

**Are consumers using gym memberships and consuming protein products
in order to create the perfect body so that they can project this image on
social media?**



by Brian Kelly

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Abstract

The main purpose of this research was to explore the links between gym use, the consumption of protein products and social media usage in the projection of the perfect body image. The thesis evaluated the number of gym users who used protein products and social media and found that body builders and recreational gym users consumed more protein and used social media more than other groups. In determining the reasons for the use of gyms, the consumption of protein products and social media usage, it was found that participants (particularly men) consumed protein for confidence reasons. Large numbers of participants took gym selfies although more women engaged in this practice than men.

While evaluating the commonalities and differences in regard to the online behaviour of protein consumers, this work found that high numbers of both men and women were influenced by the behaviour of their online friends and they both tended to share and like images of protein products. Women used the selfie as a form of communication and a way to attract attention more so than men.

Even though this work understands that the gender binary is problematic it found that an evaluation of the commonalties and differences in identity goals between genders was important due to the changing target market segments of protein companies. Evidence revealed that both sexes were seeking physiques that were both lean and muscular that were almost impossible to obtain

100 male and 100 female gym users who consumed protein participated in a quantitative questionnaire. Statistical analysis was carried out by the use of Microsoft Excel. A combination of primary research and an engagement with a large body of past literature lead to the above findings that can be used to help protein companies and gyms to better understand the behaviour of gym users and market protein products to a number of desired market segments. An idea for a potentially lucrative business was also revealed by the researcher.

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Chapter 1 Introduction

1.1 Introduction to the Current Situation: Gym Use, Protein Consumption and Selfie Posting

This aim of this research is to explore the links between gym use, the consumption of protein products such as powders, shakes and bars and social media usage and the projection of the perfect body image online through the medium of the selfie. The issues that this thesis will focus on are very relevant today because there has been a recent increase in the consumption of whey protein products and sport supplements and the popularity of social media and selfie posts. Chapter 1 will provide the reader with essential information for understanding the chapters that will follow. It will introduce the current situation, marketing practices used to position protein products and changes in online behaviour. Before any attempt to evaluate what number of gym users who consume protein products use social media, it is wise to provide some overall background to the numbers of people who use gyms, protein products and social media in Ireland. A recent study reveals that 490,000 people in Ireland participate in physical activities in gyms and leisure centres on a weekly basis (Ireland Active 2018). Market researchers believe that the current fitness trend in Ireland looks set to continue for the foreseeable future. In 2018, an estimated € 726 million will be spent on memberships with this figure set to rise to an estimated € 749 million in 2021 (Mintel 2016).

The protein product industry in Ireland and Europe is witnessing a compound annual growth rate of 10-12% (Strickland 2016, Canon, 2016). When this study discusses the terms whey protein products, it means bars shakes and powders. Manufacturers recognise that there is a rise in the number of consumers who believe that their products can help them to achieve health and fitness goals and these companies are capitalising on new opportunities as they pump money into online campaigns (Strickland 2016). An important part of this study is changes within the target segment of protein companies. Whey protein products were once marketed solely as a muscle or mass building product for men. Today such products have been rebranded and labelled under multiple categories depending on both the sex of the consumer and their goals be it muscle gain, energy gain or weight loss. More women are purchasing these products and a comparison of consumer patterns and online behaviour among the sexes can enrich ones understanding of the topic (Final Step Marketing, 2016).

In regards to social media use, research reveals that as of August 2017, 64% of the population of Ireland were regularly using social media (Twomey 2017). Schau and Gilly

(2003. pp. 385- 392) recognise that consumers are constructing identity and the self through online media. Sheth and Solomon (2014, pp.123-127) claim that people are what they consume; consumers are essentially defined and gain identity by their product choices. This is often illustrated in the form of selfie posting. Users of social media may feel that they have to look their best or publicly portray the best version of their online selves as regular photo and selfie sharing has become popular (Sung, Lee, Kim & Choi 2016 b p.260). The increasing popularity of fitness and gym use, can create the need to portray a fitter or muscular version of one's online self be it through the gym selfie or online posts such as 'at the gym' or posting or liking protein products that they consume (Flyefit 2015).

Although the Sung et al., (2016, b) study on the motivation behind selfie posting gives some insight into online behaviour, and revealed high levels of narcissism, there is further room for research on the online self and online identity construction among those who consume protein products.

Having provided some context concerning the use of gym memberships, protein consumption and selfie posting, this introduction will continue to discuss these behaviours along with any relevant changes in the target market of protein companies and the advertising of protein products.

1.2 Marketing Practices to Position Protein Products

In determining the reasons for the use of gyms, consumption of protein products and use of social media one cannot ignore marketing practices that are popularising protein consumption among multiple target segments. As explained in (Appendix 1) this study does believe that the gender binary is problematic but believes that a comparison of male and female consumer behaviour is important because of the changing target segments of protein companies who originally targeted men only. Over the years target markets became broader and protein products gained popularity among women. Companies claimed that if these products were consumed by women, they could help them to maintain lean muscle and promote healthy skin and hair (Final Step Marketing, 2016). Ingredients can include vitamin B6 and Folic Acid which helps muscle growth in women (My Protein, 2018).

Protein products can also be marketed as a weight loss product or as a guilt free snack. As seen below in Figure.1, in the millennium era, Optimum Nutrition's business model was solely based on sales of whey protein. Since the Irish owned Glanbia acquired them, diversification strategies have led to the sale of new protein products such as Opti-Lean aimed at those seeking weight loss.

New methods of marketing such as branding whey protein as a weight loss product are in direct contrast to marketing campaigns of the previous decades. Companies are creating new reasons for the consumption of protein products. For example, up until recently, whey protein companies were targeting limited consumer types; their marketing campaigns were aimed at male athletes, body builders or casual gym users that wanted to gain mass or muscle and help with growth and repair of muscle too (Patel, 2016).



Fig. 1. Optimum Nutrition Brand History (Patel, 2016)



Fig 2. Optimum Nutrition Opti-Lean (Wake up Body Nutrition 2018)

The labels of protein products are designed for aesthetic reasons; for instance, images of the bright and attractive packaging look good while at the same time they symbolise health. This all helps to popularise the sharing of online posts (Cannon 2016). The use of social media channels such as Instagram and Snapchat to share images and trends such as Fitspiration (the sharing of online images of lean and muscular women) have helped to popularise the desire to be lean and muscular too (Simpson and Mazzeo 2017, pp. 560-567).

Personal image management has the power to influence the reasons for the use of gyms, consumption of protein products and social media by the research participants. Henri Lefebvre (2011, p. 181). argues that advertising is used to convince consumers that they need to consume products that they do not need at all. Siddique (2015) and Morris (2016) argue that protein products are being pushed towards consumers in a similar fashion and they claim that gym users naturally consume enough protein already. There is a belief among consumers that they actually need these products to control their personal image as in both looking and feeling good just like the muscular brand advocates that are paid to promote them (Fitzmaurice, 2017).

Figure 2. above illustrates a number of products from the Optimum Nutrition Opti-Lean range. Aimed at both men and women, these products promote an image of a lean and muscular physique. Customers that buy one product might be more likely to buy other products from the Opti-Lean range even if they do not necessarily need them as all are promoted as helpful and goal enabling to those who want a lean and muscular frame and are often sold together in multi packs.

The use of advocates and sports stars in advertisements is also helping consumers to form an emotional attachment with protein brands which leads to them subconsciously purchasing these products. Online adverts show how body builders routines are fuelled by the products from the Optimum Nutrition (2012) range. Consumers both satisfied and unsatisfied with their own personal image use products and brands in order to emit and control information that enables them to play a certain role or promote a positive image of themselves. Aureliano S, Strehlau S and Strehlau V (2018, pp. 3-4).

1.3 Changes in Online Behaviour

Before attempting to evaluate whether there are commonalities or differences in regards to the online behaviour of protein consumers, this study provides some information regarding how social media use is changing consumer attitudes in regards to the consumption of sport supplements and protein based products. As social media users witness their friends sharing adverts or liking protein products, they tend to do the same (Flye Fit 2015). With the rise in popularity of image sharing social media channels such as Instagram and Snapchat, users are now communicating more through visual images rather than text based posts. A large number of these images are advertisements of protein products or images of the perfect body (Simpson, 2015). It is both a combination of marketing and changes in how one perceives reality via social media channels that has the ability to allow these products to find a new customer base (Shet and Solomon, 2014 pp. 123-127).

Consumers are in the habit of sharing products and services that they use on social media channels. This can be explained better by giving the visual example in (Fig. 3) overleaf of an online marketing campaign by two Dublin based gyms Raw and FLYEfit (2015) who targeted social media users who followed or liked their Facebook pages. The gyms organised a competition where their online followers could win a training session with two body building advocates of the Optimum Nutrition Protein Brand. Entrants to the competition had to post reasons to explain how the Optimum Nutrition brand had helped them to upgrade their performance and they then had to share these posts with their online friends who might also share or like the posts.



Fig. 3. Optimum Nutrition Training Session Competition (FLYEfit 2015)



Fig. 4 Everything You Need to Know About Love Island (Saunders 2018)



Fig.5 Brittany Spears Shares Incredible Gym Selfie (Mellin 2017).

With such a surge in levels of social media use, and the online promotion and consumption of protein products, it could be argued that protein products are now being used by social media users to create a new sense of self and construct an online identity (Schau and Gilly, 2016 pp.385-392). For some these online identities are portrayed through the medium of the selfie. Biolcalti and Passini (2018, pp. 1-10) claim that there has been a dramatic rise in self presentation through selfie posting over the last few years. They discovered that some social media users post selfies for narcissist reasons while others post in order to gain self esteem. Sung et al (2016, b, pp. 260-265) have similarly found that narcissism is a driving force behind selfie posting. The taking of selfies and the advertising of a muscular physique is popular among celebrities such as the reality TV stars of Love Island (Fig.4) and recording artists such as Brittany Spears (Fig.5) both on the previous page and it is reasonable to argue that some of their fans will be influenced to engage in similar behaviour. These celebrities are normalising almost unattainable physiques to the public as they post these images online while at the same time gaining fame and wealth in the process.

Selfie posting is a recent phenomena and deserves much academic attention particularly among certain groups of consumers such as gym users. This research will explore this practice among this group along with protein consumption patterns and try to discover whether there are any links between all of the above and the projection of the perfect body image online.

1.4 Research Aim and Objectives

The aim of this research is to explore the links between gym use, the consumption of protein products and social media usage and the projection of the perfect body image. The objectives central to this study are:

1. To evaluate the number of gym users who consume protein products and use social media.
2. To determine the range of reasons for the use of gyms, consumption of protein and social media usage by the research participants.
3. To evaluate the commonalties or differences in identity goals between genders.

4. To evaluate the commonalities or differences in regard to the online behaviour of protein consumers such as the posting of selfies, and online statuses as 'at the gym' and the sharing and likes of protein products.

1.5 Structure of the Thesis

Chapter 1 has raised a number of issues concerning the marketing and advertising of protein products, and changes in online behaviour. The discussion has helped to create the above aim and objectives. Chapter 2 will review the relevant literature which concerns protein consumption, consumer culture theory, impression management, media pressure, the online self and selfies. Chapter 3 will concern this works research methodology for the collection and analysis of research participants data. What will follow is a discussion on the ethics surrounding the collection of data, the validity of the collection instrument and the reliability of the data generated. Chapter 4 will list and discuss the research findings of the research questions. Chapter 4 will also include analysis of the research questions. Due to the nature of the findings, it is much easier for the reader to understand if analysis is presented immediately after. Chapter 5 will include the conclusions of the thesis in regards to the data uncovered and its relevance to the subject. Chapter 5 will also include the impact and limitations of the findings along with a number of recommendations for the future, including the identification of a potentially lucrative business opportunity.

1.6 Methodology

The chosen research methodology that this thesis will use in order to gather relevant data from gym users who consume protein involves distribution of a quantitative questionnaire. The questionnaire will include a small qualitative section at the end in which participants can include any additional relevant information. Before deciding on using a quantitative method for this study, a number of alternative research methods must be considered and evaluated in order to measure their suitability for retrieving relevant information. Once the study is deemed to be ethical and the questionnaire is proven to be a valid and reliable data collection instrument, it will be distributed to a number of gyms in the Dublin area to 100 men and 100 women.

1.7 Expectations and Limitations

This study expects to find links between gym use, protein consumption, social media usage and the projection of the perfect body image. It also expects that high numbers of gym users will use social media and post gym selfies online. It is likely that changes in the target market of protein companies will effect customer behaviour; for instance this study believes that it will discover that high numbers of gym users who consume protein products also share images and adverts of protein products on social media. It is thought that high numbers of the same group will be influenced by the behaviour and posts of online friends. There might be some differences and commonalties for protein consumption between genders and different groups be it body builders or recreational gym users.

In terms of limitations, this study expects to find links between the above types of behaviours but it does not expect to find any case for causality. Although this study believes that gym users could be using protein products in order to create the perfect body so that they can project this image online, it does not believe that this can be proved. The sample of 100 men and 100 women for the questionnaire is much too small to claim any statistical significance and even if the study requires the desired results from the participants, it cannot claim with certainty that one behaviour is causing another. Every individual questioned makes different conscious and unconscious decisions for many different reasons which are difficult to determine. This study will, however, allow the researcher to explore any links between gym use, protein consumption, social media usage and the projection of the perfect body image.

1.8 Chapter 1 Conclusion

In this chapter a number of issues regarding consumer behaviour have been discussed. It has helped to formulate the argument that consumers could be using gym memberships and protein products in order to sculpt their bodies so that they can be pictured and published online. Some social media users could be aiming to look as good as their friends or heroes who can sometimes be online brand advocates from protein companies. It has raised the possibility that there could be some links between the online images of muscular and lean bodies, the use of protein products that can apparently help in obtaining these physiques and selfie taking among some gym users. The chapter has not only given some background

to the work but it has determined that there has been an increase in gym use, protein consumption and the number of people using social media. It has discussed changes in advertising and the target markets of protein companies. It has also discussed changes in online behaviour among gym users that is an increase in the numbers of those posting selfies and online statuses such as 'at the gym' along with those sharing and liking protein products. Having listed its aim and a number of secondary objectives, it has given a brief outline of the research methodology that it will use in order to achieve them, the limitations and expectations and the structure that it will follow.

Chapter 2. Literature Review

2.1 Introduction to the Literature Review

Chapter 2 will discuss what has been written on the subject of gym use, the consumption of protein products and social media usage in the projection of the perfect body image as the aim of this work is to explore the linkages between these. A number of significant academic works which investigate relevant theories and themes as broad as impression management and changes in online behaviour will be analysed. In indentifying gaps, it is hoped that this chapter will provide insight into the reasons for this study and highlight the need for more research that will explore the themes and the linkages between them.

2.2 Consumer Culture Theory (CCT)

Arnould's and Thompson's (2005, pp. 868-877) discussion of the development of (CCT) over two decades has done much to emphasise its value in the study of consumer behaviour. It is important to recognise that the market place manufactures areas in which the consumer can place themselves; these placements enable consumers to pursue personal goals. Within this place, consumers are acting out a personalised cultural script while at the same time allowing their identity to be aligned with the demands of the global economy. These aforementioned goals could be in the area of sports and fitness or the achievement of creating a body that will further ones online popularity through the perfect picture or selfie. While they provide a commentary of other works rather than developing their own methodology, they do provide a good base for further study as illustrated by Kelly, (Fig 6. 2018) overleaf which shows the correlations between CCT and the theories and behaviours that are central to this research. Such work gives this study a better understanding of identity goals which will help to evaluate the commonalties and differences of identity goals between genders.

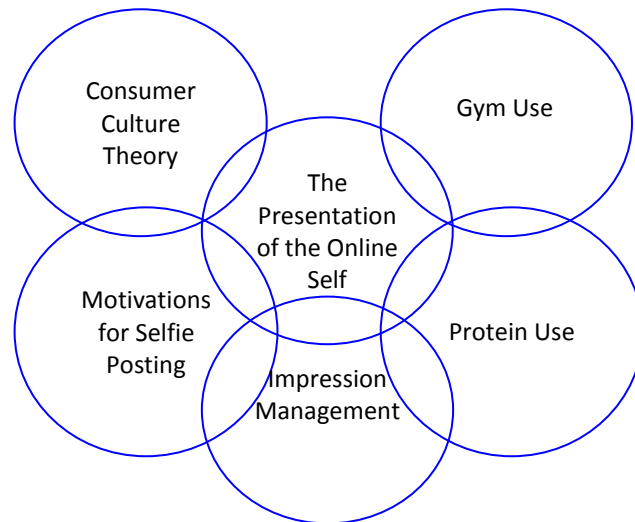


Fig. 6 Framework for Gym/Protein users who want to create the perfect body to show it online (Kelly 2018).

2.3 Motivations for Gym Use

A large volume of work surrounding gym use is based on peoples motivations to attend gyms and leisure centres for the physical benefits of such activities (Stewart, and Smith and Moroney 2013, pp. 542-560). The work of Dogan (2015, pp. 442-458) is different because it does not focus on gym attendance for physical activities alone; but argues that there are multiple other reasons for gym use. She argues that although gym attendance has great physical aspects, it can also help gym users to have more control over their life. It can cause increases in productivity and boost emotional resilience which helps one deal with stressful situations more easily. This work is particularly interested in Dogan's argument which is that people use gyms to be their best. This study agrees with all of the above and it hopes that any further investigation might reveal that this behaviour could be popular among those who use social media.

Dogan's idea that one needs to consume products to feel that they are their best is at the heart of consumer society. This work proposes that it could be possible that for some consumers to feel their best they think that they must look their best and some are arguably transferring such beliefs into the digital domain via the selfie. It may not be enough for some to just use a gym and purchase the complementary products such as protein and gym clothes but they may feel that they must promote themselves through advertising themselves online as a gym going person.

Zhang, and Brackwill, .and Yang and Centola (2015, pp. 651-657) claim that online adverts promoting physical activities can help to convince social media users to attend gyms. Research participants were heavily influenced by their online peers; when the participants friends promoted themselves as gym users on social media channels, then they were more likely to want to engage in gym use too. No known academic work has attempted to understand the links between gym use, protein consumption and social media usage in the projection of the perfect body image. This section of the literature review has highlighted the gaps in previous research in regards to gym use and will attempt to provide a work that creates more understanding and knowledge of the area.

2.4 Protein Consumption

Much of the academic work written on protein product consumption is contradictory. A lot of it concerns whether whey protein actually benefits those who partake in exercise. The purpose of whey protein is to promote muscle recovery and muscle growth. Hartmann and Siegrist (2016, p. 229) claim that there is no scientific proof that it has any health benefits. Davies, Carson and Jakeman's (2018) review of 13 past studies claimed that there was some small to medium benefits in 8 of the studies but claimed that information revealed cannot be considered as scientific proof.

Eisenberg, Wall and Neumark-Sztainer (2012, pp. 1019-1020) discovered that the consumption of protein products among both female and male adolescents is more common than previously thought. This has led to concerns about this muscle enhancing behaviour and the realisation that there are also increases of steroid abuse too among the sexes. The increase in the media presentation of images of men and women with perfect bodies has led to behaviour that was once only common among male body builders; that is the consumption of protein based products (Eisenberg, et al., 2012, pp. 1019-1020, Pope et al., 1998, p. 65-70). This work hopes to add to the already existing knowledge in academic circles that concerns the increases in the consumption of protein products and the influence of media images.

Hartmann and Siegrist (2016, p. 229) reported that test participants in their study (both active and inactive) viewed protein products as a healthy alternative to a meal and the numbers of both sets of consumers are rising. As previously mentioned there is also no scientific proof that protein products are beneficial to one's health. The sale of products

that are of no apparent benefit to consumers is relevant. It demonstrates the power of marketing of protein products and indicates that the reasons gym users purchase protein products warrant further investigation. If marketers have been successful in creating the belief among non gym users that protein based products are a healthy option without any real evidence, then they could easily convince gym users of the same.

It is clear that the thesis does fit into the existing body of knowledge; however this research wants to view protein consumption behaviour from an original perspective. That perspective is that social media fitness images and the advertising of muscle enhancing or weight loss products could be creating the belief among social media users that these products will help them to create an attractive online identity.

2.5 Impression Management

Goffman's (1959, pp. 8-9) work on impression management has helped this study in its understanding of the roles that consumers such as gym users are performing particularly online. In his explanation of impression management theory he used a simple but effective metaphor. He proposed that all individuals in all social engagements are similar to actors performing a part on a stage. As members of society, one desires to manage the impression that others have of them. He discussed a number of techniques that concerned the performance of social roles which create desired impressions among an audience. Routine portrayal of a part again and again apparently has the power to enable individuals to form social relationships. In today's technological age where people are constantly engaging with social media, they are never off stage and as they are forever playing an online role. His thesis that self presentation was the fundamental core of people's identity is important and his influence can be recognised among a whole body of theorists some of whose own ideas are discussed below.

Goffman's (1959, pp. 8-9) methodology of participant observation of every aspect of his subject's life both on and off stage revealed similar behaviour among participants i.e. that they acted a certain way depending on their audience or setting. Although this thesis views the work of Goffman as superb and much of its thought has been influenced by his work, it cannot help but recognise that there is a problem with his method of obtaining the data that he analysed. Iacono, Brown, and Holtham, (2009, p. 42) have helped this study to realise that Goffman's research can form results that are far too subjective. This is because

participant observation involves the researcher personally engaging with groups whether they be co workers, children in a play ground or patients in a hospital.

In a discussion on plastic bodies, Rogers (1999, pp. 112-115) the author of *Barbie Culture* made the point that there is a general perception that consumers bodies can look how they want them to look if they devote enough capital and time into sculpting them. The author further argues that identity can be bought through purchases. Rogers could be criticised for not developing an original methodology and over relying on the work of other theorists such as Goffman above; however Rogers thoughts on consumer behaviour are very relevant in regards to the construction of this work. This work can elaborate further as no known academic research has alluded to the idea that there is a belief that the purchasing of sports nutrition products can also help with the construction of the perfect body and an online identity.

The methodology Pope et al., (1998, pp. 66-71) applied to their research involved the measurement and comparison of children's plastic toy action figures released over the 1970's, 80's and 90's. These measurements led them to discover that the figures were growing disproportionally over time. When compared with an actual real person through scaling, the plastic figures were found to be much more bigger and muscular than even the largest real life body builders. Although the methodology is simple, their work provides evidence for worrying trends in body expectations. This piece of research hopes to show that these trends concerning body expectations continue to exist and that the use of social media among gym users could be causing such expectations to be more prevalent.

This research does recognise that both Pope et als., (1998, pp. 65- 72) and Rogers (1999, pp. 112-115) work is dated; however the relevance of both works partly concerns the timeline of their creation. These authors were speaking at the end of the previous century when most of us were unexposed to any form of social media channels. In the two decades that have followed multiple changes have occurred in the behaviour of consumers. Consumers of both sexes now have even more exposure to perhaps even stricter cultural expectations via online channels and feel pressurised to look a certain way or have the perfect body and will subconsciously make purchases that they believe will enable them to look this way hence managing the impression of themselves (Fitzmaurice, 2017).

Recent research by Fredericks and Essaylis (2016, p.336), concerning body image among men has revealed that the everyday average man is dissatisfied with his body and his appearance. Men are becoming more and more concerned with managing the impression of themselves that they give to others. Some are becoming obsessed with their fat levels and

the amount of muscle that they have. Body dissatisfaction is playing a huge part in the rise of low self esteem and depression and this can have a negative effect on proper eating patterns and food choices. It is therefore not remarkable that this dissatisfaction is a direct result of the portrayal of the male body in the media as one that is lean and that has high muscular definition.

Social media users have recently witnessed changes in perceptions of female beauty; Tiggemann and Zaccardo (2015, pp. 61-67) claim that the rise in popularity in social media images of women who are slim and muscular are pressuring females to look the same and hence are causing body dissatisfaction among this group too. Since the goal of being lean and muscular is even harder than just being slim, females can find it even more difficult to achieve the body desired by social media users and effectively manage the desired impression of themselves.

The work of both Fredericks and Essaylis (2016, p. 336) and Tiggemann and Zaccardo (2015, pp. 61-67) have made it evident that changes within the perceptions of beauty for both men and women can cause behaviour that previously would not have been envisioned. Their works also highlight the importance of evaluating the commonalities or differences in online behaviour between genders which is something this thesis will aim to do.

Simpson and Mazzeo (2017, pp. 560-567) have studied the rise of Fitspiration (Fig.7) overleaf which is a new trend among the female social media community particularly users of the image sharing site Pinterest. Some examples of images are given above. Fitspirations goal is apparently the promotion of health and fitness through fitness images with inspiring captions. But with any disruptive technology there is a dark side to it and the authors research has revealed like others above that the trend also creates body dissatisfaction in females. Their work has also revealed evidence that Fitspiration images and messages that were analysed emphasised a muscular and lean body more frequently than its supposed goal of promoting general health and fitness.

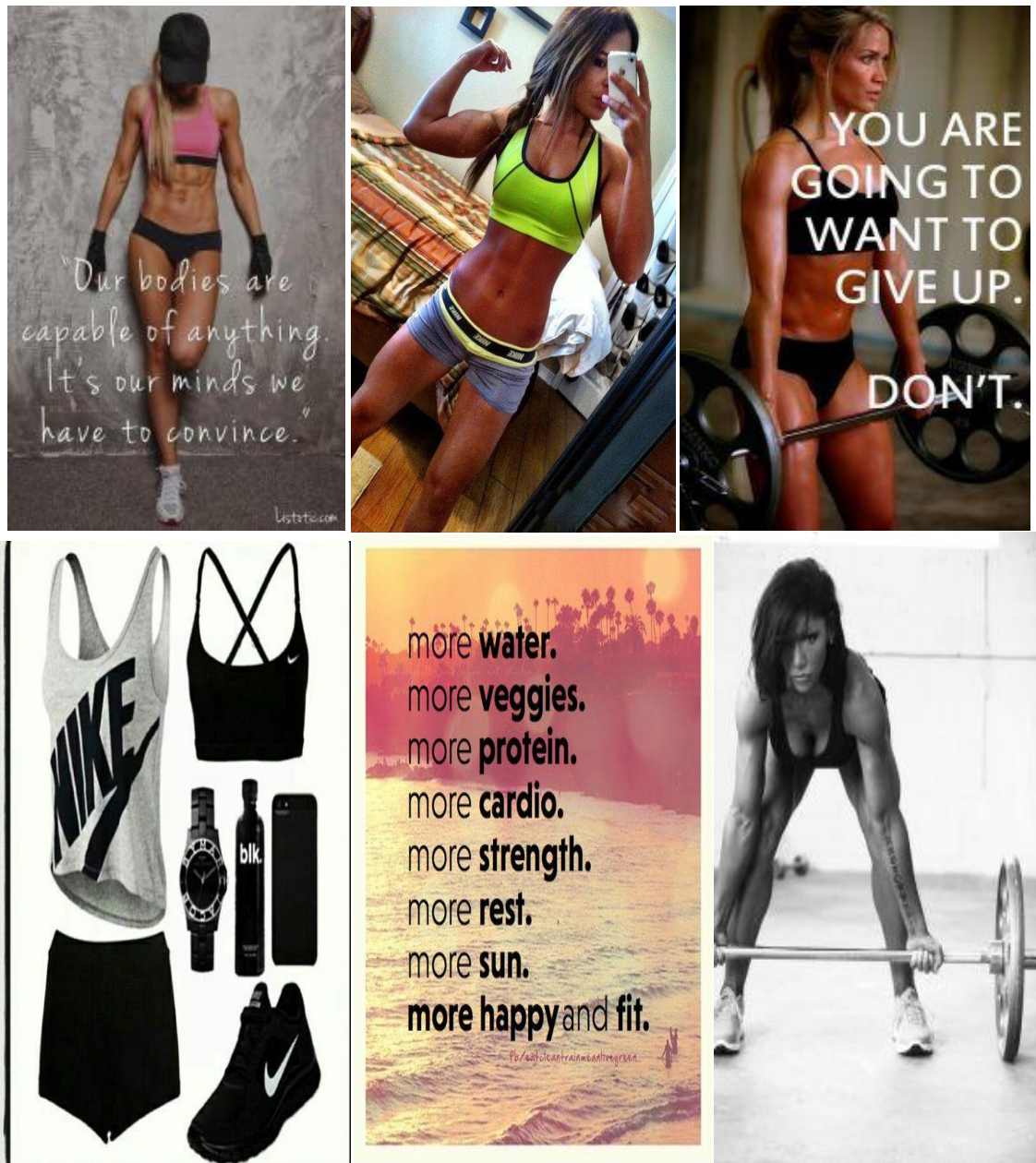


Fig. 7 Fitspiration: "To be Inspired to Work out Harder and eat Healthier by Anything Fitness Related" (Live Fit and Love Food 2018, Pinterest 2018)

Simpson and Mazzeo's (2017, pp. 560-567) work is entirely relevant as it is current and it also discusses an issue that this work is highly concerned with. The emphasis on this muscular and lean physique in media circles is disturbing and this work fears that pressures to look even more extreme will be more prevalent in the future. As previously stated this thesis would like to explore whether there are links between gym use, social media use, protein consumption and social media usage in the projection of the perfect body image online. With such high levels of body dissatisfaction among both sexes and media pressure and cultural expectations to look a certain way, it is expected that there will be.

All of the above authors have raised serious issues regarding impression management for both females and males. With increased pressure to have an ideal body image (often muscular and lean) that can be displayed online via pictures or selfies, social media users are finding it harder to manage the presentation of their online self which is the next topic of discussion.

2.6 The Presentation of the Online Self

The presentation of the online self has been studied by a number of authors but not in relation to the linkages between gym use, the consumption of protein and social media usage in the projection of the perfect body image. In 2013, Belk (p. 477) claimed that as society becomes more and more exposed to new forms of digital technology, people are finding new ways that enable them to share and edit their extended selves online particularly through the medium of items such as digital images. This thesis has already given examples of extreme types of online behaviour such as the sharing of images of people with unreal physiques. The above work proposes that in the future changes in technology could possibly bring about more even more cases of extreme online behaviour.

Sheth and Solomon (2014, pp. 125-127) argue that in this digital era, the boundaries between the self and non self, between consumers and producers, the boundaries between being online and offline, and finally technology and social media users physical form are becoming blurred. This is entirely relevant to this investigation as this work understands the dangers of social media especially in regards to issues concerning body image as unreal bodies are becoming sought by normal people.

Schau and Gilly (2003, pp. 385-392) discuss the presentation of the self and the construction of identities through the medium of personal web sites. Through digital association, consumers align themselves with places, symbols signs and material objects. Motivation for the creation of an online self can be caused by a triggering event, a personal desire for growth or some form of fanaticism or advocacy. Since their study, the use of the world wide web and with it the media channels for creating online identities have increased dramatically. This gives this thesis much room for further research as it explores new forms of social media and new types of online behaviour.

One cannot fault the sheer amount of work and effort given to their study as they compared both the online and offline selves of individuals by using a mixed method for data collection. This method was a combination of semi structured long interviews and electronic correspondence with the owners of web sites, and an observation of how they represented themselves through their online web space (Schau and Gilly 2003, pp. 385-392).

Bullingham and Vasconcelos (2013, pp.101-112) work like this one argues that Goffman's aforementioned framework is still very relevant in the understanding of identity construction in the online world and the presentation of this online self. Their study is based upon a number of individuals presentation of the self in the 3D world of the game entitled Second Life and a number of bloggers presentation of their selves on their own blogs. Their time consuming study of individuals online dialogue, thoughts, observations and anecdotes revealed that the participants were keen to represent their own offline self through online mediums but in doing so, they ended up editing some aspects of their selves. This work understands that this 'editing' of one's self is a common online trait as people photo shop their pictures, or pose a certain way that might reveal less fat and show more muscle than what they actually have in real life. The above authors have helped to improve this work's understanding of the presentation of the online self while at the same time justifying more research on the topic.

2.7 Motivations for Selfie Posting

This research proposes that there could be a direct link between gym use, protein product consumption, the creation of the body beautiful and the motivations for posting gym selfies or 'at the gym' location posts online. This section of the literature review will focus on the most recent and relevant academic works which are based on the motivations for selfie posting.

Sung, Lee, Kim and Choi (2016, b , pp. 260-265) have studied 4 categories of motivations for selfie posting which are archiving, communication, entertainment and attention seeking and they discovered that narcissistic behaviour was the key motivator for selfie posting. (Sung, et al., 2016, a). used a questionnaire entitled *Selfie Posting Motivations Measure* to obtain statistical information via a Likert Scale.

Biolcalti and Passini's study from this year (2018, p. 1-12) also concentrated on the same 4 aforementioned categories archiving, communication, entertainment and attention seeking. The researchers found that frequencies for selfie posting, narcissism and self esteem occur at different levels due to the type of selfie taken whether it be alone in a group or with a partner. Narcissism tended to occur in selfies that were taken alone or that were self promoting. They also found that women took more selfies than men but proposed that research with more balanced numbers of participants from both sexes might be beneficial for further clarification. This researcher decided that it would also distribute a questionnaire in equal numbers to both sexes in order to compare any commonalities that might be found.

Both Sung et al., (2016, b pp. 260-265) and Biolcalti and Passini's (2018, p. 1-12) work on the motivation behind selfie posting gives some insight into online behaviour, however there is further room for research on the online self and online identity construction among those who consume protein products. This thesis will continue that work and it hopes to discover new information that is relevant to its aim and objectives.

2.8 Chapter 2 Conclusion

Chapter 2 in reviewing the existing literature has not only helped in the critical analysis of a number of relevant works but it has helped this piece of present research to highlight areas that are in need of further study. These are gym use, protein consumption, social media usage and the projection of the perfect body image. There are obvious gaps in academic literature concerning not just the consumption of protein products in general but their consumption for the purpose of identity construction. This work hopes to fill these gaps by using the most suitable methodology to achieve the research aims and objectives.

Chapter 3 Research Methodology and Design

3.1 Introduction to the Research Methodology and Design

Chapter 3 will discuss a number of research methods that one must consider if they are exploring whether consumers are using gym memberships and protein products so that they can create the perfect body so that this image can be projected on social media. Having considered both qualitative and quantitative methods in the retrieval of information relevant to this study, this study decided on the best method for data collection. That was by means of a questionnaire which used a quantitative approach for data collection with one qualitative section for use if the questionnaire participants wanted to add any additional information. This chapter will explain why it approached the research in this way. It will also discuss the target population, the sampling technique and how it collected data. Design and distribution of the questionnaire and compilation of data was a long process as there was a pilot questionnaire distributed before the final questionnaire which was then tested for reliability through a Test Retest method. Finally there will be a number of discussions concerning data analytics, ethics, validity, and further commentary on reliability.

3.2 Research Approach

The first approach that this piece of work considered using was a quantitative approach. It was found that such an approach forms numeric data with little bias that can be scientifically analysed while a qualitative approach does not. Quantitative data is useful in the gathering of descriptive data such as the opinions and attitudes of those who consume products such as protein. A quantitative questionnaire could help to gather information that is critical to this study and enable the identification and description of variables and the explanation of relationships between them (Saunders, Lewis & Thornhill, 2009, p. 362).

A number of qualitative methods were also considered for their suitability in obtaining data and then discounted. This work recognises the value that qualitative research can bring to the world of academia particularly when a researcher is seeking information that is descriptive in nature rather than the identification and measurement of variables (Saunders et al., 2009, p.362).

Creswell (2007, p.10) categorizes qualitative enquiry into five groups are phenomenology, ethnography grounded theory narrative research and the case study. Some popular methods of qualitative data collection as indentified in the literature review are the simple observation of human behaviour and interviews of test subjects (Bullingham and Vasconeles 2013, pp. 101-112, Goffman 1959, pp.1-10, Pope et al., 1998, pp. 65-71 and Schau and Gilly, 2003 pp. 385-392). Observational studies were identified as being problematic as they can be far too subjective. Interviews can be criticised for being time consuming as is the analysis of data which would have to be analysed thematically. The fact that one only gets the view point of a limited number of people through interviews also diminishes their attractiveness for this study (McLeod, 2014).

The study of the behaviour of large numbers of gym users, their consumption patterns and their online activity through qualitative methods would also be beyond the scope of this work. If a member of the public wants to add any additional relevant information at the end of the survey they can by means of a suggestions box. However, this section of the questionnaire will be the only part that is qualitative in nature.

In order to get quantitative information that is critical for this investigation, the use of questionnaires seemed to be a practical, reliable and efficient collection instrument. The gathering of quantitative data is also beneficial because it can be scientifically analysed (Nueman, 2014, p.204). Quantitative data once gathered can be used to represent abstract ideas in a condensed and standard format (Nueman, 2014, p. 204). Validated data can then be compared or contrasted against studies that already exist such as Hartman and Siegrist's (2016, b) study on reasons for protein consumption and Sung, Lee, Kim & Choi', (2016 a) study on the behaviour of social media users. Changes in behaviour or trends among the population can therefore be easily recognised.

3.3 Target Population and the Sampling Technique

Once the use of a questionnaire was identified as the means that was to be used to gather the required information, one was created and distributed among protein users. The questionnaire asks a number of key questions to its target population which are people who are gym users who consume protein. This work recognises that statistical significance cannot be claimed for this research. As probability sampling of the whole population of gym users who consume protein is impossible, it was decided to base the sample on a

limited number of gym users at a number of gyms in Dublin. This method aimed to create results that were true for that group of gym users who consume protein (Bradburn, Sudman, and Wansink, 2004, p. 304). The final questionnaire was distributed equally among 100 men and 100 women who attend a number of gyms in the Dublin area.

3.4 Data Collection

The distribution of a questionnaire is not just important for the gathering of information that is critical to the completion of this study but it has its advantages over interviews and observation methods in the speed that large quantities of relevant information can be gathered. The corollary of this is that large amounts of time must be invested into carefully designing the questions and piloting the questionnaire. This method of data collection is heavily front loaded.

This study recognises that closed ended questions for a questionnaire are much more difficult to construct than open ended questions. However such a style of questionnaire produces information that is easier to analyse and it also produces less unwanted variance than open ended questionnaires (Bradburn et al., 2004, p. 152). This research is interested in the retrieval of data that can be analysed rather than quotable material that an open ended questionnaire might generate.

3.5 Questionnaire Design

Two validated surveys created by Hartman and Siegrist's (2016, b) and Sung, Lee, Kim & Choi', (2016 a), will have some influence on the structure of the questionnaire. The first is based on protein consumption while the second is based upon online behaviour as in the reasons for people taking selfies.

It was thought that a synthesis of suitable questions from these questionnaires and a number of newly created questions will help this work to obtain the required information in order to achieve its aims and objectives. A popular test format among the validated surveys from Hartman and Siegrist's (2016, b) and Sung, et al., (2016 a), is the use of a Likert scale. That is a test where participants are asked to indicate the level that they agree or

disagree with each item on a scale of 1 to 7. On this scale 1 is equal to strongly disagree while 7 is equal to strongly agree (Likert, 1932). The success of a data collection instrument such as the Likert scale in these past studies has influenced this work in the creation of its own. The Likert scales suitability in regards to revealing opinions and attitudes regarding the 'reasons for protein consumption' and 'why people take selfies in the gym' has also helped in influencing the decision to include one. As aforementioned, questions will be asked under 5 different categories and will be in a style that is easy to follow for the participant.

Section 1 will ask 'tick the box' or closed type questions on 'physical activities' which will determine the participants frequency of gym use along with a description of how they see themselves be it as a recreational gym user or at the extreme end a body builder.

The second section hopes to determine the frequency of protein use among participants by the means of tick the box closed type questions.

The third section will hope to determine the attitudes and opinions of users on reasons for protein consumption. This study will use a Likert Scale to measure the above. On a scale of 1 to 7, 1 will represent totally disagree while 7 will represent totally agree. There will also be a seventh variable for when a question is not applicable.

The aim of section 4 is to determine whether the participants are using social media and do they take selfies of themselves at the gym. Answers to the questions in this section can again be given by means of a tick the box style closed ended option.

The fifth section will aim to measure the reasons why people take selfies in the gym via a Likert Scale which will be based on the same scale as the one in section 3. Reasons for such behaviour will be further categorised under 'attention seeking' 'entertainment' 'archiving' and 'communication'.

3.6 Pilot Questionnaire Distribution

The first method of data collection was a pilot questionnaire which was distributed at a number of gyms in the Dublin area. The decision to release a pilot questionnaire at an early stage was to ensure full confidence in the chosen questions and the structure of the final version. Both sexes were not represented equally. More women than men completed the

pilot questionnaire with figures totalling 68 and 52 respectively. Some reflection on this lead to the decision to question equal numbers of men and women in the future as part of the study involves the comparison of consumption patterns and online behaviour between genders. The importance of delivering a clear, coherent and well structured final questionnaire to the public would help to deliver data that was reliable, relevant and unbiased. A number of concerns were raised by the public which will be discussed in the following section.

3.7 Creation and Distribution of the Final Questionnaire

The use of a pilot questionnaire revealed that some minor adaptations to the questionnaire were needed. Some changes in the order of the questions was needed along with some clarity on what was meant when participants were asked about protein consumption i.e. what products were meant when one discussed protein? In that case protein was defined as products such as powders, readymade drinks, weight loss products and bars that contain whey protein.

In terms of qualitative data, there was the need for an additional section in the final questionnaire where participants could add any additional information that they thought was relevant to this investigation. This feedback not only justified the creation of a small qualitative section but it also raised issues concerning the limitations of the Likert scale and provided some insight into how these limitations might be overcome. Since the Likert scale this work uses gives no room for a neutral answer, participants might add such information in this qualitative section. This work includes a 7th option of "not applicable" on the Likert scale but it is believed that this option is not suitable for those who wish to provide a neutral response.

After gaining invaluable knowledge from the results of the pilot questionnaire, it was edited accordingly before distribution of the final version which was distributed in paper form in three gyms in Dublin. Staff agreed to distribute the questionnaire to customers who consumed protein products. The participants were informed that the questionnaire was strictly confidential and that their data would be handled in a suitable fashion which will be discussed in the ethics section below. After notification that both questionnaires had been completed by the desired number i.e. 100 women and 100 men, they were collected so that analysis of the data generated could be carried out by using Microsoft Excel.

3.8 Data Compilation

Once completed and collected, the results of the questionnaire were coded in an Excel sheet and this enabled this work to create statistics that are comparable to past studies such as Sung et al (2016, b) and Hartman and Siegrist (2016, b).

3.9 Data Analytics

Data was gathered through the distribution of a questionnaire and was analysed via Excel software. As the distribution of the questionnaire hoped to reveal answers to the research questions, it was split up accordingly into sections. These can be categorised as 'physical activities', 'protein consumption patterns', 'reasons for consuming protein', 'social media and protein use' and 'a measure of why people take selfies'. Since the questionnaire is generally a closed question or of a tick the box style, it was able to gain quantitative data that would help to determine the percentage of consumers who acted in a certain way. It was also thought best that there was to be a opened ended question where participants could add additional information. Therefore the questionnaire could also gather some level of qualitative data too eliciting information that one might not have thought of asking. When analysing data, the vast amount of it was calculated in percentage form thereby giving an indication of a measurement of the attitudes, behaviour, opinions and perceptions regarding protein consumption. Statistical data can also allow this work to recognise patterns among users, and indicate how popular certain methods (such as selfies and online statuses) are in the generation of likes and the creation of online identity. Analysis of quantitative data can also help this work to determine the numbers of people pressurised into having to appear healthy along with any differences of behaviour and online identity goals among genders.

3.9.1 Ethics

This research has been ethically guided by the excellent ethical standards of the National College of Ireland Dublin. All of the participants are over the age of 18 and consume protein products. This was verified before they are allowed to participate. It was hoped that

the vast percentage of them use social media channels and this will be determined via a question in the questionnaire. If they do, it is thought that the findings of this piece of research will be beneficial to them. This research will first discuss safety as it can be a huge concern when dealing with the public; the participants of the questionnaire must not be composed of people from vulnerable groups i.e. children or and young people or adults that have a diminished mental capacity. No harm, stress, pain or embarrassment must be caused in the collection and use of data (Saunders, Lewis, and Thornhill 2009, p. 185).

As some participants may find that some of the other questions are of a personal nature, they will be assured that all data will be collected and stored in a safe and secure manner and all participants will be anonymous. Participation in the research is entirely voluntary and individuals will be able to withdraw from the study at any time. Findings of the research will be available to participants through email after the final thesis is corrected and graded (Saunders et al., 2009, p. 185).

3.9.2 Validity

Validity can be defined as the demonstration of the capability of a particular instrument in measuring what it was designed to measure. While using quantitative data this work must recognise that there exists a measure of standard error. The validity of quantitative data can be improved by the use of careful sampling and by the accurate reading and professional treatment of data (Cohen, Mannion and Morrison, 2007, p. 133).

In order to help in the creation of a validated questionnaire which concerned protein consumption and online behaviour two validated questionnaires by Hartman and Siegrist's (2016, b), and Sung, Lee, Kim & Choi', (2016 a) were analysed. The first questionnaire was based on the reasons behind protein consumption and the later one was based on online behaviour. A synthesis of this works newly created questions aimed at achieving more precise information in regards to this study and some questions from the above helped to create a questionnaire that was of a good standard. Since this was subjective, it was thought that face validity testing from both a number of peers and Dr Danielle McCartan Quinn of the National College of Ireland would be beneficial to its validity.

This helped to evaluate whether the questions in the questionnaire would actually lead to the right responses. There were some issues about the ordering of a number of questions

and it was found that more clarity as suggested by the public was needed in some too. It was suggested that the questionnaire should include a BMI section in order to reveal more scientific evidence that could be analysed. However when the final questionnaire was distributed and included a question asking for the participants BMI, little numbers of the public revealed it and they tended to skip the question. There was also some criticism from the public when testing the pilot questionnaire as some of them did not clearly understand what this work was defining when it discussed protein products. This was later made clearer after editing the final questionnaire accordingly.

3.9.3 Reliability

To declare that quantitative data is reliable, it must be dependable, be consistent and be able to be replicated throughout a period of time over instruments and over the same group of people (Cohen et al., 2007, p. 165). This work recognises that the collection of quantitative data cannot guarantee that the information produced will be fully reliable or relevant or without bias. Even though the questionnaire has been created to a standard required for attaining reliable, relevant and unbiased information, members of the public may choose to supply inaccurate information (Davies, 2007, pp. 9-10).

After analysis of the results of the pilot questionnaire was carried out, it was determined that it was capable of producing information that was relevant. However there was some minor concerns surrounding its dependability since both the thesis supervisor and the participants stated that some amendments should be made to the questionnaire. All amendments were made at this stage and this helped to formulate a structure that was more clear and coherent.

In the first section of the pilot questionnaire entitled 'physical activities' it was discovered that when asking 'how many days of the week do participants go to the gym' that the binary style answers that they could give were not mutually exclusive. For example participants were allowed to answer '1-2 days' '2-4 days' '4-5 days' and '6-7 days'. The researcher amended this so that any confusion was eradicated and that the participants could give their desired response. This study was also advised to include a section where participants could provide their BMI however after including one most participants tended to skip over it.

In section 2 which is entitled 'protein products consumption patterns' the researcher was informed that the first two questions regarding protein consumption patterns were in the wrong order. The error was then corrected. The final question of this section caused some confusion among participants by what was meant by protein. A definition was then included which determined that the questionnaire was discussing whey protein products which included protein powder, readymade drinks, mass or muscle builders, protein bars and weight loss products.

In section 4 again two questions were in the wrong order and this error was adjusted accordingly. The new correct order is now as follows: 'do you take selfies of yourself in the gym' and 'do you post pictures of yourself from the gym online'. This reordering of questions was due to the possibility that gym users might just engage in the first practice.

With the errors on the pilot questionnaire amended, the final questionnaire was produced and distributed to 100 men and 100 women. This led to the similar information been produced which showed that the data produced by the final questionnaire was dependable and reliable. Even though there was month between the pilot questionnaire and the final questionnaire the same people gave similar answers over similar measurements as there were some adjustments to errors within the pilot questionnaire.

For that reason 30 men and 30 women who had completed the final questionnaire were asked to take part in a Test Retest of it after another month had elapsed. This helped to determine that the information received via the final questionnaire, was consistent with the information received when the Test Retest was carried out. The smaller sample again revealed relevant information hence showing that the data that was produced was dependable. The information received was found to be consistent as those questioned again produced similar answers as before.

Pearson Correlation Coefficient software was used in order to measure the level of association between the results of the pilot questionnaire, the final questionnaire and the Test Retest which helped to verify reliability. Although the final questionnaire had a clearer and more coherent structure, the software indicated that there were similar results with little variance between all the recorded data which was of good reliability in the range of at least $\geq 0.8 < 0.9$ (NCSS, Statistical Software 2018).

3.10 Chapter 3 Conclusion

Chapter 3 has discussed and considered a number of qualitative and quantitative research methods in the retrieval of information relevant to this study. After some reflection, this work has decided that it would use a quantitative approach for data collection through the distribution of a questionnaire. The release of a pilot questionnaire was noted to reveal that some editing of the final questionnaire was needed. This helped to make the structure of the questionnaire more clear and coherent for participants. In addition a final small qualitative section was added for participants who had any further information to add. This chapter has also discussed the target population, the sampling technique and how it collected data through a pilot questionnaire and a final questionnaire and through a Test Retest method. This chapter has also discussed issues surrounding data analytics, ethics, validity, and reliability which have helped to justify the chosen research methodology.

Chapter 4 Findings and Analysis of Research Questions

4.1 Introduction to Findings and Analysis of Research Questions

Chapter 4 will review the findings that are relevant to this investigation's aim and objectives. The chapter will also provide an analysis of the information provided by the participants of the study and the findings of past authors that have previously been discussed in a number of other studies. In terms of the structure of this chapter, the findings that are relevant to each research question will be revealed which will then be followed by an analysis. For clarity when this researcher refers to selfie it is a gym selfie.

Findings of Research Question 1

What Numbers of Gym Users who Consume Protein Products use Social Media?

Overall Social Media Use

70% of the 100 female and 72% of the 100 male gym goers who consumed protein used social media.

50% of males and 46% of females used protein not once but multiple times in one day. There are **strong links and possible correlations** between those who consume protein not once but multiple times a day and those who take selfies. This is most evident among male and female body builders and recreational gym users as will be highlighted below.

Number of Males Who Use Social Media and Protein (Multiple Times Daily) Within Each Group

Of the 58 male recreational gym users, 51 or 88% of them used social media channels. 23 or 40% of the 58 also took selfies.

Strong links in behaviour among recreational gym users: 27 or 47% of the 58 recreational gym users used protein products multiple times daily. 19 or 70% of these 27 were also part of the group who took selfies.

Of 10% of males described as competitive sports people, 5 or 50% of the 10 used social media channels. 6 or 60% out of the 10 males also consumed protein multiple times daily of which 3 of the 6 or 50% took selfies too.

Of 14 male professional athletes, 6 or 43% used social media channels. 7 or 50 % of the 14 consumed protein multiple times daily of which 3 took selfies too.

Strong links in behaviour among body builders: Of 10 male body builders, 100% used social media channels, took selfies and consumed protein multiple times daily.

Number of Females Who Use Social Media and Protein (Multiple Times Daily) Within Each Group

Of 58 female recreational gym users, 47 or 81% used social media channels. 36 or 62% of the 58 took selfies.

Strong links in behaviour among recreational gym users: 23 women or 44% of the 58 claimed that they consumed protein multiple times daily. 20 or 87% of these 23 women also belonged to the group who took selfies.

Of 30 female competitive sports people, 7 or 23% of the 30 used social media channels. 11 of the 30 used protein products multiple times daily of which 6 took selfies.

Of 4 female professional athletes, 3 or 75% of them used social media channels and took selfies All 4 of these women consumed protein multiple times daily.

Strong Links in behaviour among body builders: Of 8 female body builders, 100% of them used social media channels, took selfies and consumed protein products multiple times daily.

Young People and Social Media

70% of female and 50% of male gym users were between the ages of 18 and 35 thus revealing some disparity among the sexes.

There were some over representations among participants.

32% of women were between the ages of 18-24 and 29 or 90% of them used social media channels.

26% of men were between the ages of 18-24, and 22 or 84% of them used social media channels.

58% of both men and women claimed to be recreational gym users.

4.3 Analysis of Research Question 1

What Numbers of Gym Users who Consume Protein Products use Social Media?

Twomey (2017) claims that the number of social media users in Ireland as reported in August of that year accounted for 65% of the population. 72 % of male and 70% of female participants in this study claimed that they use gyms, protein products and social media. Social media use was particularly high between the age of 18-24. 90% of females and 84% of males gym users/protein consumers within these age groups used social media too.

Analysis revealed that 100% of body builders questioned were using social media channels, consuming protein products multiple times a day and were taking selfies. Social media channels can be a medium in which gym users can share their progress in achieving any fitness goals whether they include muscle building or fat loss or both. This work has previously discussed how these channels can be used to promote not just protein products but people themselves. Body builders and normal every day gym users are using these channels to construct an online identity and to endorse, share and like protein products.

This study has also revealed that the number of recreational gym users that use social media is also extremely high. Those within this group who consumed protein multiple times a day were also very likely to engage in selfie taking. This researcher recognises (like Arnold and Thompson 2005, pp.868-877) that culture plays a huge influence on consumer patterns. Optimum Nutrition are manufacturing spaces such as social media marketing campaigns in which consumers are engaging with in order to pursue impossible goals like a lean and muscular physique by the use of these products. Consumers are acting out a script through the sharing of images of products and gym selfies.

Research revealed that gym use was very popular among young females who were under the age of 35. This work (like Simpson and Mazzeo 2017, pp. 560-567) has found that the rise in the number of followers of Fitspiration which involves the sharing of images of

muscular and lean women has had some impact on higher numbers of young women joining gyms.

Not many males or females considered themselves to be professional athletes, however nearly half of all male and three quarters of all female professional athletes claimed that they used social media.

The numbers who claimed to be competitive sports people were much too small to have any statistical significance although findings revealed that half of the males used social media while only a fifth of the females did the same.

Findings of Research Question 2

For What Reasons do These Consumers use Gyms, Protein Products and Social Media?

Reasons for Gym Use Among Males and Females

52% of women and 42% of men claimed to attend the gym at least 3-4 days a week.

58% of both males and females were recreational gym users.

18% of males and 30% of females were competitive sports people.

14% of males and 4% of females were professional athletes.

10% of males and 8% of females were bodybuilders.

Numbers Within Male Groups Who Consumed Protein Multiple Times in One Day

52 males consumed protein multiple times every day.

27 or 52% of those 52 who consumed protein multiple times a day were male recreational gym goers.

10 or 19% of the 52 were male body builders.

6 or 11% of the 52 were male competitive sports people.

10 or 19% of the 52 were professional sports people.

Numbers Within Female Groups Who Consumed Protein Multiple Times in One Day

46 females consumed protein multiple times every day.

23 or 50% of those 46 were female recreational gym users.

8 or 17% of the 46 were female body builders.

11 or 24% of those 46 were female competitive sports people.

4 or 9% of those 46 were professional sports people.

Reasons for Protein Consumption Among Men and Women

84% of men and 82% of women consumed it to look their best.

82% of men and 34% of women consumed it to increase confidence.

98% of men and 96 of women consumed it to gain muscle.

88% of men and 96% of women consumed it for growth and repair.

46% of men and 84% of women consumed it to lose weight.

86% of men and 98% of women agreed that protein products could promote health.

76% of men and 84% of women consumed them to maintain a healthy weight.

96% of women consumed them for convenience or as a meal replacement while 98% of men claimed the same.

Only 3 out of 70 women and only 5 out of 72 men who used social media channels did not purchase their protein products online.

Reasons Why Male and Female Gym Users Use Social Media.

57 or 81% of women and 40 or 56% of men who used social media posted protein products online.

Of the 70 women who used social media, 56 or 80% of them used social media to post gym selfies.

Of the 72 men who used social media, 42 or 58% of them used it to post gym selfies.

40 or 57% of the women who used social media used it to post their location as "at the gym".

38 or 44% of the 72 men who used social media used it to post their location as "at the gym".

Numerous reasons were giving for the posting of gym selfies and figures proposed that social media users posted gym selfies in order to seek attention although all but two women admitted that they did so in order to show off. 20 or 47% of the 42 men that took selfies did so in order to show off.

Only 4 or 7% of the 56 women who took selfies did so in order to gain acknowledgement from others.

20 males or 48% of the 42 who used social media admitted to taking selfies to gain acknowledgement from others.

All 56 female selfie takers admitted posting them to attract attention.

Of the 42 males who posted selfies, 26 or 62% of them admitted that they did so in order to attract attention too.

52 of the 56 or 93% of the female selfie takers did so to gain self confidence from the reaction of others. 30 or 71% of male selfie takers claimed the same.

52 or 93% of the women selfie takers posted selfies in order to seek attention from a potential partner while 34 or 81% of the men claimed the same.

4.5 Analysis of Research Question 2

For What Reasons do These Consumers use Gyms, Protein Products and Social Media?

Many of those questioned attended the gym 3-4 days per week. The vast amount of these attendees that attended at such a high frequency were in the age categories of 18-24 years old and 25-34 years old. A great number of both sexes described themselves as "recreational gym users" who attended for enjoyment and added health benefits. Competitive sport people and professional athletes attended the gym in much lower numbers than recreational gym users.

The researcher feared that the reasons that recreational gym users attended gyms might be somewhat vague. However the protein consumption section helped to discover that many were trying to lose fat or build muscle or achieve both. The frequency of protein consumption among both sexes was high. 46% of all women questioned claimed that they consumed protein products on multiple occasions every day while 50% of all men claimed the same.

Large numbers of men consumed protein products in order to look their best. It is likely that they (like the participants of Dogans 2015, pp. 442-458 study) used gyms to feel their best too and have more control. Most men admitted that they consumed these products to increase confidence while only a third of the women questioned claimed the same. Almost all of the men and the women claimed that they consumed protein products in order to gain muscle and for growth and repair. Nearly all of the women consumed protein in order to lose weight while less than half the men would admit the same. All but two of the women agreed that protein products could promote health while large numbers of men also believed the same. Overall it seems that protein products were viewed as healthy but more so by women who also saw them as a weight loss product. This could be due to marketing campaigns which targeted females specifically. More women also consumed protein products in order to maintain a healthy weight.

Protein products are being marketed to many different target segments. Females are not the only new target of protein companies. Men and women who attend gyms and those who have no interest in attending gyms are being targeted particularly through the medium of the protein bar. For example consumers might believe protein bars to be a healthy alternative to a regular chocolate bar; there is also the matter of convenience. Hartmann and Siegrist (2016, p. 229) claimed that large numbers of members of the public who do not attend gyms now see protein products as an healthy convenient meal replacement. Almost all of those that were questioned in this study recognise that protein products are convenient.

This work argues (like Henri Lefebvre 2011, p. 181) that (online) advertising can convince consumers that they need to consume (protein) products that they do not need at all. 71% of women questioned and 60% of men claimed that they were in the habit of purchasing such goods online. Almost all of these groups that purchase their protein online were noted to be using social media and these channels had a huge influence on their reasons for purchase. This study's findings are similar to Zhang et al., (2013, pp. 651-557) as participants were also found to be influenced to purchase products on social media that their online friends liked or shared.

This researcher (like Fitzmaurice 2017), argues that sports stars and brand advocates are having a major influence on gym users decision to purchase protein products. Companies are attracting new consumers particularly those of a young age who think that they need protein products in order to both look and feel as good as the protein brand advocates who usually have physiques that are generally not attainable for the average gym user. Half of the women questioned who purchase protein products online are influenced in such decisions by protein brand advocates. Men were much more likely to be influenced to purchase protein products when they saw adverts on social media or other users liking these products. High numbers of both men and women who used social media posted protein products online therefore repeating the behaviour of their online friends.

More women admitted that they posted selfies and posted their location as "at the gym" than men. However most men admitted that they posted selfies to show off while only two of the females would admit the same. It was then surprising to discover that all 56 female selfie takers admitted posting selfies in order to attract attention. Over half of the men questioned admitted the same.

Barely any of the women who took selfies claimed that they did so in order to gain acknowledgement from others while nearly half of the men claimed that they did so for this reason.

Women were more likely to post selfies in order to gain self confidence. Large numbers of the men claimed that they posted selfies in order to seek attention from a potential partner while nearly all of the women admitted the same.

Some groups of people are more likely than others to use social media channels to promote or market themselves. Although only a small number of both men and women claimed that they were bodybuilders (8% of women and 10% of men) they all admitted to taking selfies in the gym. 16 out of the 18 participants who described themselves as body builders claimed that they posted their location as "at the gym". Just two male body builders claimed that they were not in the habit of posting their location as "at the gym".

With the rise in interest in female body building and trends such as sharing of Fitspiration images online, protein companies could be marketing more products to females and this researcher believes that they will. The numbers of males who purchase protein products online whose purchases are influenced by brand advocates is higher than the female sample and research has revealed it to be 64% of those who purchase their protein online. Images of the sculpted physique have long been attributed to males and much evidence

exists that cultural and media influence has had an adverse effect on males and this has created negative body image among many (Eisenberg, Wall and Neumark-Sztainer 2012 pp. 1019-1020, Pope et al 1998 p. 65-70).

Evidence revealed in this thesis suggests that high levels of negative body image (generated by new perceptions of what is the image of the body beautiful) have had the power to drive sales of protein products to both men and women and they will continue to do so for the foreseeable future. Analysis suggests that high numbers of both men and women who consume protein products to both look their best and raise their confidence levels are more likely to post gym selfies or post their online location as at the gym. The portrayal of these selfies on social media channels motivates other users to like these images which in turn motivates the selfie poster to repeat such behaviour whether it be for attention or for the generation of higher self esteem.

Findings of Research Question 3

Are there Commonalities or Differences in Identity Goals Between Genders?

Commonalties

10% of males and 8% of females considered themselves to be body builders.

58% of both sexes considered themselves to be recreational gym users.

98% of men and 96% of women consumed protein products in order to gain muscle.

52% of males and 46% of women consumed protein multiple times every day.

84% of men and 82% of women consumed protein products in order to look their best.

88% of men and 96% of women consumed protein products for growth and repair.

86% of men and 98% of women agreed that protein products could promote health.

76% of men and 84% of women consumed protein products in order to maintain a healthy weight.

Differences

14% of males and 4% of females described themselves as professional athletes.

18% of males and 30% of females identified themselves with the term competitive sports person.

74% of males and 20% of women wanted to build mass.

82% of men and 34% of women agreed that they consumed these products in order to increase confidence.

46% of men and 84% of women consumed these products in order to lose weight.

4.7 Analysis of Research Question 3

Are there Commonalities or Differences in Identity Goals Among Genders?

Commonalities

Both sexes identified themselves with the term body builder in almost equal numbers. That was 8% of women and 10% of men as exposure to body building has normalised the activity for many. The gyms in which the surveys were distributed were marketed as normal gyms and leisure centres unlike some that appeal to a more hardcore bodybuilder element; therefore these figures within the general gym population cannot be dismissed as low.

Since body building is a sport that has historically witnessed more popularity among males, it was then surprising that similar numbers of both sexes showed a desire to be identified within this category. The level of interest in body building in the female category and their decision to label themselves as such was something that this research wouldn't have previously envisioned. A reading of Arnold's and Thompsons (2005, pp. 868-887) work on Consumer Culture Theory has helped to give an understanding of how these consumers entered areas within the online market place i.e. social media channels and were given the space to pursue fitness goals or follow an alternative personalised cultural script or obtain a new identity such as that of the bodybuilder.

This research has revealed that 58% of both sexes identified themselves with the term recreational gym user although their reasons for protein consumption did vary. This work knows little about each individual's lived experience but consumption patterns can give this study some indication of identity goals. When asked whether they agreed or disagreed with the suggestion that they consumed protein products for muscle gain both sexes agreed to doing so in high numbers. 98% of women and 96% of men agreed with this statement. Around half of the men and women that were questioned also claimed that they consumed protein products multiple times each day.

Most of the people that were questioned for this piece of research associated protein products with health and well being. Almost all of the men and women claimed that they consumed protein products for growth and repair. Nearly all of both groups agreed that protein products could also promote health. A large amount of those questioned claimed that they consumed protein products in order to maintain a healthy weight and therefore consumed these products in order to be healthy. The definition of "healthy" is very broad. But for some, it can be the lean and muscular physique. Research revealed that lean muscle rather than mass was being sought by both males and females which also indicated that the ripped effect is becoming more highly sought among both sexes.

Even with some variations in identity goals among the sexes, most consumers were found to be using protein products in order to look their best.

Differences

Research revealed that females who considered themselves to be competitive sports people were numbered at 30% of that sample while only 18% of the male sample identified themselves with such a description. Competitiveness or differences in competitiveness among the sexes particularly in the area of sports is a topic that does warrant further research but it is beyond the scope of this investigation.

Males were much more inclined to admit that they wanted to build mass. The desire to be extremely big has continued to be an obsession for men and is even more prevalent than it was when past works such as Pope et al., (1998, pp. 65-72) discussed it. Results of the questionnaire have also revealed that the building of lean muscle rather than mass seemed to be a much more attractive aspiration for females.

If this study was to highlight what it considers to be a key difference in identity goals among the sexes, it would discuss the consumption patterns of protein products for the key purpose of weight loss. That said, no women totally disagreed with the assumption that the consumption of protein products could lead to weight loss. In contrast 48% of men totally disagreed that they consumed protein products for weight loss. As previously mentioned in the literature review, this work revealed that protein products were being marketed extensively to females as a weight loss product and these findings suggested that there were high levels of success for such marketing campaigns. This piece of research agrees with that of Simpson and Mazzeo (2017, pp. 560-567) who argue that trends on social media such as Fitpiration (the sharing of images of muscular but lean women with almost impossible to obtain bodies) have the power to cause body dissatisfaction. It could be argued that such images are causing identity problems while at the same time are enabling companies in the sale of protein products.

Identity problems can easily arise as members of society often suffer from poor self image and low self esteem; this can be caused by dramatic changes in cultural trends of the image of the body beautiful as this study has previously noted. What if there were products that could help with the creation of the perfect body, to fuel the body for high intensity workouts and repair the body after all? What if there were products that could help build muscle but also help users to lose weight and help them to obtain almost impossible results? What if there was one sole magical product that could do all of the above and help with the creation of an online identity that could be sculpted to be fit for whatever audience the social media user wanted to be admired by? Rogers (1999, pp. 112-115) argued that identity could be bought through the purchase of products. In fitness circles, there is one sole product which can apparently help with all of the above goals and consumers within the gym going population believe that this product is protein.

82% of men agreed that such products were consumed to help them to gain self confidence while only 34% of women claimed the same. This research is surprised by such findings and the vast difference between male and females in this regard. This piece of research must ask the question why men are more likely to consume protein products for self confidence? Perhaps marketers over a much longer period have succeeded in creating the following illusion in men; that is that men who go to the gym and want to look a certain way need to consume protein products to do so. Men were found to be more inclined to believe that protein products would help them to look their best. As marketing protein products to women is a relatively new activity, it is possible that future marketing campaigns will have more success in creating such beliefs among the female gym user

population. Companies know more and more about their customers as they spend more time online so much time that this study and that of Sheth and Solomon (2014, pp. 122-123) recognise that the boundaries of online and offline identity for users of social media are becoming blurred.

Goffman (1959, pp. 8-9) proposed that members of society are forever playing a part and that self presentation is the core part of one's identity. This study recognises that in today's world members of society are acting out these parts online and they feel that they need protein products to do so particularly in the area of extreme fitness goals. This work has revealed high protein use among males and females. It does believe that marketing campaigns aimed at women particularly online ones are in their infancy and that this trend is surely set to continue. The marketing of protein products to women and the apparent need for a muscular body have caused dramatic cultural shifts. Throughout history there has been multiple changes in what has been the image of the body beautiful but perhaps none as extreme as the images that some aspire to look like today. With the need to occupy new online spaces to achieve the image of the body beautiful comes the need to occupy new offline spaces such as the weights area of a gym.

The weights area of the gym has long been a male dominated domain which women tended to avoid in the past due to a gym culture in which they found little acceptance. Dramatic changes in the new image of the body beautiful have caused women to step into this new arena and gain more strength and confidence and perhaps threaten male identity. Social media trends have caused rises in the number of negative body image problems among a number of users of social media. However in more positive terms, women have gained a more equal status as late particularly in the weight lifting area of gyms. That said there are little positives to take away from social media use and any aspirations of obtaining this new image of the body beautiful. It does much to create the belief among members of both sexes that they need to achieve such unattainable identity goals in order to be the best version of their selves. They do so by marketing themselves as something superior to others and by promoting alternative identities than they had in the past. It is highly likely that this behaviour aimed at achieving more and more unattainable identity goals will cause identity problems even among narcissists.

Findings of Research Question 4

Are there commonalities or differences in regard to the online behaviour of protein consumers?

Commonalities

10% of men and 8% of women claimed that they were body builders. All of these body builders used gyms, consumed protein products multiple times a day and used social media channels. 100% of them also posted gym selfies online. 100% of the female and 80% of male bodybuilders posted their location as "at the gym".

Recreational gym users were also over represented 56% of participants identified themselves as such. A large number of recreational gym users used protein products not just once but multiple times a day in order to reach fitness goals or look a certain way. They also engaged in the posting of gym selfies more so than the groups of competitive sports people or the professional athletes. Therefore, their protein consumption patterns and online behaviour such as selfie taking warrants close analysis.

Reasons for Protein Consumption and Selfie Taking by Male Recreational Gym Users

27 or 47% of the 58 male recreational gym users consumed protein multiple times every day.

24 of these 27 men or 89% claimed to be taking protein in order to look their best and improve confidence.

23 of these 27 men or 85% of them claimed that they use social media.

19 of the 27 or 70% of the 27 admitted that they take gym selfies.

16 or 84% of these 19 took selfies to gain acknowledgement from others.

13 or 68% of these 19 took selfies to attract attention.

17 or 89% of these 19 engaged in selfie posting to gain self confidence from the reaction of others.

Reasons for Protein Consumption and Selfie Taking by Female Recreational Gym Users

23 or 40% of the 58 female recreational gym users claimed that they consume protein multiple times a day.

20 of these 23 or 87% of this group are consuming protein to look their best and improve confidence.

21 or 91% of these 23 women are using social media.

18 or 78% of these 23 engage in the practice of taking gym selfies.

14 or 78% of these 18 female selfie takers took them to gain acknowledgement from others.

11 or 61% of this group of 18 took selfies to attract attention.

15 or 83% of these 18 women took selfies to gain self confidence from the reaction of others.

One Major Difference in Online Behaviour Among Male and Female Recreational Gym Users

13 of the male recreational gym users agreed that they took selfies to show off.

Only 2 of the 18 women said that they took selfies to show off.

Differences in the Numbers of Selfies Takers Among the Groups of Male Gym Users.

42 men admitted that they take gym selfies.

10 or 24% of them are body builders.

23 or 55% of them are recreational gym users.

4 or 9% of the 42 are professional athletes.

5 or 12% of the 42 are competitive sports people.

Differences in the Numbers of Selfies Takers Among Groups of Female Gym Users.

56 females take gym selfies.

8 or 14% of these 56 selfie takers are body builders.

36 or 64% of these 56 are recreational gym users.

3 or 5% of these are professional athletes.

9 or 16% of these are competitive sports people.

4.9 Analysis of Research Question 4

Are There Commonalities or Differences in Regard to the Online Behaviour of Protein Consumers?

Commonalities

Fredericks and Essaylis (2016, p. 336) and Tiggemann and Zaccardo (2015, pp. 61-67) make it clear that it is important to evaluate the commonalities and differences in regards to the online behaviour between men and women. In doing so, it was found that the number of women claiming to be bodybuilders was almost the same as men. This is due to the changing perceptions of beauty among gym users who use social media who desire to be muscular and lean. This study like the work of Bullingham and Vasconcelos (2013, pp. 101-1110) claims that it is highly likely that many edit some aspect of their online self. This work further proposes that many could be posing in a certain way for selfies to reveal less fat and to reveal more muscle than they really have. These selfies and marketing practices can have an effect on online behaviour. A large percentage of women have actually turned away from the size zero lollipop look. Confidence now comes from strength gained in the weights area of gyms or on stage competing against others (Conlon, 2013). While Siddique (2015) claims that gym users do not need high levels of protein in their diets, gym goers who use protein products think otherwise.

Women like their male counterparts are buying into the idea that in order to create the image of the body beautiful (the new image being one of a muscular but lean frame) they need to supplement their diet so that they can both perform and get the desired results which will enable them to look their best.

With such vast changes in both consumer behaviour i.e. more gym attendance and the belief that consumers have in that they need protein products to maximize results, both sexes were likely to consume protein products multiple times a day. However, this research did not anticipate the figures among the findings for female consumption patterns. It was revealed that 37% of women who consume protein products did so once daily while 46% of female gym users claimed that they consumed such products multiple times a day. In regards to males, 19% of that sample claimed that they consumed protein products once a day while 52% of them proclaimed that they partook in the activity of consuming these products multiple times in a daily period.

With such a high demand for these products, it is not surprising that consumers try to find the most convenient avenue for attaining them and that is online. 86% of males and 70% of females admitted that they buy protein products online. Even if consumers go online with no intention to buy protein products they might end up doing so. Social media users who are interested in fitness and protein products tend to like such pages and will be targeted by companies who want to sell them gym memberships or protein products. Within their online social circle will exist friends who both like and share adverts or images of protein products that some users will continue to share or even purchase with little or no thought. 60% of men who use social media channels admitted to posting products online while 57% of women admitted the same. 43% of female social media users admitted that they posted their location as at the gym and 56% of men posted the same.

It was also revealed that of the 67 women who purchased protein online, 88% of them claimed that they were motivated to purchase protein because of their exposure to adverts on social media pages. In addition 80% of them were motivated to purchase such products after they had been influenced by other social media users "likes" of products.

81% of males claimed that they were influenced to purchase protein products after they had been exposed to adverts on social media channels. 82% of men also claimed that they were motivated to buy products after other social media users liked them.

Schau and Gilly (2003, pp. 385-392) recognised the dangers of social media pictures which showed images of unreal bodies years before the selfie existed. Since the creation of the selfie, there has been much interest in academic circles in 4 categories of motivations for selfie posting which are archiving, communication, entertainment and attention seeking. Past research by Sung, et al., (2016, b pp. 260-265) has found that the later 3 along with narcissism motivate social media users to engage in such practices.

Since Biolcalti and Passini's (2018, pp. 1-12) study was influenced by the above research and they also studied the same 4 aforementioned categories in regards to the motivations behind the taking of selfies; the authors found that frequencies for selfie posting, narcissism and self esteem occur at different levels due to the type of selfie taken whether it be alone in a group or with a partner. Narcissism tended to occur in selfies that were taken alone or that were self promoting.

As this present work has only focused on those who took self promoting selfies that were taken at the gym, high levels of narcissism among participants of both sexes who took them was expected. Research by Marshall, Lefringhausen, and Ferenczi (2015, pp. 35-39) has revealed similar narcissist traits, in those who post regularly about gym workouts or diets and no further proof of such was needed.

Research findings revealed that high numbers of both sexes used social media and were keen to show progress by the way of the gym selfie. 58% of the 72 men and 80% of the 70 women who used social media claimed that they posted gym selfies .Past studies such as Biolcalti and Passini (2018, pp. 1-12) work has also found that women take more selfies than men and now the same can be said for gym selfies.

When asked if they took selfies in order to gain self-confidence from the reactions of others, 82% of men admitted so while 92% of women claimed the same. All 56 women who took gym selfies agreed that they took them to attract attention while a total of 60% of the men admitted the same.

Although this research did not set out to prove or disprove that there are high levels of narcissism among male and female gym and protein users who use social media, it cannot help but find evidence for such. Social media channels are providing users with a stage setting in which they act pose and declare to the world how great they are. However, at the same time, users are comparing themselves to those further up the podium such as their online friends or brand advocates or celebrities who are embracing this new fitness craze of achieving lean and muscular physiques.

A large proportion of the recreational gym users and all of the body builders consumed protein products multiple times a day. A large section of the recreational gym users took and posted gym selfies while all of the body builders who took part in this questionnaire engaged in this practice.

Low numbers of both the male and female professional athletes and the competitive sports people engaged in selfie taking, or posting their status as "at the gym". Not many of them

consumed protein products multiple times in one day. All claimed that they consumed protein products for energy, to increase performance and to promote growth and repair and most of them did not consume them to increase confidence or to look their best.

Differences

The only major difference among male and female recreational gym users was that 15 of the 19 men that took selfies did so in order to "show off". Of the 18 female recreational gym users only 2 of them admitted to taking selfies in order to "show off".

4.10 Conclusion to Chapter 4

There is little need for concluding commentary as Chapter 5 will give detailed conclusions to each research question and it will finally give an overall conclusion. However, this chapter found that high levels of gym users who consume protein products are using social media. Most users are male and female recreational gym users who take protein multiple times a day. Most females and males had similar identity goals such as being muscular and lean. 100% of male and female body builders take selfies and consume protein multiple times a day; while large numbers of recreational gym users tend to do the same.

Chapter 5 Conclusions

5.1 Introduction to Conclusions

Chapter 5 will now make a number of conclusions concerning the findings and analysis of the previous chapter. It will give a conclusion of each research question one after the other hence fulfilling the secondary aims of the thesis. The chapter will finally give an overall conclusion to the thesis with particular focus on its research aim which again is to explore the link between gym use, the consumption of protein and social media usage in the projection of the perfect body image. Thereafter, the impact of the findings, the limitations, the opportunities for further research and recommendations will be given.

5.2 Conclusions Regarding Research Objective 1

What Numbers of Gym Users Who Consume Protein Products Use Social Media

This research showed that large numbers of both male and female gym goers who consume protein use social media more so than the general Irish population as defined by Twomey (2017). It was also discovered that most of those who carried out all 3 activities were under the age of 35. This study discovered that young women questioned were likely to use social media channels more so than the young males.

It was found that gym use was very popular among young females who were under the age of 35. It must be acknowledged that the rise in the number of followers of Fitspiration which involves the sharing of images of muscular and lean women has had some impact on higher numbers of young women joining gyms (Simpson and Mazzeo 2017, pp. 560-567). This research has revealed that large numbers of young women are consuming protein and it must agree with the argument of Tiggemann and Zaccardo (2015, pp. 61-67); that is that women are at present under more pressure than ever to have a lean and muscular physique because of social media norms.

Body builders made up 10% of males and 8% of the females that were questioned. All involved in the study admitted to using social media and sharing selfies while all but two did not post their status as at the "gym".

Social media channels can be a medium in which gym users can share their progress in achieving any fitness goals whether they include muscle building or fat loss or both. and

can be used to promote not just protein products but people themselves. Body builders and others are using these channels to construct an online identity and to endorse, share and like protein products.

The number of recreational gym users that use social media is also extremely high. It is therefore no surprise that companies such as Optimum Nutrition are using social media marketing campaigns to create the belief among this group that they can achieve almost impossible goals like a lean and muscular physique by the use of these products.

It must be noted that not many males or females considered themselves to be professional athletes, therefore the commentary on this group will be limited. However nearly half of all male and three quarters of all female professional athletes claimed that they used social media.

In regards to competitive sports people, half of the males used social media while only a fifth of the females did the same. If more of the above groups had to be questioned, perhaps one could comment with more confidence about the significance of these group's social media use.

5.3 Conclusions Regarding Objective 2

For What Reasons do These Consumers use Gyms, Protein Products and Social Media?

The vast percentage of gym users who used social media channels were looking for a lean but muscular look. It was first revealed that both sexes attended the gym frequently with 52% of women and 42% of men claiming that they attended 3-4 days a week. 62% of women and 58% of men claimed that they were recreational gym users.

Lower numbers of both sexes claimed that they were either competitive sport people or professional athletes. The same could be said for the number of bodybuilders among both sexes; however, there were nearly as many females as males that considered themselves to be bodybuilders. These body builders claimed that they posted their location as "at the gym" more so than any other category.

The frequency of protein consumption among both sexes was high. 46% of women questioned claimed that they consumed protein products on multiple occasions every day

while 50% of men claimed the same. Many consumed such products for convenience. 86% of women agreed that they consumed for this reason while 74% of men agreed the same.

71% of women questioned and 60% of men claimed that they were in the habit of purchasing such goods online. The vast percentage of social media users of both sexes tended to purchase their protein online and it was revealed that social media marketing practices had a satisfactory effect in influencing consumers to purchase their protein products through online avenues.

This work provided evidence for the influence that sports stars or brand advocates are having on consumers decisions to purchase protein products. These protein companies and their brand advocates and trends such as the publishing of Fitspiration images have created a new image of the body beautiful and much evidence exists that cultural and media influence has had an adverse effect among males and females and this has also created negative body image among many.

It was revealed that negative body image or narcissism or even both are causing consumers to purchase protein products. Reasons for both negative body image or narcissism can be attributed to online images of the body beautiful that are almost impossible to gym users to obtain.

Consumers are purchasing these products because they believe that they will help them to both look their best and to raise their confidence levels. These consumers are in turn more likely to post gym selfies or post their online location as at the gym.

5.4 Conclusions Regarding Research Objective 3

Are There Commonalities of Differences in Identity Goals Between Genders?

Almost equal numbers of both sexes claimed to be bodybuilders as exposure to bodybuilding particularly through social media channels has normalised the activity for some men and women. Social media users no matter what their sex were found to be able to write whatever script they wanted which helped in the formation of a desired identity.

58% of both sexes claimed to be a recreational gym user who goes to the gym for leisure activities and to stay in shape. 98% of women and 96% of men consumed protein products

to build muscle and research indicated that the ripped effect is becoming more highly sought among both sexes.

One key difference in identity goals among the sexes is in the numbers given for consumption patterns of protein products for the key purpose of weight loss. Women were much more inclined than men to admit that they were consuming protein products for weight loss reasons. Reasons for such high levels of this type of behaviour among women might have been influenced by a combination of new marketing campaigns by protein companies aimed at women and trends on social media such as Fitspiration (the sharing of images of muscular but lean women with almost impossible to obtain bodies). Women were found to be more competitive particularly in the area of sports.

The exposure of consumers to this new image of the body beautiful (lean and muscular) to both men and women can also cause identity problems among both sexes. In fitness circles, there the belief that the consumption of protein products can help with a number of varied goals.

Even with some variations in identity goals among the sexes, most consumers were found to be using such products in order to look their best; although men were much more likely to consume protein products for reasons regarding self confidence. This study proposed that marketers over a much longer period have succeeded in creating that belief among men.

As marketing protein products to women is a relatively new activity, it is possible that future marketing campaigns will have more success in creating such beliefs among the female gym user population and further normalise extreme behaviour whether it be in body building or achieving challenging fitness goals. This work proposes that social media channels will continue to change the image of what the body beautiful is and this will continue to contribute to the cause of identity problems in users.

5.5 Conclusions Regarding Research Objective 4

Are There Commonalities or Differences in Regard to the Online Behaviour of Protein Consumers?

It was found that 46% of females questioned revealed that they consumed protein products (which were until recently mainly consumed by men) multiple times a day.

86% of males and 70% of females admitted that they bought protein products online. Both sexes were influenced by targeted adds on social media created by protein product companies. They tended to be also influenced by the images and adverts of protein products that their online friends share. They in turn tend to share the same. Females were slightly more likely to be influenced by adverts on social media while there was little difference between the sexes in regards to the numbers who were influenced by other social media users likes of products. 86% of women and 74% of men totally agreed that protein products were consumed for convenience or as a meal replacement.

The online behaviour that this work is most interested in is the phenomenon of the gym selfie. This work did not focus on narcissism or try to determine levels of it although such behaviour was highly evident. It focused more on the commonalities in behaviour (particularly online) among gym users who consume protein products.

Research findings revealed that high numbers of both sexes used social media and were keen to show progress by the way of the gym selfie. It was discovered that females admitted to using this as a method to communicate with online friends in larger numbers than males.

Large numbers of both sexes took selfies in order to gain self-confidence from the reactions of others. Women were found to see the selfie as a way of attracting attention more so than men. Only 2 women admitted that they took selfies to show off while a considerable amount of men were happy to admit to this practice.

Recreational gym users and body builders both male and female were most likely to engage in both the consumption of protein products multiple times a day and taking selfies in order to both look their best. Correlations in gym use, protein consumption, the desire to create the perfect body and selfie were found to be more prevalent in these groups than others.

This study has also found evidence that images on social media channels are fuelling narcissist behaviour among gym users as they aspire to be the best and these users are happy to advertise themselves as such through their own images of what they believe to be the body beautiful.

5.6 Overall Conclusion

Chapter 1 of this thesis began the discussion in regards to a numbers of issues regarding consumer behaviour. It has helped to formulate the argument that consumers could be using gym memberships and protein products in order to sculpt their bodies so that they can be pictured and published online. The first chapter gave some background to the work and determined that there had been an increase in gym use, protein consumption and the numbers of people using social media. It discussed changes in advertising and the target markets of protein companies and outlined the structure to the work while also providing some commentary on impression management and identity construction. Chapter 2 in reviewing the existing literature helped to highlight areas that were in need of further study. These were gym use, protein consumption, social media usage and the projection of the perfect body image. Chapter 3 has discussed and considered a number of qualitative and quantitative research methods in the retrieval of information relevant to this study. After some reflection, it was decided that a quantitative approach for data collection through the distribution of a questionnaire was best for this work. Chapter 4 discussed the findings and analysis of the research questions central to the work. Conclusions in regards to the 4 research questions were then given in Chapter 5.

In evaluating the number of gym users who consume protein products and use social media, it was discovered that high numbers of males and female engage in all three activities. When compared to the figure of those who use social media in Ireland, more gym users particularly recreational gym users and body builders used it than the general public.. Members of these groups who consumed protein not once but multiple times a day were much more likely to take gym selfies.

While determining the range of reasons for the use of gyms, the consumption of protein products and the use of social media by research participants, it was found that high numbers of these social media users were influenced by other social media users shares or likes of products and were highly likely to share these products themselves. High numbers of both sexes consumed protein products in order to look their best with higher numbers of men consuming such products in order to achieve more self confidence. Nearly 60% of both groups posted their status as at the gym. Large numbers of both sexes who used social media channels took gym selfies although women took more than men.

In evaluating the commonalities in identity goals between genders, it was found that almost equal numbers of both sexes claimed to be bodybuilders which shows the rise in popularity of body building among women. Over half of both sexes indentified themselves with the

term recreational gym users. Almost all of the male and female participants claimed to consume protein in order to build muscle and look their best.

In evaluating the differences in identity goals between genders it was found that men were much more likely to take protein for self confidence reasons. The study also found that women were much more inclined than men to admit that they were consuming protein products for weight loss reasons. This study argued that new online trends such as Fitspiration and the changes within the target marketing position of protein companies will have even more success in the future among the female gym user population and further normalise extreme behaviour whether it be in body building or achieving challenging fitness goals. This work proposes that social media channels will continue to change the image of what the body beautiful is and this will continue to contribute to the cause of identity problems in social media users.

This work finally evaluated the commonalities and differences between the online behaviour of protein consumers. In terms of commonalities it was found that most males and females admitted that they bought protein products online and that they were influenced by images of the body beautiful and adds on social media that were shared by both their friends and protein product companies. They in turn tend to share the same and high numbers of both sexes were keen to show progress by the way of the gym selfie which was also used as a medium to gain self-confidence from the reaction of others. Recreational gym users and body builders both male and female were most likely to engage in both the consumption of protein products multiple times a day and taking selfies in order to both look their best. There were high levels of narcissistic behaviour among both groups.

In evaluating the differences between the online behaviour of protein consumers, it was discovered that females admitted to using the selfie as a method to communicate with online friends in larger numbers than males and they were found to see the selfie as a way of attracting attention more so than men. Men were much more likely to admit that they took selfies in order to show off.

While investigating the main aim of this thesis which is whether "consumers are using gym memberships and protein products in order to create the perfect body so that they can project this image on social media", there was much evidence discovered through the undertaking of an analysis of the findings of participants along with an analysis of past works to support that this might be the case in a number of individuals. However one cannot have any idea of the lived experience of any individual participant and make the

assumption that such claims are true for them even when it might seem so. This study can state such a possibility in a number of individuals but it cannot apply causality between the above behaviours. With such high numbers of participants admitting to engaging in all of the above behaviour, this study can claim that there are definite correlations between gym use, protein product consumption and social media usage in the projection of the perfect body. This study discovered that this behaviour was most prominent in those who claimed that they were body builders or recreational gym users which are two groups that protein companies should target more in the future.

5.7 Findings and Recommendations

5.7.1 Impact of Findings

If there are correlations in behaviours such as gym use, the consumption of protein products and social media usage in the projection of the perfect body image, there are obvious impacts especially when it comes to the marketing of such products. Unfortunately much of this information that this thesis has uncovered may be more damaging to the consumer than beneficial. It must be proposed that marketers of protein products already know that social media users are highly susceptible to marketing. This research does much to reinforce this information and may have revealed trends in behaviour such as Fitspiration that market researchers perhaps overlooked.

On a positive note, this piece of work has shed more light on the dangers of social media and trends that may cause consumers to engage in extreme behaviour. Trends such as trying to obtain the image of the body beautiful (sometimes impossible) can be dangerous as they are highly likely to cause negative body image among social media users.

5.7.2 Limitations of Findings

If further study was carried out on this topic, it might be beneficial to discover what social media channels participants of any questionnaire are more likely to use. An example being, are the social media users questioned more prone to image sharing social media channels

such as Snapchat and Instagram or text based ones such as twitter or Facebook which has a good mixture of both.

Although the questionnaire helped to reveal the reasons behind participants protein consumption and gave some indication why consumers were using these products, it might have been beneficial to have more questions within the section on physical activities.

5.7.3 Opportunities for Further Research

This piece of research has made it clear, that there is much room for further study on consumer behaviour and protein product consumption among both gym users and non gym users. One just has to queue at a supermarket register and observe shelves full with protein bars a product that was once limited in shelf capacity or was only sold in specialised stores. A comparison of consumption patterns among gym users and non gym users could be an area of focus.

Changes within gym culture particularly for the fact that women are lifting more weights gives room for more gender studies as regards to gym use, weightlifting and fitness goals. A study of attitudes among men on this phenomenon might reveal that masculinity is being threatened since females are now occupying a space that was once dominated by men.

Competitiveness or differences in competitiveness among the sexes particularly in the area of sports is also an area that deserves further study. Research among those who take part in competitive body building might reveal disturbing trends. As the image of the body beautiful in some body building competition circles is much more extreme looking than the lean and muscular look, a study in the level of steroid use among both sexes could reveal high levels of substance abuse. The normalisation of protein product use (something that was taboo for women in the past) might lead to new norms in behaviour particularly in the area of illegal substances.

5.7.4 Recommendations

This study has revealed much positive information and negative information that has helped it to make a number of recommendations. It will first discuss one negative aspect of the study; that is there are high levels of negative body image and confidence issues among those who use gym memberships and protein products and social media channels. It is in no way limiting such issues to those who use gyms memberships and protein products but recognises the fact that some members from these groups could be highly susceptible to media images which can have a negative impact on their confidence and body image. Social media trends of images of muscular and lean physiques sometimes impossible to obtain will continue to effect some social media users. There are limits to what these users can do to avoid these images; only with access to the right education about the possible dangers of these trends to mental health and physical health can such issues be combated. Education about such dangers should be available in schools, from health boards and should also be supplied to parents. There is room for a documentary on the subject which would help to raise awareness of these issues. This work also recommends that social media platforms and protein product companies have a social responsibility to their users and customers in raising such issues too.

Some positive information has also arisen from this study for protein product companies and gyms who might want to expand their sales and marketing channels. With the rise in popularity of Fitspiration images and captions on the Pinterest image sharing site comes the opportunity for companies such as Optimum Nutrition to share images of their products and inspiring captions that can help them to form an emotional attachment with more social media users who have fitness goals.

Although there were high levels of protein consumption among gym users, none of the gyms where the questionnaires were distributed actually sold protein products. This work might have revealed the reasons why these businesses tended not to sell these products. Evidence suggested that the vast percentage of both male and females gym users who do consume protein products purchase them online perhaps out of sheer convenience. It has also revealed that many male and female gym users who use social media channels buy their products online after been motivated by social media adds or other users likes of products. They in turn share adds with other users.

This study will now make some recommendations for the gyms where this research was carried out. There are opportunities to sell protein products to customers on the premises. Powders and bars are non-perishable products and it would be of little financial risk if

these gyms decided to sell these protein products on a trial basis. A small amount of stock perhaps of one leading brand would be sufficient to test any potential interest in gym users purchasing protein products on the premises. As evidence suggests that customers do seek pure convenience, it might be worthwhile to stock a number of ready to drink shakes in a vending machine. As all of the participants gyms have Facebook pages, they could organise online competitions where they could get gym members to share images of these products and highlight the fact that they can avail of them on the business premises. This work also recognises that customers should have access to a machine that calculates their BMI.

This study has added to the field of consumer behaviour by discovering the reasons why an economically significant target market use gyms, consume protein products, and why they use social media. Having recognised that the motivations for consumption are linked to social media campaigns and selfie taking, it is thought that a business idea that could cater for gym users who consume protein products and take gym selfies could be developed. That business would be online based and it could help consumers particularly body builders and recreational gym users to achieve identity goals by designing an individual workout plan and a meal plan while selling them a number of complementary protein products. Customers would also be giving advice on selfie taking along with the best cameras for taking these pictures. Partnerships could be formed with protein companies, gyms, camera and phone companies so that their products could enable the customers to achieve certain identity goals and project the perfect body image online. The development of such a business idea could be lucrative for two reasons. First, a large number of gym users who engage in protein consumption and selfie taking would pay for such a service. Second, partnerships with international companies who want their products sold to consumers on the site would be an additional source of revenue.

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7. Appendices

7.1 Appendix 1 Definitions: Whey Protein, the Gender Binary and the Selfie

Whey Protein

Whey is the main ingredient of protein products such as bars and powders consumed by both male and female gym users. It is a waste material from the dairy industry created during the cheese and yoghurt making process. For every kilo of cheese produced, up to 9 kilos of whey the by-product is produced. Before the creation of the supplements and protein powder industries, it was literally poured down the drain. As environmental laws regarding its disposal became stricter, it made economic sense for scientists to use innovative methods to create valuable products from it. Companies decided that they could market whey protein as a product that increases muscle mass, promotes recovery and helps with weight loss. (Kerry Health and Nutrition Institute 2018 and Siddique 2016 and Malkovic 2015).

The Gender Binary

Protein companies are targeting men and women in different ways through multiple marketing campaigns and it was beneficial to the study if there was an evaluation of commonalities and differences in identity goals among genders. This study compared a number of differences among the sexes in regards to gym use, consumer behaviour and online behaviour of research participants. It does recognise that using a gender binary classification system can be problematic as historically speaking, the actions, expectations and social norms of members of society have been determined and in many cases are still determined by their sex which was classed as either male or female. Vast changes in society over the last 200 years have combated this rigid binary gender. However there is much more to do in the way of educational, social and political reform (Dvorsky and Hughes, 2008 p. 2). There are also people that indentify as neither male or female. For instance one could identify with many other gender identities which include among others the term transgender or intermixed or some people may prefer to not be labelled at all (Sterling, 2000 pp. 20-23).

The Selfie

As defined by the *Online Oxford English Dictionary* (2013), a selfie is "a photograph that one has taken of oneself, typically one taken with a smartphone or web cam and shared via social media".

7.2 Appendix 2 Protein Supplements and Online Behaviour Questionnaire

The following questionnaire is to be completed by people over the age of 18 that consume protein products or supplements. They do not have to be a user of any social media channels. For the sake of clarity, protein products can come in the form of whey protein powder, readymade drinks, mass or muscle builders, protein bars and weight loss products such as high protein meal replacements.

Physical Activities

Which statement describes you best?

- ☐ I am a recreational gym user.
- ☐ I am a competitive sports person
- ☐ I am a professional athlete
- ☐ I am a body builder

How many days a week do you go to the gym?

- ☐ 1-2 days
- ☐ 3-4 days
- ☐ 5-6 days
- ☐ 7 days
- ☐ Not applicable

Would you please provide your BMI?

Alternatively:

Would you, please, provide your weight in kg?

Would you, please, provide your height in cm?

Protein Product Consumption Patterns

Have you used protein products or supplements within the last 12 months?

- ☐ Yes
- ☐ No

Have you ever used protein products or supplements

- ☐ Yes
- ☐ No

What gender are you?

- ☐ Male
- ☐ Female
- ☐ Other
- ☐ Prefer not to say

What age are you?

- ☐ 18-24 years old
☐ 25-34 years old
☐ 35-44 years old
☐ 45-54 years old
☐ 55-64 years old
☐ 65 or older

How often do you consume whey protein in the form of protein powder, readymade drinks, mass or muscle builders, protein bars, and weight loss products?

- ☐ Once a day
☐ Multiple times in a day
☐ Weekly
☐ Multiple times a week
☐ Monthly or less

What are the reasons for your consumption of protein products?

Please rate the reasons on the scale below on a level of **1-6** or **7** for not applicable.

Reasons for Protein Consumption	Totally Disagree					Totally Agree	Not applicable
	1	2	3	4	5	6	7
To increase performance							
To gain mass							
To gain muscle							
To promote growth and repair							
To gain energy							
To lose weight							
To promote health							
To replace a meal (convenience)							
For the taste of the products							
To quench thirst							
To help supplement a special diet (be it vegetarian or vegan)							
Because of an illness							
To maintain a healthy weight							
To increase confidence							
To look your best							
Other, please, specify							

Hartman and Siegrist's (2016, b)

Social media and protein use

Do you use social media channels?

- ☐ Yes
☐ No

Where do you purchase your protein products?

- ☐ Online
☐ Offline

If you buy your protein online, what motivates you to purchase it there? (Please tick 1 or more boxes).

- ☐ Adverts on protein store pages
- ☐ Adverts on social media channels
- ☐ Other social media users likes of products
- ☐ Endorsements of products by advocates such as sport stars
- ☐ Not applicable

Do you post protein products you use online?

- ☐ Yes
☐ No

Do you post your location as "at the gym" on social media channels?

- ☐ Yes
☐ No

Do you take selfies of yourself in the gym?

- ☐ Yes
☐ No

Do you post pictures of yourself from the gym online

- ☐ Yes
☐ No

A measure of why people take selfies in the gym?

If you do take selfies, please rate the underline reasons below. Motivating reasons are rated on a **6-point Likert scale**. A seventh option is given (as in not applicable) for when the question does not apply.

Categories of Selfies	Totally Disagree					Totally Agree	Not applicable
	1	2	3	4	5	6	7
Attention seeking							
To gain acknowledgement from others							
To show off							
To attract attention							
To gain self-confidence from the reactions of others							
To seek attention from a potential partner							
To reaffirm one's existence							

Categories of Selfies	Totally Disagree					Totally Agree		Not applicable
	1	2	3	4	5	6	7	
Entertainment								
To pass the time								
To entertain one's self.								
Archiving								
To record special events								
To record my life in general								
To record specific moments								
To record everyday life								
Communication								
To stay in contact with family and relatives								
To talk and share media with friends								
To build intimacy with friends and partners								
To form new relationships								

Sung, Lee, Kim & Choi', (2016 a)

Thank you for completing this questionnaire! Is there any additional information that you would like to share?