e.g., bullying, taunting, social isolation
- Health Service Pressure: mentions of health service pressures/strains as a consequence
- Economic costs of obesity: mentions of costs regarding health care, prevention, treatment, campaigns, loss of wages/work/salary, cost to economy due to premature mortality etc.

## Obesity Interventions:

- General Diet: mentions of diet as a solution to/ intervention for/ way to address obesity/excess weight/overweight etc.
- Exercise: mention of exercise/ physical activity
- Diet pills/pharmacological treatment: mentions of diet pills or pharmacological treatments to combat obesity.
- Surgery: mention of bariatric surgery as an intervention
- Education: mentions of education related to preventing and intervening in obesity, interventions in centres of education, educating people about health eating and lifestyles etc
- School Lunch: mentions of changing school lunches to fight obesity
- Lifestyle Change: mentions of necessity to address/change lifestyle factors, mention need for a healthy lifestyle
- Advertising/Sponsorship regulation: mentions of interventions related to advertising and company sponsorship, marketing/packaging/product labelling
- Government Intervention/Tax: mentions of need for or acknowledgement of role of Government/ EU in tackling obesity
- Health Service: mentions of the health service regarding intervention
- Unspecified intervention: Mentions of unspecified interventions
- Other Intervention: mentions of any other specified intervention, other than those cited above
- Name other intervention: enter other named interventions into string variable for reference

Obesity described as...

- Obesity as a Crisis:
- War metaphor: battle/fight/timebomb/war/ combat
- Wave/Tide/Surge/Balloon/Flood:
- Obesity As Rising:
- Epidemic:
- As a women's issue:
- Other metaphor/simile/description:
- Name other description: enter other descriptions into string variable

## Multiple newspaper sample coding book

Coder I.D.: Assign number according to person who coded article

1. Aoife De Brún
2. 2<sup>nd</sup> External coder
3. 3<sup>rd</sup> external coder

News report characteristics

Publication: News print publication from which article was drawn:

1. The Irish Times
2. The Irish Independent
3. The Star
4. Evening Herald
5. The Sunday Independent
6. The Sunday World

Year: Year in which articles was published (will be 2005, 2007 or 2009)

Date: The date on which the article was published. Enter date in DDMMYY format,

e.g., 12<sup>th</sup> August 2008 = '120808'

Headline: Copy headline into SPSS as String variable.

Page on which articles appears: Page of newspaper on which articles appears, if available

Length of article: Record the number of words in article (will appear either above or below article in file)

Tone of news report:

1. Positive: Good news story about obesity, positive tone
2. Negative: Negative story, warning/worrying tone
3. Neutral: Presents the facts of the issue at hand, or strikes balance between positive and negative

Source Characteristics:

- Source Expert: Code 1 if an expert/scientist/researcher is cited as a source of information for the article, code 0 if this source is not found in the article.
- Source Celebrity: Code 1 if a celebrity is cited as a source of information for the article, code 0 if this source is not found in the article.

- Source Politician: Code 1 if a politician or government spokesperson is cited as a source of information for the article, code 0 if this source is not found in the article.
- Source Food Industry: Code 1 if a food industry group or spokesperson for a food industry is cited as a source of information for the article, code 0 if this source is not found in the article.
- Source Lay Person: Code 1 if a lay person/member of the public is cited as a source of information for the article, code 0 if this source is not found in the article.
- Source Interest Group: Code 1 if any interest group (other than the food industry) is cited as a source of information for the article, code 0 if this source is not found in the article.
- Source Other: Code 1 if any other source (other than those coded for above) is cited as a source of information for the article, code 0 no ‘other’ sources are not found in the article.

Causes of Obesity:

Causes of obesity = items cited as basis of/causing/responsible for/contributing/ as a factor/ leading to/ to blame for/a root /origin /source/ foundation/ core/ of... overweight/ obesity/ excess weight/ fat/ bulge etc.

For all categories below, code 1 if the described citation is present, code 0 if not present.

- Behavioural: i.e., if one or more individual/behavioural/personal causes for obesity is cited
  - Inactivity: e.g., if report mentions lack of activity, inactivity, lack of exercise, lack of sporting pursuits, laziness, sloth, couch potato, sedentary lifestyles, immobile, stationary, idleness
  - Consuming Too Much: e.g., if report mentions eating too much/ overeating/ overstuffing/ to excess/ surplus/ overload/ overindulge
  - Consuming Wrong Foods: e.g., if report mentions eating the wrong/ incorrect/ improper/ unsuitable/ inappropriate/ bad foods as a cause of obesity
  - General diet unspecified: If report mentions diet as a factor but does not specify what kinds of diet cause obesity.
  - Time on Computers: e.g., if report mentions video games, internet, time spent on computers as causal factors in obesity
  - Watching TV: e.g., if report mentions TV viewing/ time in front of the box/ telly/ tube as a factor
  - Fast Food: e.g., if report mentions fast food outlets, ready-made meals, quick food, high energy density, low nutritional foods as a cause, junk food, TV dinner, snack foods, convenience foods
  - Yoyo dieting: e.g., if report mentions yoyo dieting as a factor, switching between diets, always on fad diets
  - Poor Education/Lack of knowledge: e.g., if report mentions education / knowledge / awareness / lack of information as a factor
  
- Environmental: i.e., if one or more environmental cause for obesity is cited



- Advertising: e.g., if report mentions advertising/ ads/ commercials/sponsorship, marketing, packaging, labelling as a cause
- Food Price: e.g., if report mentions food prices/ costs/ as a factor
- Cultural Norms: e.g., if report mentions cultural or societal norms as a causational or contributing factor in obesity
- Parents: e.g., if report mentions parents as responsible for causing obesity
- Modern Lifestyles: e.g., time spent commuting, reliance on motorised transport, less time, more time pressure, modern hectic lifestyles, longer working hours
- Portion Size: e.g., if report mentions portion size as a relevant causational factor.
- Economy: e.g., if report mentions economic factors including, but not limited to, the Celtic Tiger, recession, factors influencing jobs/finances
- Socioeconomic Class: e.g., if report mentions socioeconomic class/ status/ the poor/ middle class/ rich / wealthy/ upper class as a factor
- Biological Disorder: e.g., if report mentions a biological disorder/ syndrome
- Genetic Predisposition: e.g., if report mentions genetic predispositions/ tendencies/ inclination/ predilection/ bias/ as a causational factor
- Emotion/Stress/Psychological problem: e.g. if report mentions any of these, comfort eating, etc.

- Other Cause: e.g., if report mentions causes other than those specifically cited above
- Name other cause: Enter other causes in string variable for reference

Unless stated otherwise, code 1 if present, 0 if not present

Consequences of Obesity:

Consequences of obesity = items cited as a consequence of / result/ effect/ upshot/ product of/ outcome/ due to overweight/ obesity/ excess weight/ fat/ bulge etc.

Physical Consequences:

- Illness General: One or more physical illness-related consequences of excess weight mentioned
- Mortality: Mentions of statistics related to early mortality, chances of death, early mortality as a possible consequence of obesity
- Heart Disease: mentions of heart disease, heart attacks, CHD, heart failure etc
- Cancer: mentions of any type of cancer as a possible consequence of obesity
- Stroke: mentions of stroke as a possible consequence
- Hypertension: mentions of hypertension or blood pressure abnormalities/problems as a possible consequence

- Diabetes: mentions of diabetes as a possible consequence
- Cholesterol Levels: mentions of cholesterol level changes as a possible consequence
- Unspecified Physical Consequence: any mention of unspecified physical consequence(s)
- Other Physical Consequence: any mention of an other specified physical consequence not coded for above
- Name Other consequence, if mentioned: Enter in string variable for reference

Psychological and Social Consequences:

- Psychological Consequences: mentions of psychological disorders, specific or otherwise that are said to be a consequence of obesity
- Stigma: mentions of shame, stigma, disgrace, dishonour as a consequence of excess weight/obesity.
- Discrimination: mentions of discrimination, experiences of discrimination, evidence of discrimination, bias, prejudice, inequality, unfairness
- Charges on individuals for excess weight: mentions of extra charges for overweight obese people – could include service charges, e.g. airline seat or taxes or health premiums
- Other Social Consequence: mentions of other social consequences

#### Other consequences:

- Health Service Pressure: mentions of health service pressures/strains as a consequence
- Economic costs of obesity: mentions of costs regarding health care, prevention, treatment, campaigns, loss of wages/work/salary, cost to economy due to premature mortality etc.

#### Obesity Interventions:

- Diet: mentions of diet as a solution to/ intervention for/ way to address obesity/excess weight/overweight etc.
- Low calorie diet: mentions of low calorie diet
- Low carbohydrate diet: mention of low carbohydrate diet
- Low fat diet: mentions of low fat diet
- Exercise: mention of exercise/ physical activity
- Diet pills/pharmacological treatment: mentions of diet pills or pharmacological treatments to combat obesity.
- Surgery: mention of bariatric surgery as an intervention
- Education: mentions of education related to preventing and intervening in obesity, interventions in centres of education, educating people about health eating and lifestyles etc
- School Lunch: mentions of changing school lunches to fight obesity

- Lifestyle Change: mentions of necessity to address/change lifestyle factors, mention need for a healthy lifestyle
- Advertising/Sponsorship regulation: mentions of interventions related to advertising and company sponsorship, marketing / packaging / labelling of products
- Government Intervention/Tax: mentions of need for or acknowledgement of role of Government/ EU in tackling obesity
- Health Service: mentions of the health service
- Unspecified intervention: Mentions of unspecified interventions
- Other Intervention: mentions of any other specified intervention, other than those cited above
- Name other intervention: enter other named interventions into string variable for reference

Demographics mentioned:

- Overweight: mentions of overweight, BMI above 25
- Obese: mentions of obese people/obesity, BMI > 30
- Morbid obesity: mentions of morbid obesity/morbid obese people BMI >35-40
- Children: mentions of any group under 18 years of age
- Men: above 18 years old, specifically referred to as a category
- Women: above 18 years old, specifically referred to as a category

- Celebrity mentioned: mention of famous individual(s)
- Poor: mentions of the poor, lower SES groups
- Middle Class: mentions of the middle class
- Upper/Higher Class: mentions of upper/higher class, higher SES
- America: mentions of Americans/America
- Asia: mentions of Asians/Asia/Asian countries
- Europe: mentions of Europeans, or mentions of specific sub-populations/  
countries in Europe
- Australia: mentions of Australia
- Africa: mentions of Africans/Africa/African countries
- South America: mentions of South America / countries in south America /  
south Americans
- Traveller Community: mentions of the traveller community
- Other Social Grouping: mentions of any other social grouping not coded for  
above

Obesity described as...

- Obesity as a Crisis:
- Obesity described as rising/increasing
- Obesity described as a problem
- War metaphor: battle/ fight/ time bomb/ war/ combat

- Epidemic: disease/ plague
- Wave/Tide/Surge/Ballooning/Flood: imagery metaphor for increase in obesity
- As a women’s issue:
- Waistline: e.g. expanding waistline
- Other metaphor/simile:
- Name other description: if present, paste into string variable

Explanation of BMI/Weight categories: Definitions given for obesity and overweight and BMI formula explained/defined. Code 1 is present, 0 if not present

- Debates: mentions of the following debates in the field of obesity science/research:

- Extent of risk of excess weight: mentions of debate regarding whether the risks of excess weight have been overstated.
- Fit and fat: mentions of debate/ mentions that such a debate exists regarding whether one can be fit and fat
- Weight measurement/categorisation: debate re: BMI and measures of weight and weight categorisation
- Epidemic debate: debate re: the term ‘epidemic’ and whether there is an obesity epidemic

Dramatisation of obesity:

- Blur weight categories: Code 1 if article puts statistics for overweight and obesity together, e.g., “Half of Irish children now overweight or obese”
- Dramatic Headline: If headline uses dramatic, sensationalist terms, e.g, “Deadly obesity epidemic spreading”

Moral language:

- Moral discourse: use of moral terms Code 1 if any moral terms appear including, but not limited to the following: sloth, gluttony, sin, against nature, heresy etc.



## **Appendix C: Statistical Methods**

### **Statistical methods employed**

In order to inform the subsequent results chapters and specifically, the analytical techniques employed on the quantitative data, this section delineates the statistical methods used during the research. In the research, a combination of parametric and non-parametric data were collected and examined. As there are many techniques used in both phases of the research, all statistics analyses used in this thesis are presented together in this section. This section outlines the assumptions and requirements necessary for parametric analysis and summarises the parametric and non-parametric statistical techniques applied in the media analysis quantitative results chapter (Chapter 5) and in the Phase II survey results chapter (Chapter 9). Statistical analysis software package SPSS 20 was used in the analysis of the quantitative data. For all statistical analyses, the level of significance was set at 0.05, unless otherwise stated.

### **Parametric and non-parametric statistical analysis**

In order to conduct parametric testing on a data set, there are a number of assumptions of the data that must be met in order for these results to be accurate and meaningful. Parametric testing requires a numerical, independent score and data should be measured at the interval level or higher. Furthermore, a normally distributed sample is required to make inferences and assumptions about the parameters of the distribution. Parametric statistics are considered the gold standard for data analysis as they are powerful and sensitive to small differences in data and

therefore more likely to detect real differences. However, if a researcher is confronted with data that violate parametric assumptions, non-parametric techniques may be employed. Non-parametric tests make few, if any, assumptions about the data and are typically used on categorical data, including nominal and ordinal scale data. Gravetter and Wallnau (2004) advise that when the data give you a choice between employing parametric or non-parametric analyses parametric should always be chosen. However, the use of parametric tests on data inappropriate for parametric analysis could lead to erroneous interpretation of the data.

In the current research, assumptions of normality were tested by examining histograms and normality plots for observations. Due to the nature of the data and the large sample sizes of the media studies, minor violations of normality were expected and thus, it was expected that the central limit theorem would apply and that the analyses could cope with these minor breaches of normality (Tabachnick and Fidell, 2007b). However, steps were taken to ensure data did not deviate from normal. Skew and kurtosis values help inform whether a distribution is normally distributed or not. A positively or negatively skewed distribution indicates too many low (positive) or high scores (negative) in a distribution. Regarding kurtosis, a positive value of kurtosis indicates a distribution with a lot of cases in the extremes (tails of distribution) whereas a negative kurtosis score suggests a flat distribution.

In order to assess if skew and kurtosis scores were significantly different to normal, these scores were converted to z-scores to ascertain normality. Z-scores greater than 1.96 may be considered two standard deviations from the norm and

therefore, when these z-scores are too high, it must be concluded that data are not normally distributed (Gravetter and Wallnau, 2004). However, several researchers warn that in large samples, measure of skew and kurtosis are not necessary, as these scores will likely appear significantly different from normal in large samples (Field, 2009, Howell, 2002). Other tests used to assess normality may include the Kolmogorov-Smirnov and the Shapiro-Wilk test. If these statistics are non-significant, then the sample distribution is not significantly different from normal. Yet, researchers warn that these tests too are vulnerable to significant results in large samples, as even small difference may appear significantly different (Tabachnick and Fidell, 2007b). Therefore, plotting data and using multiple indicators of normality might be required before the deciding if parametric testing is appropriate.

The assumption of homogeneity of variance means that as the levels of one variable change, the variance on the other should not change. Homogeneity of variance was assessed using Levene's statistic and it will be reported where relevant if Levene's statistic was significant or not. A significant statistic indicates there is significant differences in the variances observed and thus, may not be representation of the population. However, again large sample sizes may result in a significant value even if differences in variances are quite small and therefore the statistic should be interpreted with caution.

Other means of ensuring data and variable normality include checking for outliers, transforming variables to achieve a distribution close to normal. Using best practise guidelines for data screening (Tabachnick and Fidell, 2007b, Allison, 1999,

Gravetter and Wallnau, 2004, Hair et al., 2010), data were inspected using the explore function in PASW18 to assess each variable for normality of distribution, to locate any significant outlier, search for missing data and to investigate if values for skew and kurtosis were significantly different from normal.

### **Parametric testing**

This section will delineate the statistical techniques employed in this thesis to test hypotheses. Among the techniques used are correlation, multiple regression, factor analysis, *t*-tests and analysis of variance (ANOVA). These will be briefly described in turn and will inform the subsequent reporting of the results in later chapters.

#### ***Pearson Correlation***

The Pearson product-moment correlation is a parametric test used to examine the association between two continuous or interval level variables. The result is independent of how variables are measured as scores are converted to standardised scores for purposes of comparison (Tabachnick and Fidell, 2007b). The value of the statistic, denoted as *r*, lies between -1 and +1, where values closer to zero indicate no significant relationship between variables.

### *Paired sample t-tests*

Paired-sample *t*-tests examine differences between either identical or matched groups for scoring on a dependent variable. Specific assumptions for *t*-test include that observations must be independent and the population sample must be normally distributed. However, Gravetter and Wallnau (2004) argue that violating these assumptions of normality has little effect of the interpretative results of *t*-tests. They state that when a sample is large, these assumptions may be violated without cause for concern, as a large sample will correct for any potential underlying issues (p. 299). In the content analyses conducted on the media samples, tests of normality were found to be significant, suggesting the data failed to meet the assumptions of normality. However, following attempts to transform the data to resemble a normal distribution, the transformations did not improve normality and therefore the original data was analysed. As mentioned earlier, it is argued that when a sample is sufficiently large, it is acceptable to run parametric tests on data that do not meet all assumptions of normality (Tabachnick and Fidell, 2007b, Gravetter and Wallnau, 2004). Upon inspection of graphs, plots, means, standard deviations and measures of skew and kurtosis, and through discussion with a trained statistician, it was decided the distributions of the differences were not significantly different from normal and therefore parametric analyses were conducted.

## ***ANOVA and MANOVA***

ANOVA is a test of univariate analysis of variance which can compare several means to examine if significant differences exist. The test is an omnibus test which provides an overall indicator of experimental effect, represented by an *F*-statistic with an associated level of significance. Typical parametric assumptions apply to ANOVA testing and distributions must also be normal within groups.

MANOVA, however, is a multivariate analysis of variance which seeks to compare two or more levels of two or more variables and can be used instead of computing multiple ANOVAs without unduly inflating the experiment-wise error rate. Green (1991) suggested that in order to be reliable, minimum sample sizes for multivariate testing of overall fit of model should adhere to the following criteria:  $50 + 8 \times (\text{number of predictors})$ , and for testing individual predictors:  $104 + \text{number of predictors}$ . According to these criteria, the sample sizes in each quantitative analysis were adequate. In the content analyses described in the next chapter, the distributions of a number of the dependent variables were positively skewed and therefore not normal, as would be expected with research of this nature. Attempts were made to transform the data to resemble a normal distribution however, the transformations did not improve normality and therefore the original data was analysed. Multivariate analysis of variance is a robust technique that can cope with minor violations to parametric assumptions (Tabachnick and Fidell, 2007b). Furthermore, in large samples tests of normality can be significant even when scores are only slightly

different to normal. Dependent variables (DVs) were chosen to be added based on inspection of means and standard deviations (Tabachnick and Fidell, 2007a).

Planned polynomial contrasts were then carried out in order to assess specific trends evident in the data. At its most basic level, it can look for linear trends in the data, but can also examine whether quadratic (one curve in the data or one change changes in direction of trend), cubic (two curves) and quartic (three curves) trends exist, depending on the breathe of the data.

Post-hoc tests may also be used to inspect the data to reveal where differences exist between groups. However, in order to avoid experimenter error the level of significance can be modified to control for the possibility of a type I error. Therefore, post-hoc test may use the Bonferroni or Tukey test, or one of many other post-hoc tests to control for conducting multiple comparisons (Howell, 2002, Tabachnick and Fidell, 2007a, Tabachnick and Fidell, 2007b). The Bonferroni correction is considered to be a conservative post-hoc test and therefore, this will be employed when possible to reduce type I error and the chance of obtaining a ‘false positive’ result.

### *Effect sizes*

Effect sizes are calculated where appropriate to denote the degree to which the findings of the statistical analysis may be significant or not. Effect sizes give an indication of the characteristics of how groups may differ and reflect the variance in



the dependent variable that is associated with the independent variable of interest. Where ANOVA is used, eta squared ( $\eta^2$ ) may be used and omega squared ( $\omega^2$ ) is advised for use with between subjects ANOVAs with equal sample sizes. Cohen's  $d$  constitutes another options, which provides an indication of effect size between standardised means (Tabachnick and Fidell, 2007b). Values for use to guide the interpretation of effect sizes have been forwarded and these values are listed in **Table C.1**. However, it is important to note that these are intended as a rough indicator of effect and must be interpreted with caution (Kitzinger, 2000).

Table C.1. Interpreting parametric measures of effect size

<b>Statistic</b>	<b>Small Effect</b>	<b>Medium Effect</b>	<b>Large Effect</b>
Cohen's $d$	0.2	0.5	0.8
Eta squared ( $\eta^2$ )	0.01	0.09	0.25
Omega squared ( $\omega^2$ )	0.01	0.06	0.15
$r$	0.1	0.3	0.5

### ***Cohen's kappa***

Cohen's kappa provides a measure of agreement using contingency tables (Tunaley et al., 1999). In this research, kappa is used to evaluate the level of intercoder agreement in the quantitative coding of content analysis. Simple percentage agreement in one basic way to assess agreement between independent

coders, however, kappa provides a chance-corrected measure which increases the rigour of the assessment of coding (Howell, 2002).

### ***Factor Analysis***

Principal components analysis (PCA) and factor analysis (FA) are statistical techniques which can be applied to a set of items or variables in order to reflect underlying processes in an analysis and can operate as a data reduction tool (Tabachnick and Fidell, 2007b). The goal is to summarise patterns among correlations of variables. Principal components analysis and exploratory factor analysis are often referred to collectively as factor analysis. The difference between PCA and EFA lies in the mathematical difference of the variance analysed. For instance, in PCA all variance observed is analysed, whereas in EFA, only variance shared with other variables (covariance) is analysed (Tabachnick and Fidell, 2007b).

Variables can be chosen with or without consideration of potential underlying processes, yet the experimental design particularly whether a priori or not, will often dictate whether principal components analysis, exploratory factor analysis, or confirmatory factor analysis (CFA) is more appropriate. In EFA, the researcher seeks to summarise data by grouping variables that are related. In CFA however, the research will have based factor structure on theory and previous research and the number of factors and where each variable should load must be specified before the analysis is computed. Thus, CFA is appropriate for well-established variables and

useful where the researcher has devised a new scale or has added variables to a scale or amended some scale items in order to explore if the underlying processes have changed based on these amendments. Factor analysis is also useful to confirm factor structure and dimensionality of existing scales.

Broadly, factor analysis follows certain steps. Firstly, variables are selected and measured, the correlation matrix is prepared, factors are extracted and it is determined how many factors there are, factors will likely then be rotated to improve interpretability and finally the results will be interpreted (Tabachnick and Fidell, 2007b). Typically decisions regarding the number of factors and the rotation method are practical rather than theory-based. Rotating the factors does not change the amount of variance explained, it merely facilitates interpretation of the factors and loadings. Regarding sample size for factor analysis and PCA, Comrey and Lee (1992) advise that 200 participants represents a fair sample, 300 is considered good and 500 as very good. However, generally 300 participants is considered an appropriate sample for factor analysis (Tabachnick and Fidell, 2007b, Hair et al., 2010). Measures of sampling adequacy, such as the Kaiser-Meyer-Olkin (KMO) statistic can be produced to verify the sample is suitable for FA.

In the current research, PCA was conducted on variables of interest using varimax rotation to improve interpretability (Tabachnick and Fidell, 2007b). As noted by Velicer and Jackson (1990), differences among rotation and extraction methods are often very small and results end to be similar regardless of the combination employed. In accordance with best practise, variable loadings had to be

above 0.4 (considered 'fair) to be deemed appropriate for factor loading. However, 0.55 is considered good and 0.63 very good and loadings in excess of 0.71 considered excellent (Comrey and Lee, 1992). The second methodology chapter will elaborate on the data screening procedures and specific testing of assumptions conducted prior to the factor analyses on the survey data in Chapter 9.

### ***Cronbach's alpha and assessment of scale reliability***

In order to test scale and sub-scales for reliability, Cronbach's alpha statistic was computed for all relevant scales. Reliability tests seek to measure whether the scale is consistently reflects the construct that is being measured. An alpha value of 0.8 is typically considered the acceptable value for reliability of a scale. However, there is suggestion that a value of 0.7 may be more suitable for ability tests (Kline, 1999). Cronbach (1951) suggested that if several factors exist then the reliability assessment should be conducted separately for each factor subset or sub-scales.

### ***Multiple Regression***

Regression analyses are a set of techniques used to predict a score on one variable, based on the score of one or more other variables. The overall model was assessed using the  $F$  ratio and the overall significance of the associated p-value. The contribution of individual predictors to the model was estimated using

unstandardized coefficients (beta values) and their associated  $p$ -value levels of significance. These standardised regression coefficients (beta vales) were interpreted as representing an indicator of the effect of one variable on predicting the dependent variable. The magnitudes of the coefficient were compared to estimate relative contribution to the model and the position of negative sign indicates the relationship to the dependent variable. In the current research, hierarchical multiple regression was employed, which enter the variables into the regression analysis based on existing theory.

In this analysis, categorical variables including gender and socioeconomic status were entered into the model via the use of dummy variables (Allison, 1999, Tabachnick and Fidell, 2007a, Tabachnick and Fidell, 2007b). This allowed for a multiple regression using both continuous and categorical predictors to assess the impact of these variables on the DV. In accordance with best practice, before the regression was computed, variables were checked to ensure the use of regression was appropriate. For instance, data were checked for the presence of outliers, for normality, multicollinearity, homoscedasticity and there were no causes of concern with the data. Finally, it must be noted that like correlation analyses, significant findings in regression do not imply causal relationships between variables.

## **Non-parametric testing**

### ***Chi-Square testing***

The chi-square test or ‘goodness-of-fit’ test examines if there is a good fit between the data (observed frequencies) and the theory (expected frequencies). Simply, it is a test of independence that assesses the relationship between two categorical variables. McNemar’s test is also based on a 2x2 contingency table but is useful when two related dichotomous variables are of interest. It is employed on nominal data when responses are matched pairs, to determine if there are significant differences between paired responses at measurement or assessment.

### ***Mann-Whitney U***

The Mann-Whitney *U* is regarded as a non-parametric equivalent of the *t*-test for paired samples to compare medians from non-normally distributed samples.

### ***Non-parametric correlation***

Correlation seeks to examine the relationship between two variables. For instance, in examination correlation, one might be interested in assessing the effect of number of cups of coffee on feeling of fatigue. Correlation is typically used in prediction rather than manipulation and can investigate the degree and direction of the relationship between two variables. In Study 1 of the current research, the data

did not meet parametric assumptions, and therefore the parametric Pearson's correlation was deemed inappropriate and instead, Kendall's Tau rank correlation was employed. Kendall's tau is based on the number of inversions in the rankings, rather than treating the ranking as scores in the same manner of the Spearman correlation (Howell, 2002). Kendall's tau is also more appropriate than Spearman's when a number of the scores have the same rank. Furthermore, evidence suggests that Kendall's statistic is a more reliable estimate of the correlation in the population (Howell, 2002). In the Study 1 in the next chapter, Kendall's tau was used to examine if there was a relationship between the number of articles published on obesity and the year of publication. In order to conduct perform the analysis, a new variable was computed which ranked items according to relative number of articles (i.e., the year with the highest number of articles was ranked 1, etc.) and the analysis was conducted to assess the linear relationship.

## **Appendix D: Qualitative Methods**



### **Computer-assisted coding in qualitative analysis**

The use of computer-assisted qualitative data analysis software (CAQDAS) offers an efficient way to manage and code qualitative data. A number of researchers discuss the strengths and limitations inherent in computer-assisted analysis of qualitative data (Seale, 2005, Miles and Weitzman, 1994, Joffe and Yardley, 2004). Advantages of the approach include speed at handling large volumes of data, improvements in rigour, and the facilitation of team research. Principally, sorting data extracts into codes and categories is more efficient and accurate with the aid of specialised qualitative software. This facilitates quick sorting and fast retrieval of data, therefore allowing the researcher to spend more time on analysis of data rather than on administrative tasks. CAQDAS enables a highly systematic approach to coding and can assist in demonstrating that researchers' conclusions are based on a rigorous analysis (Seale, 2005, Joffe and Yardley, 2004). Such software packages can also help to quantify appearances of a certain idea, code, or theme, thereby enumerates the degree of empirical support for various themes, as well as assist in the search and identification of deviant cases (Joffe and Yardley, 2004). CAQDAS is an especially useful tool for large or multiple data sets, thus enhancing confidence with which generalisations may be made (Seale, 2005).

*QSR International's NVivo9*, a qualitative analysis software tool, was employed in the current research. *NVivo* allows researchers to attach codes easily to data extracts and can ascribe memos and annotations to be connected to data, thus enabling data linking (Miles and Weitzman, 1994). The search and retrieval

functions facilitate rapid and accurate coding and thereby facilitating thematic analysis. A number of screenshots also presented in below to demonstrate the coding process, illustrating how *NVivo* can accommodate that phases involved in thematic analysis as well as providing an indicator of inter-coder agreement and thus was employed for these reasons.

### **Ensuring rigour and quality in qualitative research**

It has been emphasised that due to the many theoretical approaches, various epistemological positions, and methodologies that may be employed, there cannot be a single approach to qualitative methods, or to judging the quality and rigor of such methods (Bradley et al., 2007). Indeed, it is a matter of great debate as to whether quality criteria are appropriate for qualitative research whatsoever and therefore it is generally advised not to consider any one set of guidelines as definitive (Mays and Pope, 2000, Sandelowski, 2002). Thus, each qualitative approach must be evaluated in a way that is congruent with its epistemological and methodological traditions (Caelli et al., 2003). Yet the value and status of all forms of research depends on the rigor and quality of the methods and in conducting systematic research there are ways to maximise the validity and reliability of research (Mays and Pope, 2000).

Guba and Lincoln were among the earliest proponents of quality criteria in qualitative research (Guba and Lincoln, 1981, Lincoln and Guba, 1985). They developed standards for establishing what they termed ‘trustworthiness’, a parallel to rigour, the term employed in quantitative research related to ensuring reliability and

validity. They described their criteria as imperfect and as intended to invite further debate and discussion (Schwandt et al., 2007). However, their guidelines have been very influential within qualitative inquiry and their terms and standards of trustworthiness have been widely adopted. Lincoln and Guba (1985) describe the criteria as analogous to reliability and validity. These include credibility (internal validity), transferability (external validity), dependability (reliability), and confirmability (objectivity). Credibility addresses the fit between the data and the researcher's representation of the data, transferability refers to the ability to generalise the findings, dependability endeavours to ensure the process is logical and clearly documented, and confirmability is concerned with establishing that the researchers interpretations are drawn from the data themselves. A number of methods by which to address these criteria to enhance trustworthiness in analysis are outlined below. However, it is important to note that often in qualitative research, reliability and validity are not considered separate entities and instead terminology that encompass both, such as **'trustworthiness'** are often used (Golafshani, 2003). Lincoln and Guba (1985) state that there must be validity in order to have reliability; therefore, the demonstration of validity is sufficient to establish reliability. Patton (2002) concurs with this assertion and states that reliability is achieved when the validity of a study is high.

One means to ensure validity in qualitative analysis is through the search for alternative accounts of a phenomenon, often described as **'deviant' or 'negative' cases** (Silverman, 2005). These deviant cases are those which contradict the

emerging interpretation or phenomena. Attention to such non-conforming cases will help refine and add credibility to the analysis and may highlight informative aspects of an issue that may otherwise be obscured by a dominant account or interpretation (Mays and Pope, 2000, Lincoln and Guba, 1985).

**Reflexivity** refers to the recognition of the ways in which the researcher may influence the qualitative research process. Inevitably, researchers' own beliefs and experiences will have some impact on the analytical process (Joffe and Yardley, 2004). However, by providing an account of the researcher's expectations and experiences prior to the study, this should help address personal biases and serves to enhance the credibility of the research (Mays and Pope, 2000). Mays and Pope (2000) also advise that personal characteristics and the 'distance' between the researchers and those researched also needs to be discussed. The researcher's own reflexivity account is available here in Appendix D.

**Inter-coder agreement**, although a contentious method in qualitative research, was assessed during the analysis. The researcher decided that due to the inductive nature of thematic analysis, an examination of coder agreement would be appropriate during the second stage of the thematic analysis. At this stage, initial codes summarise the data, using text extracts where possible to ensure the codes are strongly linked to the data. Thus, this stage offered the best opportunity to gauge agreement on coding. Following guidelines from Mays and Pope (1995) regarding check-coding and establishing quality control procedures, the inter-rater assessment was conducted during the analysis rather than post-hoc. Miles and Huberman (1994)

advise that a ten-page data subset be compiled and coded independently by the researcher and an external coder well-versed in the method. The coder was instructed to adopt a hybrid approach to analysis, deductively coding for dimensions of the CSM (where causes, consequences, solutions and the timeline of obesity was discussed) as well as inductively coding all other data relevant to the issue of obesity. The coding was completed over one day. The file was then merged with that of the primary researcher in order to compare the two coding sets.

Preliminary analysis of the data focused on merging nodes that were very similar in node name and based on the nodes rules for inclusion (i.e., node definition). A number of instances of code merging are described in Table D.1. Once the nodes had been merged where appropriate, a first glance analysis was undertaken to compare coding between coders. The coding stripes within NVivo were turned on for both coders and a number of nodes were investigated to provide an indicator of commonalities in coding. This indicated good levels of agreement.

Table D.1. Examples of nodes that were merged, based on node definitions and researcher's rules for inclusion

<b>Media Text:</b>	<b>Researcher's node</b>	<b>External researcher's node</b>
<i>"the so-called global war on obesity."</i>	War metaphor / description	Description of obesity as a war
<i>"The recession could lead to an increase in childhood obesity"</i>	Economic influences on diet and obesity	SES and economic troubles as a contributory factor
<i>"Christmas revellers who over-indulge in festive fare"</i>	Seasonal influences on diet and obesity	Christmas as a period of overindulgence
<i>"The Sligo TD said it was important that a "cultural shift" was created away from fizzy drinks, fat and salt, towards more nutritional food"</i>	Need for a cultural shift towards healthier food	Unhealthy foods viewed as the cultural norm

Next, a coding comparison query was run within *NVivo* to provide percentage agreement and kappa statistics for each node. Based on recommendations from Miles and Huberman (1994), a benchmark of 80% agreement was set for intercoder agreement in order for the process to be considered suitably objective and to confirm that the data was accurately represented. Screen shots in Figure D.1 illustrate the high levels of agreement achieved across nodes, ranging from 88-100% thus meeting the standards indicative of reliability in the coding approach.

The process of check-coding was useful in obtaining a measure of reliability and increasing trust in the method. Definitions of codes became sharper or expanded when deemed necessary. However, the co-coding and subsequent discussion process was also useful in providing ideas and offering insights into the data. Through discussion of the results of the coding, the emergence of different perspectives and ways to describe and label the data was useful in the refining of themes early in stage three of the coding process. The research approach included steps of check-coding, considered researcher reflexivity, the use of CAQDAS and sampling considerations which all contributed to and facilitated a rigorous interrogation of the data, resulting in a higher level of reliability and ‘trustworthiness’ in the subsequent results of the analysis (Miles and Huberman, 1994, Miles and Weitzman, 1994, Silverman, 2005, Mays and Pope, 2000, Mays and Pope, 1995, Braun and Clarke, 2006).

### **Reflexive account of researcher’s expectations and experiences**

The researcher is a 26 year-old Irish-born female, with a body mass index in the ‘normal’ range. Prior to undertaking this work, the researcher had little academic understanding of the area of research, beyond that reported by media. Thus, it is important to acknowledge that the dominant media account of obesity may have impacted on the researcher. Also, it is important to note the researcher’s undergraduate training in psychological research. It is likely that this as well as my

## Phase 2 Initial Coding:

Name	Sources	References	Created On	Created By	Modified On	Modified By
Media info sources and discussion	4	92	23/01/2012 14:29	ADB	14/03/2012 14:19	ADB
Medical help-seeking experiences	2	8	23/01/2012 11:34	ADB	11/03/2012 15:16	ADB
Military metaphors, language use	3	12	03/02/2012 14:25	ADB	14/03/2012 19:03	ADB
Moral issue, religion, morality	2	7	07/02/2012 16:57	ADB	24/02/2012 10:01	ADB
Motivation - appearance related	3	12	23/01/2012 14:46	ADB	11/03/2012 14:25	ADB
Motivation - health related	3	5	23/01/2012 14:47	ADB	11/03/2012 13:29	ADB
Motivation - importance of...	3	20	23/01/2012 14:57	ADB	11/03/2012 14:35	ADB
Nanny state	3	11	14/02/2012 13:37	ADB	14/03/2012 14:26	ADB
Obese opinions biased, incompetent	3	27	25/01/2012 18:15	ADB	29/02/2012 15:08	ADB
Obese people descriptions - disgusting appalling weak lazy etc	3	100	23/01/2012 15:29	ADB	11/03/2012 15:28	ADB
Obesity not acceptable	2	6	25/01/2012 18:04	ADB	06/02/2012 11:35	ADB
Peer Motivation, motivated by others' support, honesty encouragement, inspiration	3	14	07/02/2012 14:25	ADB	14/03/2012 19:50	ADB
Perception of ideal body shape	3	43	25/01/2012 18:00	ADB	07/03/2012 15:04	ADB
Perceptions of extent of obesity problems in Ireland	4	73	24/01/2012 10:47	ADB	14/03/2012 13:52	ADB
Perceptions of lifestyle of obese persons	3	19	23/01/2012 14:48	ADB	06/03/2012 14:16	ADB
Perceptions weight loss is not easy	3	33	23/01/2012 15:10	ADB	11/03/2012 15:08	ADB
Personal behaviour change, effort required	3	18	23/01/2012 14:33	ADB	08/03/2012 13:14	ADB
Personal choice	3	25	24/01/2012 11:41	ADB	07/03/2012 14:21	ADB
Poor dietary knowledge	3	14	01/02/2012 11:16	ADB	06/03/2012 14:17	ADB
Pressure to be thin	3	11	26/01/2012 16:41	ADB	14/03/2012 13:33	ADB
Quickfix	1	8	07/02/2012 16:55	ADB	14/02/2012 15:07	ADB

## Intercooder Reliability assessment in NVivo

**Nodes**

- Atypical perspective on obesity
- Ban junk food adverts
- Behaviour change needed to tackle obesity
- BMI weight definition
- Cause - consuming more convenience foods
- Cause - advertising
- Cause - comfort food, comfort eating
- Cause - Computer and TV
- Cause - decline of home cooking
- Cause - environmental factors
- Cause - lack of motivation
- Cause - not consuming 'right' foods
- Cause - sedentary life, lack of exercise
- Cause - snacking, junk food consumption
- Cause - time pressures
- Comparing various countries re diet and obesity
- Debate - problems of BMI
- Denial or lack of knowledge regarding weight
- Dietary Protective factors
- Economic consequences of obesity
- Economic influences on diet and obesity
- End goal is for children to grow up healthy
- Exercise as a protective factor
- Food industry voluntary effort to make products he
- Food price influences food choice

**Increasing obesity**

<Internals\NVivo Intercooder Reliability Document> - \$ 14 references coded [7.23% Coverage]

Reference 1 - 0.80% Coverage

Dr Donal O'Shea, endocrinologist at St Vincent's Loughlinstown Hospital obesity clinic, said the rate of obesity in children was now increasing at a rate of 10,000 a year.

Reference 2 - 0.39% Coverage

Every year another 4,000 Irish schoolchildren become obese, it was revealed today.

References 3-4 - 1.09% Coverage

It is estimated that across the EU, the number of overweight school children is shooting up to an incredible 400,000 every year.

Here this works out at a growth rate of 4,000 additional young people defined as overweight every year.

References 5-6 - 0.91% Coverage

"Obesity is rising rapidly, and Europe's expanding waistline brings with it devastating consequences for public health and huge economic costs," warns the EU Health Commissioner Markos Kyprianou.

Figure D.1 NVivo coding screenshots



previous experiences conducting research also impacted on the decision to employ a mixed methods approach in the research. It is likely that this background impacted on the study design, analysis and interpretation of the data. With this in mind, the researcher endeavoured to obtain external input and perspectives on the coded and interpreted data from supervisors as well as from fellow PhD candidates. The use of inter-coder agreement in qualitative research, although controversial, enabled the researcher to gain an outside perspective on the data and in so-doing, ensure objectivity in so far as possible within research of this nature.

Regarding my personal expectations of the study, although I expected a strong framing of the issue as a behavioural problem, I did not foresee the strong gender differences emerging in the analysis. Furthermore, I was unaware as to the intensity and the prevalence of weight stigma in Ireland. Having read the experiences of message board members, I was shocked at the level of overt discrimination and verbal attacks on obese persons and the social acceptability of such views and behaviours. There was no face-to-face contact between the researcher and participants as there were concerns regarding the effect of the presence of the researcher on openness and honesty in discussions of obesity and weight. Following my analysis, I believe this was the correct choice but acknowledge that the analysis could have benefited from member checking and engagement with participants in the social media space.

## Qualitative analysis article references and codes (Chapter 6)

Publication	Article Code	Date	Headline
<b>The Irish Times</b>	IT <sub>1</sub>	21/11/2009	Overweight? Mise <sup>28</sup> ?
	IT <sub>2</sub>	08/06/2009	Our health and our diet
	IT <sub>3</sub>	19/03/2005	Super-size nation
	IT <sub>4</sub>	20/12/2005	Sin or disease debate
	IT <sub>5</sub>	30/12/2005	No fads please - just fitness
	IT <sub>6</sub>	29/08/2007	Most are happy with their health but survey finds obese complacent
	IT <sub>7</sub>	05/03/2005	Survey finds children get too little exercise
	IT <sub>8</sub>	17/05/2005	Treating obesity costs EUR 500m a year
	IT <sub>9</sub>	24/05/2005	The next crisis on the menu
	IT <sub>10</sub>	07/10/2009	Lack of exercise costs taxpayer EUR 1.8bn a year
	IT <sub>11</sub>	10/07/2007	Rise in obesity is set to drive diabetes levels up by 37%
	IT <sub>12</sub>	31/05/2005	The horrors of lunchtime eating
	IT <sub>13</sub>	06/01/2009	Time for a rethink on diet
	IT <sub>14</sub>	16/03/2005	EU Commission launches drive against obesity
	IT <sub>15</sub>	17/05/2005	Obesity task force warns of 'epidemic'
	IT <sub>16</sub>	10/04/2007	'BMI versus BVI'
	IT <sub>17</sub>	14/09/2005	Many are in denial about poor health, survey finds
	IT <sub>18</sub>	18/09/2009	Recession can result in more childhood obesity

<sup>28</sup> 'Mise' is an Irish word meaning 'me'.

<b>Publication</b>	<b>Article Code</b>	<b>Date</b>	<b>Headline</b>
<b>The Irish Independent</b>	II <sub>1</sub>	18/08/2009	Most men too fat thanks to slim chance of exercise
	II <sub>2</sub>	22/04/2005	Smaller portions are best way to fight the flab, say scientists
	II <sub>3</sub>	27/07/2007	Yo-yo weight loss puts babies at risk
	II <sub>4</sub>	16/06/2005	Obesity: Don't swallow everything you're told...)
	II <sub>5</sub>	21/06/2007	We are a nation in denial over our food vices
	II <sub>6</sub>	23/03/2009	The fat controller
	II <sub>7</sub>	11/05/2009	'Mental weight' key to fighting obesity
	II <sub>8</sub>	09/11/2009	Six weeks and counting...
	II <sub>9</sub>	06/07/2009	Don't let this liposuction suck you in
	II <sub>10</sub>	15/09/2007	'Dashboard dining' fuelling worrying rise in obesity rates
	II <sub>11</sub>	23/11/2005	Obesity killed 2,500 people in 'epidemic timebomb' last year
	II <sub>12</sub>	12/03/2005	Obesity crisis
	II <sub>13</sub>	25/10/2005	How we've become a nation that spends Eur 480m a year on junk food
	II <sub>14</sub>	10/02/2009	Surge in obesity as Irish teens pile on the pounds
	II <sub>15</sub>	29/04/2005	Dementia linked to weight gain
	II <sub>16</sub>	13/03/2007	EU urged to provide kids' fitness plan
	II <sub>17</sub>	08/10/2005	Eating your way back to shape
	II <sub>18</sub>	16/02/2009	Exercise isn't much fun, but the after-effects make it all worthwhile
	II <sub>19</sub>	03/10/2005	Ban on junk food adverts urged in obesity fight
	II <sub>20</sub>	27/12/2005	Obesity just a big fat lie, says expert
	II <sub>21</sub>	08/12/2009	One in three heart-disease deaths caused by obesity
	II <sub>22</sub>	12/12/2005	Leaning on fat

<b>Publication</b>	<b>Article Code</b>	<b>Date</b>	<b>Headline</b>
<b>The Sunday Independent</b>	SI <sub>1</sub>	29/05/2005	Love means a better diet for men but girls need cash
	SI <sub>2</sub>	01/07/2007	Gastric-band surgery is the latest step for girls who long to be thinner
	SI <sub>3</sub>	25/02/2007	Saints and scholars now more gluttons and fatties
	SI <sub>4</sub>	18/12/2005	Obesity crisis 'is no more than a big fat lie'
	SI <sub>5</sub>	11/10/2009	Let's live off fat of the land
	SI <sub>6</sub>	15/04/2007	A fat lot of good dieting did me
	SI <sub>7</sub>	26/04/2009	This size-8 girl was able to buy diet pills at her local chemists
<b>The Star</b>	TS <sub>1</sub>	03/04/2007	Fats the way to watch the pounds fade away
	TS <sub>2</sub>	05/06/2005	Health file
	TS <sub>3</sub>	29/08/2007	Kid's Uniforms Getting Bigger
	TS <sub>4</sub>	22/11/2007	Latchkey kids are at higher risk of obesity
	TS <sub>5</sub>	13/04/2007	Secret of why we pile on the pounds
	TS <sub>6</sub>	23/06/2009	Growing pains
	TS <sub>7</sub>	05/06/2009	Irish kids risking their health
	TS <sub>8</sub>	24/10/2005	The high-tech future of diets
	TS <sub>9</sub>	13/12/2005	Good news for fatties before Xmas pig-out!
<b>The Sunday World</b>	SW <sub>1</sub>	28/08/2005	Kids have a fat chance
	SW <sub>2</sub>	02/10/2005	Lunch Bunch
	SW <sub>3</sub>	25/02/2007	Feast on Fat and stay slim
	SW <sub>4</sub>	25/01/2009	Parents duty to prevent obesity

<b>Publication</b>	<b>Article Code</b>	<b>Date</b>	<b>Headline</b>
<b>Evening Herald</b>	EH <sub>1</sub>	05/11/2005	Chew on this, all parents
	EH <sub>2</sub>	14/06/2007	Punish the parents of obese kids
	EH <sub>3</sub>	09/07/2007	Meet the smart cycle
	EH <sub>4</sub>	16/09/2005	Windscreen bellies are not the fault of the box
	EH <sub>5</sub>	12/05/2007	Mammy's not always to blame
	EH <sub>6</sub>	09/03/2005	Old McDonald's has had its chips
	EH <sub>7</sub>	22/08/2007	Don't blame Shrek's friends for your child's obesity
	EH <sub>8</sub>	29/06/2009	Have you only yourself to blame if you're fat?
	EH <sub>9</sub>	31/05/2005	Obese fear as 12 die on waiting list
	EH <sub>10</sub>	31/08/2009	Ops cancelled, but the HSE can afford to spend €1.35m on ads telling us to eat
	EH <sub>11</sub>	21/05/2007	EU to fund free fruit for school children
	EH <sub>12</sub>	21/01/2005	Fat chance as tots pile on pounds
	EH <sub>13</sub>	24/05/2005	Now they're trying to supersize our kids
	EH <sub>14</sub>	29/09/2005	'People will die' in obesity funding crisis at hospital
	EH <sub>15</sub>	14/07/2005	Healthy life choices benefit workplace
	EH <sub>16</sub>	02/05/2007	Just coz we're fat it doesn't mean we're freaks
	EH <sub>17</sub>	15/04/2005	Don't waist time on weighing scales
	EH <sub>18</sub>	29/01/2009	Diet pill is linked to anxiety

## **Appendix E: Social media methods**

## **Ethical considerations in social media research**

Anonymity and confidentiality are vital considerations in online research but there is much debate regarding the issue. Some researchers consider online communication to be an anonymous form of communication, as users of message boards often invent an alias or screen name for the purposes of online communication. However, problems persist even with the use of such online screen names or usernames. The use of exact quotes from online communications in qualitative analysis can be easily attributed to a specific user through a search engine, thus violating participants' privacy and anonymity (Eysenbach and Till, 2001, BPS, 2007). Consequently, participants should always be approached to provide their consent if they are to be quoted in research. Yet, obtaining informed consent is a considerable obstacle in online research, due to the difficulty communicating with potential participants and in verifying participant demographics. The BPS Working Group (2007) advise that researchers should avoid using quotes that are traceable to an individual's posting via a search engine unless the participant has fully understood and has provided their consent.

The public/private distinction in online research is a controversial one and thus, often each study must be considered on an individual basis. Elgesem (2002) asserts that the division between public and private is far more complex in online interactions and therefore the researcher must consider the perspective of the participants in such online communities and their understanding of what constitutes public and private. Eysenback and Till (2001) have suggested that elements to

consider in such a decision include the size of the message boards, number of users, level of board activity, whether registration is required to access posts and whether there is a searchable archive of postings. Furthermore, if a message board has both a private messaging system as well as the public forum, this must also be taken into account when considering user perceptions of privacy. If the researcher deems that informed consent must be sought, this may be achieved by asking individual board members for their consent to use their postings as part of a research project, thus affording them the opportunity to withdraw from the research. However, on large message boards where several years of information can be archived, it may be impossible to obtain consent from every member or even from a subset of those members with relevant comments.

Langer and Beckman (2005) advise that if access is restricted to members only then interactions should be considered as private communications. However, if access is not restricted and any non-member can be involved in community discussions, this can be defined as public communication. For instance, the authors compare an individual's online posting on a message boards to a letter to the editor in a newspaper, arguing that both are intentionally public postings (2005). Yet, not all researchers would concur on this point. The BPS Working Group (2007, p. 3) maintains that the distinction between public and private is unclear, especially in online research. They advise that the consideration of consent "*needs to be tempered by a consideration of the nature of the research, the intrusiveness and privacy*



*implications of the data collected, analysed and reported, and possible harm caused by the research.”*

The current study drew on the guidelines of Kozinets and the BPS Working Group for online research. However, it was believed that if the researcher was to reveal her presence, this could unduly impact future interactions, when future postings were not of interest. Therefore, as only publically-accessible retrospective conversation threads were of interest, the researcher remained anonymous. The BPS Working Group suggests that composite and paraphrased quotes should be employed in the reporting of the analysis. This approach is consistent with thematic analysis and therefore was adopted for the current research. Furthermore, the screen names employed by board members were treated the same way a person’s real name would be treated, in that anonymity was paramount.

## **Appendix F: Survey methods**

## Appendix to Section 7.5.2 Survey Methods

### *Beliefs About Obesity Scale*

Factor analysis (FA) using principal component analysis with orthogonal rotation (varimax) was conducted on the 10-item scale. The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis,  $KMO = 0.86$ , which suggests that the sample size is adequate for factor analysis (Hutcheson & Sofroniou, 1999). Bartlett’s test of sphericity ( $\chi^2(45)=1006.23$ ,  $p<0.001$ ) indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. The results indicated that two components had eigenvalues greater than 1 and in combination explained 54.98% of the variance. Following inspection of the scree plot, the two components<sup>29</sup> were confirmed and retained for the final analysis. Table F.1 displays the factor loadings after varimax rotation. Emboldened factor scores indicate the relevant factor loading and all those with loadings greater than 0.55 are considered ‘good’ to ‘excellent’ based on Comrey and Lee (1992). The items that cluster on the same components suggest that component 1 represents behavioural causes of obesity (35.28% of variance) and component 2 reflects non-behavioural causes of obesity (19.7% of variance). Reliability analyses were conducted on these sub-scales. Reliability was high for factor 1 and fair for factor 2 with Cronbach’s alphas of 0.86

---

<sup>29</sup> For the purposes of clarity, when a component is retained for analysis, this considered to represent underlying factor in the scale and thus, will be referred to as a factor.

and 0.48, respectively. In the current study, the mean score achieved on the 7-item behavioural causes sub-scale was 1.13 ( $s=1.3$ , range from -3 to +3) and the mean of the 3-item non-behavioural causes scale was -0.25 ( $s=1.33$ , range from -3 to +3).

Table F.1 Rotated factor loadings for Beliefs about Obesity scale

Items:	Rotated factor loadings	
	Behavioural causes	Non-behavioural causes
Obesity often occurs when eating is used as a form of compensation for lack of love or attention	<b>0.70</b>	0.03
Obesity is usually caused by overeating	<b>0.75</b>	-0.30
Most obese people cause their problem by not getting enough exercise	<b>0.75</b>	-0.29
Most obese people eat more than nonobese people	<b>0.77</b>	-0.27
The majority of obese people have poor eating habits that lead to their obesity	<b>0.73</b>	-0.31
People can be addicted to food, just as others are addicted to drugs, and these people usually become obese	<b>0.77</b>	0.06
Time pressures associated with modern life means that people can become obese because they have to choose convenient and quick options	<b>0.60</b>	0.41
In many cases, obesity is the result of a biological disorder	0.36	<b>0.52</b>
Obesity is rarely caused by a lack of willpower	0.31	<b>0.50</b>
People often become obese because it is too expensive to maintain a healthy diet	0.35	<b>0.66</b>
<b>Scale reliability (<math>\alpha</math>)</b>	<b>0.86</b>	<b>0.48</b>

***Obesity Risk Knowledge (ORK-10; Consequences of obesity)***

Factor analysis (FA) using principal component analysis with orthogonal rotation (varimax) was conducted on the 10-item scale. The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO=0.81, which suggests that the sample size is adequate for factor analysis (Hutcheson & Sofroniou, 1999). Bartlett’s test of sphericity ( $\chi^2 (45) = 415.31, p < 0.001$ ) indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. The results indicated that one factor was present, explaining 29.5% of the variance. Table F.2 displays the factor loadings. Emboldened factor scores indicate the relevant factor loading and all those with loadings greater than 0.55 are considered ‘good’ to ‘excellent’ based on Comrey and Lee (1992). Reliability analysis was conducted on the scale, achieving a Cronbach’s alpha of 0.72. The mean score in the current study was quite low at 2.86 ( $s = 1.93$ , range 0-10).

Table F.2 Factor loadings for Obesity Risk Knowledge Scale (ORK-10)

<b>Items:</b>	<b>Obesity Risk Knowledge</b>
A person with a 'beer-belly' shaped stomach has an increased risk of getting diabetes	<b>0.55</b>
Obesity increases the risk of getting bowel cancer	<b>0.62</b>
An obese person who gets diabetes needs to lose at least 40% of their body weight for clear health benefits	<b>0.47</b>
Obese people can expect to live as long as nonobese people	<b>0.51</b>
Obesity increases the risk of getting breast cancer after menopause	<b>0.60</b>
Obesity is more of a risk to health for people of South Asia (e.g., India and Pakistan) than it is for White Europeans	<b>0.51</b>
There is no major health benefit if an obese person who gets diabetes, loses weight	<b>0.60</b>
Obesity does not increase the risk of developing high blood pressure	<b>0.55</b>
It is better for a person's health to have fat around the hips and thighs than around the stomach and waist	<b>0.45</b>
Obesity increases the risk of getting a food allergy	<b>0.55</b>
<b>Scale reliability (<math>\alpha</math>)</b>	<b>0.72</b>

*Solutions to obesity (adapted from Ogden et al. 2001)*

Factor analysis using principal component analysis with orthogonal rotation (varimax). The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO=0.86, which suggests that the sample size is adequate for factor analysis (Hutcheson & Sofroniou, 1999). Bartlett's test of sphericity ( $\chi^2(66)=1249.58$ ,  $p<0.001$ ) indicated that correlations between items were

sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. The results indicated that three components had eigenvalues greater than 1 and in combination explained 60.4% of the variance. Following inspection of the scree plot, the three components were confirmed and retained for the final analysis. Table F.3 displays the factor loadings after varimax rotation. Emboldened factor scores indicate the relevant factor loading and all those with loadings greater than 0.55 are considered 'good' to 'excellent' based on Comrey and Lee (1992). The items that cluster on the same components suggest that component 1 represents behaviour and food changes (31.8% of variance), component 2 reflects environmental initiatives (16.2% of variance) and component 3 represents medical solutions to obesity (12.4%) Reliability analyses were conducted on these sub-scales. Reliability was high for components 1 and 2 and fair for component 3, with Cronbach's alphas of 0.81, 0.68 and 0.59, respectively. The lower reliability of the final sub-scale may be explained by the fact that there were only 2 items on the scale, as Cronbach's alpha depends on the number of items on the scale (Cortina, 1993).

The mean score on first sub-scale, behaviour and food changes was 4.15 (7 items;  $s=0.78$ , range 1-5), on the environmental initiatives sub-scale (3 items) was 3.07 ( $s=1.02$ , range 1-5) and the mean was 2.41 on the medical solutions sub-scale (2 items;  $s=0.92$ , range 1-5).

Table F.3 Rotated factor loadings for Solutions to Obesity Scale

Items:	Rotated Factor Loadings		
	Behaviour & food changes	Environmental initiatives	Medical solutions
Healthy Eating	<b>0.84</b>	0.13	-0.13
Exercise	<b>0.83</b>	0.02	-0.04
Ensuring everyone has access to healthy food choices	<b>0.77</b>	0.20	-0.14
Calorie-controlled diet	<b>0.74</b>	0.04	0.14
Reducing portion sizes	<b>0.63</b>	0.16	0.07
Fat and calorie information on all foods	<b>0.61</b>	0.31	0.07
Taking more fat and sugar out of foods	<b>0.57</b>	0.32	0.12
Banning advertising of foods to children	0.12	<b>0.81</b>	-0.01
Taxes on unhealthy foods	0.10	<b>0.78</b>	0.15
Making fatty foods less available	0.39	<b>0.62</b>	0.14
Slimming pills	-0.04	0.12	<b>0.83</b>
Weight-loss surgery	0.06	0.08	<b>0.82</b>
<b>Scale reliability (<math>\alpha</math>)</b>	<b>0.81</b>	<b>0.68</b>	<b>0.59</b>

#### *Attitudes toward Obese Persons Scale*

Factor analysis using principal component analysis was conducted on the 20 items with orthogonal rotation (varimax) to confirm the underlying structure of the scale. The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO=0.85, which suggests that the sample size is adequate for factor analysis (Hutcheson & Sofroniou, 1999). Bartlett’s test of sphericity ( $\chi^2$  (190) =



1463.35,  $p < 0.001$ ) indicated that correlations between items were sufficiently large for PCA.

An initial analysis was run to obtain eigenvalues for each component in the data. The results indicated that four components had eigenvalues greater than 1 and in combination explained 48.7% of the variance (first component 17.65%, second 12.72%, third 10.93% and fourth 7.44%). Following inspection of the scree plot and using Kaiser's (1960) criterion, these four components were therefore retained for the final analysis. Table F.4 displays the factor loadings after varimax rotation. Similar to Allison et al.'s findings (1991), the items that cluster on factor 1 represents the belief that *obese persons have social difficulties*, factor 2 reflects *personality characteristics of obese persons* and factor 4 represents *self-esteem of obese persons*. However, the third factor, not previously identified seems to indicate a dimension relating to *obese persons as abnormal*. Reliability analyses were conducted on these sub-scales and the scales demonstrated Cronbach's alphas of 0.79, 0.68, 0.63 and 0.55, respectively.

In the current study, the mean score on the first sub-scale relating to social difficulties was 24.54 ( $s=6.98$ , range 8-48) on the *personality characteristics of obese persons* sub-scale was 18.39 ( $s=4.95$ , range 6-33), on the *obese persons as abnormal* dimension was 13.1 ( $s=3.37$ , range 4-23) and 7.76 on the *self-esteem of obese persons* sub-scale ( $s=2.15$ , range 2-12).

Table F.4 Rotated factor loading for ATOP scale

Item	Social difficulty	Personal ity	Abnorm al	Self- esteem
Severely obese people are usually untidy	<b>0.67</b>	-0.09	0.11	0.02
Most people feel uncomfortable when they associate with obese people	<b>0.45</b>	0.09	0.44	-0.01
Obese people are often less aggressive than non-obese people	<b>0.57</b>	0.19	-0.03	-0.03
Most obese people have different personalities than non-obese people	<b>0.62</b>	0.12	0.12	-0.03
Obese workers cannot be as successful as other workers	<b>0.58</b>	-0.05	0.32	-0.02
Most obese people resent normal weight people	<b>0.59</b>	0.10	0.17	0.05
Obese people are more emotional than non-obese people	<b>0.72</b>	-0.11	0.02	0.14
Obese people tend to have family problems	<b>0.56</b>	-0.05	0.23	0.12
Obese people are usually sociable	-0.02	<b>0.54</b>	-0.02	0.43
Most obese people are not dissatisfied with themselves	0.11	<b>0.65</b>	0.08	-0.22
Obese people are just as self-confident as other people	-0.11	<b>0.73</b>	-0.06	0.07
Obese people are as happy as non-obese people	-0.09	<b>0.72</b>	-0.19	-0.01
Very few obese people are ashamed of their weight	0.28	<b>0.54</b>	0.15	-0.04
Obese people are just as healthy as non-obese people	0.26	<b>0.41</b>	-0.36	-0.21
Obese people should not expect to lead normal lives	0.42	0.03	<b>0.61</b>	-0.07
Most non-obese people would not want to marry anyone obese	0.26	-0.05	<b>0.68</b>	0.09
Obese people are just as sexually attractive as non-obese people	0.11	0.46	<b>-0.58</b>	0.13
One of the worst things that could happen to a person would be for him to become obese	0.33	-0.05	<b>0.51</b>	0.15
Most obese people feel that they are not as good as other people	0.30	-0.11	0.37	<b>0.52</b>
Most obese people are more self-conscious than other people	0.10	-0.04	0.01	<b>0.83</b>
<b>Scale reliability (<math>\alpha</math>)</b>	<b>0.79</b>	<b>0.68</b>	<b>0.63</b>	<b>0.55</b>

### ***Body weight/shape self-efficacy scale***

Factor analysis using principal component analysis (PCA) was conducted on the 17 items with orthogonal rotation (varimax) to confirm the underlying structure of the scale. The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO=0.93, which suggests that the sample size is adequate for factor analysis (Hutcheson & Sofroniou, 1999). Bartlett’s test of sphericity ( $\chi^2$  (136) = 2498.33,  $p < 0.001$ ) indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. The results indicated that two components had eigenvalues greater than 1 and in combination explained 54.7% of the variance (first component 30.99% and second component 23.08%). Following inspection of the scree plot and given that these three components exceed Kaiser’s (1960) criterion of an eigenvalue greater than 1 on each, the two components were therefore retained for the final analysis. Table F.5 displays the factor loadings after varimax rotation. The items that cluster on the same components suggest that component 1 represents *avoidance and inability to effectively control body weight/shape* and component 2 reflects *body weight/shape management resilience*. Reliabilities were very high for the sub-scales, with Cronbach’s alphas of 0.90 and 0.85, respectively. The mean score was 35.48 for the 11-item *avoidance and inability to effectively control body weight/shape* ( $s=8.3$ , range 16-55) and 19.55 for the 6-item *body weight/shape management resilience* sub-scale ( $s=4.54$ , range 6-30).

Table F.5 Rotated factor loading for Body Weight/Shape Self-efficacy Scale

Item	Rotated factor loadings	
	Avoidance	Resilience
One of my problems is that I cannot get down to the work of changing my body weight and shape when I should	<b>0.69</b>	-0.27
I give up easily when it comes to achieving my desired body weight and shape	<b>0.71</b>	-0.31
I do not seem capable of dealing with most problems that come up in trying to achieve or maintain my desired body weight and shape	<b>0.69</b>	-0.16
I feel insecure about my ability to develop my desired body weight and shape	<b>0.69</b>	-0.15
When I set important body weight and shape goals for myself, I rarely achieve them	<b>0.68</b>	-0.30
I give up on my body weight and shape goals before achieving them	<b>0.75</b>	-0.34
I avoid facing the difficulty of changing my body weight and shape	<b>0.66</b>	-0.23
If changing my body weight and shape seems too complicated, I will not even bother to try it	<b>0.61</b>	-0.35
When trying to develop a new body weight and shape, I soon give up if I am not initially successful	<b>0.73</b>	-0.27
When unexpected weight gain occurs, I don't handle it well	<b>0.62</b>	0.15
I avoid trying to develop a new body weight and shape when it looks too difficult for me	<b>0.59</b>	-0.27
Failure to achieve my desired body weight and shape just makes me try harder	-0.18	<b>0.74</b>
Even if making changes in my body weight and shape is unpleasant, I stick to it until I accomplish it	-0.29	<b>0.69</b>
When I decided to work towards a different body weight or shape, I go right to work on it	-0.16	<b>0.69</b>
I can count on my abilities to change my body weight and shape	-0.18	<b>0.73</b>
When I make plans to change my body weight and shape, I am certain I can carry the plan through	-0.20	<b>0.75</b>
If I can't get to the body weight and shape I want the first time, I keep trying until I can	-0.21	<b>0.76</b>
<b>Scale reliability (<math>\alpha</math>)</b>	<b>0.90</b>	<b>0.85</b>

### ***Expert Trust Scale***

Factor analysis using principal component analysis with orthogonal rotation (varimax) was conducted on the 6-items scale to investigate its underlying structure. The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO=0.79, which suggests that the sample size is adequate for factor analysis (Hutcheson & Sofroniou, 1999). Bartlett’s test of sphericity ( $\chi^2(15)=283.94, p<.001$ ) indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. The results indicated that one component had an eigenvalue greater than 1 and that this component explained 41.14% of the variance. Following inspection of the scree plot, the component was confirmed and the factor retained for the final analysis. Table F.6 displays the factor loadings. The items that cluster confirm that the factor represents expert trust (41.14% of variance). Reliability was high for the scale, with a Cronbach’s alpha of 0.71. The average scale score was 18.61 ( $s=3.82$ , range 6-30).

Table F.6 Factor Loading for Expert Trust Scale

<b>Item</b>	<b>Expert trust</b>
Dietary recommendations should be taken with a grain of salt	<b>0.58</b>
I am tired of hearing about what foods I should or should not eat	<b>0.70</b>
Scientists really don't know whether a low-fat diet is good for you	<b>0.60</b>
Healthy eating guidelines change too much	<b>0.66</b>
I have decided to stop worrying about my fat intake because controlling it hasn't made a difference	<b>0.57</b>
Scientific debate about diet leads me to doubt dietary advice	<b>0.72</b>
<b>Scale reliability (<math>\alpha</math>)</b>	<b>0.71</b>

### ***Gender Roles & Responsibility for Obesity scale***

Factor analysis using PCA was conducted on the 16 item scale with orthogonal rotation (varimax). The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO=0.87, which suggests that the sample size is adequate for factor analysis (Hutcheson & Sofroniou, 1999). Bartlett’s test of sphericity ( $\chi^2$  (105)=1555.35,  $p<0.001$ ) indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. The results indicated that three components had eigenvalues greater than 1 and in combination explained 53% of the variance. Following inspection of the scree plot and given that these three components exceed Kaiser’s (1960) criterion of an eigenvalue greater than 1 on each, the three components were therefore retained for the final analysis. Table F.7 displays the factor loadings after varimax rotation. The items that cluster on the same components suggest that component 1 represents dietary norms for women and men, component 2 reflects parental blame for childhood obesity, and component 3 represents social norms.

Reliabilities were very high for the parents blame and gender diet norms subscales, Cronbach’s alphas of 0.84 and 0.82, respectively. The third component (social norms) was moderately reliable, Cronbach’s alpha (0.66). The mean score on the 9-item gender norms sub-scale was 29.32 ( $s=6.08$ , range 9-43), on the 4-item parental blame scale was 14.23 ( $s=3.5$ , range 4-20) and 7.88 on the 3-item social norms scale ( $s=1.62$ , range 2-10). These factors will be used to examine any

variance in perception between the genders regarding attitudes towards diet, the responsibility of parents and alignments to dominant social norms.

Table F.7 Rotated factor loadings: Gender Roles/Responsibility for Obesity Scale

Item	Rotated Factor Loadings		
	Gender diet norms	Parental Blame	Social norms
Women are the caregivers and look after the health of others	<b>0.67</b>	0.17	0.20
Generally, it is the woman's role to look after food in the home	<b>0.67</b>	0.06	0.11
Men don't worry about weight issues	<b>0.64</b>	0.03	-0.15
Generally, it is up to women to encourage men to be weight and diet-conscious	<b>0.65</b>	0.06	-0.09
Often it is the case that women encourage men to adopt healthier diets	<b>0.64</b>	0.21	0.33
Mothers have a more significant influence than fathers over children's eating habits	<b>0.62</b>	0.15	0.32
Men don't talk about weight and diet issues with other men	<b>0.57</b>	-0.01	0.20
For men, meat is a vital part of an evening meal	<b>0.53</b>	0.07	0.39
Dieting is something that women do	<b>0.51</b>	0.07	0.04
Parents who let their children become obese are guilty of neglect	0.17	<b>0.84</b>	0.06
It is almost criminal the way some parents let their children become obese	0.13	<b>0.79</b>	0.16
When I see an obese child, I know it is the parents that are to blame	0.10	<b>0.79</b>	0.06
It is very irresponsible of parents to let their children become obese	0.01	<b>0.77</b>	0.31
Women are judged by their weight and body shape	0.18	0.15	<b>0.75</b>
There is more pressure on women to conform to a body image 'ideal'	0.34	0.13	<b>0.69</b>
Mothers and fathers have equal roles in providing healthy food for children	-0.09	0.18	<b>0.71</b>
<b>Scale reliability (<math>\alpha</math>)</b>	<b>0.82</b>	<b>0.84</b>	<b>0.66</b>

### *Attitudes Towards the Issue of Obesity Scale*

Factor analysis using principal component analysis using varimax orthogonal rotation was conducted on the 3-item, 8-point scale assessing attitudes toward the issue of obesity. The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis,  $KMO = 0.68$ , which suggests that the sample size is adequate for factor analysis (Hutcheson & Sofroniou, 1999). Bartlett’s test of sphericity ( $\chi^2 (3) = 227.01, p < 0.001$ ) indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. The results indicated that one component had eigenvalues greater than 1 and explained 66.95% of the variance. Following inspection of the scree plot, this component was confirmed and retained for the final analysis. Table F.8 displays the factor loadings for each item. It is suggested that this component represents the perceived seriousness of the issue of obesity. A reliability analysis was conducted on the scale and results indicated that reliability was high, with a Cronbach’s alpha of 0.74. The mean scale score in the current study was 11.4 ( $s = 3.26$ , range 0-21).

Table F.8 Factor loading for Attitudes Towards the Issue of Obesity Scale

<b>Item</b>	<b><i>Seriousness of issue</i></b>
On a scale of 1-7, where 1 represents ‘not a problem’ and 7 represents ‘a health crisis’, I would describe the levels of obesity in this country as:	<b>0.71</b>
The extent of Ireland's obesity problem is close to that of the United States	<b>0.61</b>
Ireland is witnessing an epidemic in childhood obesity	<b>0.68</b>
<b>Scale reliability (<math>\alpha</math>)</b>	<b>0.74</b>



### *Personal Weight Status Satisfaction scale*

A factor analysis using principal component analysis with orthogonal rotation (varimax) was performed in order to assess the underlying structure of the scale. The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO = 0.73, which suggests that the sample size is adequate for factor analysis (Hutcheson & Sofroniou, 1999). Bartlett’s test of sphericity ( $\chi^2(10)= 423.6, p<0.001$ ) indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. The results indicated that one component had eigenvalues greater than 1 and this component explained 51.08% of variance. Table F.9 displays the factor loadings for each scale item. It is suggested that the extracted component represents weight satisfaction. A reliability analysis was conducted on the scale and results indicated that reliability was high, with a Cronbach’s alpha of 0.75. Scores were reversed where appropriate and thus, scale scores could range from -15 to +10. In the current analysis, the mean score was -3.58 ( $s = 3.95$ , range -13 to 7).

Table F.9. Rotated factor loadings for Personal Weight Satisfaction Scale

<b>Item</b>	<b>Factor Loadings</b>
	<b>Weight satisfaction</b>
I am happy with my current weight	<b>-.80</b>
I am happy with my current body shape	<b>-.78</b>
I would like to lose a lot of weight	<b>.79</b>
I would like to lose a few pounds	<b>.62</b>
My previous attempts to lose weight have been unsuccessful	<b>.55</b>
<b>Scale reliability (<math>\alpha</math>)</b>	<b>0.75</b>

## **Appendix G: Full online survey**

## **Informed Consent Form**

### **Introduction**

This research is being undertaken by Aoife De Brún, a PhD candidate working with supervisors in University College Dublin and University College Cork.

### **Procedure**

You will be asked a series of background questions regarding attitudes to health as well as questions concerning your personal information such as age, gender and occupation. You will be asked to complete a number of short scales and questionnaires, which should take approximately 20 minutes. Please read these carefully and answer questions as honestly as possible.

### **Benefits**

It is hoped that through your participation, researchers will learn more about the issue being addressed and it is hoped that this research will inform health communication strategies.

### **Confidentiality & Participation**

Your participation in the study is voluntary and you have the right to withdraw from it at any time. The information you provide will be analysed as part of a larger data set.

Your responses will remain confidential and anonymous and your identity will not be divulged in any report. All information you provide will be held under the Data Protection Act 1988 (amendment 2003) and the Freedom of Information Act 2003. Data will be kept securely and be retained for a period of ten years. You also have the right to access any findings of the study.

### **Questions about the Research**

If you have questions regarding this study, you may contact Aoife De Brún (researcher), at (01) 716 3476, or by e-mail: [aoife.debrun@ucd.ie](mailto:aoife.debrun@ucd.ie).

Q1. In this questionnaire, we would like to understand your beliefs regarding obesity. Please mark each statement below according to how much you agree or disagree with it.

	I strongly disagree (-3)	Moderately disagree (-2)	I slightly disagree (-1)	I slightly agree (1)	I moderately agree (2)	I strongly agree (3)
Obesity often occurs when eating is used as a form of compensation for lack of love or attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity is usually caused by overeating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most obese people cause their problem by not getting enough exercise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most obese people eat more than non-obese people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The majority of obese people have poor eating habits that lead to their obesity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In many cases, obesity is the result of a biological disorder.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity is rarely caused by a lack of willpower	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People can be addicted to food, just as others are addicted to drugs, and these people usually become obese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People often become obese because it is too expensive to maintain a healthy diet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time pressures associated with modern life means that people can become obese because they have to choose convenient and quick options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2. This questionnaire will ask you to indicate whether you think a list of 10 statements about obesity are true or false by clicking on the appropriate response. Please complete all the questions as best you can. However, if you are unsure of the answer to a question, please choose the 'don't know' option.

	True	False	Don't Know
A person with a 'beer-belly' shaped stomach has an increased risk of getting diabetes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity increases the risk of getting bowel cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An obese person who gets diabetes needs to lose at least 40% of their body weight for clear health benefits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obese people can expect to live as long as non-obese people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity increases the risk of getting breast cancer after menopause	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity is more of a risk to health for people of South Asia (e.g., India and Pakistan) than it is for White Europeans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is no major health benefit if an obese person who gets diabetes, loses weight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity does not increase the risk of developing high blood pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is better for a person's health to have fat around the hips and thighs than around the stomach and waist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity increases the risk of getting a food allergy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3 To what extent do you think that the following are helpful in reducing and/or preventing obesity?

	Not At All Helpful (1)				Very Helpful (5)
Slimming pills?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exercise?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calorie controlled diet?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Healthy Eating?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surgery?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taxes on unhealthy foods?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Banning advertising of foods to children?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fat and calorie information on all foods available for sale?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making fatty food less available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking more fat and sugar out of foods?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reducing the portion sizes of foods?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensuring everyone has access to healthy food choices?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4. The following series of statements are ones which have been made by some people in relation to obese people. We are interested in your level of agreement or disagreement with each statement. Please be aware that all questionnaires are completely anonymous and all answers will be treated with the strictest confidence.

	Strongly Disagree (-3)	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately agree	Strongly agree (+3)
Obese people are as happy as non-obese people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most obese people feel that they are not as good as other people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most obese people are more self-conscious than other people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obese workers cannot be as successful as other workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most non-obese people would not want to marry anyone who is obese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Severely obese people are usually untidy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obese people are usually sociable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most obese people are not dissatisfied with themselves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obese people are just as self-confident as other people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people feel uncomfortable when they associate with obese people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obese people are often less aggressive than non-obese people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most obese people have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

different personalities than non-obese people						
Very few obese people are ashamed of their weight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most obese people resent normal weight people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obese people are more emotional than non-obese people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obese people should not expect to lead normal lives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obese people are just as healthy as non-obese people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obese people are just as sexually attractive as non-obese people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obese people are just as sexually attractive as non-obese people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obese people tend to have family problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One of the worst things that could happen to a person would be for him to become obese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q5. Please read each statement carefully and decide how well that statement describes you in general in terms of body weight and shape. Please indicate your level of agreement or disagreement with each on the scale below.

	Strongly Disagree (1)	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree (5)
When I make plans to change my body weight and shape, I am certain I can carry the plan through	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One of my problems is that I cannot get down to the work of changing my body weight and shape when I should	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I can't get to the body weight and shape I want the first time, I keep trying until I can	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I set important body weight and shape goals for myself, I rarely achieve them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I give up on my body weight and shape goals before achieving them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid facing the difficulty of changing my body weight and shape	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If changing my body weight and shape seems too complicated, I will not even bother to try it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even if making changes in my body weight and shape is unpleasant, I stick to it until I accomplish it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I decided to work towards a different body weight or shape, I go right to work on it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When trying to develop a new body weight and shape, I soon give up if I am not initially successful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When unexpected weight gain occurs, I don't handle it well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid trying to develop a new body weight and shape when it looks too difficult for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Failure to achieve my desired body	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





**Q8.** In the following statements, we are interested in your beliefs regarding nutrition specifically. Please indicate your level of agreement or disagreement with the following statements.

	Strongly disagree (1)	Disagree	Neither agree nor disagree	Agree	Strongly Agree (5)
Dietary recommendations should be taken with a grain of salt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am tired of hearing about what foods I should or should not eat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists really don't know whether a low-fat diet is good for you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Healthy eating guidelines change too much	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have decided to stop worrying about my fat intake because controlling it hasn't made a difference	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientific debate about diet and nutrition leads me to doubt dietary advice from experts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Q.9.** In the following set of statements, we are interested in examining your understanding of men and women's relationship with health, diet and weight. Please think about each statement and indicate on the scale below your level of agreement or disagreement.

	Strongly disagree (1)	Disagree	Neither agree nor disagree	Agree	Strongly Agree (5)
Dieting is something that women do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Men don't worry about weight issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For men, meat is a vital part of an evening meal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generally, it is up to women to encourage men to be weight- and diet-conscious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mothers and father have equal roles in providing healthy food for children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Women are judged by their weight and body shape	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Men don't talk about diet and weight issues with other men	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Women are the caregivers in society and look after the health of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mothers have a more significant influence than fathers over children's eating habits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generally, it is the woman's role to look after food in the home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is more pressure on women to conform to an body image 'ideal'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Often it is the case that women encourage men to adopt healthier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

diets					
Parents who let their children become obese are guilty of neglect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is almost criminal the way some parents let their children become obese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I see an obese child, I know it is the parents that are to blame	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is very irresponsible of parents to let their children become obese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q.10. We would now like to know what your current feelings are regarding your own weight status.

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly Agree (5)
I am happy with my current weight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to lose a few pounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to lose a lot of weight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My previous attempts to lose weight have been unsuccessful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am happy with my current body shape	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q11. Finally, we would like to collect some information about you. This information will not be used to identify you but instead will be combined with the data of all other participants.

Please state your gender

- Male
- Female

Q12 How old are you?

- 18-24
- 25-34
- 35-49
- 50-64
- 65 or over \_\_\_\_\_

Q13 In which county do you reside?

\_\_\_\_\_

Q14. What is the highest level of education you have completed?

- Primary level
- Secondary level
- Certificate / Diploma
- Third level/Undergraduate/Bachelor's degree
- Postgraduate qualification or higher

Q15. What is your current occupation status?

- Full-time employment (please state occupation \_\_\_\_\_)
- Part-time employment
- Student
- Homemaker
- Retired (please state past occupation \_\_\_\_\_)
- Unemployed

Q16. What is the occupation of the primary income earner in the household?

-----

Q17. How would you describe your current weight?

- Underweight
- Normal weight
- Overweight
- Obese
- Very obese



Q18. Please enter your height in either metres and centimetres **or** in feet and inches below.

	Metres	Centimetres
Height		

**OR**

	Feet	Inches
Height		

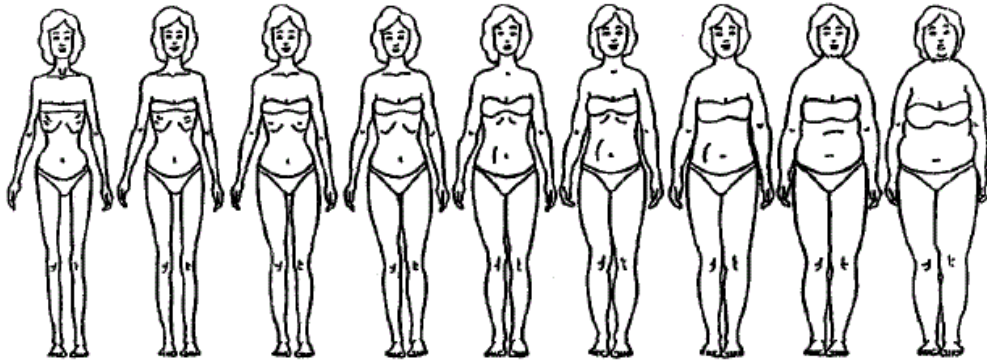
What is your current weight?

	Stones	Pounds (lbs)
Weight		

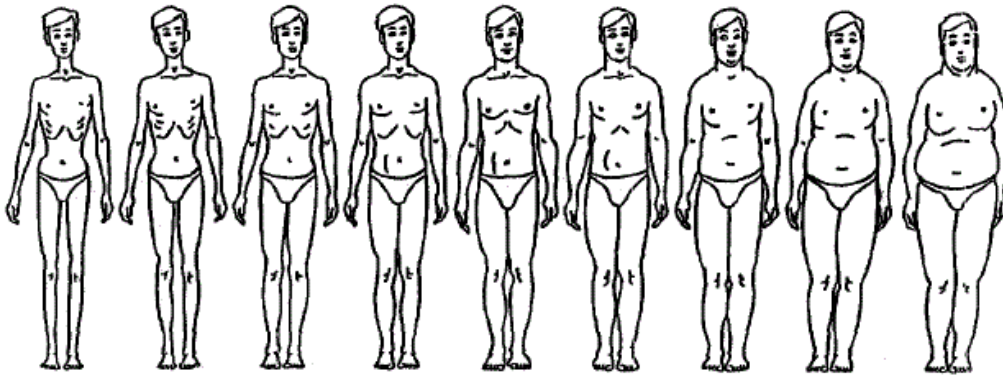
**OR**

	Kilograms (kg)
Weight	

Q19. Please examine the drawings below and indicate on each scale provided which images you would regard as obese. Please tick all that you would consider as obese.



1	2	3	4	5	6	7	8	9
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



1	2	3	4	5	6	7	8	9
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Debriefing:**

Thank you for participating in this study, which investigates beliefs regarding obesity and how media stories regarding obesity align with the public's beliefs about obesity.

All participants completed questionnaires related to personal attitudes and beliefs regarding obesity and questions related to media trust and evaluations of news excerpts. Each participant read a series of statements from actual news reports that emphasised either a behavioural or an environmental account of obesity and then completed questionnaires to ascertain if this frame was consistent with personal knowledge and beliefs. It is hoped that the results of this study will facilitate a better understanding of the influence of the media on health beliefs and whether the media represent or influence public beliefs regarding obesity. If you have any further questions regarding this study, the contact details of the researcher and supervisor are given below.

If you experienced any distress as a result of taking part in this study, please find contact details for counselling and support groups below which help people with issues relating to weight, body image and eating disorders.

Bodywhys: <http://www.bodywhys.ie/> and Ph: 1890 200 444

Samaritans: <http://www.samaritans.org/> and Ph: 1850 60 90 90

**Researcher:**

Aoife De Brún,  
School of Public Health and Population Science,  
University College Dublin, Dublin 4.  
Tel: 01 716 3476 E-mail: [aoife.debrun@ucd.ie](mailto:aoife.debrun@ucd.ie)

**Supervisor:**

Dr. Mary McCarthy,  
Senior Lecturer, Dept. of Food Business & Development,  
O'Rahilly Building,  
University College Cork,  
Cork, Ireland.  
Ph: (021) 4902075 E-mail: [m.mccarthy@ucc.ie](mailto:m.mccarthy@ucc.ie)

## Research Dissemination

### Peer-reviewed publications

De Brún, A., McCarthy, M., McKenzie, K., & McGloin, A. (2013). Examining the media portrayal of obesity through the lens of the common sense model of illness representations. *Health Communication, in press*.

Shan, L., Regan, Á., De Brún, A., Barnett, J., van der Sanden, M. C. A., Wall, P., McConnon, Á. (2013). Food crisis coverage by social and traditional media: A case study of the 2008 Irish dioxin crisis. *Public Understanding of Science*. doi: 10.1177/0963662512472315, in press

De Brún, A., McKenzie, K., McCarthy, M., & McGloin, A. (2012). The emergence and portrayal of obesity in *The Irish Times*: Content analysis of obesity coverage 1997-2009. *Health Communication, 27*(4), 389-398. doi: 10.1080/10410236.2011.592627

De Brún, A., McCarthy, M., McKenzie, K., & McGloin, A. (2013). “Fat is your fault”. Gatekeepers to health, attributions of responsibility and the portrayal of gender in the Irish media representation of obesity. *Appetite, 62*, 17-26. doi: <http://dx.doi.org/10.1016/j.appet.2012.11.00>

### Paper under review

De Brún, A., McCarthy, M., McKenzie, K., & McGloin, A. (2013). Weight-based judgements, stereotypes and stigma evident in the online discourse on weight and obesity. *under review*.

## **Conference presentations**

De Brún, A. (2010). “An analysis of the media representation of obesity in Ireland: Emerging data”. [Oral presentation, UCD Geary Sumer Seminar Series, July 2010].

De Brún, A., McKenzie, K., McCarthy, M., & McGloin, A. (2011). The emergence and portrayal of obesity in *The Irish Times*: Content analysis of obesity coverage 1997-2009. [Poster finalist 2011 UCC Doctoral Showcase, Cork, 21 June 2011].

De Brún, A., McKenzie, K., McCarthy, M., & McGloin, A. (2012). The emergence and portrayal of obesity in *The Irish Times*: Content analysis of obesity coverage 1997-2009. [Poster presentation at the BPS Division of Health Psychology Annual Conference, Southampton University, September 14-16 2011]

De Brún, A., McCarthy, M., McKenzie, K., & McGloin, A. (2012). “Fat is your fault”. Gatekeepers to health, attributions of responsibility and the portrayal of gender in the Irish media representation of obesity. [Poster presentation at the BPS Annual Conference, London 18-20 April 2012.]

De Brún, A., McCarthy, M., McKenzie, K., & McGloin, A. (2012). An analysis of the representation of obesity in the mass media. [Oral presentation at Food, Health, Choice and Change Conference, Cork, June 6<sup>th</sup> and 7<sup>th</sup> 2012]

## **Awards**

Prize for best poster, British Psychological Association Division of Health Psychology Annual Conference 2011, Southampton, UK 14-16 September 2011.

Poster finalist (2011) University College Cork Doctoral Showcase: Communicating research to non-specialist and industry audiences.