Gender, Role Models, Entrepreneurial Self-Efficacy and Career Intentions: Implications for Entrepreneurial Education

Ciara Marie Lavelle - O Brien
Department of Management & Enterprise, Munster Technological University, Cork, Ireland, ciara.lavelle-obrien@mycit.ie

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Gender, Role Models, Entrepreneurial Self-Efficacy and Career Intentions: Implications for Entrepreneurial Education.

Ciara Lavelle OBrien

Submission for the Award of Degree of Doctor of Philosophy

Research Supervisors

Dr Breda Kenny and Dr Pio Fenton

Submitted to Munster Technological University, September 2021.
Declaration of Authenticity

I hereby declare that this PhD thesis, entitled "Gender, Role Models, Entrepreneurial Self-Efficacy and Career Intentions: Implications for Entrepreneurial Education.,” is entirely the candidate’s own work except where otherwise accredited and that the thesis has not been submitted for an award at any other institution.

Students Signature: 

Ciara Lavelle O’Brien

Supervisors Signature

Dr Breda Kenny

Dr Pio Fenton

Date: 16/09/2021
Acknowledgements

“It is better to journey than to arrive” Robert Louis Stevenson.

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### Abbreviations

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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ACE</td>
<td>Accelerating Campus Entrepreneurship</td>
</tr>
<tr>
<td>AGER</td>
<td>The Amway Global Entrepreneurship Report</td>
</tr>
<tr>
<td>CSF</td>
<td>Competitive Start Fund</td>
</tr>
<tr>
<td>CSO</td>
<td>Central Statistics Office</td>
</tr>
<tr>
<td>ECSB</td>
<td>The European Council For Small Business And Entrepreneurship</td>
</tr>
<tr>
<td>EE</td>
<td>Entrepreneurship Education</td>
</tr>
<tr>
<td>EEM</td>
<td>Entrepreneurial Event Model</td>
</tr>
<tr>
<td>EIGE</td>
<td>European Institute Of Gender Equality</td>
</tr>
<tr>
<td>EPM</td>
<td>Entrepreneurial Potential Model</td>
</tr>
<tr>
<td>ESE</td>
<td>Entrepreneurial Self Efficacy</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FAI</td>
<td>Football Association Ireland</td>
</tr>
<tr>
<td>GAA</td>
<td>Gaelic Athletic Association</td>
</tr>
<tr>
<td>GEDI</td>
<td>Global Entrepreneurship Development Institute</td>
</tr>
<tr>
<td>GEM</td>
<td>Global Entrepreneurship Monitor</td>
</tr>
<tr>
<td>GSE</td>
<td>General Self-Efficacy</td>
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<tr>
<td>GUESSS</td>
<td>Global University Entrepreneurial Spirit Students</td>
</tr>
<tr>
<td>HEA</td>
<td>Higher Education Authority</td>
</tr>
<tr>
<td>HETAC</td>
<td>Higher Education and Training Awards Council</td>
</tr>
<tr>
<td>IRFU</td>
<td>Irish Rugby Football Union</td>
</tr>
<tr>
<td>NCBE</td>
<td>National Centre For Guidance In Education</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation For Economic Co-Operation And Development</td>
</tr>
<tr>
<td>PCT</td>
<td>Personal Construct Theory</td>
</tr>
<tr>
<td>RGM</td>
<td>Repertory Grid Method</td>
</tr>
<tr>
<td>RGT</td>
<td>Repertory Grid Technique</td>
</tr>
<tr>
<td>RM</td>
<td>Role Models</td>
</tr>
<tr>
<td>SEE</td>
<td>Shapero And Sokol’s Model Of The Entrepreneurial Event</td>
</tr>
<tr>
<td>SER</td>
<td>Student Engagement Rate</td>
</tr>
<tr>
<td>STEM</td>
<td>Science, Technology, Engineering And Mathematics</td>
</tr>
<tr>
<td>TEA</td>
<td>Total Entrepreneurial Activity</td>
</tr>
<tr>
<td>TPB</td>
<td>Ajzen’s Theory Of Planned Behaviour</td>
</tr>
</tbody>
</table>
Abstract

This thesis explores gender, role models, entrepreneurial self-efficacy and career intentions of secondary school students in Ireland. Most prior research includes entrepreneurial education as an important factor in the decision to start a business. Few studies include the importance of entrepreneurial perceptions, role models, self-efficacy, and career intentions combined and what implications this may have for entrepreneurial education. Previous studies cite the importance of role models for potential entrepreneurs but ignore how the role model is perceived or who the role models of this generation (Gen Z) are. This study used a semi-structured questionnaire and the Repertory Grid Technique (RGT) to elicit the views of 125 secondary school students (aged fourteen to eighteen) from the Munster region in Ireland.

The key findings indicate that entrepreneurs are predominantly male, perceptions of key characteristics differ between males and females, role models for males and females are very different but that entrepreneurial career intentions are present for both males and females. Furthermore urban students have higher entrepreneurial career intentions than their rural counterparts. In terms of self-efficacy males ranked themselves higher in all skills of entrepreneurial activity assigning lower value only to creative skills and managing money. The females assigned higher value to creative skills and managing money.

Several areas where information is lacking were highlighted in the literature review of this study. From a pedagogically perspective, this study provides actionable insights for entrepreneurship education practice in the future, as well as government policy and legislation. This study adds to the literature in the areas of entrepreneurship education, gender, role models, entrepreneurial self-efficacy and entrepreneurial career intentions. By using novel methodological methods such as the repertory grid technique and drawings and reflection this research provides greater insight into student perceptions.
Dedication

I dedicate this thesis to my children- Rian and Fiadh. You have made me stronger, better and more fulfilled than I could have ever imagined. I love you both all the world!
1 Global Introduction

1.1 Introduction
This chapter begins by discussing the background to the research and the rationale for this research study. It briefly reviews gender and entrepreneurship in Ireland as well as the gap between men and women which currently exists. The research question and main objectives are then specified and the contribution of the study is outlined. Finally the structure of the thesis is summarised and a figure is presented to provide an overview of each stage of the study.

1.2 Background to the Research

‘If we can just find out who the entrepreneur is then we’ll know what entrepreneurship is’
(Gartner 1988, p. 23).

The fascination with entrepreneurs is not a new occurrence and there is literature dating back to as early as the 1800’s which looks at entrepreneurship.

A report in (2017) was published by the EU called ‘Entrepreneurship Education at School in Europe National Strategies, Curricula and Learning Outcomes’. The report found that in Ireland there is no specific national strategy for entrepreneurship education. The European Commission’s 2015 'Entrepreneurship Education: A road to success' report examined 91 studies from 23 countries. The impression that emerged from the data collected is that entrepreneurship education works. The report found that students participating in entrepreneurship education are more likely to start their own business and their companies tend to be more innovative and have a higher success rate than those led by people without an entrepreneurship education background. It also found that entrepreneurship education alumni are at a lower risk of becoming unemployed in the future, and are more often in steady employment. According to an article in the Irish Times by Éanna Ó Caollaí (2018) skills and competencies related to entrepreneurship known as “soft” skills are rarely taught as part of the curriculum in school or at university level in Ireland.
The census is a count of every person living in Ireland on a given date. It takes place every 5 years and is carried out by the Central Statistics Office (CSO). The most recent census was in April 2016 and the next census is due to be carried out in April 2021. The most recent census established that Ireland’s population, was 4,757,976 persons (CSO, 2016). This was a 3.7% increase on the 2011 census. Census 2016 showed Ireland had 2,407,437 females (CSO, 2016). A detailed breakdown of the population by gender and age group is given in Figure 1.2. These figures by the CSO show that that are currently more females living in Ireland than males (97.8 men to 100 women). There has been an increase of 91,884 women in Ireland since the last census in 2011. Women are also more educated than men- (55.1% of 25-34 year olds with a third level education are women). Unemployment rates amongst women are also lower (7.1% compared with 9.8%). However when it comes to female business owners, women only make up 20% of Irelands entrepreneurs (GEM, 2018). Given the disparity in the number of males to females and the different level of education attainment, the question emerges as to why such a large difference exists between the number of male and female entrepreneurs.

![Figure 1.1 Population of Ireland by age and sex, 2016 Source: CSO, 2016](image)
According to the OECD, it has been over forty years since studies of female entrepreneurs began to appear in the entrepreneurship literature (e.g. Schwartz, 1976; De Carlo and Lyons, 1979; Hisrich and O’Brien, 1981; Sexton and Kent, 1981; Pellegrino and Reece, 1982). Interest in female entrepreneurship has been growing since the 1970s and 1980s, particularly in America (Alecchi and Markovic, 2013).

The Global Entrepreneurship Monitor (GEM), provides useful comparative information on entrepreneurship. The 2017/2018 GEM report survey confirmed that entrepreneurial activity is mostly performed by men. Globally, the TEA (Total Entrepreneurial Activity) rate for women is 10.2%, approximately three-quarters of that seen for men. The rate of entrepreneurship (nascent entrepreneurs and new business owners) for women in Ireland is eighth highest in Europe. The rate for men is fourth highest in Europe. In Ireland, three times as many men as women are starting businesses. This “gap” between men and women is higher in Ireland than in many other European countries. According to GEM, in countries, such as the Netherlands and Spain, the gap between men and women is very narrow. In the case of the Netherlands, the rate of entrepreneurship for women is higher than it is in Ireland (9.4%, compared to 6.3%), while the rate for men, though high, is lower (10.5%, compared to 11.7%). In the Netherlands a man is just 1.1 times more likely than a woman to be an entrepreneur.

Figure 1.2 Rates of Activity in Population Source: Entrepreneurship in Ireland 2017
Ireland has the highest gender gap in self-employment in the European Union. Less than 10% of venture capital funding goes to female led companies in Ireland and as little as 3% of angel investors are women. In the United States, there are approximately 13 million women-owned businesses which amounts to approximately 42% of all firms across the United States. An estimated $1.9 trillion in revenue is produced by women-owned businesses. This data reinforces the value of conducting further research into female entrepreneurship.

Over the last number of years, Enterprise Ireland have developed a range of supports to encourage female entrepreneurs, including a dedicated Competitive Start Fund (CSF), offering women entrepreneurs €50,000 in startup funding. The CSF aims to support early stage start-ups. The main purpose of this initiative is to accelerate the growth of start-up companies that have the potential to succeed globally. Accelerator programmes, such as the DCU Ryan Academy Female High Fliers, targets challenges facing female entrepreneurs and helps women to fast track business development and leadership skills. By joining a programme such as these, the women become part of a supportive group of like-minded female entrepreneurs.

The Oireachtas Joint Committee on Jobs, Enterprise and Innovation published a report in 2015 called ‘Key issues for female entrepreneurs in Ireland and for their participation in the technology sector’. One of the main findings from this report was that the culture of business in Ireland remains predominantly male and still influences the way women think of themselves as entrepreneurs (The Oireachtas Joint Committee on Jobs, Enterprise and Innovation, 2015).

The Central Statistics Office's first (Gender Balance in Business Survey, 2019) figures released on May 23rd 2019 give key details on gender representation. Only one in nine CEOs in large enterprises in Ireland in 2019 were women. Women occupied 28% of Senior Executive roles versus 72% for men. The vast majority of Chairpersons were male at 93% with 7% being female. This underrepresentation is most pronounced in male dominated areas such as, manufacturing, technology, engineering, and construction. A competition specifically for female entrepreneurs active in Manufacturing and Internationally Traded Services also opened to applicants in June 2019, however when the fund was first launched no one applied for the full amount of funding.
To ensure this imbalance does not continue, entrepreneurship needs to be promoted in an educational setting (EIGE, 2016). The skills, networking opportunities and development of self-confidence (self-efficacy) all need to be addressed from an early age to improve the chances of entrepreneurship being viewed as a viable career option for younger female generations. Prior theory states that targeted education can play an important role in developing levels of self-efficacy in females (Wilson, Marlino, Kickul, Barbosa, 2009).

When it comes to female entrepreneurship, Ireland does not even make the top 10 for female led businesses. Some of the biggest obstacles to women in entrepreneurship is gender-bias and poor social and cultural acceptance to women taking on this role (OECD, 2013). These obstacles create a lack of self-belief (OECD, 2013). In the Survey of Entrepreneurship in Ireland 2018 only 10% of women surveyed stated that they wanted to start their own business in the next 3 years.

Across G7 countries (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) a similar trend is evident. In order to address this issue, the world’s leading industrialised nations cited women’s economic empowerment as a top global priority in a Joint leader's declaration presented at the 45th Group of Seven (G7) summit which was held in August 2019. A number of common principles were agreed to support women's entrepreneurship including a €250 million package for female entrepreneurs. The declaration highlights the importance of women’s entrepreneurship as a key driver of innovation, growth and jobs and provides further rationale for the need for research in this area.
The concept of female entrepreneurship is gaining traction in the academic world as well as the practitioner community (Kenny and Lavelle, 2014). The literature on entrepreneurship focused mainly on the male entrepreneur and first began in the 1930’s. It wasn’t until the 1970’s that the concept of female entrepreneurship began to emerge (Jennings and Brush, 2013). Henry et al.’s (2012) review of gender and entrepreneurship literature demonstrates a recent and significant proliferation of female entrepreneurship empirical research, as evidenced by the fact that 214 (64%) of 335 articles were published between 2003 and 2012. Furthermore, 40% were published within the previous five years alone, suggesting that gender had now become a legitimate area of scholarly inquiry within the entrepreneurship field. Figure 1.5 below illustrates the number of papers published in the 1900s and 2000–2016.

Figure 1.4 Papers on Women Entrepreneurs in established Entrepreneurship Journals Source: (Yadav, Unni, 2016)
In the practitioner field, female entrepreneurship programmes and support measures are now offered by a range of enterprise support agencies (The Female Propeller Programme for High Fliers), business incubators for example the Rubicon Centre (New Frontiers and Exxcel Programmes), and the banking sector (Ulster Bank’s ‘Business Women Can’). Enterprise Ireland’s Female Entrepreneurship Unit was also established to support and grow female led businesses and to address the key challenges impacting women entrepreneurs.

Other indicators of the fields’ rapid expansion include the increasingly large number of conferences (The European Council for Small Business and Entrepreneurship (ECSB), 3E Conference, Interdisciplinary European Conference on Entrepreneurship Research, Babson College Entrepreneurial Research Conference, Global Entrepreneurship and Innovation Research Conference), speciality journals (McDonald et al., 2015) identified six top entrepreneurship journals. These include three US journals (Journal of Business Venturing, Entrepreneurship: Theory and Practice, and Journal of Small Business Management) and two European journals (International Small Business Journal, and Entrepreneurship and Regional Development). Added to this are six more entrepreneurship journals from the Harzing journal quality list (Harzing, 2016). In total (Yadav and Unni, 2016) established that twelve entrepreneurship journals have journal quality rankings ranging from A*, A, B and C) and Global Entrepreneurship Monitor (GEM) reports, edited volumes and books focused specifically on female entrepreneurship.

There have been numerous empirical studies that have examined the concept of female entrepreneurship. Analysis of the literature shows that they can be broadly categorised under the themes of gender studies, entrepreneurship education research, role model theory and self-efficacy studies and includes writers such as Ajzen, I.; Bandura, A.; Henry, C.; Foss. L.; Kickul, J.; Wilson, F.; Marlino, D. and Barbosa, S. D.

Prior research has been conducted on gender, entrepreneurial self-efficacy and entrepreneurial career intentions in entrepreneurship as well as a large amount of research attention on entrepreneurship education. However very little research exists on entrepreneurial perceptions and role models in entrepreneurship and there is a gap in combining all of these theories together to recognise how they impact on the entrepreneurs of the future, both male and female. Guided by self-efficacy, entrepreneurship and entrepreneurship education theory, four main research objectives are proposed.
Within the context of entrepreneurship education and entrepreneurial role models, this research will explore attitudes and perceptions of the public image of the entrepreneur, assess role model influences on Generation Z, determine if entrepreneurial career intentions are present and establish levels of entrepreneurial self-efficacy. This thesis will also discuss the phenomenon of female entrepreneurship and the clear gender gap in entrepreneurship which still very much exists today.

1.3 Rationale for the Study

In recent years there has been a rapid change in scholarly thinking and analysis of entrepreneurship. With this has come a variety of approaches to teaching entrepreneurship, emerging from different academic traditions. This has resulted in an academic field which is complex in terms of approaches, methodologies and even the understanding about what exactly is entrepreneurship.

The 2014 GEDI identifies America as the most enterprising large economy. The EU comes second, with the rest of the world. Three of the five Nordic countries (Sweden, Denmark and Finland) are in the top ten. The GEDI spider diagram seen below compares Ireland’s profile to those of the UK, Denmark and the United States based on the GEDI 15 pillar values. This analysis shows Ireland is performing well in overall terms, with strength in some areas such as human capital, internationalisation and encouraging high growth firms. However it also highlights areas that should be addressed, including gender, education (making entrepreneurship a fundamental part of the education system), and the encouragement of role models (by celebrating and rewarding successful entrepreneurs, and making an example of them).
1.4 Research Question

There is insufficient literature available to comprehensively identify and thoroughly understand what factors are influencing the entrepreneurial choices of today’s teens. There is also a gap in the literature in relation to how all of these factors can be combined to create better entrepreneurial education outcomes. This research aims to understand what factors are exerting the greatest influence. The research question, therefore, is as follows:

This study seeks to discover the role of Gender, Role Models, Entrepreneurial Self Efficacy and Entrepreneurial Intentions in entrepreneurship education.

In order to address this question, the following research objectives will be addressed:

- To explore the attitudes and perceptions of students towards entrepreneurship.
- To gain an insight into how students perceive role models.
- To examine factors affecting the intention to become an entrepreneur.
- To determine if gender differences exist in levels of entrepreneurial self-efficacy
1.5 Methodological Approach

A full examination of the methodological considerations and approaches is provided in Chapter Three. To address the central objectives of this study it was important to select a methodological approach that provided the opportunity to gain the most accurate and unique insights into understanding the perceptions of second level students in Ireland surrounding entrepreneurship, the influences of role models and to what degree entrepreneurial career intentions and self-efficacy are present. For this reason a mixed methods approach was selected and deemed the most appropriate choice. Mixed methods research is a methodology for conducting research that involves collecting, analysing and integrating quantitative and qualitative research methods. This approach to research is used when this integration provides a better understanding of the research phenomenon than either qualitative or quantitative methods would alone.

By mixing both quantitative and qualitative research and data, the researcher gains an in depth understanding, while offsetting the weaknesses of using each individual approach. One of the biggest advantages of conducting mixed methods research is the possibility of triangulation (use of several methods and data sources to examine the same phenomenon) (Creswell, 2003).
1.6 Outline of the Thesis
This thesis follows a logical pattern in its structure and presents the following chapters sequentially. This study is divided into six chapters (as outlined in figure 1.8), first of which is the introduction chapter. The remaining five chapters are organised as follows:

Chapter Two – Literature Review
Chapter Two builds on the introductory chapter providing an overview of the existing literature on entrepreneurship. The chapter begins by outlining the history and development of entrepreneurship education in Ireland, in particular, primary school, secondary school and third level. At present, there is no specific national strategy for entrepreneurship education in general education. Chapter two continues by outlining the most notable differences in entrepreneurship education in Ireland and how other countries approach entrepreneurship education. Chapter two also presents literature on the impact of entrepreneurship education for females and the gender gap which exists. Following this, the chapter explores role model theory and the impacts of role models as well as entrepreneurial career intentions. Finally the chapter concludes by examining self-efficacy and in particular entrepreneurial self-efficacy.

Chapter Three – Research Methodology
Chapter Three presents the research philosophy and methodology used in this particular research. The chapter begins by discussing the philosophy of research design, the reasoning behind the methods used as well as the various approaches used in this research. The reasons why a grounded theory method is most appropriate for this study are outlined as well as the appropriateness of semi structured questionnaires and the use of the repertory grid technique as the primary data collection tools. The latter half of the chapter focuses on the selection of respondents, outlines the data collection process and describes the data analysis techniques applied in this study.

Chapter Four – Findings and Analysis
Chapter four presents the main findings and analysis arising from the 125 questionnaires and repertory grids in five key thematic areas. The first part of the chapter explores the exploratory and pilot studies conducted by the researcher prior to the main study.
The chapter continues by presenting the findings of the main study and their subsequent effect on entrepreneurship and particularly on entrepreneurship education. The chapter concludes with a summary of the key findings of the study.

**Chapter Five - Discussion**
Chapter five summarises the key findings and how they contribute to the existing literature. The chapter highlights the particular factors that are having the strongest impact on the respondents and illustrates how entrepreneurship education can respond to the challenges and opportunities presented by these factors. The analysis and interpretation of the data acquired from this study resulted in the creation of a conceptual model which illustrates the key factors which influence entrepreneurship education. The model presented in chapter five explains how the entrepreneurship education process can be improved and enhanced by the key enablers.

The model proposes that entrepreneurship education should include the use of role models which will increase the self-efficacy of the students (particularly female students), which will in turn increase entrepreneurial intentions, which will feed back into the entrepreneurship education system in the form of role models.

**Chapter Six – Conclusion**
Chapter six draws general conclusions from the research findings and discusses the key implications for entrepreneurship education. The main contributions of the study are outlined. The chapter concludes by outlining some recommendations for practice and policy, the limitations of the study and suggests areas for future research.
Chapter 1: Introduction
Background to the Research
Rationale for the Study
Methodological Approach

Chapter 2:
Review of the Literature
Provides an overview of the existing literature and conceptual model

Chapter 3: Methodology
Research design, methodology, sampling and analysis.

Chapter 4: Findings and Analysis

Chapter 5
Discussion

Chapter 6: Conclusions
Research contributions, limitations and directions for future research.

Figure 1.6 Thesis Structure
2 Literature Review

2.1 Introduction

Chapter One set the context for this study by outlining the most significant areas in entrepreneurship both in Ireland and in Europe. Chapter Two aims to build on this by outlining the history and development of Ireland’s entrepreneurship education system as well as exploring the literature on role models, gender, entrepreneurial self-efficacy and career intentions. The main purpose of the literature review is to provide a background for the study, mainly to highlight the areas of relevance to this research study. The researcher also looked at previous studies in the key areas of entrepreneurship which were relevant to this area of research.

‘This was in order to scope out the key data collection requirements for the primary research to be conducted, and it formed part of the emergent research design process’ (Denscombe, 1998, p. 217).

The researcher’s approach was in line with current practice in grounded research theory.

‘It is now regarded as acceptable for researchers to familiarise themselves with existing research prior to collecting their own data’ (Easterby-Smith, Thorpe, and Lowe, 2002, p. 46-47), ‘even though this does contradict the methodology of original grounded theory’ (Glaser and Strauss, 1967, p. 215).

This is discussed further in the methodology chapter (chapter 3).

2.2 Definitions of Entrepreneurship

Despite a number of research studies, the definition of entrepreneurship generates a lot of debate (Low, 2001).

According to GEM the definition of entrepreneurship - is as follows:

‘Any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business’. (Reynolds et al., 1999, p. 3)
Melicher (2009, p. 7) defined entrepreneurship as:

‘The process of changing ideas into commercial opportunities and creating value’.

Hisrich, Peters and Shepherd (2007, p. 8) define entrepreneurship as:

‘Entrepreneurship is creating something new with value by devoting the necessary time and effort, assuming the accompanying financial, psychic, and social risks, and receiving the resulting rewards of monetary and personal satisfaction and independence’.

Despite the growing interest in entrepreneurship, there remains considerable confusion over exactly what is involved in the process (Stokes, Wilson and Mador, 2010). There does however seem to be an agreement between these definitions which is that entrepreneurship is the emergence and growth of new businesses. These definitions also mention terms such as risk taking and innovation which are commonly used to define an entrepreneur (Gartner, 1990; Carland et al., 1984; Chell, 2007).

Nieman and Nieuwenhuizen, (2009, p. 9) defined an entrepreneur:

‘As a person who sees an opportunity in the market, gathers resources, and creates and grows a business venture to meet these needs’.

Stokes, Wilson and Mador (2010, p. 34) defined an entrepreneur as:

‘An individual (or group of individuals) who act(s) as principal mediator of the process of change described through undertaking a specific project based on an opportunity that requires the implementation of a new idea (or ideas).’
An entrepreneur is described as:

‘An enterprising individual has a positive, flexible and adaptable disposition towards change, seeing it as normal, and as an opportunity rather than a problem. To see change in this way, an enterprising individual has a security borne of self-confidence, and is at ease when dealing with insecurity, risks, difficulty, and the unknown. An enterprising individual has the capacity to initiate creative ideas, and develop them, either individually or in collaboration with others, and see them through into action in a determined manner. An enterprising individual is able, even anxious, to take responsibility, and is an effective communicator, negotiator, influencer, planner and organiser. An enterprising individual is active, confident and purposeful, not passive, uncertain and dependent’ (Ball, 1989, pg. 36).

While this particular description fits well with both the entrepreneur and entrepreneurship they can be differentiated by the creation of a business venture (Caird, 1991; Sewell and Dacre Pool, 2010). The individual can be entrepreneurial but an entrepreneur is actually creating a business (Cromie, 2000). This distinction between an entrepreneur and entrepreneurship is important because a student studying entrepreneurship can display entrepreneurial characteristics but until they actually set up a business they cannot be described as an entrepreneur (Wagner, 2006).
2.3 Development and History of Entrepreneurship

The term ‘entrepreneur’ originated in France, and is derived from the verb *entreprendre* (which means to undertake). Richard Cantillon, the Irish economist, is credited with first use of the term in published literature in the year 1755, describing a person who worked at his own risk to make a profit (Long, 1983; Hebert and Link, 1989; Landström and Benner, 2010).

The below table outlines the history of entrepreneurship beginning with the first notable trading between people in 1700 BC.
### Table 2.1 History of Entrepreneurship (Source: Author)

<table>
<thead>
<tr>
<th>Era</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1700 BC</td>
<td>The first notable trading between people took place. Tribes would trade goods from different parts of their regions to provide for their families.</td>
</tr>
<tr>
<td>Agricultural Revolution</td>
<td>A shift in entrepreneurship—populations could remain in one location (towns and villages) and farm the land. Before the introduction of money, communities could trade valuable goods for food (the barter system). These were the earliest known entrepreneurs.</td>
</tr>
<tr>
<td>Medieval period (5th to the 15th century)</td>
<td>Markets became more popular. Larger populations required larger marketplaces where they could purchase food and other goods and services.</td>
</tr>
<tr>
<td>The Industrial Revolution</td>
<td>Entrepreneurship moved from small-scale production in towns to large-scale production in cities.</td>
</tr>
<tr>
<td>Post World War Two</td>
<td>Economy was becoming increasingly more global. Large corporations such as McDonalds and IBM, began their journeys.</td>
</tr>
<tr>
<td>1940’s and 1950’s</td>
<td>Business historians pioneered the study of entrepreneurship (Wadhwani and Jones, 2006).</td>
</tr>
<tr>
<td>1980’s</td>
<td>Since the 1980s, entrepreneurship has emerged as a topic of growing interest particularly in business schools (Cooper, 1992).</td>
</tr>
</tbody>
</table>

#### 2.4 Defining Entrepreneurship Education

Entrepreneurship education includes all activities aiming to foster entrepreneurial mindsets, attitudes and skills such as idea generation, growth and innovation (Fayolle and Gailly, 2008). Entrepreneurship education was pioneered by Shigeru Fijii, who started teaching the subject in the year 1938 at Kobe University in Japan (Dana, 1992).
In 1947 Myles Mace introduced the first course in entrepreneurship in the United States at Harvard Business School (Dana, 1992). Since its emergence in the United States entrepreneurship education and training has spread internationally (Solomon, Weaver and Fernald, 1994; Rasmussen and Sørheim, 2006). It forms part of many business school curriculums (Rasmussen and Sørheim, 2006, Cooney and Murray, 2008). Since the first entrepreneurship course in 1947 more than seventy years later there are various entrepreneurship programmes and courses available to millions of students across the world. In fact an entire infrastructure of entrepreneurship courses, programmes and incubation centres have emerged (Bechard and Gregoire, 2005). However the majority of this education and training is centred on adult learning and not focused on younger people. Like any other career pathway it would make sense that if you want to become an entrepreneur firstly you must learn “how”.

‘Education is now regarded as a central plank in the economic, social and cultural development of Irish society. Governments and the social partners view it as strategically interlinked with national planning. The European Union recognises, that the provision of high-quality education and training is central to the creation of a high-skills, knowledgeable and innovation-based economy’ (Department of Education and Science, 2004, pg. 5).

One of the areas in which entrepreneurship has been notably discussed is in the education sector however the majority of the focus has been on training more so than specific entrepreneurship education (Hynes, 1996).

The goal of entrepreneurship education is to make changes in society via changes in individual behaviour (Pittaway and Cope, 2007a). There is a lack of sufficient research that seeks to fully understand the role entrepreneurship education plays in the development and growth of entrepreneurial students. Baumel cites in Griffiths et al, (2012) that it is still largely unknown what works and what doesn’t work when teaching entrepreneurship to students.

Conflicting sides of schools of thought, and a lack of a common definition of entrepreneurship education has been found (Sexton and Bowman, 1984). Various authors have used the terms entrepreneurship education, enterprise education and entrepreneurial education within academic literature (Solas, 2016). This can affect educational objectives and outcomes as well as course design, teaching methods and student assessment procedures.
The EU Expert Group Report on Entrepreneurship in Vocational Education and Training stated that:

‘Entrepreneurship education should not be confused with general business or economic studies, as its goal is to promote creativity, innovation and self-employment. Programmes qualify as education for entrepreneurship if they include at least two of the following elements:

- Developing those personal attributes and generally applicable (horizontal) skills that form the basis of an entrepreneurial mindset and behaviour;
- Raising students’ awareness of self-employment and entrepreneurship as possible career options;
- Work on practical enterprise projects and activities, for instance students running mini-companies;
- Providing specific business skills and knowledge of how to start and successfully run a company.’


The above definition shows that, in addition to knowledge and skills, attitudes are also a feature of entrepreneurship education. Because of the confusion attaching to the broad definitions of entrepreneurship, there has been a lack of consensus on a common definition of entrepreneurship education which has led to a variety of approaches to entrepreneurship education (Solas, 2016).
2.4.1 The Benefits of Entrepreneurship Education

‘Entrepreneurship education is likely to be a significant contributor to the improved quality of graduate startups, as well as societal and intellectual attitudes to entrepreneurship, in the longer term’ (Galloway and Browne, 2002, p. 398)

According to evidence from the European Commission, entrepreneurship education positively impacts on local economies (British Council, 2017). Whilst governments cannot create entrepreneurs, they can create suitable environments for people to create and expand businesses (Innovation Task Force, 2010). This would require policies conducive to new ventures, appropriate taxes and regulations; supply of finance; relevant education; and research and development (O’Connor, Fenton and Barry, 2012). The benefits of entrepreneurship education are multifaceted (Irish Examiner, 2012). In an interview with Business and Finance, CEO of Junior Achievement Ireland, Helen Raftery stated that:

‘There is a growing body of evidence which shows that students who partake in entrepreneurship education show improved academic performance, attendance, educational achievement, have increased problem solving and decision making skills, have improved interpersonal relationships, teamwork skills, money management, public speaking skills, are more likely to find employment and have enhanced social psychological development’ (Raftery, 2017).

A study conducted by (Paço, Arminda and Palinhas, 2011) showed the importance of entrepreneurship education for children to increase and develop important characteristics crucial for those who wish to pursue entrepreneurship in the future. Entrepreneurial skills are more easily developed in the early years of life (Rosendahl-Huber, Sloof and Van Praag, 2012). This highlights the need to embed entrepreneurship education early in the education system.

Entrepreneurship education should aim to increase creativity, innovative thinking and instil the idea of self-employment as a solid career choice for students (European Commission, 2008). The most common reason that researchers and educators often promote entrepreneurial education is that entrepreneurship is seen as a major engine for economic growth and job creation (Wong et al., 2005).
As discussed in chapter one, organisations and society require people to be more equipped with entrepreneurial competencies, for example intrapreneurship, acting like an entrepreneur but from within a large organisation (Gibb, 2002). Twenty first century companies welcome the idea of allowing their employees to become intrapreneurs and capitalise on new business ideas from within their organisation. These ideas come from in-house programs, for example Google's famous "20% program", where employees pitch ideas directly to management. Entrepreneurship education should be addressed at all levels of education. In order to develop efficient educational programmes and courses it is necessary to understand the overall situation which makes students interested in following entrepreneurial paths.

2.4.2 Entrepreneurship Education in Ireland

The European Commission notes that ‘the primary purpose of entrepreneurship education is to develop entrepreneurial capacities and mind-sets (European Commission, 2008). The past number of decades have witnessed a rapid increase in entrepreneurship education with numerous courses available at all levels of education, from primary school to university (Blenker et al., 2011). However even as early as 25 years ago, numerous researchers (Sexton and Bowman, 1984; Vesper et al, 1989) highlighted the confusing number of approaches to entrepreneurship education. In light of this a fundamental question has arisen among researchers in entrepreneurship education: what is entrepreneurship education? Attempts to answer this question have led to many studies laying out the current approach to entrepreneurship education at different educational levels and how it could be improved. There is empirical evidence to demonstrate that Entrepreneurship education (EE) can generate more entrepreneurial activity (Brockhaus, 1993; Matlay, 2007b; Carey and Matlay, 2007; Potter, 2008; Nabi, Holden and Walmsley, 2008).

In a number of European countries (eg. Denmark, Estonia, Lithuania, the Netherlands, Sweden, Norway, Wales and parts of Belgium) specific strategies have been introduced to promote entrepreneurship education (Entrepreneurship Education at School in Europe, 2012). The EU Commissions Entrepreneurship Education at School in Europe report in 2012 noted that there is no specific national strategy for Ireland in entrepreneurship education in general education. Ireland has recognised that there is a need for an overall national strategy and there are a number of ongoing initiatives, the most recent being the National Policy Statement on Entrepreneurship in Ireland 2014 and the establishment of The Entrepreneurship Forum in May 2013.
This forum was set up to advise the Minister for Jobs, Enterprise and Innovation on policy in the area of entrepreneurship and to draft appropriate policy conclusions and recommendations which will support business start-ups.

According to the Entrepreneurship Forum Report in order to increase the numbers of people choosing an entrepreneurial career path, then this potential career path must be inspired from a young age within the education system (primary school level). The Forum recognises that there are many initiatives currently being undertaken to enhance entrepreneurship education and skills development in Ireland, but they still remain highly fragmented. EU and OECD reports over the past decade have repeatedly highlighted the lack of a coherent strategy for these activities.

The Goodbody Report in 2002 stated that the Irish educational system does not encourage the idea of being self-employed and that entrepreneurs have noted the education system to have played a very limited role in supporting their future entrepreneurship career intentions (Cooney and Murray, 2008). A previous GEM report (GEM, 2007) recommended that in order to foster a new entrepreneurial culture in Ireland there needs to be a clear strategy for entrepreneurship education across the entire education system. Enhancing creativity and innovation, including entrepreneurship, at all levels of education must be part of the future of education in Ireland (Entrepreneurship Education in Ireland: Towards Creating the Entrepreneurial Graduate, 2009).

According to the Department of Business, Enterprise and Innovation at present in Primary schools in Ireland, entrepreneurship education is incorporated directly as part of discretionary curriculum time. This means it is often carried out through extra-curricular activities (drama, art) and there is no dedicated entrepreneurship education subject as such. For example extra-curricular resources such as the Junior Entrepreneur Programme, Junior Achievement Ireland and Bizworld Ireland can prove successful however this success often depends on assistance from Local Enterprise Boards and is up to the discretion of each individual school and teachers. Numerous reports have highlighted that Ireland's approach to entrepreneurship education does not meet the needs of the students (Garavan, Birdthistle, Cinneide, Barra and Collet, 2011).
At second level there is slightly more emphasis on entrepreneurship education than at primary level, however this is still somewhat minimal. Enterprise modules are currently offered for the Leaving Certificate Applied, Leaving Certificate Vocational programme as well as in Transition Year (Get up and Go Mini Company Programme which, should be noted, only has a 50% school participation rate). For the mainstream second level students, the exposure to entrepreneurship is mainly provided by the Junior Certificate and the Leaving Certificate ‘Business’ subjects in the form of theory. For both subjects entrepreneurship forms only one part of a large drawn out learning syllabus. There is the option of activities and competitions outside of school hours for interested students which are supported by City and County Enterprise Boards for example, The Student Enterprise Programme, Young Entrepreneur Programme and the BT Young Scientist exhibition and bootcamp. There is however more emphasis on Science, Technology, Engineering and Mathematics (STEM) for the BT programmes. A lack of dedicated entrepreneurship subjects and practical activities is also evident at second level.

Ireland has seven universities, fourteen institutes of technology, seven colleges of education and one Technological University (Government of Ireland, 2020). It is predicted that student numbers at third level will grow by nearly 30% over the next 15 years, from a current number of 215,000 (HEInnovate Ireland, 2017). To encourage entrepreneurship amongst the student body, entrepreneurship education is often discussed at policy level (Goodbody Report, 2002; Fitzsimons and O’Gorman, 2005; Cooney and Murray, 2008; Forfás Ireland, 2010; Hunt, 2011; O’Gorman and Fitzsimons, 2012; National Policy Report on Entrepreneurship in Ireland, 2014; HEA, 2015). Increasingly, it is recognised that skills and competencies related to enterprise and innovation are of benefit to graduates. In 2009, 42% of Irish third level institutions highlighted entrepreneurship in their mission statement, and 58%, reported institute-wide entrepreneurship related policies (for example ACE, 2009). A recent review of these policies show the majority of these are now in place (See Figure 2.1). (HEI Innovate Ireland, 2017). The majority of institutes concentrate on delivering entrepreneurship at undergraduate level, and through specialised taught postgraduate programmes (HEI Innovate Ireland, 2017).
In a report presented by (Cooney and Murray, 2008) on Entrepreneurship Education in the Third Level Sector in Ireland it was found that Entrepreneurship Education was becoming increasingly available to students at third-level in Ireland.

A survey was carried out in 2008 by the National Centre for Guidance in Education (NCGE) of Entrepreneurship Education in higher education. It revealed an Irish Student Engagement Rate (SER) of just 12% (the percentage of students enrolled who engage in some form of Entrepreneurship Education). The figures for the UK and EU were 16% and 24%. Another important Higher Education survey, carried out by the Accelerating Campus Entrepreneurship (ACE) of Higher Education Institutions (HEIs) in 2008, found that the absence of an Entrepreneurship Education strategy in HEIs was leading to a lack of communication about the existing entrepreneurship supports available resulting in graduates missing out on the opportunity to progress their business ideas forward in the future.

In a report launched in October 2017 by the OECD and the European Commission on “Supporting Entrepreneurship and Innovation in Higher Education in Ireland” it shows that HEIs are playing a fundamental role in fostering entrepreneurial career paths for their students—85% offer entrepreneurship education activities and 80% targeted start-up support measures. This is an improvement on the situation from 2008.
However it was found that there is a gap for students in terms of start-up support. All of the surveyed HEIs reported to offer entrepreneurship education activities for their students, only less than half of the universities and two-thirds of the IOTs reported to offer start-up support for students (OECD, 2017). These studies have revealed that while there is an increase in Entrepreneurship Education in Ireland most third level education institutions are still not meeting the standards in entrepreneurship education in comparison to other EU countries.

2.4.3 Entrepreneurship Education in Europe

‘If Ireland wants to have a best-in-class start-up ecosystem, then entrepreneurship needs to be taught in schools from a young age (primary school level)’. (Silicon Republic, April 2019)

This is one of the insights to emerge from an article by Silicon Republic published in April 2019. The article discusses ‘Project I’, which assessed Ireland’s start-up ecosystem and compared it with the best in the world. The focus of the article was to identify how Ireland can position itself at the forefront of global start-up innovation and sustain that position over the coming decades. The article outlines the five stages in the evolution of successful start-up businesses: ‘education, early-stage funding, acceleration, venture funding, and growth and exit’ (Silicon Republic, 2019).

The 2016 Amway Global Entrepreneurship Report, (AGER) explores the role education plays in creating the entrepreneurs of the future. The AGER provides representative results for 38 countries from every continent around the world on the general public’s opinions of entrepreneurship.
The key findings for Ireland in which are significant for use in this research are as follows:

- Irish respondents believe that entrepreneurship can be taught (56%) rather than entrepreneurs are born (28%).
- Only 43% of the survey respondents perceived the existing offer of entrepreneurship education as satisfactory; only 11% stated that the offer is sufficient.
- Only 23% of respondents state having participated in at least one entrepreneurship education activity. This raises the question why so few people in the countries surveyed participate in entrepreneurship education.
- The respondents clearly see schools and universities as being responsible for entrepreneurship education.
- Respondents are clear that schools are seen as the most important place for delivering and experiencing entrepreneurial knowledge.

There are a number of European countries similar in size to Ireland such as Norway, Finland, Denmark and Scotland who have long recognised the importance of implementing an entrepreneurship education strategy. Denmark was one of the first countries to recognise the importance of entrepreneurship education having implemented their first entrepreneurship strategy in 1995. These countries have successfully addressed the challenge of developing entrepreneurship education by introducing procedures and policies that all students receive some form of entrepreneurship education throughout their schooling years. These countries have put together action plans specifically for entrepreneurship education, appointed entrepreneurship steering groups to ensure that the action plans are implemented correctly, and have also involved relevant government departments as part of their action plans.

Another example of a country taking positive action in entrepreneurship education is Spain. In Spain new legal rules have been brought in by the “Entrepreneur’s Act” where promoting entrepreneurial culture from the classroom is established legislatively.

In 2006 the EU Conference on ‘Entrepreneurship Education in Europe: Fostering Entrepreneurial Mind-sets through Education and Learning’ outlined a comprehensive range of possible actions that could be taken for the development of an entrepreneurship education strategy. Also in 2006 the European Parliament and the Council recommended a number of key competences one of which was ‘a sense of initiative and entrepreneurship’.
However, to date the Irish response to these recommendations has not been proactive and there has been no action taken. According to Minniti, Arenius and Langowitz (2003), whether the performance of entrepreneurship education is effective or not, depends mostly on the underlying strategy and how effectively it is implemented. Governments are responsible for addressing factors such as education and training.

2.5 Gender and Entrepreneurship

In the developed world there are more females at university than males however only a small number of graduate entrepreneurs are female (Leathwood and Read, 2009; Martinez et al., 2007). Minniti and Bygrave (2005) argue that males are 75 percent more likely than women to become active entrepreneurs in middle-income nations, whereby the percentage age goes down to 33 percent in high-income countries and 41 percent in low-income countries. Sieger, Fueglistaller and Zellweger (2016) noted a significant ‘gender gap’ in university students whereby females were found to have weaker intentions for entrepreneurship, than males. Considering the GUESSS (Global University Entrepreneurial Spirit Students) 2016 results within Ireland, Clinton and Lyons (2016) found that 41.8 percent of males had intentions to start a company 5 years after graduation, compared to a female rate of 30.5 percent (global average was 46.8 percent males to 43.3 percent females). This shows that Ireland are actually well below the global average for both males and females when it comes to entrepreneurial intentions.

In Ireland females are less often self-employed (Bird and Brush, 2002). Entrepreneurship is thought of as a more masculine activity, which is often quickly discounted by females (Ahl, 2006; Gupta et al., 2009). (Bird and Brush, 2002) consider gender perspective as an unconscious factor that shapes values and behaviors.
In an article by Francis Nwokike in 2019 entitled Who Is An Entrepreneur? he states that according to Forbes, here are a list of the great entrepreneurs of our time;

1. Bill Gates – Microsoft
2. Larry Page and Sergey Brin – Google
3. Mark Zuckerberg – Facebook
4. Michael Bloomberg – Bloomberg
5. Masayoshi Son – SoftBank
6. Elon Musk – SpaceX
7. Terry Gou – Hon Hai Precision Industry
8. Larry Elison – Oracle
9. Robin Li – Baidu
10. Aliko Dangote – Dangote Group
11. Reid Hoffman – Venture Capitalist
12. Mo Ibrahim – Mo Ibrahim

Whilst reading through this list the researcher discovered that all twelve of these entrepreneurs are men. Prior studies of entrepreneurship have examined how entrepreneurs are portrayed in society (Nicholson and Anderson, 2005), as male or female (Pettersson, 2004). Entrepreneurship has predominantly been associated with males through the media and it has even been claimed that entrepreneurship requires high levels of testosterone (Nicolaou, 2017). This association of entrepreneurship with masculinity can have serious implications for those considering entrepreneurship who do not fit the ideal image of the male entrepreneur—particularly females. Psychological research has shown that even when we know stereotypes are inaccurate, they still affect an individual’s future decisions (Hinton, 2017).

For females who do decide to engage in entrepreneurship they immediately position themselves within a separate category with their own label—female entrepreneurs. Classifying entrepreneurship in such a way basically confirms to females that there are “entrepreneurs” and separate to that “female entrepreneurs”. It wouldn’t be an everyday occurrence for a man to refer to himself as a “male entrepreneur” or “manpreneur”. So why do we even have these classifications of entrepreneurship at all? Can entrepreneurship not just be called entrepreneurship, can entrepreneurs not just refer to themselves as entrepreneurs regardless of their gender?
Providing entrepreneurial education at an early age is particularly important in order to prevent the entrepreneurial career option from being discounted by females. (Wilson, Kickul and Marlino, 2007). Findings suggest that providing access to entrepreneurship education is especially important in fuelling the pipeline of aspiring female entrepreneurs, because of the strong role education plays in raising their levels of self-efficacy, and ultimately their interest in starting their own businesses in the future (Wilson, Kickul and Marlino, 2007). This is consistent with other research that suggests that the lower observed gender gap between women and men’s participation rates in entrepreneurship in the United States (versus other countries) is a result of targeted entrepreneurial educational programs for women (Minnitti and Bygrave, 2005). Female entrepreneurs in the US lead the world in the amount of businesses they start every year with an average launch rate twice that of other countries. An article by Business Insider (2017), outlines that every day in the United States, females start about 849 new businesses. And over the last 20 years, the number of female-owned businesses has increased by 114 percent.

2.6 Entrepreneurial Characteristics

A European Commission report conducted in 2011 found that almost three-quarters of Irish young would-be entrepreneurs are too afraid of failing to start their own business. Some researchers suggest that the entrepreneurial drive is a trait or characteristic acquired at birth, while others believe that anyone and everyone can become an entrepreneur and that it can be “learned” (OECD, 2012). Whether a person is born to it or develops it, it is a common belief that entrepreneurs possess certain characteristics.

One such opinion was expressed by psychologist Alan Jacobwitz in 1982. In a study that was conducted using interviews of over 500 entrepreneurs Jacobwitz found that there were certain common characteristics that entrepreneurs possessed. For example that entrepreneurs tend to strive for perfection, be independent, look for new challenges, and also tend to have very high self-confidence (Cohen, 1980).

There has been additional research conducted to suggest that there may be other factors that foster entrepreneurship. Entrepreneurs may be influenced by perceptions, values, background and environment (Krueger, and Brazeal, 1994) The choice to be an entrepreneur may be influenced by an individual’s characteristics, the environment they are operating in, their goals and whether or not they have a valid business idea in the first place (Krueger and Brazeal, 1994). Entrepreneurs are also thought to be risk takers.
Research shows that entrepreneurs are better at determining risk, what the reward will be (often monetary) and are able to manage the uncertainties associated with risk. The ability to take risks is a primary characteristic of the entrepreneur (Timmons, 1978).

If a person was ever wondering if they have what it takes to become an entrepreneur one of the most common ways to answer this question is to examine a cross-section of successful entrepreneurs and see how many characteristics they might share with them or what they might have in common with them. In the year 2020 this may be done by going online and conducting some research of their own. While this exercise isn't necessarily the best way to address such a question it can reveal some important factors that might contribute to their success or failure. This may be particularly true for the latest Generation Z. Gen Z are unique in that they have never known life without digital technologies like smartphones and social media so this may very well be how they access information and answer their questions. To address this common question the researcher Googled “Characteristics of an Entrepreneur”. The very first link was to an article written by David Cummins on the “7 Characteristics of Successful Entrepreneurs”. The article stated the following characteristics as being key-forward looking, hardworking, passionate, opinionated, confident, resourceful and positive. Are these the only characteristics one might possess in order to be a successful entrepreneur?

In an article published in the online journal PLoS ONE in 2012, Italian psychologist Marco Del Giudice and his team compared the personality traits of males and females in a sample of over ten thousand people. They found that women scored much higher than the men in traits such as sensitivity, warmth, and apprehension, while men scored higher than women in emotional stability, dominance, rule-consciousness, and vigilance. When many personality traits were considered simultaneously, there was only a 10% overlap between the distributions of these traits in men and women.

2.5.1 The Impact of Gender Difference on Entrepreneurship

‘Men are from Mars, Women are from Venus’- many years of research have established that males and females are very different not just physically but psychologically. Gender differences in entrepreneurship have been researched for many years. There are two scientific perspectives addressing the reasons for these gender differences: biological determinism and differential socialisation (Kimmel, 2000). According to the first perspective, gender differences are as a result of biological differences between men and women, such as differences in the brain and hormones (Kimmel, 2000).
The second perspective implies that differences in attitudes, psychological characteristics, and behaviours are due to differential socialisation (treating people differently based on societal beliefs about the roles they will hold in society) (Kimmel, 2000).

A growing number of studies consider significant gender differences between how men and women start and run businesses, have different experiences and backgrounds, aim at different goals, and structure their businesses differently (Verheul et al., 2006). A variety of factors contribute to explaining differences in entrepreneurial behaviour across genders and these differences have significant implications. There is significant empirical evidence which shows that these differences certainly do exist.

Institutional theory (North, 1990) is a useful theoretical perspective for understanding gender differences in entrepreneurship (Ahl, 2006). (North, 1990) distinguishes between formal and informal institutions, informal institutions comprise of codes of conduct and behavioural norms, while formal institutions include political and economic rules. In the case of female entrepreneurship, formal institutions are the laws for gender equality and regulations against gender-based discrimination, tax regulations, etc. Informal institutions are more to do with the attitudes and beliefs about the roles of women in society. These may also influence female entrepreneurship (North, 1990). Men and women's roles in society have been changing for many years now. Traditionally, men have worked outside the home and earned the money that the family needs to live (the sole breadwinner). They held some of the most powerful jobs in society, while women, on the other hand, took charge of running the home and raised the children. If they did work, it was in a stereotypically ‘gendered’ job for example teaching or nursing.

The tendencies of women to start a business may differ from that of men for cultural reasons. The businesses owned and managed by men and women are also different. There is a common conclusion among a number of researchers that female-owned businesses are concentrated in service and retail sectors (Coleman, 2002). Most often these sectors have low entry barriers, low profit margins, and high competition (Verheul and Thurik, 2001). As a result, several studies on multiple nations revealed that female entrepreneurs are less successful in terms of having lower sales figures, slower business growth, and lower profits (Brush, Carter, Gatewood, Greene, and Hart, 2006; Welter, Smallbone, and Isakova, 2006).
Compared to male entrepreneurs, female entrepreneurs are less likely to look for start-up capital, find it more difficult to obtain financial support (Buttner, 2001; Carter, 2000; Coleman, 2002), have less financial capital and human capital invested in their start-ups (Boden and Nucci, 2000; Carter, Williams, and Reynolds, 1997), have less access to business clients (Bates, 2002), and are charged higher interest rates by financial institutions (Fraser, 2005; Riding and Swift, 1990). Many business sectors remain dominated by males which presents a challenge to female entrepreneurs (Godwin et al., 2006). Females tend to be motivated by necessity rather than opportunity, have less confidence in their capabilities to start a business and have a higher fear of failure (Brush, Carter, Gatewood, Greene, and Hart, 2006). Lower perceptions of capabilities to start a business and fear of failure may be culturally explained as entrepreneurship in many countries and industry sectors is male-dominated and there are less role models (Brush et al., 2006).

This coincides with other male dominated areas for example in politics where women also lack role models and are attempting to break a gender barrier (Brush, 2013). The introduction of gender quota legislation before the 2016 General Elections did produce an increase of 6.5 percent in female representation in those elections. However in 2020 less than a quarter of TDs in the 33rd Dail are female.

Implementing equal opportunities for males and females and for gender equality is an important issue in the global economy. According to Galinsky, 2018, the gap is quite large in countries such as Turkey and Korea, and average in the United States. However, in countries like Norway and Sweden it practically disappears. And in Iceland, women actually outperform men. Galinsky also found that ‘more equal treatment of women is associated with more equal treatment of many different types of people’.

According to Carter (2000) and Startien and Remeikien (2008), gender differences in the business environment remain an issue at a global level, but for Europe in particular.
2.5.2 Gender Roles and Stereotypes

Society expects males and females to fulfil specific gender roles and stereotypes. People are bombarded with gender stereotypes from the day they are born. Once a newborn baby’s sex is revealed, they are dressed in either blue or pink, ‘given gifts of trucks and guns or dolls and play kitchens, and referred to as strong or cute’ (Malszecki and Cavar, 2005, p.161; Zimmerman and Reaville, 1998, p.41). Actions and ideas such as these are only the first of many gender stereotypes that a new child will encounter throughout their lifetime. Males are expected to demonstrate certain characteristics and behaviours that are “masculine”, while females are expected to be “feminine”.

‘Entrepreneurship generally holds a positive image in much of scholarship and mass media’ (Ahl and Marlow 2012, p. 544), as it is seen as a largely economic activity where competencies and skills are evaluated free from ‘preconceptions and prejudices’ based on gender’ (Heilman and Chen 2003, p. 360).

This view of entrepreneurship is appealing, but unfortunately far from the truth (Brush, de Bruin, and Welter 2009). Gender stereotypes have profound implications for men and women interested in becoming entrepreneurs (Marlow 2002; Shinnar, Giacomin, and Janssen 2012). Despite widespread academic interest in gender and entrepreneurship (e.g., Gupta, Turban, and Bhawe 2008; Santos, Roomi, and Linan 2016) stereotypes associated with different types of entrepreneurs have not received much attention. According to the European Institute of Gender Equality (EIGE) 2015 Glossary and Thesaurus, gender equality is defined as ‘preconceived ideas whereby females and males are arbitrarily assigned characteristics and roles determined and limited by their gender’.

According to many sources, perceived gender roles form the bases for the development of gender identity. Gender roles are ‘socially and culturally defined prescriptions and beliefs about the behaviour and emotions of men and women’ (Anselmi and Law 1998, p. 195). Gender role theory states that individuals within similar cultural backgrounds will have common expectations when it comes to appropriate conduct for males and females (Eagly, 1987). The EIGE also note how gender stereotyping can limit the development of natural abilities of men and women. Difficulty in business start-ups for females may stem from the gender stereotypes against women (Marlow and Patton, 2005). Several studies have demonstrated that these gender role stereotype influence men’s and women’s intention to pursue an entrepreneurial career (Fagenson and Marcus, 1991; Gupta, Turban, and Bhawe, 2008).
Entrepreneurship and the traits associated with setting up a business are commonly referred to as male characteristics (Heilman, 2001). Traits such as independence and risk-taking are frequently associated with men (Gupta et al., 2009). Gender role stereotypes leads to the categorisation of occupations as either masculine or feminine (Heilman, 1983). Heilman (1983) states that individuals aspire to enter into occupations which are acceptable by their peers for their specific gender. It has been noted that men have several advantages over women in occupational status (Verheul and Thurik, 2001). Entrepreneurship is often considered a male occupation and inconsistent with female gender roles (McAdam, 2018). The male-gendering of entrepreneurship is often depicted in the media where the advocates of entrepreneurship are most often men (Brush, 2013). This means that women do not fit the gender stereotype of a typical entrepreneur and they find it more difficult to start and maintain their own businesses (Brush, 2013). This means that these gender stereotypes in entrepreneurship may influence women’s decisions regarding the starting and the running of a business.

### 2.5.3 The Gender Gap

In 2010 187 million women in 59 economies worldwide started, managed and developed business ventures (Kelley, Brush, Green and Litovsky, 2013). However only in one of these 59 economies did more females participate in entrepreneurship than men. A clear gender gap in entrepreneurship exists (Verheul, Van Stel and Thurik, 2006) which means ‘that society loses out on the value that can be created by half its populace’ (Kelley, Brush, Greene and Litivsky, 2011, p5). Despite some progress in recent years toward narrowing the gender gap women have yet to reach equality with their male counterparts. This gender gap persists beyond entrepreneurial activity. There is a definite gender gap when it comes to men and women in leadership positions, particularly in the workplace. A recent study in 2018 at The University of Buffalo School of Management in New York looked back through 59 years of research which included 19,000 participants. They discovered that although the gender gap has narrowed in recent decades, it still persists. Men are still more likely than women to be perceived as leaders.
Part of the issue with females in leadership may stem from training programmes similar to the seminar given to Ernst and Young female executives in June 2018 entitled ‘Power-Presence-Purpose’. During a day and a half seminar on leadership and empowerment, the event focused on how women need to “fix” themselves to fit into a male-dominated workplace. At one point during the training the women were given a “Masculine/Feminine Score Sheet,” which had them rate their adherence to stereotypical masculine and feminine characteristics. The so-called masculine traits listed included “Acts as a Leader,” “Aggressive,” “Ambitious,” “Analytical,” “Has Leadership Abilities,” “Strong Personality” and “Willing to Take a Stand.” The so-called feminine traits included “Affectionate,” “Cheerful,” “Childlike,” “Compassionate,” “Gullible,” “Loves Children” and “Yielding.” None of the feminine traits involved leadership. The general message conveyed to women who attended the seminar according to Emily Peck (a senior reporter who covers business, economics and gender inequality at the Huffington Post) was ‘that women will be penalised, by both men and women, if they don’t adhere to feminine characteristics or if they display more masculine traits. And that if you want to be successful, you have to keep this in mind.’ If this is the information being portrayed to some of the top women in their field is it any wonder that leadership does not feature as a female quality. Ernst and Young have since said that the June 2018 event was the last time that version of the training was held at the company and that the course “is no longer offered in its current form.”

In the US in the year 2017, women made just 79 cents for every dollar earned by a man. In Ireland women are paid on average 13.9% less than males. Effectively this means that from the 11th of November 2019 until the end of the year 2019 women are working for free (The Irish Times, 2016).

We also know that women are underrepresented across many realms of society- politics, sport, and on boards of directors to name but a few. Research done at Harvard Business School found that investors funded male entrepreneurs at twice the rate of females. And a study conducted by Adam Galinsky in 2016 (currently the chair of the Management Division and Professor of Business at the Columbia Business School) of every election in the United States since women were given the right to vote in 1920, found that women are 36 percent less likely to be elected governor or US senator than men.
Research by Linda Babcock (2018) discussed in the Harvard Business Review has shown that women rarely negotiate for more pay when they receive a job offer. In one study, she found that men were four times more likely than women to have negotiated their first salary. In another study, she brought people into the lab, and gave people a task involving a word game. At the beginning, she told participants, “you’ll be paid anywhere from three to ten dollars,” but at the end she simply paid everyone three dollars. In response to receiving the very bottom of the promised range, some participants asked for more. And men were seven times as likely to do so as women. Galinsky suggests, that gender differences are not biological, but instead may be power differences. He suggests that when a person has a lot of power they have more leeway in what they can say or do in a situation. Power can come from the level of experience a person has, or from their position in society for example their occupation. In a study similar to Babcock’s, Galinksy brought a group of participants into a lab and randomly assigned them to a high-power or a low-power condition. The participants were told, “You’re the boss”. You control these resources,” or “you’re the subordinate. The boss is going to direct you.” They then looked at the likelihood that people felt comfortable negotiating and found, regardless of gender, people with the higher power felt more comfortable negotiating. Galinksy suggests that in order to address these long-standing gender disparities then society needs to give women more power. To enable and facilitate women gain opportunities in business, and in politics, and all realms of society. This in turn is producing more role models and changing perceptions in society. This leads back to the saying “if they can’t see it, they can’t be it”.

According to the World Economic Forum’s most recent Global Gender Gap report, across 106 countries, the biggest gaps to close are in the economic and political empowerment dimensions, which at current rates will take 202 and 107 years to close. Mueller (2013) acknowledges that research over the last decade has suggested the existence of the gender gap in entrepreneurial desire and intention to become an entrepreneur (Maes et al., 2014). The 2013 GEM Report examined the gender aspect of entrepreneurial activity in Ireland which showed a narrowing of the gender gap. The gender gap has narrowed but not because less men were early stage entrepreneurs.

It is widely known that there are significantly fewer women than men owning businesses across the globe. Policymakers and educators still have a significant amount of work to do.
Economic analysis by the World Bank, United Nations, World Economic Forum, Goldman Sachs and other organisations show a statistical correlation between gender equality and countries economic development. Government support, targeted programs, and efforts to build the skills and social networks of existing, adult female entrepreneurs won’t close the gender gap because it’s not the women starting businesses that policy makers need to reach. Eliminating the gap requires implementing educational programs that change stereotypes and perceptions towards entrepreneurship.

The recently released Gallup HOPE Report which is a new measure that will track “the hope, engagement, and well-being” of students for ten years across the United States shows these attitudes may be changing. Statistically a similar fraction of boys and girls reported planning to start their own business. If this pattern holds, the entrepreneurial gender gap should begin to shrink in the coming decades.

However, the current Covid 19 situation is a challenging time for entrepreneurs but particularly for female entrepreneurs whose lives have been more affected by the work life balance disruption. A United Nations study conducted in 2020 indicated that the pandemic could undo decades of advancement on gender equality and that the pandemic has actually increased gender inequalities. It is believed there will be a long-term impact on women’s work and home lives as a result of Covid 19.

2.6 The Next Generation of Entrepreneurs

Generation Z or Gen Z as they are often known, is the demographic of people born after the Millennials. Demographers typically use the mid-1990s to mid-2000s as birth years. Most of Generation Z have had the internet available to them for most of their lives and are comfortable with technology and digital media. Generation Z make up over 50% of the global population and almost 20% of the Irish population. This is the generation that is currently making its way through secondary school and dominating third-level. Generation-Z are more politically active, engaged and better connected than their predecessors.

According to one Gallup study conducted in 2011 representing 1721 students (10 to 17 years old) in the United States, nearly 8 in 10 students (77%) stated they wanted to be their own boss, 45% say they plan to start their own business, and 42% say they will invent something that will change the world.

The majority of students also demonstrated persistence and are willing to assume risk, both of which are qualities of entrepreneurs.
According to (Paquette, 2019) three factors are contributing to this entrepreneurial mind-set:

1. Since 2011, only 26 percent of teenagers are employed—a sharp decline from the 45 percent teen employment rate that was more typical from 1950 to 2000.
2. With the rise of peer-to-peer sites and apps, it has never been easier to monetise skills and knowledge. Online and mobile platforms enable teenagers to easily find freelance work and connect with potential customers such as Twitter, Instagram and TikTok.
3. Creating and promoting content has never been easier since the introduction of social media. YouTube, in particular, has caught the attention of innovative teenagers who are eager to share their expertise with the world- for example-beauty and sports bloggers. Big brands are also recognising the influence of these entrepreneurial teens on the general population.

### 2.7 Role Model Theory

Researchers have noted the importance of adults in young people’s lives, particularly citing adult role models who they may look up to as they are forming their identities. Although definitions of role models have varied, role models have traditionally been defined as adults to whom typically young people look up to and may desire to “be like”. While many have speculated on the significance of role models in development (Hurd, Wittrup, Zimmerman, 2016), few researchers have investigated their potential to influence outcomes such as entrepreneurial intentions (Hurd, Zimmerman, 2011). Yancey, Siegel, and McDaniel, (2002) studied role models and youth outcomes in a sample of 749 ethnically-diverse youth and found that adolescents with an identifiable role model received higher grades, had higher self-esteem, and reported stronger ethnic identity than their counterparts who lacked role models. Notably, they found that these effects were stronger if adolescents personally knew their role models.

Role models help individuals form judgments of their own capabilities through personal comparison (Cox, 2002). Existing empirical evidence on the effects of role models is rather limited (Abbasianchavari and Moritz, 2020).

Although the popular media frequently uses role models and the importance has been stressed by various scholars (Gibson, 2003; Bandura, 1997; Lockwood and Kunda, 1997), research specifically on role models in entrepreneurial activities remains scant.
In this research the focus is on how students perceive role models and who these role models might be. The definition of a role model used in this research is a description by (Morgenroth et al., 2015, pg. 468):

‘Individuals who influence (children’s, adolescents,’ and young adults’) achievements, motivation, and goals by acting as behavioral models, representations of the possible, and/or inspirations.’

The definition of a role model can be divided into two basic components, it is a combination of ‘role’ and ‘modelling’. Katz and Kahn (1978) define ‘roles’ as forms of behaviour and sets of activities. The idea of ‘modelling’ is defined by (Bandura, 1986, p. 47): ‘modelling is one of the most powerful ways of transmitting values, attitudes and models of reflection and action’ particularly if the individual identifies directly with the role model. According to Bandura, some role models are more effective than others for example individuals are more likely to be attracted to role models with whom they associate with. Also famous or well-known people who are admired, such as those who are physically attractive and popular also make for good role models. Certain types of media such as TV is also good at getting people’s attention (Bandura, 1977, 1986).

Social cognitive theory (Bandura, 1977; 1986) states that people are attracted to role models and individuals who can help them to better themselves by learning new skills (Gibson, 2004). It is assumed that people learn better in a social environment by observing others who perform well in an area in which they would like to excel at i.e. learning by example (Bosma, 2012). Consistent with these role and model aspects, the phenomenon of role models can be explained by theories of (role) identification and social learning (Gibson, 2003; 2004). Role identification can be seen as a cognitive response to an individual’s belief that the characteristics of another person (the model) are similar to their own (Kagan, 1958).

Individuals such as teachers, spouses, parents and peers may be considered as role models. According to the I Wish Survey in 2017, three of the top 4 reasons which influence young girls to pick a subject are directly related to the teacher. The influence of the teacher and school continues to be key.

People’s perceptions of who their role models are changes over time, young children up to the age of five tend to refer to their role models as being their parents or other family members (Glover, 1978).
At school going age, their perceptions of role models change from family members to their peers and teachers and as the child gets older their role models begin to change to people who are not necessarily in their everyday lives and include people like celebrities (French and Pena, 1991).

Although entrepreneurial role models have now become familiar in everyday society they have thus far only been studied to a limited extent (Bosma et al, 2011). This research attempts to fill this gap by discussing the role and input of role models for Generation Z and their potential role in the entrepreneurship education system.

### 2.7.1 Impacts of a Role Model

Referring to (Bosma et al, 2011 p. 2) a role model is ‘a common reference to individuals who set examples to be emulated by others and who may stimulate or inspire other individuals to make certain (career) decisions and achieve certain goals’.

This implies people will identify directly with people who they perceive to be inspirational and similar to them (Bell, 1970) and they will then observe their actions and behaviours to learn new skills and, in a way, begin to “act like them” (Bandura et al, 1961). Role models will provide motivation and inspiration mainly when the role model is perceived to be trustworthy, credible or an expert in their area (Gist and Mitchell, 1992).

*I think girls are not seeing role models —they’re seeing boys who are astronauts, boys who are engineers, they’re seeing boys who start Facebook or Google, they’re not seeing girls, it’s really hard to imagine yourself as something that you don’t see, particularly when you’re a child*

Chelsea Clinton (CNN, 2013).

The above quote from Chelsea Clinton states that a lack of role models is a key reason for the under-representation and negative stereotypes associated with people in positions of power. This appears to be most prevalent in discussions about the under-representation of girls and women in science, technology, engineering, and mathematics (STEM) (e.g., Bowman-Boyles, 2012; Edwards, 2014) and in leadership roles (e.g., Fraser, 2014; Pereira, 2012).
Bosma et al (2011) as well as works by Gibson (2004) and Nauta and Kokaly (2001) propose the four main functions that entrepreneurial role models may perform:

1) “Inspiration and motivation”- role models create awareness and motivate people to follow their dreams.
2) “Increasing an individual’s self-efficacy”- role models provide people with the confidence that it is possible to achieve their goal.
3) “Learning by example”- role models are seen as sources of guidelines to take action.
4) “Learning by support”- role models provide support, advice and guidance.

As Van Auken, H. et al. (2006) suggests; role models may enhance the desire to become an entrepreneur and the entrepreneurial self-efficacy of individuals.

2.7.2 Role Models in Entrepreneurship

Entrepreneurial role models are one of these factors, which can be found in a wide range of empirical studies (Clercq and Arenius, 2006; Chen et al., 1998; Crant, 1996; Krueger et al., 2000; Scherer et al., 1989). A number of research studies have acknowledged the importance of role models on an individual’s decision to start up a business (Brockhaus and Horwitz, 1986; Cooper and Dunkelberg, 1987; Shapero and Sokol 1982). These studies outlined that between 35 and 70 % of the potential entrepreneurs examined had entrepreneurial role models who served as mentors throughout the start-up process. Many entrepreneurs claim that they decided to start their own business as a result of being influenced by others. Entrepreneurial role models are considered to positively dispose an individual to entrepreneurial behaviour. In Ireland male entrepreneurs report knowing someone who had recently started a new business more frequently than women do (35% compared to 28%) (GEM, 2015).

The OECD and the European Commission have both identified that the presence of positive entrepreneurial role models is crucial especially in the area of entrepreneurship. Understanding what factors influence students to become entrepreneurs is vital in order to develop relevant and effective entrepreneurship education strategies across the education system which at present is non-existent in Ireland.

If there is one thing that the current role model literature clearly shows, it is that under the right circumstances the right role models can have multiple positive effects.
2.8 Entrepreneurial Career Intentions

As Krueger states ‘behind entrepreneurial actions are entrepreneurial intentions’ (p. 124). There is a growing body of literature arguing that intentions play a very relevant role in the decision to start a business. Research shows a strong correlation between intention and actual behaviour (Ajzen, Czasch and Flood, 2009). The understanding of the mechanisms of what factors influence career choices is still quite vague.

Entrepreneurial career choice has received limited attention in career psychology (Gorgievski and Stephan, 2016). This may be because most individuals opt for employment rather than self-employment (Biemann, Zacher and Felman, 2012). Starting a business is an intentional act (Krueger et al., 2000). Therefore, entrepreneurial intentions play a vital role in the entrepreneurial process and in the early phases of creating a business because the intention to start a business is considered an essential part of how a business starts (Baron, 2007). Research shows that entrepreneurial intentions are affected by a range of individual differences, such as risk propensity, control beliefs, and personality traits (Zhao and Seibert, 2006). Intention is emphasised as the best predictor of planned behaviour to include entrepreneurship (Krueger et al., 2000). Research on entrepreneurial intentions has come to the forefront of academic inquiries in the area of graduate entrepreneurship due to its ability to predict entrepreneurial behaviour (Krueger et al., 2000).

In spite of the large number of studies examining entrepreneurial intentions, the results have been mostly inconclusive (Segal et al., 2005).

2.8.1 Entrepreneurial Intentions and Geographical Location

It is important to understand who becomes an entrepreneur and achieves success as an entrepreneur across various geographical areas (Gibb and Nielsen, 2014). It has been suggested that entrepreneurship policy should pay more attention to geographical location (Tamasy, 2006; Aoyama, 2009). Most entrepreneurship studies have been carried out in urban areas (Glaeser et al., 2010).

Within the entrepreneurship literature, some researchers have put forward the theory that entrepreneurship is in fact an urban phenomenon (Acs et al., 2011). The higher performance of entrepreneurship in cities is most likely down to improved availability of resources which very often urban areas have (Sternberg, 2009).
The higher rates of education and a more skilled workforce have also been cited as reasons for higher urban entrepreneurial performance (Gibb and Nielsen, 2014). Universities and third level institutions tend to be located in urban areas, these provide both education, resources and knowledge which the community can benefit from (Saxenian, 1994; Cooke and Schienstock, 2000).

Glaeser et al. (2010) also cite differences in the local culture and government policies as reasons why entrepreneurship thrives in urban areas. This increasing interest in entrepreneurship in urban areas has left rural areas under-researched (Gibb and Nielsen, 2014).

Rural entrepreneurs lack the benefits associated with rural living—"low density of population and therefore a low density of most markets, and greater distance to those markets as well as to information, labour, and most other resources” (Malecki, 2003, p.201). Interreg Europe state that there are various challenges for rural SMEs including lack of digital infrastructure, access to finance, human capital and skills, and access to new markets (Interreg Europe, 2019). However, in a study comparing rural SMEs and urban SMEs in the UK, it was shown that rural SMEs actually achieved higher growth rates, had longer life-spans, and higher exports than their urban counter parts (Phillipson, Jeremy and Tiwasing, Pattanapong and Gorton, Matthew and Maioli, Sara and Newbery, Robert and Turner, Roger, 2018). However the support for the development of SMEs in rural areas and the development of SMEs in urban areas is low. For example, the share of European structural and investment funds that goes towards developing rural areas, including SMEs, is only 17% compared to the 82% that is used for supporting SME’s in general (Interreg Europe, 2019).

Many studies attempt to explain why the entrepreneurship environment differs in urban and rural areas but mostly in the early business start-up phase (Faggio and Silva 2014).

While the literature shows that urban areas are more supportive environments for entrepreneurship, few studies examine the influence of geographical location on the formation of entrepreneurial intentions in rural secondary school students and how this could be having an effect on rural entrepreneurship. Implications for enterprise policy, education and support services could be derived by providing information on how entrepreneurial intentions differ between urban and rural areas.
2.8.2 Socio Economic Status and Entrepreneurship

A number of studies have been conducted on entrepreneurship and socio-economic environment. Schumpeter, (1947) observed that appropriate social climate is needed for emergence of entrepreneurship. Hundley (2006) found that household income is positively correlated with the incidence of self-employment.

Dunn and Holtz Eakin(2000) observed the same type of relationship between family financial capital levels and the incidence of self-employment among young people.

For the purpose of this study, the socio-economic factor that was explored was the relative affluence or disadvantage of a particular geographical area. One of the objectives of this study is to examine the extent to which socio-economic factors such as the relative affluence or disadvantage of a particular geographical area influence secondary school students’ entrepreneurial intentions.

2.8.3 Measuring Entrepreneurial Intentions

In order to expand the understanding of the entrepreneurial process, many researchers have examined the effects of a large number of determinants of entrepreneurial intentions to explain why some people are more entrepreneurial than others (Shapero, 1975; Shapero and Sokol, 1982; Bird, 2002; Ajzen, 1991; Krueger and Carsrud, 1993; Boyd and Vozikis, 1994; Krueger, 1993). Two entrepreneurial intentions models have received the majority of the attention over the last few years- the theory of entrepreneurial event (Shapero, 1982) and the theory of planned behaviour (Ajzen, 1991).

Shapero’s Entrepreneurial Event Model (EEM) is specific to the domain of entrepreneurship and has been widely used in intention research (Shapero, 1975; Shapero and Sokol, 1982; Krueger and Carsrud, 1993). The EEM model promotes that the likelihood of the entrepreneurial behavior increases according to the individual’s propensity to act, and to the perceived feasibility and desirability of the entrepreneurial behavior (Shapero, 1975; Shapero and Sokol, 1982). This model was developed to explain entrepreneurial behavior specifically whereas Ajzen’s Theory of Planned Behaviour (TPB) was developed to explain planned behaviour in general. TPB is a widely accepted framework for intentions and has been used in many different areas including entrepreneurial activity (De Noble et al., 1999; Flannery and May, 2000; Zhao et al., 2005; Quinlan et al., 2006; Townsend et al., 2006; Engle et al., 2010; Fayolle and Gailly, 2015).
The TPB was recognised as a general model which could be applied to any behaviour. The main aim of the model was to predict and understand any motivational factors which influenced behaviour (De Noble et al., 1999). Ajzen identifies three antecedents of intention - attitudes toward behavior, social norms, and perceived behavioral control.

Entrepreneurial intentions models come in various forms however the variants have more similarities than differences. Another intentions model which has received attention in recent years is The Shapero-Krueger model as seen in Figure 2.2. The underlying assumption for the entrepreneurial intentions-based model used for this study is that the desirability and feasibility to study and become an entrepreneur is an intentional, planned behaviour, the components of the Shapero-Krueger model (Krueger et al., 2000). Despite interest and many research efforts (Frank, et al., 2007; Learned, 1992; Naffziger et al., Segar et al., 2005) very few studies have focused on the drivers of entrepreneurial intentions (Teixera and Davey, 2009).

Figure 2.2 Shapero-Krueger Model of Intentions (Krueger et al., 2000)
Entrepreneurial Intentions and Role Models

Research by Scherer and colleagues (1989) show that entrepreneurial role models do have an impact on entrepreneurial career preference. They also demonstrate that the role model’s existence and the role models performance matters (Scherer et al., 1989). This is further examined in a study conducted by Douglas and Shepherd in 2001 which focused solely on business creation. It was found that exposure to entrepreneurial role models had a positive impact on entrepreneurial career choice. This was again confirmed by Van Auken et al, (2006) who also showed the positive impact of exposure to entrepreneurial role models on future entrepreneurial career intentions. Various studies have proposed links between role models and individuals gaining the skills and knowledge to be an entrepreneur (Scherer et al.1989; Scott and Twomey 1988; Lent et al. 1994; Bosma et al. 2012). However, even though prior studies acknowledge the significance of role models for entrepreneurs, there is little discussion on the effect of role models on entrepreneurship, and research in this area is rather fragmented (Bosma et al. 2012; Van Auken et al. 2006).

Individual decisions to engage in certain behaviour are often influenced by the behaviour and opinions of others, the demonstration of their identity and by the examples they provide (Ajzen, 1991; Akerlof and Kranton, 2000). This is also true for the occupational choice of individuals (Krumboltz, Mitchell, and Jones, 1976) and the decision to engage in entrepreneurship. There has been extensive discussion in entrepreneurship literature to determine why someone would start up a business (e.g., Zapkau et al. 2017; Baron, 2007 Shane and Venkataraman 2000). Many entrepreneurs claim that their business start-up decision and the development of their business was influenced by others. These ‘others’ are often entrepreneurs and may range from celebrities to colleagues to family or friends (Bosma et al. 2012).

The relevance of role models for entrepreneurs is clear, particularly in the media with the success stories of famous entrepreneurs from Bill Gates to Cher Wang. Lockwood and Kunda (1997) examined the impact of celebrities on people’s self-perceptions through three studies involving university students. It was found that using relevant celebrities provoked inspiration and increased the participant’s confidence in their ability.

There are three strands of literature that indicate role models are important in the decision to actually becoming an entrepreneur (Krueger et al., 2000; Scherer et al 1989; Van Auken et al., 2006). Firstly, the fact that the decision to become an entrepreneur is very often associated with having parents who are entrepreneurs (Chhosta et al. 2010; Dunn and Holtz-Eakin, 2000; Fairlie and Robb, 2007; Hout and Rosen, 2000; Parker, 2009, p. 134-138).
Secondly, that networks positively influence the decision to become an entrepreneur and that the individuals in these networks are seen as role models (Kim and Aldrich, 2005; Klyver et al. 2007). The third strand of research has shown that entrepreneurship is spread unevenly across areas and regions (Reynolds et al., 1994). Therefore an area or region with higher levels of entrepreneurship may encourage entrepreneurship activity more as it is easier to find identifiable examples of role models.

For females, one of the most important social groups and role models source is other females and gender similarity is particularly important for potential female entrepreneurs (Murrell and Zagenczyk, 2006). This is verified by (Wheeler et al, 2005) and (Wohlford et al, 2004) who suggest that identification is encouraged by similarity of a range of characteristics including age and gender. Bosma et al; (2011) also states that entrepreneurs tend to have role models of the same gender. Although there has been an increase in female entrepreneurship (De Bruin et al., 2010; Brush, 2006) entrepreneurship is still very much a masculine domain and the rate at which women are involved in entrepreneurship is still lower than that of men. The reasons why this gap exists is still not fully understood (Minniti, Arenius and Langowitz, 2003).

Interventions involving female role models have been designed in recent years to prevent the effects of stereotype threat. Female role models protect women against the harmful effects of such negative stereotypes (Marx and Roman, 2002; Stout, Dasgupta, Hunsinger, and McManus, 2011). The idea that female educators have a positive role model effect on their female students is a strongly held belief in the academic world.

Theory and prior research suggests that female educators may be pivotal in encouraging females to choose subject fields in which they are being underrepresented (Dee, 2007; Hoffmann and Oreopoulos, 2009; Eble and Hu, 2017; Lim and Meer, 2017). Female students may often avoid male dominated areas (Hanson, 1996) and the presence of female educators may in turn alleviate these effects. For example, women who read about a successful graduate of their university who studied the same field as them rated themselves higher on success-related traits when the role model was female compared to male (Lockwood, 2006). Female role models are therefore proven to be effective.

The closer in similarities a role model is perceived to be the greater the probability that their actions and behaviours will be imitated by observers (Wilson et al., 2009). There is a growing body of research that suggests strong same-sex role models are especially important for young women and that exposing females to strong entrepreneurial female role models will in time help to minimise the entrepreneurship gender gap.
One of the most commonly cited challenges to female entrepreneurship in Ireland is a lack of high profile female role models. Women are five times more likely to set up their own business as a result of meeting other female entrepreneurs (McHugh, 2010). This distinct lack of female role models in entrepreneurship has been noted by (Brush et al., 2006) in which she explains this may be due to the fact that entrepreneurship is seen as a male dominated career path and less typical for females. Males and females generally choose careers which are “traditional” to their gender (Buunk and Gibbons, 2007; Buunk and Van Der Laan, 2002). However it is noted that these attitudes and perceptions of traditional career choices can be changed over time by exposure to role models in a particular area (Oppedisano and Laird, 2006).

Evidence exists that using real life role models is one of the key issues to be addressed for an effective entrepreneurial education strategy (Dyer, 1994; Scott and Twomey, 1988). Providing students with role models with whom they can relate to is crucial to reinforce student’s entrepreneurial self-efficacy and entrepreneurial career intentions (Mueller and Conway Dato-On, 2013). Although the general effect of role models on entrepreneurial tendencies has been proposed by several studies, the evidence provided by empirical research is still scarce. Moreover, the specific relationship in the case of students and female role models remains under-investigated particularly in the area of self-efficacy and entrepreneurial career intentions.

2.9 Self-Efficacy

Self-efficacy is a reliable predictor of behaviour (Bandura, 1977; Krueger et al., 2000; Baum and Locke, 2004; McGee et al., 2009), and has also been associated with opportunity recognition, career choice and risk-taking (Bandura, 1986; Krueger and Dickson, 1993). Self-efficacy is ‘an individual’s estimate of his or her capabilities to mobilise the motivation, cognitive resources, and courses of action needed to exercise control over events in their lives’ (Wood and Bandura 1989, p. 364). In simple terms, self-efficacy is what an individual believes he or she can accomplish by using their skills in certain circumstances (Snyder and Lopez, 2007).

The Banduran concept of self-efficacy has been shown to powerfully influence the way people think, feel and behave (Banduran, 1994, Pajares, 1996). The basic principle behind self-efficacy theory is that individuals are more likely to engage in activities in which they believe they have high self-efficacy and less likely to engage in those they do not (Van der Bijl and Shortridge-Baggett, 2002).
According to Bandura, the power of these beliefs is that a person’s ‘level of motivation, affective states and actions are based more on what they believe than on what is objectively true’ (Bandura, 1997, p.2). Self-efficacy can be advanced through training and education (Zhao, Seibert and Hills, 2005).

Self-efficacy should not be confused with the term self-confidence which is more about self-perceived value (Taylor and Betz, 1983). Higher self-efficacy is as a result of successful achievements in the past, and as a result of these past achievements the individual has an increased belief in their own abilities going forward.

A person with high levels of self-efficacy will typically challenge themselves to reach their full potential. High levels of self-efficacy can ultimately lead to entrepreneurial behaviour (McGee, Peterson et al. 2009).

Prior research on the effects of self-efficacy (Bandura 1977, Bandura 1986, Bandura and Schunk 1981 and Wood and Bandura 1989) have found that self-efficacy is the most effective predictor of general performance.

People with high levels of self-efficacy have more interest and put more effort into tasks, and can often perform better as a result of the increased effort.

According to Bandura et al., (1961), self-efficacies are acquired in four main ways; mastery experience, vicarious experience, social persuasion and psychological/emotional states. A person’s self-efficacy is said to determine their perceptions of whether certain goals are achievable and how much effort they must apply to pursue these goals (Bandura, 1977, 1986; Gist and Mitchell, 1992).

2.9.1 Entrepreneurial Self Efficacy

Entrepreneurial self-efficacy (ESE) is the degree to which people perceive themselves as having the ability to successfully perform the various roles and tasks of entrepreneurship (Chen, Green et al. 1998; De Noble, Jung et al. 1999). Self-efficacy, when viewed as a precursor to new venture intentions, is known as entrepreneurial self-efficacy (Boyd and Vozikis, 1994; Chen et al., 1998; Krueger and Brazeal, 1994).
Defined as ‘the strength of a person’s belief that he or she is capable of successfully performing the various roles and tasks of entrepreneurship, ESE is seen as an important antecedent to entrepreneurial action’ (Chen et al, 1998, p. 295). It is unlikely that a potential entrepreneur will be motivated enough to succeed in the business start-up process without possessing ESE to some extent (Boyd and Vozikis 1994; Krueger Jr and Brazeal 1994; Markman, Balkin et al. 2005; Zhao, Seibert et al. 2005). The concept of self-efficacy has been extended to entrepreneurship (Boyd and Vozikis, 1994, Englehart, 1995, Krueger and Brazeal, 1994 and Scherer et al. 1989, Chen, Greene and Crick, 1998, De Noble, Jung and Ehrlich, 1999). These researchers found that entrepreneurial self-efficacy is linked with the likelihood of becoming an entrepreneur in the future. There have been multiple discussions on self-efficacy and its effect on entrepreneurship (Gist 1987, Boyd and Vozikis, 1994 and Wood and Bandura, 1989).

Self-efficacy is relevant for the study of entrepreneurship for a number of reasons:

To begin with, it addresses the problem of “lack of specificity” which has occurred in entrepreneurial research (Brockhaus and Horwitz, 1986, and Gartner, 1985). Secondly, entrepreneurial self-efficacy is more general which allows entrepreneurs to enhance their self-efficacy in their interaction with their own environment (Brockhaus and Horwitz, 1986 and Gartner, 1989). Thirdly, self-efficacy can be used to predict an entrepreneur’s behaviour (Bird, 2002 and Boyd and Vozikis, 1994).

Finally, the relationship between self-efficacy and behaviour is best demonstrated in situations of high risk, which describes the area of entrepreneurship. Bandura (1997) states that certain individuals take risks and challenge themselves as they believe they can cope with the situation or the challenge. Bandura also believed that those with high levels of self-efficacy were not only more likely to succeed but they are also more likely to recover from failure (Bandura, 1997).

A growing body of literature supports the idea that an individual’s intention to start a company is formed partly by their perception of the outcome (Boyd and Vozikis, 1994; Chen et al, 1998; Zhao et al., 2005; Barbosa et al., 2007).

ESE is linked with a variety of entrepreneurial behaviours such as opportunity recognition and innovation and as an important variable in determining not only the strength of entrepreneurial intentions but the probability that these intentions will at some point lead to action (Bird, 2002; Krueger and Braezel, 1994; Kruger et al., 2000).
People with high levels of self-efficacy will generally have a more positive outlook on their actions. Observing others succeed will result in increased self-efficacy, but on the other hand seeing others fail will reduce levels of self-efficacy (Bandura, 1997).

We know that ESE is among the most important antecedents of entrepreneurial intentions and activity (Ajzen, 1991; Krueger and Carsrud, 1993; Kolvereid and Moen, 1997; Krueger et al., 2000; Liñán and Chen, 2009; Moriano et al., 2012; Jaén and Liñán, 2013). As seen in Figure 2.3, Krueger and Brazeal (1994) included self-efficacy in their model of entrepreneurial potential and state that ESE is one of the key prerequisites of the potential entrepreneur.

Figure 2.3 Krueger and Brazeal’s Entrepreneurial Potential Model (EPM), 1994.

Brockhaus (1993) describes entrepreneurs as having a very high belief in their ability to achieve goals, and a very low possibility of failure. Individuals with high ESE are likely to associate challenging situations with rewards (monetary or empowerment) (Hisrich and Peters, 1986), whereas individuals with low ESE people are likely to see failure. For these reasons, individuals who consider themselves highly efficacious are more likely to enter the entrepreneurial environment than those who do not.

In support of this, Zhao et al (2005) provides further evidence that individuals choose to become entrepreneurs most directly because they are high in ESE. Research suggests that entrepreneurial self-efficacy can also be developed through education (Zhao et al. 2005; Radu and Loué 2008). Educators can provide mastery experiences by allowing the students to put into practice what they have learned (Krueger et al. 2000; Radu and Loué 2008) and then learn from their own failures (Bandura 2009).
Shinnar, Hsu, and Powell (2014) highlight the delivery of EE can raise ESE in students by:

- Allowing students to replicate entrepreneurial tasks thereby developing their confidence in that particular task. E.g. pitching an idea, or writing a business plan.

- Exposing students to entrepreneurs and role models through guest speakers or case studies (vicarious experience, emotional arousal) (Bosma et al., 2012).

- Providing social persuasion through feedback from others through discussion, or performance on assignments (verbal persuasion, emotional arousal).

By using relevant case studies which the students can relate to and exposing students to potential entrepreneurial role models will increase their confidence in starting a business (Laviolette and Radu 2008). Interacting with these potential entrepreneurial role models who may be invited to the class as guest speakers allows students to learn through comparison (Bandura 2009).

2.9.2 Measurement of Entrepreneurial Self-Efficacy

ESE has been identified as an important precursor to entrepreneurial action (Chen et al., 1998). The measurement of ESE has been widely used, however there is difficulty in reaching an overall consensus in exactly how to use the measure given the diverse set of roles and skills that are required to become an entrepreneur, causing many researchers to encourage the use of a general self-efficacy measure instead (Markman, Balkin et al. 2002). Despite the growing body of literature, ESE remains empirically underdeveloped (McGee et al., 2009).

Several researchers claim to have measured ESE by simply asking subjects to respond to one or two questions regarding their confidence in starting a new venture. For example in a recent study by Tomine and Rebernik (2007), respondents were asked to provide a yes or no response to the question, ‘Do you have the knowledge, skills, and experience required to start a new business?’

Although the literature on ESE is quite extensive at present, there are issues which remain that prevent further development.

Firstly, disagreement exists as to whether ESE is more appropriate than general self-efficacy (GSE) (McGee et al., 2009). Secondly, there is inconsistencies in which researchers attempt to capture the dimensions of ESE (McGee et al., 2009).
Thirdly, ESE researchers appear to have been very reliant on data collected from just university students and practicing entrepreneurs (McGee et al., 2009). This is a limited sampling method as it does not capture the full population. Some theorists argue that a general self-efficacy construct is sufficient, however most researchers agree that self-efficacy is specific which would be consistent with Bandura (1997). Social cognitive theory emphasises, that it is “occupation-specific” self-efficacy as opposed to generalised self-efficacy that influences effects on career development. One type of occupation specific self-efficacy is ESE.

The six-item measure to be used in this study is the scale used in (Wilson, Kickul and Marlino, 2007) which related to the entrepreneurial self-efficacy measure used by Chen et al. (1998) and De Noble et al. (1999) which have been compared and validated by Kickul and D’Intino (2004). The items on this scale represent competencies related to business and entrepreneurial success (Marlino and Wilson, 2003) (See appendix D).

2.9.3 Exposure to Entrepreneurship Education and Entrepreneurial Self-Efficacy

Studies from several different countries have found that exposure to entrepreneurship education impacts positively on entrepreneurial self-efficacy (De Noble et al. 1999; Alvarez and Jung 2004; Ramayah and Harun 2005), and encourages students to start their own businesses (Souitaris, Zerbinati and Al-Laham 2007; Jones et al. 2017). Blackford, Sebora and Whitehill (2008) found that the start-up of a new business by postgraduate students who have taken some form of entrepreneurship education (a course or module) is directly related to entrepreneurial self-efficacy.

Entrepreneurship education can facilitate business start-ups by changing student’s mind-sets and developing their entrepreneurial skills over time (Fayolle, 2004).

Several researchers claim that self-efficacy is considered to be a learned characteristic which can be changed and developed over time. Unlike personality traits self-efficacy can be developed over time through education and training (Gist and Mitchell, 1992), again a finding that supports the importance of targeted educational efforts beginning at an early age.

Self-efficacy can change as a result of learning, experience and positive encouragement and feedback that individuals are given in targeted educational efforts (Gist and Mitchell, 1992). Providing opportunities to conduct feasibility studies, develop business plans, and participate in running simulated or real businesses though entrepreneurship education can play an important role in developing self-efficacy in individuals (Wilson, Kickul and Marlino, 2007).
(Hackett and Betz, 1981) argued that self-efficacy beliefs vary across gender, and emphasised the role that socialisation plays in female’s self-efficacy beliefs toward the careers traditionally defined as “male.” Specifically, they stated that career self-efficacy for women is lower and less generalised among women than men.

In an investigation of their self-efficacy model of career choice, Betz and Hackett (1981) concluded that how traditional an occupation is thought to be is a more important factor in determining the level of self-efficacy expectation for women than for men (Betz and Hackett, 1981). The Betz and Hackett (1981) study provided an important first look at the possible linkage between self-efficacy and career choice.

2.9.4 The Effects of Female Role Models on Self-Efficacy

According to Lockwood role models can introduce possibilities that might not have otherwise been considered by the individual and so this is another reason why having access to role models is so important and even more important for females. The lack of female role models in entrepreneurship is a continuing cycle; few women in entrepreneurship means few entrepreneurial role models, resulting in less females entering entrepreneurship, and there being fewer role models, and so on and so forth (Sealy, Ruth and Singh, Val. 2008).

Stout et al., (2011) found that female students who related more to female faculty than male faculty had greater feelings of self-efficacy.

The following three studies which were presented by (Marx and Roman, 2002) outline that female role models can in fact affect women’s performance. In Study 1, women’s maths test performance was protected when a competent female experimenter (i.e., a female role model) administered the test. Study 2 showed that it was the perception of the female experimenter’s competence in maths and not her physical presence that safeguarded the math test performance of women.

Study 3 revealed that learning about a competent female experimenter increased women’s self-appraised math ability, which in turn led to successful performance on a challenging math test. Is it possible the outcomes would be the same if applied to entrepreneurship education?
2.9.5 Self-efficacy and Career Intentions

Krueger, Reilly and Carsrud (2000) state that planned behaviours for example entrepreneurship can be predicted using intention-based models. The most common models are Shapero and Sokol’s model of the entrepreneurial event (SEE) (Shapero and Sokol 1982) and Ajzen’s theory of planned behaviour (TPB) (Ajzen 2005). The SEE model suggests that entrepreneurial intentions can be predicted from perceived desirability, perceived feasibility and propensity to act (Shapero and Sokol 1982; Krueger et al. 2000). According to this model, individuals’ intentions to start a business derive from the personal attractiveness of starting a business, the extent to which they feel they are capable of starting a business and their personal tendencies to act on their decisions (Krueger et al. 2000). The TPB suggests that intentions are the most important immediate determinant of whether they will perform a particular task or action (Ajzen 2005).

Entrepreneurial intentions can be predicted with a high degree of accuracy from the attitude towards the behaviour, subjective norms and perceived behavioural control (Ajzen 2005). In a comparison of these models Krueger et al. (2000) found that the two models are interrelated in that they both contain an element (perceived behavioural control in the TPB model and perceived feasibility in the SEE model) which is associated with perceived self-efficacy. There has been increasing attention on the role of self-efficacy in entrepreneurship, including in areas such as career intentions (Boyd and Vozikis, 1994, Chandler and Jansen, 1992, Gartner 1985, Krueger and Brzael, 1994 and Schere et al., 1989). Self-efficacy has also been proposed as a critical variable in the development of entrepreneurial intentions (Barbosa et al., 2007; Boyd and Vozikis, 1994; Drnovsek and Erikson, 2005; Kruger and Brazeal, 1994; Zhao et al., 2005).

According to Bandura et al., 1986, self-efficacy does affect personal aspirations and life goals. Individuals are more likely to choose situations in which they anticipate high control but avoid situations in which they foresee low control (Bandura 1977, Bandura, 1982, Bandura and Schunk, 1981 and Wood and Bandura, 1989). People plan and choose their future career paths by assessing their capabilities against the requirements of the jobs (Bandura, 2001).

By assessing their capabilities in this way people prepare themselves and take on occupations in which they essentially feel confident in but then avoid occupations in which they feel less confident in (Betz and Hackett, 1981, Betz and Hackett, 1986, Miura, 1987 and Scherer et al., 1989). Becoming an entrepreneur and starting a business is what’s known as an ‘intentional career choice’ (Bird, 1988 and Ktaz and Gartner, 1988).
Although there are a number of factors which can influence this choice, entrepreneurial self-efficacy has been highlighted as one of the key factors (Boyd and Vozikis, 1994 and Krueger and Brazael, 1994).

According to Wilson et al (2013) the concept of self-efficacy has been extensively employed in the career theory literature to explain perceived career options, stated career preferences, and ultimately, career-oriented behaviours (Betz and Hackett, 1981, 1983; Eccles, 1994; Hackett and Betz, 1981). Recently, Bandura et al (2001) included self-efficacy as one of a variety of socio-cognitive influences on the career aspirations of children, and found that academic self-efficacy had the strongest direct effect.

Research by Markham et al. (2002) further suggests that self-efficacy reliably predicts scope of career options considered, occupational interests, determination in difficult fields, and personal effectiveness. It would seem that personal belief in one’s self would be most important in entrepreneurship given the large amount of task specific work involved in setting up a business and the setbacks and failures which are likely to be encountered. While the relationship between self-efficacy and career choice has been well established in the career theory literature, most studies have not included specific career options around entrepreneurship (Marlino and Wilson 2007). In fact Wilson et al (2013) contend that it would seem logical that the same effects of self-efficacy would exist in entrepreneurial careers.

2.9.6 Female Self-Efficacy

Women’s levels of self-efficacy are generally lower than that of men (Kickul et al., 2008; Kourilsky and Walstad, 1998; Gatewood et al., 2002).

Research has shown that females restrict their career choice to a greater extent than their male counterparts as they express lower levels of self-efficacy with regard to career options particularly in male dominated careers (Chowdbury and Endres, 2005; Wilson et al., 2007). Kickul, Wilson, and Marlino (2004) found that self-efficacy had a stronger effect on entrepreneurial career interest for teenage girls than for boys.

According to the 2013 GEM Report men are still fifty percent more likely than women to be active in entrepreneurship. One of the key stimuli used to transform intent into action is self-efficacy (Duffy and Kan, 2013). In all 67 economies studied by the GEM report 2013 women showed lower capabilities than their male counterparts.

Almost two-thirds of men believe they would have the ability to set up a new business venture while less than half of the females shared the same belief (Duffy and Kan, 2013).
Overall there are large amounts of evidence that women have lower expectations than men for success in a wide range of occupations (Eccles, 1994). Significantly lower levels of self-efficacy among females have been found in careers which are generally male dominated or “not traditional” for women (Bandura et al., 2001; Betz and Hackett, 1981; Scherer, Brodzinski, and Wiebe, 1990). Specifically females have shown lower confidence levels in areas such as maths, finance and problem solving in previous research (Marlino and Wilson, 2003). Based on these findings it is clear that because females believe they lack certain capabilities that this will lead them to limit their career aspirations in the future (Bandura, 1992).

These negative perceptions can be addressed by providing opportunities to improve certain skill sets and capabilities in a zero risk environment (for example in schools and universities) and through the use of positive role models with whom females can relate to.

2.10 Conceptual Model

A conceptual framework is used to illustrate what the researcher expects to find throughout the study, including how variables might relate to one another in this case- education, role models, self-efficacy and entrepreneurial intentions and in the center of it all- the female student. A conceptual framework should be constructed before the researcher begins to answer the research questions. The basis of testing research and the start of constructing a conceptual framework is often a cause-effect relationship (Swaen, 2015). The first step in demonstrating a cause-effect relationship is to map the expectations using a conceptual framework. First, relevant variables must be identified. Variables are simply the characteristics that the cause-effect relationship is describing. The basic design components are boxes, arrows, and lines. A box is created for each variable and arrows are used to indicate cause-effect relationships. Each arrow should start from the variable that has causal influence and point to the variable that is being affected. conceptual model shows the relationship between all 5 elements of the research-the female student being the central focus and how all of these elements relate to the student. Entrepreneurship education using role models will increase levels of self-efficacy which will in turn lead to higher entrepreneurial career intentions leading to more entrepreneurs which should be used in the education system and so it is a continuous circle.

Once the conceptual framework is complete, it is time to start undertaking the research and begin to answer the research questions.
2.11 Concluding Remarks

In drawing this chapter to a close, a summary of the shortcomings in the entrepreneurship literature is presented below with a view to highlighting why this phenomenon warrants further discussion in this context. The economic impact of increased entrepreneurial participation is significant and holds the potential to continue to be a major driver of economic growth in Ireland.
The following is a summary of the key points from this review of the literature:

Table 2.2 Key Points from the Literature Review (Source: Author)

<table>
<thead>
<tr>
<th>Entrepreneurship Education (EE)</th>
<th>Gender in Entrepreneurship</th>
<th>Role Models (RM)</th>
<th>Entrepreneurial Career Intentions</th>
<th>Entrepreneurial Self Efficacy (ESE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confusion over the process of entrepreneurship.</td>
<td>Only 2 in 10 entrepreneurs are female.</td>
<td>People will identify directly with people they find to be inspirational.</td>
<td>Intentions are the best predictor of all planned behaviour including entrepreneurship.</td>
<td>Individuals are more likely to engage in activities in which they believe they have higher self-efficacy.</td>
</tr>
<tr>
<td>Centred on adult learning</td>
<td>Females face more barriers.</td>
<td>RM have multiple positive effects including choice of occupation and career.</td>
<td>Few studies have focused on the drivers of entrepreneurial intent.</td>
<td>ESE can be advanced through training and education.</td>
</tr>
<tr>
<td>Ireland does not have an EE strategy.</td>
<td>Females have less confidence in their capabilities.</td>
<td>Prior studies state the importance of role models on decisions to start a business.</td>
<td>Exposure to entrepreneurial RM has a positive impact on entrepreneurial career choice.</td>
<td>Observing others succeed will increase ESE.</td>
</tr>
<tr>
<td>Initiatives are highly fragmented.</td>
<td>Entrepreneurship traits commonly referred to as male characteristics.</td>
<td>Many entrepreneurs claim to have started a business as a result of being influenced by others.</td>
<td>Exposure to EE does impact positively on entrepreneurial intent.</td>
<td>People who consider themselves to be highly efficacious are more likely to be entrepreneurs.</td>
</tr>
<tr>
<td>Irish system does not encourage the idea of being self-employed.</td>
<td>Gender role stereotypes leads to the categorisation of occupations.</td>
<td>The presence of role models is crucial in the area of entrepreneurship-use of real life role models.</td>
<td>Becoming an entrepreneur and starting a business is what’s known as an “intentional career choice”.</td>
<td>Female students who related more to female faculty had greater feelings of self-efficacy (Stout, 2011)</td>
</tr>
<tr>
<td>EE positively impacts on labour market.</td>
<td>Protagonists of entrepreneurship are almost always male.</td>
<td>Regions with higher levels of entrepreneurial activity encourage entrepreneurial activity.</td>
<td>Females restrict their career choice to a greater extent than males particularly in perceived male dominated careers.</td>
<td>Females levels of SE are generally lower than that of men e.g. Maths, finance.</td>
</tr>
</tbody>
</table>
It is evident from the above summary on the literature presented in this chapter that there are many factors influencing entrepreneurship education. As entrepreneurship is a complex phenomenon, no existing stream of research could explain all of its aspects. Entrepreneurship education, perceptions, gender theory, role models, self-efficacy and entrepreneurial intentions combined have an important role to play in encouraging future entrepreneurs. It is apparent from the literature review that there is an imbalance in the nature of the amount of research performed specifically in these areas. This research looks to provide further insights into this process. Further discussion of this extant body of literature and methodology is presented in Chapter Three.
3 Research Methodology

3.1 Introduction
This chapter will outline a description of the research methodology employed, including the research purpose, instruments used and design. This chapter considers the theoretical and conceptual parameters pertaining to the research design.

The chapter outlines the objectives and research question in Section 3.2. The research design and philosophical choices made for ontology, epistemology, and axiology are presented in Section 3.3. Next, a justification and summary of the implications of the choice of realism for this study is given. There follows an outline of the various other philosophical options and research methods initially considered. A section defining and explaining the main features of grounded theory terminology is then outlined in 3.7. An overview of the research strategy implemented is reviewed. A protocol for the research is presented and the data collection and issues pertaining to data collection are reviewed.
Section 3.13 briefly examines how this research was analysed and interpreted.
Finally, a brief summary of the methodology choices made and their effects on the study are presented.

3.2 Research Objectives and Questions
How does Gender, Role Models, Entrepreneurial Self Efficacy and Entrepreneurial Intentions affect entrepreneurship education?

In order to address this question, the following research objectives will be addressed:

- To explore the attitudes and perceptions of students towards entrepreneurship.
- To gain an insight into how students perceive role models.
- To examine factors affecting the intention to become an entrepreneur.
- To determine if gender differences exist in levels of entrepreneurial self-efficacy

3.3 The Philosophy of Research Design
The research design is ‘a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings’ (Burns and Grove, 2003, p195).

(Polit et al, 2001, pg.167) define a research design as ‘the researcher’s overall method for answering the research question or testing the research hypotheses’.
Developing your research philosophy: a reflexive process

Figure 3.1 Developing your research philosophy: a reflexive process Source: Alexandra Bristow and Mark Saunders (2015).

Research philosophy, refers to the development of knowledge adopted by researchers in their research (Bristow and Saunders, 2009). It is important to have a clear understanding of the research philosophy to examine the beliefs and assumptions about the way the world is viewed, which are contained in the research philosophy chosen, knowing whether it is appropriate or not (Saunders, Lewis and Thornhill, 2009). Each of the research philosophies are different which will have an impact on the way the research is carried out from the research topic to the methods adopted. According to Saunders, Lewis and Thornhill (2009), three major ways of thinking about research philosophy are: ontology, epistemology and axiology.

Ontology, ‘is concerned with nature of reality’ (what exists and what can be known), while epistemology ‘concerns what constitutes acceptable knowledge in a field of study’ (how we can know anything for certain and how can we differentiate knowledge from opinions or beliefs) and axiology ‘studies judgements about value’ (Saunders, Lewis and Thornhill, 2009, p110, p112, p116). Morgan and Smircich (1980) note that the research approach chosen by the researcher will depend on the social phenomena to be researched. Ontology essentially is reality and epistemology is the technique used by the researcher to discover that reality (Perry et al., 1999).
The research onion was originally developed by (Saunders et al., 2009). It outlines the stages that must be covered when developing a research strategy. When viewed from the outside, each layer of the onion describes a stage of the research process to be undertaken (Saunders et al., 2007). The research onion provides an effective progression through which a research methodology can be designed. Its usefulness is in its adaptability for almost any type of research methodology and can be used in a variety of contexts (Bryman, 2012).

This is illustrated below in figure 3.2.

More specifically, there are a number of research philosophies namely positivism, realism, constructivism (interpretivism) and pragmatism. A summary of the possible ontological, epistemological, axiological and methodological choices reviewed are shown in Table 3.3. This table also summarised the four main philosophies of Positivism, Realism, Constructivism (Interpretivism), and Pragmatism.
<table>
<thead>
<tr>
<th></th>
<th>Positivism</th>
<th>Realism</th>
<th>Interpretivism (Constructivism)</th>
<th>Pragmatism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ontology:</strong></td>
<td>the researcher’s view of the nature of reality or being</td>
<td>Is objective. Exists independently of human thoughts and beliefs or knowledge of their existence (realist), but is interpreted through social conditioning (critical realist)</td>
<td>Socially constructed, subjective, may change, multiple</td>
<td>External, multiple, view chosen to best enable answering of research question</td>
</tr>
<tr>
<td></td>
<td>External, objective and independent of social actors</td>
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<tr>
<td></td>
<td>Only observable phenomena provide credible data, facts. Focus on causality and law-like generalisations, reducing phenomena to simplest elements</td>
<td>Observable phenomena provide credible data, facts. Insufficient data means inaccuracies in sensations (direct realism). Alternatively, phenomena create sensations which are open to misinterpretation (critical realism) focus on explaining within a context or contexts</td>
<td>Subjective meanings and social phenomena. Focus upon the details of situation, a reality behind these details, subjective meanings motivating actions</td>
<td>Either or both observable phenomena and subjective meanings can provide acceptable knowledge, dependent upon the research question. Focus on practical applied research, integrating different perspectives to help interpret the data</td>
</tr>
<tr>
<td></td>
<td>Research is undertaken in a value-free way, the researcher is independent of the data and maintains an objective stance</td>
<td>Research is value laden; the researcher is biased by world views, cultural experiences and upbringing. These will impact on the research</td>
<td>Research is value bound, the researcher is part of what is being researched, cannot be separated and so will be subjective</td>
<td>Values play a large role in interpreting results, the researcher adopting both objective and subjective points of view</td>
</tr>
<tr>
<td></td>
<td>Highly structured, large samples, measurement, quantitative, but can use qualitative</td>
<td>Methods chosen must fit the subject matter, quantitative or qualitative</td>
<td>Small Samples, in-depth investigations, qualitative</td>
<td>Mixed or multiple method designs, quantitative and qualitative</td>
</tr>
<tr>
<td></td>
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</table>
Initially, the focus was turned to the constructivist philosophy as the constructivist researcher tends to rely upon the ‘participants views of the situation being studied’ (Creswell, 2010, p.8) and recognises the impact on the research of their own background and experiences which seemed to fit into the researchers methodology. However when the researcher decided to go from a purely qualitative methodology to a mixed methods methodology it was decided to explore the realism philosophy. Realism has received increased attention as an alternative to constructivism as a philosophical stance for research and evaluation (Maxwell and Mittapalli, 2010). The realist approach can make important contributions to mixed method research as qualitative and quantitative methods are better integrated, but also specific insights can enable mixed method researchers to better understand the phenomena they study (Maxwell and Mittapalli, 2010). For the justification of this research question the positivist and realist philosophies will be explored further. The following section outlines positivism and realism as research philosophies and explains the terminology associated with both.

3.4 Positivist Paradigm

The quantitative research paradigm has been closely linked to positivism. Positivism is a paradigm which comprises of-

‘the application of the methods of the natural sciences to the study of social reality and beyond’ (Bryman, 2001, pg. 299).

In positivism studies, the role of the researcher is quite limited to data collection and interpretation and the research findings are quantifiable. It has been noted that ‘as a philosophy, positivism is in accordance with the empiricist view that knowledge stems from human experience.

‘It has an atomistic, ontological view of the world as comprising discrete, observable elements and events that interact in an observable, determined and regular manner’ (Collins, 2010, pg.38).

In positivism studies the researcher is independent from the study. Crowther and Lancaster (2008) state that positivist studies usually adopt a deductive approach, rather than an inductive research approach.
Researchers warn that:

‘if you assume a positivist approach to your study, then it is your belief that you are independent of your research and your research can be purely objective. Independent means that you maintain minimal interaction with your research participants when carrying out your research’ (Wilson, 2010, pg.10).

In other words, studies with a positivist paradigm are based just on facts alone. This is one of the key reasons the positivism paradigm was discounted by the researcher. In this case, it would be considered too rigid a research philosophy. The purpose of positivism is basically to stick to what can be observed and measured. A positivist approach is inappropriate for this research because there is no one reality and there are no certain facts for the researcher to uncover.

### 3.5 Realist Paradigm

‘In the philosophy of social sciences realism ‘has been an important, if not the dominant approach for many years’ (Baert, 1998, pg. 189-190; Suppe, 1977, pg. 618). The increase of realist positions has led one philosopher to claim that ‘scientific realism is a majority position whose advocates are so divided as to appear a minority’ (Leplin, 1984, pg. 1). Saunders et al., (2012) identifies that under this philosophical approach, the analysis procedures and collection techniques will vary using either or both qualitative data and quantitative data. Realism is categorised into two groups: direct realism and critical realism. Direct realism is often referred to as common sense realism and is based on the idea that the senses provide us with direct awareness of the external world (Trumpeter, 2015). There is a general consensus among researchers that the critical realist approach is more appropriate than the direct realist approach because of its ability to capture the fuller picture. Critical realism is gaining increased attention as an alternative to positivism and constructivism as a philosophical stance for research. There is a general view in research that the appropriate philosophical stance for qualitative research is constructivism, and that for quantitative research is the positivist approach (Johnson and Gray, 2010). Over the last number of decades, generally two research approaches, known as quantitative and qualitative have been followed when carrying out research. Quantitative research focuses on measures such as quantity, amount, or frequency. Because of the emphasis on numbers, data analysis tends to be more straightforward and simplistic (Ghauri and Gronhaug, 2010).
These qualities make quantitative research methods appropriate in situations where measurement and precision is sought (Robson, 1993). Qualitative research focuses on meanings and unlike quantitative research data collection methods and analysis tend to occur simultaneously (Ghauri and Gronhaug, 2010). Qualitative research however is primarily exploratory research. It is used to gain an understanding of underlying reasons, opinions, perceptions and motivations. It provides insights into a problem or helps to develop ideas and solutions for potential quantitative research. Qualitative research is also used to uncover trends in thoughts and opinions, and delve deeper into a problem. Those who are advocates of the qualitative approach believe that social science research cannot be measured in quantity. While two distinct opinions previously existed, those who supported either qualitative or quantitative methods a situation has now evolved where researchers follow the path most suited to their area of research (Bryman, 2006).

A trend has emerged whereby both research traditions are combined as researchers recognise the benefits of doing so. This is known as mixed methods. Researchers have been conducting mixed methods research for several decades, and referring to it by an array of names including multi-method, integrated, hybrid, combined, and mixed methodology research (Creswell and Plano Clark, 2007). For the purpose of this research, the researcher uses the following definition of mixed methods research (Johnson et al. 2007, p. 123):

‘Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration’.

The basis for employing these designs is varied, but it is generally used to expand the scope of research to offset the weaknesses of just using one approach alone (Blake 1989; Greene, Caracelli, and Graham 1989, Rossman and Wilson 1991). This approach to research is used when this integration between qualitative and quantitative data provides a better understanding of the research problem. In line with mixed methods, realism is compatible with the characteristics of both qualitative and quantitative research (Mark, Henry, and Julnes, 2000; Greene, 2002). As this research adopted a mixed methods approach this is one of the key reasons why realism was chosen.
Danermark et al., (2002) illustrated the differences between the various forms of inference in table 3.1 below. Danermark et al. (2002, p 79) define inference as ‘a way of reasoning towards an answer to questions such as: What does this mean? What follows from this? What must exist for this to be possible?’ Realists distinguish between four modes of inference: deduction, induction, abduction and retroduction. These forms of reasoning are outlined in Table 3.2 below.

Table 3.2 Four modes of inference – Source (Danermark et al., 2002)

<table>
<thead>
<tr>
<th></th>
<th>Deduction</th>
<th>Induction</th>
<th>Abduction</th>
<th>Retroduction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fundamental structure/thought operations</strong></td>
<td>To derive logically valid conclusions from given premises. To derive knowledge of individual phenomena from universal laws.</td>
<td>From a number of observations to draw universally valid conclusions about a whole population. To see similarities in a number of observations and draw the conclusion that these similarities also apply to non-studied cases. From observed co-variables to draw conclusions about law-like relations.</td>
<td>To interpret and recontextualize individual phenomena within a conceptual framework or a set of ideas. To be able to understand something in a new way by observing and interpreting this something in a new conceptual framework.</td>
<td>From a description and analysis of concrete phenomena, to reconstruct the basic conditions for these phenomena to be what they are. By way of thought operations and counterfactual thinking to argue towards transfactual conditions.</td>
</tr>
<tr>
<td><strong>Formal logic</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes and no</td>
<td>No</td>
</tr>
<tr>
<td><strong>Strict logical inference</strong></td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>The central issue</strong></td>
<td>What are the logical conclusions of the premises?</td>
<td>What is the element common for a number of observed entities and is it true also of a larger population?</td>
<td>What meaning is given to something interpreted within a particular conceptual framework?</td>
<td>What qualities must exist for something to be possible?</td>
</tr>
<tr>
<td><strong>Strength</strong></td>
<td>Provides rules and guidance for logical derivations and investigations of the logical validity in all argument.</td>
<td>Provides guidance in connection with empirical generalisations, and possibilities to calculate, in part, the precision of such generalisations.</td>
<td>Provides guidance for the interpretative processes by which we ascribe meaning to events in relation to a larger context.</td>
<td>Provides knowledge of transfactual conditions, structures and mechanisms that cannot be directly observed in the domain of the empirical.</td>
</tr>
<tr>
<td><strong>Limitations</strong></td>
<td>Deduction does not say anything.</td>
<td>Inductive inference can.</td>
<td>There are no fixed criteria from which</td>
<td>There are no fixed criteria from which</td>
</tr>
</tbody>
</table>
**Important quality on the part of the researcher**

<table>
<thead>
<tr>
<th><strong>Logical reasoning ability</strong></th>
<th><strong>Ability to master statistical analysis</strong></th>
<th><strong>Creativity and imagination</strong></th>
<th><strong>Ability to abstract</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Examples</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If A then B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thus: B</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

New about reality beyond what is already in the premises. It is strictly analytical. Never be either analytically or empirically certain - the internal limitations of induction. Induction is restricted to conclusions at the empirical level = the external limitations of induction. It is possible to assess in a definite way the validity of an abductive conclusion. It would be possible to assess in a definite way the validity of a retroductive conclusion.

Distinct from the modes of inference are the research approaches. Selecting a research approach will depend on the type of research question being posed as well as the existing knowledge available on the subject area (Morse and Field, 1995). According to Babbie (2010) a research approach mainly identifies the foundation of the research strategy and provides direction for the research methods. Research approaches are most commonly associated with research strategy and can be differentiated into two parts: the first is inductive (theory building) and the second is deductive (theory testing).

According to Saunders et al., (2012), in a deductive approach, the previously existing theories are used for presenting the hypothesis whereas the inductive approach includes the building of theory and data collection is done through various means. New theories are created on the basis of these findings (Bryman, 2012).

Similar to the deductive approach, instead of large samples of respondents, small samples are more appropriate. Since a mix of qualitative and quantitative information will be used in this study for achieving the desired vision, both inductive and deductive approaches will be adopted. According to Saunders et al (2009), these two approaches can be combined within the same research and can often yield advantages.
According to Easterby-Smith et al., (2012) with the knowledge of the various research traditions it is possible to adapt the research design to cater to any constraints. Through this research, knowledge will be added to an existing body of knowledge on entrepreneurship education, self-efficacy, role models, entrepreneurial career intentions, as well as gender research in entrepreneurship.

The following sub section outlines the grounded theory approach, concentrating particularly on why grounded theory is most suitable for this study.

### 3.7 An Overview of Grounded Theory Methodology

Within realism the researcher believes that grounded theory is most suitable for this research. Through the use of grounded theory, the researcher will gather the opinions and perceptions of the respondents and the data will then emerge. Researchers who wish to use grounded theory as a method are often confused with the numerous variations of the method. Given the nature of this particular study and the research question and objectives associated with it, a method, which aims to learn about individuals’ perceptions and feelings, is most desirable. As identified in the literature review the existing research on entrepreneurship is not comprehensive.

A grounded theory approach in this specific area therefore is necessary as it offers an opportunity to gain valuable insight into the perceptions of students around entrepreneurship. This insight will help to bridge the gap in relation to existing research on the factors affecting students and lay the foundation for future research as well as implications for policy makers.

The methodology of grounded theory was developed by American sociologists Glaser and Strauss in (1967) to describe a new qualitative research method they used in their research Awareness of Dying in (1965). The goal of the grounded theory approach is to generate a theory that explains how an aspect of the social world “works”.

Even though Glaser and Strauss had originally developed the Grounded theory method together, it would appear that in later years their opinions divided and two versions of Grounded theory emerged; Glaserian, and Straussian (Daymon and Holloway, 2006). Glaserian and Straussian perspectives of grounded theory are quite different.
The Glaserian perspective relates to critical realism and discovers theory that is then verified by researchers (Annells, 1996). Glaser’s grounded theory mainly focuses on ‘what is truly going on in the substantive area under study’ (Glaser, 1992, p.3). Strauss developed a more direct approach to the research methodology adding more procedures on how to code and structure the data (Strauss and Corbin, 1990). This method is often referred to as Straussian grounded theory. Glaser’s stance on grounded theory was deemed appropriate for this particular study based on his critical realist approach which sees reality as stratified and non-linear. Glaser (1978, 2011) also points out that classical grounded theory allows the data to be developed without preconceived ideas and will integrate previous work during the analysis stage. For these reasons the researcher relates more with the Glaserian interpretations of grounded theory.

Grounded theory allows the researcher to firstly collect the required data and then after analysing the data the researcher can then make conclusions (Carson et al., 2001). The grounded theory approach is most suitable as it will allow the perceptions and opinions of the respondents to materialise before any conclusions are made.

3.8 Selection of a Research Strategy

Within research methodology, research strategy is the ‘general plan of how the researcher will go about answering the research questions’ (Saunders et al. 2009; p. 90). The research strategy provides a rough picture about how the research questions will be answered. It also specifies the sources for data collection and any issues faced throughout the research process, for example access limitations, time constraints, and economical and ethical issues. Saunders et al. (2003) explains that the strategy is concerned with the overall approach the researcher adopted and includes details like data collection methods (questionnaire, interviews, repertory grids) and analysis methods. There are several strategies that can be employed and they can be classified based on the approach adopted.
The following (Table 3.3) lists the data sources for addressing these research objectives.

*Table 3.3. Mapping Data Sources to Research Objectives*

To begin with the researcher carried out an in depth review of the literature. This included peer-reviewed articles, books, and conference papers. Secondary sources were also used to include magazines and newspapers.

Table 3.3 Mapping Data Sources to Research Objectives

<table>
<thead>
<tr>
<th>Research Objectives</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To explore attitudes and perceptions of students towards entrepreneurship.</td>
<td>Data was collected in the form of drawings. Respondents were asked to draw a picture of an entrepreneur and describe who this person represents for them.</td>
</tr>
<tr>
<td>2. To gain an insight into how students perceive role models.</td>
<td>Semi-structured questionnaire and repertory grids.</td>
</tr>
<tr>
<td>3. To examine factors affecting the intention to become an entrepreneur.</td>
<td>The Entrepreneur Self-Test developed by the Rural Entrepreneurship Initiative (Mackley, 2003).</td>
</tr>
<tr>
<td>4. To determine if gender differences exist in levels of entrepreneurial self-efficacy.</td>
<td>A six-item measure used in this study was the scale used in (Wilson, Kickul and Marlino, 2007).</td>
</tr>
</tbody>
</table>

### 3.8.1 Preliminary Research Methods

The preliminary research in this study involved general literature searches and reviews. This key step helps in formulating a research question and planning the research study. This involved a review of the extant literature in the main parent disciplines, namely - the history and development of entrepreneurship, entrepreneurship education, gender and stereotypes, Generation Z, role model theory, entrepreneurial career intentions, and finally literature on general self-efficacy and entrepreneurial self-efficacy was also evaluated to understand the current level of research and knowledge in these key areas. Additional exploratory research methods included attendance at key conferences and training workshops in the area. These conferences are listed in appendix A.
Conferences and events provided an opportunity to network with the main researchers and authors in the relevant fields. Early presentation of work at these conferences allowed for submission and publication of papers as well as feedback from reviewers which was incorporated where relevant. (See appendix A for a complete list of publications related to this research study). Apart from reviewing literature in the main domains, literature on methodology and frameworks from entrepreneurship literature in general and related disciplines e.g. psychology, marketing, leadership and management was also reviewed. The researcher was also an active member of the Accelerating Campus Entrepreneurship (ACE) Committee, and the CPEER group (a peer learning community for entrepreneurship educators and researchers) at Munster Technological University. These groups provided insight into how entrepreneurship initiatives are implemented at a third level institution.

At the very early stages of this study in 2016 the researcher wanted to explore a number of potential areas of research with a group of female entrepreneurs. This exploratory study was informal and a convenience sample was used as the Rubicon center was located so closely to the researcher and the researcher had access to these female entrepreneurs. Based on the campus of Munster Technological University; the Rubicon incubator centre provides access to a wide range of Start-up Supports for Entrepreneurs who want to start, grow and expand their business. Entrepreneurs are supported by experienced start-up professionals.

The key areas the researcher looked at with the participants were as follows:

- Entrepreneurship education (prior education and training)
- Perceptions of female only entrepreneurship training courses
- Perceptions of entrepreneurship amongst the female population in general
- Female confidence (self-efficacy)
- Levels of risk
- Family entrepreneurs

The researcher invited five female entrepreneurs from the Exxcel programme at the Rubicon Centre at Munster Technological University to answer a brief questionnaire made up of 12 questions. ‘Exxcel’ is a part time programme dedicated to supporting female founders with STEM (Science, Technology, Engineering and Maths) sector start-up ideas.
The programme is designed to help female professionals with a new business idea to get access to the necessary knowledge, mentoring and coaching to validate their ideas.

This pilot study was informal and a convenience sample was used as the Rubicon center was located so closely to the researcher and the researcher had access to these female entrepreneurs. The questionnaires were answered both over the phone and the researcher met with two of the respondents in person. Even though this cohort of respondents were not being used in the large scale study (female entrepreneurs) the researcher wanted to determine what the perceptions of female entrepreneurship are for Irish women who had become entrepreneurs and what their experience to date had been like. Conducting a pilot study prior to the actual, large-scale study presented many benefits and advantages for the researcher. One of these is the exploration of the particular issues that may potentially have an impact on the end results. These issues include potential areas that the researcher might not have thought to include in the study originally. (See appendix E for the responses to pilot study 1).

3.9 Main Findings of the Exploratory Study

- Three out of the five females had received some form of entrepreneurship education or training either in school or college. This may explain why they had become entrepreneurs in the first place. This is in line with entrepreneurship education literature. The European Commission’s 2015 'Entrepreneurship Education: A road to success' report examined 91 studies from 23 countries.
- The report found that students participating in entrepreneurship education are more likely to start their own business and their companies tend to be more innovative and more successful than those led by persons without entrepreneurship education backgrounds.
- To this particular group of women it wasn’t important (male/female) who conducted the training on the Exxcel programme as long as that person was competent in their area of expertise.
- The women felt more inclined to join an all-female group, they felt less alone, confidence was an issue for all of them at the beginning but because it was more of an open environment then if it had been a mixed group there was more sharing of issues and concerns.
• Most of the seminars attended by these females were 85% male dominated. It was mentioned that it is very difficult to find a female entrepreneur for mentorship purposes.
• Confidence increased as a result of interacting with other female entrepreneurs and the women felt less lonely and isolated as a result.
• For the majority of the women the female only aspect of the programme was very important however interestingly one respondent mentioned that the qualification doesn’t seem as good or as legitimate. However the others stated they better communicated with the group. The female environment worked well. Women are naturally carers and nurturers so they helped each other out.
• Four out of five women had female role models (sister, daughter, programme coordinator, lecturer).
• Three of the five women were risk averse.
• All five of the women had a family member who was or is currently an entrepreneur.
• Two of the five women had children and neither were inclined to encourage entrepreneurship, for example they mentioned they would prefer their children to explore more of a traditional means of income first and possibly gain some life experience and then possibly set up a business.

3.10 Pilot Study

In order to test the use of the questionnaire and repertory grid the researcher opted to conduct a second pilot study with a similar group of respondents to be used in the large study—secondary school students.

A pilot study was conducted with a group of enterprise camp students at Munster Technological University aged fourteen to sixteen in August 2016.

3.10.1 Main Findings from the Pilot Study

• Seven out of eight of the girls had female role models and eight out of nine of the boys had male role models.
• When asked to list some characteristics or traits this role model might display the results were varied.
• The female respondents listed characteristics such as helpful, kind, clever, sweet, approachable, committed, optimistic, faithful, sociable and motivated.
The boys listed words such as inventive, charismatic, tall, formal, successful, well spoken, resourceful, risk taker, intelligent, ruthless, self-made, leader.

The characteristics listed by the girls were very much feminine words and point out the importance of nurturing, bonding and social connection (sociable, kind).

The characteristics of the boy’s role model were polar opposites of the characteristics mentioned by the girls.

Physical characteristics of the role model were important to the boys as well as success and the ability to lead.

These findings provided initial evidence that males and females construct entrepreneurial role models very differently.

3.11 Data Collection Methods

Data collection is a process of collecting information from all the relevant sources to find answers to the research problem in question. The method of collection of data mainly depends upon the nature, purpose and the scope of inquiry on one hand and availability of resources, and the time allowed for the research to take place on the other. Data collection methods can be divided into two categories: secondary and primary methods of data collection. Secondary data is data which has been collected, published and used by others for example books, newspapers, magazines and journals. Primary data is original data collected by the researcher for the first time. Primary data collection methods can be divided into two groups: quantitative and qualitative as discussed in section 3.4. A fundamental distinction exists between both approaches. Once the research design is clearly specified an appropriate research method must be selected for collecting the data. This research adopted two different techniques namely, a semi structured questionnaire and the repertory grid technique.
3.12 Semi Structured Questionnaire

Firstly the researcher decided to use a semi structured questionnaire and so the researcher embarked on designing the questionnaire prior to the pilot study. This is a very important step since the quality of the questionnaire determines the success or failure of a research study (Bagozzi, 1994).

Five steps are considered necessary for the successful design and development of questionnaires:

1. Problem definition
2. Prepare a draft of the questionnaire
3. Perform a critical review
4. Conduct a pre-test and evaluate the results
5. Revise the questionnaire and implement in the main study

As Bagozzi (1994, p.37) stated ‘the best place to begin is with the problem one desires to solve or the theory one wishes to test’. The first step in the process was undertaken in the previous chapter with the conceptual model which specified what information was needed in order to achieve the objectives of the study laid out in Chapter One.

Another important consideration before the development of the questionnaire relates to how the data will be collected. Consequently, the next steps regarding the preparation of the questionnaire and the repertory grid had to build upon and be consistent with those decisions made previously.

Questionnaires are a popular means of collecting data, but are difficult to design and often require many rewrites before an acceptable questionnaire is produced.

A questionnaire is a group or sequence of questions designed to extract information from a respondent when asked by an interviewer (D’Andrade, 2008), or as in the case of this particular research, completed unaided by the respondent (although the researcher was in the classroom in the event of any questions arising). A semi-structured questionnaire is a mix of unstructured and structured questionnaires. The questions and their sequence are determined in advance by the researcher. The primary purpose of a questionnaire is to help extract data from respondents. It serves as a standard guide for the researcher who needs to ask the questions in exactly the same way. Without this standard, questions would be asked at the discretion of the individual.
Questionnaires are also an important part in the data collection methodology. They are the tool used to record the responses of the participants which will be used to facilitate data analysis. Semi-structured questionnaires comprise of a mixture of closed and open ended questions. They are commonly used where there is a need to accommodate a large range of different responses. The use of semi-structured questionnaires enabled the researcher to mix the qualitative and quantitative information which was gathered during the research process. In question one the researcher asked respondents to draw a picture of an entrepreneur. Entrepreneurship education researchers have explored the relevance and value of reflection (Schon, 1983). (Schon, 1987) argued that apart from verbal reflection, visual reflection is also relevant. Visual methodologies are slowly gaining acceptance in business and management research (Ward and Shortt, 2017). Participant produced drawings remain ‘unusual’ in research (Stiles, 2014). From as early as 1935 (MacGregor, Currie, and Wetton, 1998) researchers have engaged children using various forms of drawing technique that have facilitated the exploration of children’s reflections on multiple topics (Backett-Milburn and McKie, 1999; Furth, 1988; Guillemin, 2004; MacGregor et al., 1998; Mair and Kierans, 2007). Participatory drawing is a highly efficient and ethically sound research strategy that is particularly suited for work with young people (Literat, 2013). The researcher also thought this method to be even more relevant to the cohort of respondents who may find it easier to convey meaning more clearly through their drawings. Drawings are also faster for the respondents to complete and easily interpreted by the researcher.

‘The designer designs not only with the mind but with the body and the senses. Working in some visual medium- drawing, the designer sees what is ‘there’. In all this seeing, the designer not only visually registers information but also constructs its meaning- identifies patterns and gives them meanings beyond themselves’. (Schon, 1991, page.7)

Drawing relies primarily on visuals rather than text, it is a highly interpretative research method (Silverman, 2001). Visual data can sometimes harder to interpret.
Questionnaires are designed to collect two different types of information from respondents—information about behaviour, and information about attitudes.

For example behavioural questions are designed to find out what people do. They determine people’s actions in terms of what they have seen, read or heard and generally record facts and not opinions.

Examples of behavioural questions include:

- Have you ever?
- Do you ever?
- Who do you know? For example in this research questionnaire the researcher asked the respondents to draw an entrepreneur and asked them to determine who this picture represents.

Attitudinal questions on the other hand are designed to find out people’s opinions or beliefs on everything from social issues, to values and political beliefs. Researchers often explore attitudes using questions which begin with the word ‘why’. Also useful for researchers are questions and phrases such as: “What is your perception of?” or “How do you rate?” For example who do you look up to in your chosen career?

Scales are commonly used to measure attitudes. Scalar questions use a limited choice of response, chosen to measure an attitude, an intention or some aspect of the respondent’s behaviour. The researcher used validated measures. For this particular research entrepreneurial intentions of respondents were measured using eleven items from the Entrepreneur Self-Test developed by the Rural Entrepreneurship Initiative (Mackley, 2003). The researcher also looked at measuring perceived feasibility of entrepreneurship, or self-efficacy using a five-point Likert-scale (1 = strongly disagree to 5 = strongly agree). Finally the third scale which was used was the six-item self-assessment scale which related to the entrepreneurial self-efficacy measure used by (Wilson, Kickul and Marlino, 2007) and Chen et al. (1998) and DeNoble et al. (1999).

In each sample, the respondents were asked to compare themselves in these skill areas to relevant peers.

This questionnaire also explored the use of three scalar questions in particular verbal rating scales, numerical rating scales and ranking questions as described below:
1. Verbal rating scales- These are the simplest of all scales in which respondents choose a word or phrase on a scale to indicate the level of their feeling. They normally range across four or five possibilities from “very likely” to “not likely at all”.

2. Numerical rating scales- This is a very similar approach to the verbal rating scale except the respondent is asked to give a numerical ‘score’ rather than a semantic response. The scores are often out of a number with 5, 7 and 10 being popular choices (where the large number is best and 1 is worst).

3. Ranking questions- Researchers often need to find out what is the order of importance of various factors from a list. Typically this is achieved by presenting the list and asking which is most important, which is second most important and so on and so forth. For example the researcher used this type of question to determine how the students ranked future career choices from one to fourteen. One being the most desirable career option.

Semi structured questionnaires were completed in the first stage of the data collection process. These questionnaires were then used as stimuli to gather additional qualitative data which was then used in the repertory grids.

3.13 Kelly’s Personal Construct Theory- The Repertory Grid Technique

This research explored the use of George Kelly’s (1955) repertory grid technique (RGT), the methodological tool of Personal Construct Theory (PCT). One of the main aims of PCT was to understand people’s unique views of the world by exploring their thoughts, feelings and beliefs (Cooper, 1998). The repertory grid technique often referred to as "rep grids," have a long history as a research instrument particularly in the areas of psychology and psychotherapy (Kelly, 1955).

Although PCT was initially developed for its application in psychology and psychotherapy, it has since been used as a theoretical framework for eliciting children's views about school (Duckworth and Entwistle, 1974; Solas, 1992; Maxwell, 2006). (Jankowicz, 2004) discusses the vast range of applications of a repertory grid. Applied in areas such as gaining an impression of a person’s likes and dislikes, as well as being used as a tool to identify children’s learning.

A survey of the literature suggested to the researcher that this approach had not previously been used to examine teenager’s perceptions of role models and that this was a novel application of the repertory grid technique.
The use of RGT with children is well established in a clinical setting (Ravenette, 1977; Salmon, 1976; Fransella and Bannister, 1977; Edwards, 1988), but the use of this technique (RGT) in entrepreneurship research has been minimal to date (Klapper 2015).

A particular strength of the repertory grid technique is that it allows the elicitation of perceptions from a respondent without interference by the researcher (Whyte and Bytheway, 1996). The repertory grid technique can be used as a single method in a study or as in the case of this study as a complement method to validate results obtained by other methods of investigation. The repertory grid technique is also popular outside of psychology and is very often used in fields such as marketing. The repertory grid technique was chosen for two main reasons. Firstly the repertory grid technique is an efficient method and it elicits the true range of relevant constructs in a particular context (Dunn, 2001). Secondly the repertory grid does not steer the respondents through questioning (Van der Sluijs et al., 2001).

This study used Repertory Grid Technique (RGT) to elicit the views of secondary school students (aged fourteen to eighteen) on their perceptions of role models to include current role models, bad role models and perfect role models. Distinguishing between these different types of role models was important so before beginning the process the researcher asked the students to think of someone, whom to them was a current role model, a perfect role model or bad role model. Repertory grids were completed in the second stage of the study.

Before beginning the design stage of the repertory grid technique, the researcher needed to consider the overall purpose of the grid, in conjunction with the research design. For example, examining the research question and objectives, determining how large the group of respondents will be.

It is normal to use a relatively small sample with this technique as it is very time consuming (Jankowicz, 2004). It is also important to consider what and how the data will be analysed. The researcher gained experience in this regard during the pilot study stage.

In the main study before each repertory grid interview the researcher ensured the following:

- Availability of a pre-prepared blank grid sheet with the topic in the left-hand corner.
- The researcher explained to each respondent the reason for the interview and ensuring that they understood the procedure. The researcher did this with each class group as a whole before beginning the process.
A pilot study was conducted with a group of enterprise camp students at Munster Technological University aged fourteen to sixteen in August 2016. The Munster Technological University Enterprise Camp is a week-long camp aimed at 14 to 16-year-old students from various schools across Cork City and County who are immersed in entrepreneurship throughout the week.

The reason this particular group of students were chosen for the pilot study was because they were a similar age to the respondents we hoped to recruit for the main study and by using these students it was possible to ensure they understood and had the ability to answer the questions in the questionnaire competently and understand the repertory grid technique. For the pilot study the data gathering procedure consisted of two stages over a two day period. In stage one the students filled out a questionnaire in the classroom to establish both qualitative and quantitative data. In stage two students were interviewed by the researcher individually using the repertory grid technique. Originally the researcher was inclined to interview the students in groups of two as it was thought students would be more relaxed if working together. However, having interviewed one pair of students the researcher decided that as the students were tending to repeat each other’s words and not think for themselves during the process so it was deemed that this would not work.

Another reason interviewing the students individually seemed more appropriate was to match the theoretical framework of personal constructs. It was therefore decided that one student per interview would produce the most accurate data overall. Having completed the pilot study the researcher had a good knowledge on how best to use the questionnaire as well as the repertory grid technique. The questions used in the main study were changed and structured in a more thematic way; for example, questions on role models asked together, questions on entrepreneurship education asked together.

The repertory grid remained the same using the same constructs and layout. When the data was analysed it was clear that the students understood the questions and had the ability to fill out the repertory grids and the questionnaires competently, without any issues.
3.14 Sample Structure and Size

It is not always possible to reach the entire population to be studied and for this reason sampling techniques need to be employed. A representative sample produces results which can then be used to formulate generalisations. A sample is a segment of the population selected for research to represent the population as a whole. Ideally the sample should be enough to allow the researcher to make accurate estimates of the thoughts and opinions of the larger population. When deciding on a sample size, larger size samples give more reliable results than smaller samples.

However sometimes it is not possible to choose large samples so the researcher must use samples that are valid and give the most reliable results whilst using good sampling procedure. A carefully selected sample can provide data representative of the population from which it is taken. Researchers do not normally know the number of people in the research beforehand; the sample may change in size and type whilst the research is taking place. Excessive and inadequate sample sizes can affect both the quality and the accuracy of the research. For this research respondents were chosen from a number of sources:

(1) One hundred and twenty five secondary school students from five different schools within the South West of Ireland (Munster) aged between fourteen and eighteen. We chose five different types of schools in order to get a good sample of students across the board.

<table>
<thead>
<tr>
<th>School Type</th>
<th>Location</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Mixed schools</td>
<td>3 Urban</td>
<td>59 females</td>
</tr>
<tr>
<td>1 single sex school</td>
<td>2 Rural</td>
<td>66 males</td>
</tr>
</tbody>
</table>

According to (Allen, 2017) there are three decisions to be made in sampling:

1. Sampling unit- who to survey? For example the age range of the students and where they might be located. For the purpose of this research one questionnaire and one repertory grid were designed and administered to all students.
2. Sample size- how many people to survey? For the purpose of this research 125 students were chosen. This particular number of students was chosen as the researcher needed to be realistic about how many students it would be possible to get access to in each school in a given time frame. Thirty students per class is also the average class size in secondary schools. The researcher also attended a research methods clinic with Professor Helle Neergaard where participant numbers were discussed and one hundred and twenty five students was deemed sufficient for the purpose of this PhD study.

3. Sampling procedure- how people are chosen within a sample. The main reason for different sampling procedures is to increase representativeness. It would be impossible to study every individual in a target population. In most cases, the target population, such as, in this case, all secondary school students in Ireland, is simply too large for the researcher to plan a quality research study. For the purpose of this research the researcher chose to use students aged between fourteen and eighteen as these students were the most accessible. Transition year students are also approximately half way through the secondary school cycle. It was decided that first year students were not mature enough and that second and third and fifth and sixth years would be concentrated on upcoming state exams (The Leaving Certificate and The Junior Certificate).

There are two types of sampling; probability sampling and non-probability sampling. The researcher chose non probability sampling for the purpose of this research.

The population that will give the researcher the best information they require; the student in the secondary school was specifically chosen for the sample, as they are considered to be the respondents who possessed both the required and relevant information. They would be able to competently give their opinions and perceptions on the topic.

By definition, population could be all cases of interest and might be any size or might cover almost any geographical area (Richardson, 2005). Researchers can specify an even finer distinction of population called the study population (Wolfer, 2007). The population for this study comprised of secondary school students in the Munster area (Southern Ireland) aged fourteen to eighteen. The schools were a mix of rural, urban, single sex and mixed schools, the students were also from different socio economic backgrounds. The reason for this, was that the researcher was conscious of having different types of schools to relay the experiences of different types of students.
If it was the case that all of the students were from urban schools the results may not be as accurate. Initially the researcher had great difficulty getting in touch with schools to actually nail down a suitable time and date to visit the school. After several failed attempts to contact schools the researcher had to eventually rely on personal contacts within the schools. A colleague of the researcher had some contacts in secondary schools and was able to give the researcher the correct main contact in each school. The researcher then contacted each individual school by email and then phone to set up suitable times and dates. The researcher physically visited the respondents in their classrooms at their individual schools throughout the Munster region.

3.14.1 Recruitment of Participants
A representative sample produces results which can then be used to formulate generalisations. However, this can only be achieved by using probability sampling where the likelihood of the sampling unit - in this case an individual - to be included in the sample is known. A representative sample was not chosen as it had not been possible to obtain a large enough random sample due to time and monetary constraints. For these reasons purposive sampling, a form of non-probability sampling, was used. Participants were not selected randomly but judged to be of interest to the researcher, which should not be understood as a limitation since the questionnaire and repertory grid was designed as an explorative study.

In addition, this approach tied in with the sampling procedures common in studies using grounded theory methodology.

The sample size of 125 respondents was deemed to provide an overview of participants’ opinions at the time of data collection.

3.15 Ethical Considerations
Ethical guidelines and data protection procedures were strictly adhered to in order to maintain anonymity and to ensure that participants could not be identified in the PhD thesis or published literature. All data was treated confidentially, which was explained to the respondents, their teachers and parents together with the aims of the study.

Also, children or parents were able to withdraw their permission at any time during the study by indicating this decision to the researcher. There were no known or anticipated risks to participation in this study and the study had been reviewed and approved by the Research Ethics Committee at Munster Technological University.
As the research involved human subjects, the following ethical considerations were relevant:

1. To ensure fair treatment and due process informed consent was obtained from each school who agreed to take part in the study. This included an outline of expectations, roles and responsibilities and was signed by the school principal and researcher.

2. Sufficient information on the study was provided to potential participants and parents/guardians in advance to allow for informed valid consent. Information sheets were provided with details of the research procedures to parents/guardians.

3. Written informed consent (see appendix C) was obtained for participants and parents/guardians who agree to take part in the study. In addition participants were debriefed explaining the study and evaluation procedure to ensure they were fully informed and also to help them understand they have a choice in participating or not.

4. Participation was voluntary allowing children or parents/guardians to withdraw consent and discontinue participation at any time without reason.

5. All data was recorded and coded so that no other participants could be identified by anyone apart from the research team and confidentiality is ensured.

6. Data protection procedures were strictly adhered to in order to maintain anonymity and to ensure that participants cannot be identified in the PhD thesis or published literature.

7. If requested, the school will be informed as to the results and the outcomes of the study when the thesis is complete.

8. Participants were under 18 years of age. Class teachers were requested to be present at all times during programme delivery and evaluation. The researcher had been Garda Vetted. Please find documentation in appendix.

9. Children with learning or communication difficulties who attend mainstream schools participating in the study will be included in the intervention and evaluation. The researcher ensured the safety of each participant and in consultation with the class teacher determined if evaluation is appropriate in the case of children with learning or communication difficulties.
Please see Appendix C for the informed consent and parental consent documents used for this study. Initially, the purpose of the study was explained to the participants verbally. The participants were then given the subject information sheet, (see Appendix B), which also explained the purpose of the study. Confidentiality and anonymity were assured and they were informed that they were not obliged to participate and that they could withdraw from the study at any time without any negative consequences. They were then asked to sign the consent form (see Appendix B), after they had understood what had been explained to them.

The participants kept the information sheets and brought back the consent forms. Included in that information sheet were researcher’s contact details and those of the researcher’s supervisor and college contact details should they need further information. Participants were informed that the findings of the study would be kept in the library and that in the event of publication, no names will be used.

As the research involved human subjects, the following ethical considerations were relevant:

1. Selecting informants for the research – Key informants for this research were Schools and Colleges as well as academics, teachers and students.

2. Gaining access to /contact/approach potential informants- Telephone and email contact was made to a sample of these possible participants to inform them of the purpose of the study and to obtain their consent to participate. Contact was also made with the relevant school authorities in relation to parental consent where necessary. Researchers in CIT from Project Spraoi (a primary school health promotion intervention) were also contacted. These researchers had previous experience of gaining access to minors in the schools system in Ireland.

3. Anonymity and confidentiality – This research study did not require respondents to provide personal information. The cover letter/email inviting respondents to take part stated that the information provided would be dealt with in strictest confidence and would be used for academic purposes only.

4. Arrangements to ensure that informants knew the purpose of the research - Informants were informed of the overall purpose of the research during the initial telephone and email contact.

5. Ensure that informants are aware of their right to refuse to participate or withdraw at any time. Both the telephone contact and consent forms informed the parents that participation in the research study is voluntary. An opt-out facility was in place at each stage of the research.
3.16 Analysis and Interpretation of Data

In this study the researcher carried out a mixed methods design. Semi structured questionnaires were conducted, which consisted of quantitative closed-ended questions as well as qualitative open ended questions (to elicit qualitative and quantitative data, respectively) as well as the use of repertory grids. A convenience cohort sample of 125 students who were currently in second level school in the Munster region was gathered. The qualitative component of the study consisted of open-ended questions that asked students about their perceptions of entrepreneurs to include drawing an entrepreneur, listing characteristics of that person and also to identify their role models. These questions were intended to provide the researcher with a broader understanding of student’s entrepreneurial perceptions and current role models.

The quantitative component was intended to determine entrepreneurial career intentions and levels of self-efficacy amongst the students.

The researcher performed both quantitative and qualitative analysis of the data. In analysing the quantitative data from the sample, the researcher statistically considered all those factors that might legitimately account for differences such as gender, location (rural vs urban) and social economic background. The analysis of the quantitative data revealed the presence of three statistical significant differences in both gender and location (rural vs urban). Quantitative findings showed the extent of the gaps while providing numerical understanding of the disparity but did not provide an understanding of the specific reasons that might have contributed to these findings. It is the grounded theory analysis of the respondents’ drawings and open ended answers that provided the subjugated knowledge of the inner perceptions and thoughts.

Mixed methods data analysis involved analysing the data from both the qualitative and quantitative approaches used in the study. The analysis of mixed methods data can be neatly presented in tables and figures, as quantitative results are presented and the qualitative data will be expressed in words.

The completion of 125 semi-structured questionnaires and 125 repertory grids generated a large amount of both qualitative and quantitative data for the researcher to analyse. In order to answer the research question, this data needed to be translated into meaningful information which can be understood (Gibbs, 2007).
The researcher began by analysing the qualitative data. The analysis of qualitative data is a creative process, there are no formulas as would be the case with quantitative data analysis. In approaching qualitative data analysis there are many techniques described by qualitative research literature, however it is important to note that there is no universally correct approach (Hesse-Biber and Leavy, 2006). The approach to analyse qualitative data should reflect the actual experiences of the respondents. In a grounded theory study coding is an important step in the data analysis stage as it allows the researcher to translate the different themes which emerge.

Glaser and Strauss (1967) suggest researchers use coding for analysing data which allows the researcher to understand how the researcher obtained the theory from the data. This helps the credibility of the grounded theory approach. Kothari (2004) states that coding is the process of assigning numbers to different responses so that the data can be categorised into themes.

Coding is also an efficient way of whittling down large volumes of data which would be very difficult if coding was not used. Coding also provides the researcher with a tool for linking categories to allow the various themes to emerge (Glaser and Strauss, 1967). By using this coding process, the researcher was then able to develop a number of categories or themes. Whilst doing this the researcher was also able to compare and contrast the emerging categories to see if there were any similarities or differences for that matter. In grounded theory methodology this is referred to as constant comparison.

The first task was to become familiar with the data through reading the respondents answers to the questionnaires and repertory grids individually. After analysing the data for some time, the researcher was then able to loosely identify the emerging themes and the potential findings of the study began to come together. Codes, categories and concepts are the main building blocks of grounded theory which explain what is going on in a given situation or phenomena.

There were many themes at the beginning however as the data volume was so large the researcher then decided to use MS Excel and exported the data to SPSS to determine more grounded linkages and evident themes.

This is known as axial coding where these new emerging themes were then put into major categories. During the early stages the researcher also found it useful to use the terms mentioned in the various questions to break up the data. At this point the researcher was then able to identify ideas which had already been mentioned during the literature review process.
The emerging ideas were laid out on an excel sheet with various columns representing each theme and question. Throughout this process the researcher also discarded several categories and themes as they did not add any value or relevance to the overall research. The researcher followed Glasers (1978) principles in relation to evaluating individual categories which allowed the researcher to decide if categories were important enough to contribute to the emerging theory whilst like Glaser ensuring that categories and theories emerge from data rather than making the data which was emerging fit with existing categories.

3.17 Analysis of the Repertory Grid
This research followed the five stage process for working with repertory grids as recommended by (Beail, 1985). The five stage process as recommended by Beail comprises:

• Eliciting elements
• Eliciting constructs
• Completing the grid
• Analysis
• Interpretation

The elements that were integrated in the matrix were the three types of role models the researcher was interested in- current role model, perfect role model and bad role model. See table 3.5. During the questionnaire phase at the pilot study stage the students were asked about characteristics and traits of role models.

In question 8 the students were asked- “What traits of this particular role model appeal to you?” Using the answers supplied by the students the researcher used these words to form the preferred pole constructs of the repertory grid for this study (see table 3.5).
Table 3.5 An example of a blank Repertory Grid

<table>
<thead>
<tr>
<th>Preferred Pole</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Opposite Pole</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hard working</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doesn’t give up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kind</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Original</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clever</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passionate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambitious</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Successful</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generous</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk taker</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

During the repertory grid stage of the main study each student was then asked to identify the opposites of these words and these words were used to form the opposite pole. All of the preferred poles ran down the left-hand side and opposite poles down the right-hand side (See Table 3.6).

**Rating Scale**

A rating scale was then used to allow some variation in the extent to which the students perceived each element on the spectrum between the poles. An odd number of positions was chosen to allow for neutral responses (Jankowicz, 2004). Three-point rating scales were considered but discounted due to limited variability (Metzler, Gorden and Neimeyer, 2002); a seven-point rating scale was also considered but again discounted as this offered too much variability. A five-point rating scale was seen to be best suited so as to avoid the students getting confused and was deemed the best fit for the purpose of this research.
The number one position was deemed the preferred pole and the number five the opposite pole (1 = extremely and 5 = not at all).

**Rating Elements**

Students were shown a blank rating scale from one to five and asked to position all of the elements on each construct in turn, this is known as the ‘direction of rating’ (Fransella, Bell and Bannister, 2004). Rating all elements on each construct in turn produces greater cognitive complexity (capacity to differentiate the social behaviour of others) (Bieri, 1955). This was of particular interest in this study as key to establishing the student’s perceptions of characteristics of current role models.

Table 3.6 Completed repertory grid showing four constructs

<table>
<thead>
<tr>
<th>Preferred Pole</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your current role model</td>
<td>Hard working</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Your perfect role model</td>
<td>Confident</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>A bad role model</td>
<td>Doesn’t give up</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Opposite Pole</td>
<td>Kind</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Not hard working</td>
<td>Not confident</td>
<td>Gives up</td>
<td>Unkind</td>
</tr>
</tbody>
</table>

The grid represents a table of numbers characterised by columns and rows. The numbers can represent ratings, ranks or scores of relevance (Easterby-Smith, Thorpe and Holman, 1996). There are two main ways that elements of a repertory grid may be determined. The elements chosen will determine the focus of the grid and it is important that this is specific.

Firstly, the elements should all be drawn from the same category or topic (in this case characteristics). It is not possible to mix categories in a set of elements as the constructs that are generated from elements in one category are not likely to be relevant to those in another (Jankowicz, 2004). Secondly, the elements should represent the area to be investigated by the researcher.

Similarly, it is important to include positive and negative dimension (contrasting pairs of constructs and polar opposites). If the same grid is to be completed by a group of people, it is important to ensure that all the respondents are able to relate directly to the elements and constructs specified (Yorke, 1978). The researcher overcame this by deciding on the elements and the constructs of the repertory grid during the pilot study and testing them to ensure the students had full comprehension on what they were being asked to do.

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Also, the repertory grids were given to the respondents after the questionnaire and the researcher was with the students whilst they answered the repertory grid so if they did have questions or queries as to the content the researcher was there to answer them. Unlike a conventional rating-scale questionnaire, it is not the researcher but the respondents who provide the constructs on which a topic is rated (Bieri, 1955). This is a key feature of personal construct theory of George Kelly. The students in the pilot study provided the researcher with the original constructs and these were used for the main study also.

The respondents were asked to fill in the opposite pole of their repertory grid (along the right-hand side as can be seen in Figure 4.16 below).

<table>
<thead>
<tr>
<th>Preferred Pole</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Opposite Pole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your current role model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your perfect role model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A bad role model</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Hard working</td>
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<tr>
<td>Confident</td>
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<tr>
<td>Doesn't give up</td>
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<td>Kind</td>
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<td>Clever</td>
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</tr>
<tr>
<td>Creative</td>
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</tr>
</tbody>
</table>

*Figure 3.3 Elements and Constructs of a Repertory Grid*

This provides the researcher with the opposites of the constructs for example hardworking vs lazy and so on for each of the constructs. Respondents were then asked to rank each construct against each of the elements (current role model, perfect role model and bad role model).

From one to five, where one is -Extremely, followed by- Very, Moderately, Slightly and 5 was- Not at all. This prompted the students to consider the degree of importance of each construct, and subsequently repeating the question with reference to the different elements. This is a strategy taken from Kelly’s (1992) original Repertory grid test. See appendix I for examples of two completed repertory grids by students in this study.
Although repertory grids contain qualitative data they can be analysed statistically and it is possible to identify links between elements within a grid (Aranda and Finch 2003, Bryman and Bell 2007).

The first stage of analysis for the researcher was to gain an overall impression of the data through a descriptive analysis. When the researcher had gathered all the grids from each individual school some general notes were made about observations from that particular session on that day, so the information was fresh in the researchers’ mind. For example, the researcher thought about how the visit to that school went, did the students engage with the research methods being used and did they quickly comprehend what was being asked of them. As the researcher had conducted a pilot study for this very reason there was no issue throughout the research process with the method chosen and the repertory grids were filled out correctly.

The repertory grid used in the pilot study remained the same for the main study using the same constructs and layout. When the data from the pilot study was analysed it was clear that the students understood the questions and had the ability to fill out the repertory grids confidently so there was no need to change it.

The repertory grid technique can be analysed in so many ways and can yield a wealth of information (Marsden, and Littler, 2000). The researcher was most interested in knowing where they placed these characteristics in terms of ranking. The only way to determine this was to analyse the grid using content analysis. When using content analysis one of the main decisions to make is to decide what the unit of analysis is; it is always the construct with the repertory grid technique (Tan and Hunter, 2002). The procedure is then much the same as with any content analysis, to begin with the researcher tabulated each of the constructs using an excel spreadsheet. The researcher wanted to consider the difference between sub-groups, in this case gender, so again the researcher was able to determine from the code used when collecting the data (the moon and stars) which grids belonged to which gender. In order to establish reliability: the researcher asked a colleague to replicate her analysis and see if they came up with the same answers. Another way to do this is to have two researchers working independently however as the researcher was conducting the research alone this was not possible.

From the data analysis in this study a number of main themes emerged and the findings relating to these themes are discussed and analysed in detail in Chapter Four.
3.18 Missing Values

The most common approach to dealing with missing data is to simply delete those cases with the missing data and work with the remaining data. This approach is known as the complete case analysis. Dealing with missing data depends on how much data is missing, the kind of missing data (single items, a full questionnaire), and why it is missing. As this was a mixed methods study the researcher looked at missing values at two points in the research process. As the researcher was working with semi structured questionnaires at the outset the researcher made sure that all questions were clear and applicable to the respondents. The researcher also closely monitored the completeness of the data when the data was obtained. There was data from 130 responses collected and 5 of these responses were deemed unusable due to missing answers of a number of questions. This was deemed to be at random. Random missing values may occur because the subject accidentally did not answer some questions. For example, the subject may be tired and/or not paying attention.

For the quantitative data the default option in SPSS is that cases with missing values are not included in the analyses. Deleting cases or persons results in a smaller sample size and larger standard errors. Therefore the researcher inspected the missing data, before doing further analysis.

3.19 Summary

This chapter set out the research objectives and questions for this study before revealing the philosophical standpoint of the research. For the purpose of this study a grounded theory approach was thought to be most suitable.

The grounded theory framework is best suited to this research question as grounded theory allows the researcher to be involved in the research process in constructing the beliefs and perceptions of the respondents into data that represents something meaningful.

The nature of this study focused on gathering the views and opinions of the respondents in relation to entrepreneurship education and role models and therefore grounded theory allowed the researcher flexibility to explore all the themes as they emerged from the data. The study adopted a realist viewpoint and as a result this determined the ontological and epistemological considerations.
In keeping with the realist view, a mixed methods approach will be adopted which incorporated a semi structured questionnaire and the repertory grid technique. In line with the mixed methods approach both inductive and deductive reasoning will be adopted. Additional key considerations were selecting the respondents. This is important so that the sample is representative of the wider population under investigation. Finally, the data analysis techniques were discussed. Chapter four will outline the findings and results of the data analysis phase of this research.
4 Findings

4.1 Introduction
This chapter discusses the findings of the study. The questionnaire and repertory grid used in this study were carefully analysed to ensure that the data gathered was presented clearly. The following section reflects on the main findings of the research in terms of the profile of the respondents, data analysis (both from the interviews and the repertory grids) and the various themes explored by the researcher.

4.2 Main Study
The respondents came from various schools (five in total) of differing sizes and from a range of geographical locations (single sex, mixed, both rural and urban, in the Munster area, in the southern part of Ireland) as seen in Table 4.1. Furthermore, the students represented a broad spectrum of the student body which is as representative a sample as possible of secondary school students. Using student samples is a legitimate approach in entrepreneurship research (Bello, Leung, Radebaugh, et al., 2009). This is anchored on the premise that today’s students potentially represent tomorrow’s future entrepreneurs and those who do not have any intention of becoming entrepreneurs (Ozaralli and Rivenburgh, 2016). Many scholars (Krueger and Carsrud, 1993) argue that by studying students, it is possible to examine the related phenomena before it actually happens. Particularly for secondary school students, the impending leaving certificate (end of second level education in Ireland) compels them to consider career options and some may find business start-up and entrepreneurship a realistic option. The findings relate to the research questions and objectives that guided the study as outlined in section 3.2. Data was obtained from self-administered semi-structured questionnaires and George Kelly’s Repertory Grid technique, completed by 130 students in total. Five student responses had to be discounted due to not being legible or not being fully completed making some of the answers invalid. This brought the total number of useable responses to 125.
Table 4.1 Profile of Respondents

<table>
<thead>
<tr>
<th>School Type</th>
<th>Location</th>
<th>Number of Students</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>School A</td>
<td>Urban</td>
<td>13</td>
<td>13 males</td>
</tr>
<tr>
<td>School B</td>
<td>Rural</td>
<td>34</td>
<td>17 males</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17 females</td>
</tr>
<tr>
<td>School C</td>
<td>Urban</td>
<td>21</td>
<td>13 females</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8 males</td>
</tr>
<tr>
<td>School D</td>
<td>Rural</td>
<td>46</td>
<td>22 males</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24 females</td>
</tr>
<tr>
<td>School E</td>
<td>Urban</td>
<td>10</td>
<td>7 males</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 females</td>
</tr>
<tr>
<td>Total</td>
<td>3 urban</td>
<td>125</td>
<td>59 females</td>
</tr>
<tr>
<td></td>
<td>2 rural</td>
<td></td>
<td>66 males</td>
</tr>
</tbody>
</table>

4.3 Data Analysis

Questionnaires were distributed to the students aged between fourteen and eighteen during school time in the classroom. After signing the consent form indicating their willingness to participate in the study, and having received parental consent from their parents to participate, the students completed the questionnaires and repertory grids. The signed consent form was folded and put into a separate folder from the anonymously completed questionnaires to ensure anonymity. In this way no signed consent form could be linked to any specific completed questionnaire or repertory grid. The researcher did distinguish between male and female respondents by placing a small moon in the corner of the male questionnaires and a small star in the corner of the female questionnaires. These symbols were used so students would not necessarily notice that males were being distinguished from females.

The data from the questionnaires was initially statistically analysed using the SPSS program. The data was coded and in this way it was then possible to come up with "themes". For example, the researcher entered the values 1 and 2 to refer to male and female. Similarly, the researcher entered the values 1 and 2 and 3 and 4 to refer to theme 1, theme 2, and theme 3 and so on. It is then possible to examine the relationship between the themes.

The findings are discussed according to the sections of the questionnaire and themes established using SPSS and finally with reference to the components of the repertory grids.
There was a total of 12 questions on the questionnaire. The five sections of the questionnaire are separated as follows and address the following key research objectives:

- Theme 1: Who is an entrepreneur?
- Theme 2: The characteristics of an entrepreneur.
- Theme 3: Perceptions of role models.
- Theme 4: Future Entrepreneurial career intentions.
- Theme 5: Entrepreneurial Self-efficacy.

**Analysis of Theme 1- Who is an Entrepreneur?**

**Objective:** The purpose of this section of the questionnaire was to determine students’ perceptions of entrepreneurship as well as identifying who (in the minds of the students) is an entrepreneur and what are the characteristics of an entrepreneur. According to Gupta et al (2009), the perception of gender-profession associations has a strong influence on entrepreneurial pursuits.

**Method:** The approach to evaluating the data was qualitative. Data was collected in the form of drawings. Respondents were asked to draw a picture of an entrepreneur and describe who this person represents for them.

This data helped the researcher in determining who an entrepreneur may be in the minds of the respondents in terms of gender, age, personality traits and physically what an entrepreneur might look like. What kind of an individual are students thinking about when they visualise the word “entrepreneur”?

**Findings:**

- 91 students drew a male
- 18 students drew a female
- 16 students drew what represented a male and a female

In addition to the drawing, in question two the respondents were asked ‘Who does this picture represent?’ They also had the option to add a name if appropriate.

When these responses were analysed it appeared the findings were very similar (almost exact) to the findings for question one. These results confirmed our findings in question one.
The analysis began with looking at the drawings which provided rich material and a rich interpretation of the question asked. A selection of the drawings from the respondents are presented in appendix H.

The drawings ranged from identifying both genders in the pictures, to identification of assets associated with entrepreneurs (airplanes, cars, currency notes), physical appearance (suits, ties, glasses) to drawings which represented famous entrepreneurs like Michael O’Leary, of Ryanair, Steve Jobs and Bill Gates. The students showed a large variation of visual representations. The typical “entrepreneur” can be described as a male, well dressed most often in a suit, with a briefcase or laptop or other physical assets such as a car, airplane or tall building.

The findings suggest that even though the sample of students was relatively even in terms of gender balance (59 females vs 66 males), 91 students drew a male figure. Only 16 students thought that an entrepreneur could be either a male or a female. Finally only 18 of 125 students drew a female. All 18 of these students that drew a female were female themselves which in itself showed that males did not perceive that an entrepreneur could be a female. There are samples of some of the drawings created by the students. See Figures 4.1 to 4.8. Overall, these results indicate that the student’s perception is that entrepreneurship is a predominantly masculine line of work. There is a need to change these perceptions through enterprise education beginning at primary school level to nurture entrepreneurship amongst young students in Ireland. When studying any topic perceptions of that topic are an important first step in gaining an insight into what a group of students might think about an area. It is only then that it is possible to educate and encourage the students to change these perceptions should any negativity arise.
Analysis of Theme 2- Characteristics of an Entrepreneur

Objective: To explore perceptions of entrepreneurial characteristics.

Method: Respondents were asked to list characteristics of the person they had drawn for question one. Each student listed a number of characteristics. The characteristics were split into columns on an excel spreadsheet according to the answers given by the males and the answers given by the females. As the researcher analysed the words it became clear a lot of them were being repeated. The characteristics were listed in rows and then set up in alphabetical order. That way it was easy to see how many times each characteristic had been mentioned. The number of times a word reoccurred gave it its status (number of mentions) by both males and female. This outlined the importance of each characteristic for each gender. In table 4.4 the numbers positioned next to each characteristic listed represents how many times that characteristic was mentioned by the students.
Findings: The following characteristics were listed:

Table 4.2 Characteristics of Entrepreneurs

<table>
<thead>
<tr>
<th>Male Response</th>
<th>Number of Mentions</th>
<th>Female Response</th>
<th>Number of Mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardworking.</td>
<td>14</td>
<td>Creative</td>
<td>14</td>
</tr>
<tr>
<td>Intelligent.</td>
<td>13</td>
<td>Determined, hardworking.</td>
<td>10</td>
</tr>
<tr>
<td>Determined, Smart.</td>
<td>9</td>
<td>Smart.</td>
<td>9</td>
</tr>
<tr>
<td>Confident, Leadership.</td>
<td>8</td>
<td>Kind.</td>
<td>6</td>
</tr>
<tr>
<td>Risk taker, innovative, creative.</td>
<td>7</td>
<td>Patient, independent.</td>
<td>5</td>
</tr>
<tr>
<td>Motivated.</td>
<td>6</td>
<td>Confident, drive, educated, intelligent, positive.</td>
<td>4</td>
</tr>
<tr>
<td>Rich.</td>
<td>5</td>
<td>Trustworthy, open minded, motivated, helpful, friendly, charismatic, and artistic.</td>
<td>3</td>
</tr>
<tr>
<td>Clever, funny.</td>
<td>4</td>
<td>Ambitious, brave, daring, funny, honest, imaginative, innovative, leader, loving, nice, observant, outgoing, passionate, self-driven, skilled, social able.</td>
<td>2</td>
</tr>
<tr>
<td>Dedicated, driven, friendly, independent, leader, people person, serious.</td>
<td>3</td>
<td>Always at work, caring, charitable, clever, committed, communicator, curious, doesn’t tear people down, eager, fit, good business woman, good cook, decision maker, good worker, mind-set, motherly, organised, problem solver, professional, reaches their goals, ready for work, realistic, respectful, self-centred, self-less, self-motivated, talented, team player, teambuilding.</td>
<td>1</td>
</tr>
<tr>
<td>Charismatic, keen, opportunist, realistic, responsible, ruthless.</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

118
It is well documented in the literature that certain characteristics are more attributed to men than to women and vice versa (Walker, Bialik, Van Kessel, 2018). In tables 4.2 and 4.3 it can be seen the words mentioned by both genders are very different. Characteristics like creative, smart, kind and patient are polar opposites of the types of characteristics mentioned by the boys-intelligent, smart, risk-taker, confident and so on. This shows the importance of nurturing, bonding and social connection characteristics for females. It is also important to note the common characteristics as seen in Figure 4.3.

Table 4.3 Characteristics as mentioned by students

<table>
<thead>
<tr>
<th>Males</th>
<th>Females</th>
<th>Common</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Social able</td>
<td>Hardworking</td>
</tr>
<tr>
<td>Risk-taker</td>
<td>Kind</td>
<td>Intelligent</td>
</tr>
<tr>
<td>Rich</td>
<td>Patient</td>
<td>Determined</td>
</tr>
<tr>
<td>Clever</td>
<td>Educated</td>
<td>Smart</td>
</tr>
<tr>
<td>Dedicated</td>
<td>Positive</td>
<td>Confident</td>
</tr>
<tr>
<td>People person</td>
<td>Trustworthy</td>
<td>Innovative</td>
</tr>
<tr>
<td>Serious</td>
<td>Open minded</td>
<td>Creative</td>
</tr>
<tr>
<td>Keen</td>
<td>Helpful</td>
<td>Motivated</td>
</tr>
<tr>
<td>Opportunist</td>
<td>Artistic</td>
<td>Funny</td>
</tr>
<tr>
<td>Realistic</td>
<td>Ambitious</td>
<td>Driven</td>
</tr>
<tr>
<td>Responsible</td>
<td>Brave</td>
<td>Independent</td>
</tr>
<tr>
<td>Ruthless</td>
<td>Daring</td>
<td>Charismatic</td>
</tr>
<tr>
<td>Honest</td>
<td></td>
<td>Friendly</td>
</tr>
<tr>
<td>Imaginative</td>
<td></td>
<td>Leader</td>
</tr>
<tr>
<td>Loving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outgoing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passionate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skilled</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Analysis of Theme 3- Perceptions of Role Models

Objective: Positive or successful role models reinforce role model identification and generate favourable attitudes thus enhancing self-efficacy and entrepreneurial intention. The researcher wanted to gain an insight into the role models of students in Ireland.

Method: Students were asked a series of questions relating to role models. The respondents were asked:

- If the person they illustrated in question one could be a role model for them.
- To state who their role models were and why.
- What they have done to be considered a role model.

There were a total of 196 role models mentioned between both genders.

Findings: 110 of the students answered yes that this person could be a role model for them. 12 answered no and 3 answered that they did not know. The respondents were then asked who their role models were. The female respondents chose role models whom they knew personally. Parents, grandfather, teacher, brother all came within the top five choices. Boys were more likely to choose male celebrity role models as a first choice. Parents and teacher also featured for the boys but not as a first choice. In table 4.4 the numbers positioned next to each role model listed represents how many times that role model was mentioned by the students. The results in order of number of mentions were as follows:
Table 4.4 Role Models

<table>
<thead>
<tr>
<th>Role Models Chosen by Female Students</th>
<th>Number of Mentions</th>
<th>Role Models Chosen by Male Students</th>
<th>Number of Mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>8</td>
<td>Conor McGregor</td>
<td>7</td>
</tr>
<tr>
<td>Father</td>
<td>7</td>
<td>Father</td>
<td>4</td>
</tr>
<tr>
<td>Grandfather</td>
<td>4</td>
<td>Branson</td>
<td>3</td>
</tr>
<tr>
<td>Teacher</td>
<td></td>
<td>Mother</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Neymar</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ronaldo</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teacher</td>
<td></td>
</tr>
<tr>
<td>Brother</td>
<td>3</td>
<td>Tyson Fury</td>
<td>2</td>
</tr>
<tr>
<td>Grandparents</td>
<td></td>
<td>Steve Jobs</td>
<td></td>
</tr>
<tr>
<td>Nelson Mandela</td>
<td></td>
<td>Parents</td>
<td></td>
</tr>
<tr>
<td>Sister</td>
<td></td>
<td>Zuckerberg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grandmother</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Austin Gleeson</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anthony Joshua</td>
<td></td>
</tr>
<tr>
<td>Anna Geary</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cousin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emma Watson</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grandmother</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Katie Taylor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rory McIlroy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obama</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steve Jobs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walt Disney</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Finally the respondents were asked what this person had done to be considered a role model. When the data was analysed the responses were categorised into three categories. It was very clear from the data received that three main categories were very evident as to what this person had done to be considered a role model. The responses were based around the role models career, if they had personally helped the respondent or a personality trait the role model possessed. The responses are outlined in table 4.5.
<table>
<thead>
<tr>
<th><strong>Career</strong></th>
<th><strong>Personally helped</strong></th>
<th><strong>Personality Trait</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The best at what they do</td>
<td>Taught me right from wrong</td>
<td>Has respect for others</td>
</tr>
<tr>
<td>Created Microsoft</td>
<td>Helping others</td>
<td>Promoted Feminism</td>
</tr>
<tr>
<td>Succeeded</td>
<td>Always there for me</td>
<td>Hard working</td>
</tr>
<tr>
<td>Made history</td>
<td>Often helped me</td>
<td>Supports equality</td>
</tr>
<tr>
<td>Changed UFC</td>
<td>Gets the best out of me</td>
<td>Humble with money</td>
</tr>
<tr>
<td>Started with nothing</td>
<td>Someone I look up to</td>
<td>Charitable</td>
</tr>
<tr>
<td>Made lots of money</td>
<td>Always helped me</td>
<td>Being a good person</td>
</tr>
<tr>
<td>Won the gold cup</td>
<td>Played soccer with me</td>
<td>Teaches people</td>
</tr>
<tr>
<td>Used their talent</td>
<td>Helped me to achieve my goals</td>
<td>Helps community</td>
</tr>
<tr>
<td>Created awareness of mental illness</td>
<td>Gives good advice</td>
<td>Helps others</td>
</tr>
<tr>
<td>Unemployed</td>
<td>Helped me with hurling</td>
<td>Pursued their dreams</td>
</tr>
<tr>
<td>Fought for what they believed in</td>
<td>As a teacher he care about me</td>
<td>Worked hard</td>
</tr>
<tr>
<td>Into business</td>
<td>Inspired me</td>
<td>Always gets back on their feet</td>
</tr>
<tr>
<td>Has a great media career</td>
<td>Cares for his family</td>
<td>Inspirational</td>
</tr>
<tr>
<td>Went to college</td>
<td>Encouraged and supported me</td>
<td>Treats people well</td>
</tr>
<tr>
<td>Built their own business</td>
<td>They reared me well</td>
<td>Sets a good example</td>
</tr>
<tr>
<td>Followed their dreams</td>
<td>Fought for stereotypes</td>
<td>Strong, independent</td>
</tr>
<tr>
<td>Went through hard times</td>
<td>Single mother</td>
<td></td>
</tr>
<tr>
<td>In the army</td>
<td>Fought for what he believed in</td>
<td>Independent, strong, have initiative</td>
</tr>
<tr>
<td>Published books</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieved their dreams</td>
<td>Easy Going</td>
<td></td>
</tr>
<tr>
<td>Started their own business</td>
<td>Good at problem solving</td>
<td></td>
</tr>
<tr>
<td>Stood true to his fans</td>
<td>Had dyslexia</td>
<td></td>
</tr>
<tr>
<td>Won at least one all star</td>
<td>Determined</td>
<td></td>
</tr>
<tr>
<td>Defied the odds</td>
<td>Kind</td>
<td></td>
</tr>
<tr>
<td>Great player</td>
<td>Strong willed</td>
<td></td>
</tr>
<tr>
<td>Created things before anyone else</td>
<td>Strong shoulders</td>
<td></td>
</tr>
<tr>
<td>Really good at their job</td>
<td>Puts effort into everything</td>
<td></td>
</tr>
<tr>
<td>Started off with a small idea</td>
<td>Took chances</td>
<td></td>
</tr>
<tr>
<td>In xmen movies</td>
<td>Creative</td>
<td></td>
</tr>
<tr>
<td>Serious musician</td>
<td>He is local</td>
<td></td>
</tr>
<tr>
<td>She works hard</td>
<td>Successful</td>
<td></td>
</tr>
<tr>
<td>Created Facebook</td>
<td>Ambitious</td>
<td></td>
</tr>
<tr>
<td>Has an empire worth billions</td>
<td>Doesn’t say negative things</td>
<td></td>
</tr>
<tr>
<td>Dedicated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Courageous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rich</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Analysis of Theme 4- Future Entrepreneurial Career Intentions

Objective: To determine if entrepreneurial career intentions are present.

Method: This section contained two questions:

1. Most desirable career choice
2. Future entrepreneurial intentions

The students were given a list of fourteen different types of careers and asked to number these careers in order of preference, (one being their most desirable career and fourteen being their lease desirable career). Please see appendix F for list of careers provided to the students.

Starting or owning their own business (entrepreneurship) was listed as one of these career choices. The researcher did not want to directly use the word entrepreneur as this had been used in previous questions so it was decided to leave the career choice “open” and use the term “setting up their own business” instead.

Findings: Only 12% of respondents ranked setting up their own business as their number one career choice. All fifteen of these respondents were male. However, 58% of the females ranked setting up a business in their top seven as a potential future career whilst 64% of males ranked setting up a business in their top seven. The reason the top seven careers were chosen was due to the fact that there were fourteen careers in total in the question and seven would be in the top fifty percent.

This showed that not one single female ranked setting up their own business as a number one career choice however over half of the females would consider “setting up their own business in the future” in their top seven. It was also interesting that just a slightly higher proportion of the males considered the same although setting up their own business also appeared as a number one career choice for 15 of the males.

Following on from this the respondents were asked more specifically about entrepreneurial related courses and skills. The basic assumption underlying the entrepreneurial intentions-based model for this study is that the desirability and feasibility to study and become an entrepreneur is an intentional, planned behaviour, the components of the Shapero-Krueger model (2000) as seen in Figure 2.2. Students may be more inclined to take courses and pursue a career in entrepreneurship if they believe that they possess the necessary skills to do so.
Entrepreneurial intentions of respondents were measured using eleven items split into two scales. However these were measured in one single question on the questionnaire (see appendix F). Respondents' desire to take courses in entrepreneurship was measured using items that required them to rate their expectations to take more subjects in entrepreneurship. For example items included “I will take more subjects in entrepreneurship to gain more knowledge and understanding”, “I intend to participate in entrepreneurship competitions in the future”, “I plan to take courses in the future to improve my business management skills”, “I plan to take courses for technical skills in business”, “I will participate in business workshops when the opportunity arises”, “I will take courses that enable me to learn about operating my own business”, “I will look for summer jobs in a business to learn more”.

The second part of the scale looked at measuring perceived feasibility of entrepreneurship, or self-efficacy, defined as one's perceived ability to perform some target behaviour. It reflects the perception of a person's capacity to perform a particular set of tasks. Respondents rated their entrepreneurial capabilities using multiple items such as “I intend to operate my own business in the future “I would rather own my own business than go into another career”, “I plan to run my own business to have a greater flexibility in my own life”, I would run my own business to continue a family tradition”. Five-point Likert-type items (1 = strongly disagree to 5 = strongly agree) adapted from the Entrepreneur Self-Test developed by the Rural Entrepreneurship Initiative (Mackley, 2003) were identified to measure all eleven items.

In order to test the internal consistency and reliability, the researcher ran the Cronbach's alpha test using the reliability command in SPSS. This is computed by correlating the score for each scale item with the total score for each individual respondent, and then comparing that to the variance for all individual item scores. The alpha coefficient for both scales is .86 and .83 respectively, suggesting that the items have relatively high internal consistency. A reliability coefficient of .70 or higher is considered to be acceptable (Cortina, 1993).

Below this value the internal consistency is thought to be low. However, the maximum value is 0.90; above this value is perceived to be duplication.

There was a large amount of data generated through this question. This challenge was eliminated through analysing the data using SPSS. This was proposed to improve the validity and to obtain a more complete picture of the phenomenon under study (Webb et al., 1966).
The first step was to import the data from Excel to SPSS. Once the data is in SPSS, the variables must be labelled and the levels of the variables assigned (e.g., male=1, female=2, urban=1, rural=2 and so on). The researcher was interested in a statistically significant result. A statistically significant result is a result that is basically not attributed to chance. The Mann-Whitney U test was used for this particular research question. The Mann-Whitney U test is used to compare differences between two independent groups (in this research the two groups are male and female) when the dependent variable is either ordinal or continuous, but not normally distributed. When the researcher chose to analyse the data using a Mann-Whitney U test, part of the process involved checking to make sure that the data can actually be analysed using a Mann-Whitney U test. This step must be completed because it is only appropriate to use a Mann-Whitney U test if your data meets the four assumptions that are required to give a valid result- which the data for this research question did. The four assumptions are as follows:

1. Ordinal variables should include Likert items for example the 5-point scale used in this question.
2. The independent variable should consist of two categorical, independent groups. For example, male or female, rural or urban.
3. There should be no relationship between the observations in each group or between the groups themselves. For example, 125 individual students. There must also be different participants in each group with no participant being in more than one group.
4. A Mann-Whitney U test can be used when the two variables are not normally distributed. It is possible to check the assumption using SPSS to carry out a Mann-Whitney U test to compare the medians of the dependent variable.

Once the Mann-Whitney U test is run on the data if the p-value is less than 0.05, it can be concluded that there is a statistically significant difference.

The researcher was interested in three key variables- gender (males vs females), rural vs urban and the social economic background of the students. The researcher wanted to determine if there was a difference between these groups and their entrepreneurial intentions. Previous research has looked at differences in gender (e.g., Wilson et al., 2004, 2007; Zhao et al., 2005; Gupta et al., 2008) however rural vs urban and social economic background remains under investigated.

Firstly, the researcher ran the test on gender (male vs females). A statistically significant difference existed for two of the eleven items used to identify entrepreneurial intentions.
A Mann-Whitney test indicated that “I plan to take more courses in the future to improve my business management skills” was greater for male entrepreneurial intention (Mdn = 4) than for female entrepreneurial intention (Mdn = 3), U = 1363, p = .004. A Mann-Whitney test indicated that “I plan to take courses for technical skills in business” was greater for male entrepreneurial intention (Mdn = 3) than for female entrepreneurial intention (Mdn = 3), U = 1314, p = .002. Entrepreneurial intention for these two items was higher for the males than the females. The results can be seen in the tables and graphs below.

Table 4.6 SPSS Test Statistics for Gender (Male vs Females)

<table>
<thead>
<tr>
<th>Test Statistics</th>
<th>(U)</th>
<th>(V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3861.590</td>
<td>1041.100</td>
</tr>
<tr>
<td>Female</td>
<td>4064.590</td>
<td>3446.590</td>
</tr>
<tr>
<td>(Z)</td>
<td>-2.332</td>
<td>-6.055</td>
</tr>
</tbody>
</table>

A dichotomous variable (Gender) was included as a covariate variable.

Table 4.7 SPSS Case Summaries for Gender (Male vs Female)

<table>
<thead>
<tr>
<th>Gender</th>
<th>(N)</th>
<th>(%)</th>
<th>(Mean)</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>65</td>
<td>66</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Female</td>
<td>65</td>
<td>65</td>
<td>64</td>
<td>64</td>
</tr>
</tbody>
</table>

Case summaries for gender (Male vs Female).
I plan to take more courses in the future to improve my business management skills

Figure 4.1 I intend to take courses in the future to improve my business skills.

I plan to take courses for technical skills in business

Figure 4.2 I plan to take courses for technical skills in business.
Secondly the researcher ran the test on rural vs urban schools. A significant statistical result appeared for three of the eleven items “I plan to take more courses in the future to improve my business management skills”, “I would like to run my own business in the future” and “I would prefer to own my own business than work for someone else”. A Mann-Whitney test indicated that “I plan to take more courses in the future to improve my business management skills” was greater for urban schools (Mdn = 4) than for rural schools (Mdn = 3), U = 1172, p = .002. A Mann-Whitney test indicated that “I would like to run my own business in the future” was greater for urban schools (Mdn = 3) than for rural schools (Mdn = 3), U = 1335, p = .044. A Mann-Whitney test indicated that “I would prefer to own my own business than work for someone else” was greater for urban schools (Mdn = 4) than for rural schools (Mdn = 3), U = 1150, p = .001. For all three items it showed that students from urban areas had higher entrepreneurial intentions.

Table 4.8 SPSS Test Statistics for Rural vs Urban Schools

<table>
<thead>
<tr>
<th></th>
<th>I will take more ent subjects</th>
<th>I intend to participate in ent compt</th>
<th>Improve business mgmt</th>
<th>Tech skills in bus</th>
<th>Operate a bus</th>
<th>Improve bus in buss</th>
<th>Operate act in future</th>
<th>Rather own bus</th>
<th>Run my bus</th>
<th>Run a family bus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mann-Whitney U</td>
<td>1637.000</td>
<td>1490.000</td>
<td>1172.000</td>
<td>1507.000</td>
<td>1491.000</td>
<td>1477.500</td>
<td>1657.000</td>
<td>1334.500</td>
<td>1149.500</td>
<td>1450.500</td>
</tr>
<tr>
<td>Wilcoxon W</td>
<td>4958.000</td>
<td>4811.000</td>
<td>4493.000</td>
<td>4528.000</td>
<td>4812.000</td>
<td>4798.500</td>
<td>4978.000</td>
<td>4555.500</td>
<td>4470.500</td>
<td>4771.500</td>
</tr>
<tr>
<td>Z</td>
<td>-0.579</td>
<td>-1.375</td>
<td>-3.096</td>
<td>-1.292</td>
<td>-1.383</td>
<td>-1.460</td>
<td>-0.458</td>
<td>-2.017</td>
<td>-3.227</td>
<td>-1.592</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>0.553</td>
<td>0.168</td>
<td><strong>0.002</strong></td>
<td>0.196</td>
<td>0.167</td>
<td><strong>0.044</strong></td>
<td>0.640</td>
<td><strong>0.001</strong></td>
<td>0.111</td>
<td>0.953</td>
</tr>
</tbody>
</table>
Table 4.9 SPSS Case Summaries for Rural vs Urban Schools

<table>
<thead>
<tr>
<th>rural/urban</th>
<th>I will take more ent subjects</th>
<th>I intend to participate in ent compet</th>
<th>Improve business mgmt</th>
<th>tech skills in bus</th>
<th>bus workshop</th>
<th>learn to operate a bus</th>
<th>summer job in bus</th>
<th>operate bus in future</th>
<th>rather own bus</th>
<th>run my bus</th>
<th>run a family bus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>81</td>
<td>81</td>
<td>81</td>
<td>81</td>
<td>81</td>
<td>81</td>
<td>81</td>
<td>81</td>
<td>81</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>Mean</td>
<td>3.18</td>
<td>2.75</td>
<td>3.22</td>
<td>3.00</td>
<td>3.43</td>
<td>3.57</td>
<td>3.77</td>
<td>3.35</td>
<td>3.22</td>
<td>3.16</td>
<td>2.85</td>
</tr>
<tr>
<td>Median</td>
<td>3.00</td>
<td>3.00</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>3.00</td>
<td>3.00</td>
<td>3.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Std Deviation</td>
<td>0.941</td>
<td>1.031</td>
<td>1.095</td>
<td>0.935</td>
<td>0.974</td>
<td>1.105</td>
<td>1.040</td>
<td>1.174</td>
<td>1.173</td>
<td>1.030</td>
<td>1.236</td>
</tr>
<tr>
<td>Urban</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Mean</td>
<td>3.33</td>
<td>3.02</td>
<td>3.86</td>
<td>3.21</td>
<td>3.65</td>
<td>3.88</td>
<td>3.88</td>
<td>3.79</td>
<td>3.83</td>
<td>3.51</td>
<td>2.84</td>
</tr>
<tr>
<td>Median</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td>3.60</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>3.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Std Deviation</td>
<td>0.919</td>
<td>1.058</td>
<td>0.941</td>
<td>0.914</td>
<td>1.089</td>
<td>0.931</td>
<td>0.879</td>
<td>1.094</td>
<td>1.078</td>
<td>1.077</td>
<td>1.153</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
<td>124</td>
<td>124</td>
<td>124</td>
<td>124</td>
<td>124</td>
<td>124</td>
<td>124</td>
<td>124</td>
<td>124</td>
<td>124</td>
</tr>
<tr>
<td>Mean</td>
<td>3.22</td>
<td>2.85</td>
<td>3.44</td>
<td>3.67</td>
<td>3.51</td>
<td>3.68</td>
<td>3.81</td>
<td>3.50</td>
<td>3.47</td>
<td>3.28</td>
<td>2.85</td>
</tr>
<tr>
<td>Median</td>
<td>3.00</td>
<td>3.00</td>
<td>3.50</td>
<td>3.60</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>3.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Std Deviation</td>
<td>0.932</td>
<td>1.044</td>
<td>1.084</td>
<td>0.930</td>
<td>1.016</td>
<td>1.050</td>
<td>0.995</td>
<td>1.162</td>
<td>1.180</td>
<td>1.056</td>
<td>1.203</td>
</tr>
</tbody>
</table>

Figure 4.3 I plan to take more courses in the future to improve my business management skills.
Figure 4.4 I would like to run my own business in the future.

Figure 4.5 I would prefer to own my own business than to work for someone else.
Finally, the researcher examined the relationship (if any) between the social economic status of the students and entrepreneurial intentions. In order to do this it was suggested that the researcher look at Pobal. Pobal works on behalf of the Irish Government to support inclusion and local development. Pobal developed Pobal Maps which is a free Geographical Information System that provides a range of functions, such as area deprivation profiling. This allows users to see where Pobal delivers funding to, as well as providing a way of accessing and using the Pobal HP Deprivation Index. The index provides a method of measuring the relative affluence or disadvantage of a particular geographical area using data compiled from various censuses.

Table 4.10 Labelling of Relative Index Scores, 2006 to 2016

<table>
<thead>
<tr>
<th>Relative Index Score</th>
<th>Standard Deviation</th>
<th>Label</th>
<th>Colour Scheme in Maps</th>
<th>Number of SAs in 2011</th>
<th>Percentage of SAs in 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>over 30</td>
<td>&gt; 3</td>
<td>extremely affluent</td>
<td>dark blue</td>
<td>30</td>
<td>0.2</td>
</tr>
<tr>
<td>20 to 30</td>
<td>2 to 3</td>
<td>very affluent</td>
<td>medium blue</td>
<td>472</td>
<td>2.6</td>
</tr>
<tr>
<td>10 to 20</td>
<td>1 to 2</td>
<td>affluent</td>
<td>medium green</td>
<td>2,411</td>
<td>13.0</td>
</tr>
<tr>
<td>0 to 10</td>
<td>0 to 1</td>
<td>marginally above average</td>
<td>light green</td>
<td>6,234</td>
<td>33.7</td>
</tr>
<tr>
<td>0 to -10</td>
<td>0 to -1</td>
<td>marginally below average</td>
<td>light yellow</td>
<td>6,483</td>
<td>35.1</td>
</tr>
<tr>
<td>-10 to -20</td>
<td>-1 to -2</td>
<td>disadvantaged</td>
<td>medium yellow</td>
<td>2,408</td>
<td>13.0</td>
</tr>
<tr>
<td>-20 to -30</td>
<td>-2 to -3</td>
<td>very disadvantaged</td>
<td>orange</td>
<td>448</td>
<td>2.4</td>
</tr>
<tr>
<td>below -30</td>
<td>&lt; -3</td>
<td>extremely disadvantaged</td>
<td>red</td>
<td>2</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>18,488</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.11 Profile of Respondents

<table>
<thead>
<tr>
<th>School Type</th>
<th>Location</th>
<th>Number of Students</th>
<th>Sex</th>
<th>Social Economic Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>School A</td>
<td>Urban</td>
<td>13</td>
<td>13 males</td>
<td>Very Affluent</td>
</tr>
<tr>
<td>School B</td>
<td>Rural</td>
<td>34</td>
<td>17 males</td>
<td>Marginal above average</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17 females</td>
<td></td>
</tr>
<tr>
<td>School C</td>
<td>Urban</td>
<td>21</td>
<td>13 females</td>
<td>Disadvantaged</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8 males</td>
<td></td>
</tr>
<tr>
<td>School D</td>
<td>Rural</td>
<td>46</td>
<td>22 males</td>
<td>Marginal below average</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24 females</td>
<td></td>
</tr>
<tr>
<td>School E</td>
<td>Urban</td>
<td>10</td>
<td>7 males</td>
<td>Disadvantaged</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 females</td>
<td></td>
</tr>
</tbody>
</table>
The researcher wanted to determine if there was a significant statistical difference between the social economic status of the students and entrepreneurial intentions. Once again the Mann-Whitney U test was run on the data to determine if the p-value is less than 0.05. In this case there was no statistically significant difference between the two groups for their entrepreneurial intentions- tables 4.12 below. The main reason for this is most likely due to the small sample size.

Table 4.12 Test Statistics- Social Economic Status and Entrepreneurial Intentions

<table>
<thead>
<tr>
<th>Test Statistics*</th>
<th>i will take more ent subjects</th>
<th>I intend to participate in ent compt</th>
<th>Improve business mgmt</th>
<th>tech skills in buss</th>
<th>bus workshop</th>
<th>learn to operate a buss</th>
<th>summer job in buss</th>
<th>operate buss in future</th>
<th>rather own buss</th>
<th>run my buss</th>
<th>run a family buss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mann-Whitney U</td>
<td>1320.000</td>
<td>1352.500</td>
<td>1273.500</td>
<td>1363.500</td>
<td>1401.000</td>
<td>1258.000</td>
<td>1333.500</td>
<td>1237.000</td>
<td>1062.500</td>
<td>1315.500</td>
<td>1362.500</td>
</tr>
<tr>
<td>Wilcoxon W</td>
<td>1785.000</td>
<td>1817.500</td>
<td>5738.500</td>
<td>5848.500</td>
<td>5866.000</td>
<td>5723.000</td>
<td>1798.500</td>
<td>5608.000</td>
<td>5527.500</td>
<td>5780.500</td>
<td>5817.500</td>
</tr>
<tr>
<td>Z</td>
<td>-0.553</td>
<td>-0.356</td>
<td>-0.025</td>
<td>-0.152</td>
<td>-0.055</td>
<td>-0.934</td>
<td>-0.470</td>
<td>-0.960</td>
<td>-2.105</td>
<td>-0.575</td>
<td>-0.345</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>0.580</td>
<td>0.727</td>
<td>0.410</td>
<td>0.871</td>
<td>0.956</td>
<td>0.350</td>
<td>0.638</td>
<td>0.337</td>
<td>0.035</td>
<td>0.566</td>
<td>0.730</td>
</tr>
</tbody>
</table>

Table 4.13 Summary of Entrepreneurial Intentions Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Statistically Significant Result Y/N</th>
<th>Test Used</th>
<th>Items</th>
<th>Result</th>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Std.Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Y</td>
<td>Mann-Whitney</td>
<td>I plan to take more courses in the future to improve my business management skills</td>
<td>Greater for male entrepreneurial intention (Mdn = 4) than for female entrepreneurial intention (Mdn = 3), U = 1363, p = .004.</td>
<td>Male</td>
<td>3.69</td>
<td>4.00</td>
<td>1.172</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Female</td>
<td>3.17</td>
<td>3.00</td>
<td>.913</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Male</td>
<td>3.32</td>
<td>3.00</td>
<td>.937</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Female</td>
<td>2.80</td>
<td>3.00</td>
<td>.846</td>
</tr>
<tr>
<td>Rural VS Urban</td>
<td>Y</td>
<td>Mann-Whitney</td>
<td>I plan to take more courses in the future to improve my business management skills</td>
<td>Greater for urban schools (Mdn = 4) than for rural schools (Mdn = 3), U = 1172, p = .002.</td>
<td>Rural</td>
<td>3.22</td>
<td>3.00</td>
<td>1.095</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Urban</td>
<td>3.86</td>
<td>4.00</td>
<td>0.941</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rural</td>
<td>3.16</td>
<td>3.00</td>
<td>1.030</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Urban</td>
<td>3.51</td>
<td>3.00</td>
<td>1.077</td>
</tr>
</tbody>
</table>
I would prefer to own my own business than work for someone else. Greater for urban schools (Mdn = 4) than for rural schools (Mdn = 3), U = 1150, p = .001.

<table>
<thead>
<tr>
<th>Socio Economic Status</th>
<th>N</th>
<th>Mann-Whitney</th>
<th>A significant statistical result did not appear for any of the eleven items</th>
<th>P Value was not less than 0.05</th>
<th>See table 4.12 for results.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Analysis of Theme 5- Entrepreneurial Self Efficacy

**Objective:** To determine levels of entrepreneurial self-efficacy.

**Method:** The six-item measure used in this study was the scale used in (Wilson, Kickul and Marlino, 2007) which related to the entrepreneurial self-efficacy measure used by (Wilson, Kickul and Marlino, 2007) and Chen et al. (1998) and De Noble et al. (1999) which have been compared and validated by Kickul and D'Intino (2004).

Figure 4.14 Entrepreneurial self-efficacy measure used by (Wilson, Kickul and Marlino, 2007) and Chen et al. (1998) and De Noble et al. (1999). The items shown on Figure 4.14 represent competencies related to business and entrepreneurial success, and were developed based on expert interviews with business leaders (Marlino and Wilson, 2003) (See appendix F). The respondents were asked to compare themselves to their classmates. The items included "being able to solve problems," "making decisions," "managing money," "being creative," "getting people to agree with you," and "being a leader." The respondents rated their self-efficacy level on a 5-point Likert scale (1 = much worse; 5 = much better).
Internal reliability for this scale in the study conducted by Wilson, Kickul, and Marlino, 2007 was 0.79. As this was an existing and validated scale the researcher assumed the reliability would be typically better. The researcher ran the Cronbach’s alpha test once again using the reliability command in SPSS. The alpha coefficient for this particular scale was 0.68. As mentioned previously it should ideally be 0.70 or above however there are many reasons why this lower value may have occurred.

For example, for this research the scale is being used in a new context with a new target group whereby age and comprehension of what is being asked may have been an issue as well as responder confusion. This was the final question on the questionnaire. Even though this question did not appear to pose an issue with the students at pilot study stage, the pilot study was a much smaller group of students so it is possible that with a larger group of students an issue did arise which the researcher was not aware of. Finally, when there are a small number of items in the scale (less than 10), Cronbach alpha values can be quite small. The data was entered into SPSS to determine if any statistically significant results were yielded from the data.

Findings: A significant statistical result appeared for the item “Being a leader”. Results revealed a significant difference between gender with males reported as having higher scores on this item (mean = 3.65) than females (mean = 3.12). See tables 5.1 and table 5.2.

<table>
<thead>
<tr>
<th>Table 4.14 SPSS Test Statistics for Male vs Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Statistics^a</td>
</tr>
<tr>
<td>Being able to solve problems</td>
</tr>
<tr>
<td>Mann-Whitney U</td>
</tr>
<tr>
<td>Wilcoxon W</td>
</tr>
<tr>
<td>Z</td>
</tr>
<tr>
<td>Asymp. Sig. (2- tailed)</td>
</tr>
</tbody>
</table>
As can be seen by the above figure and in table 4.9, the males rated themselves much better or a little better at being a leader when compared to the females.

The researcher also looked at the case summary for the entire scale as provided by SPSS. This allowed the researcher to compare the means of the various items of the scale. While not statistically significant, it was found that on average males rated themselves higher in four of the six questions: being able to solve problems, getting people to agree with you, being a leader and making decisions. It is interesting to note that females had higher average responses in two items: managing money and being creative.
Finally, the question based predominantly on career intentions also had a section on self-efficacy. The students were asked about who they might look up to in their chosen career and if being more like this person would increase their level of confidence in themselves (self-efficacy). The researcher was looking to see if being more like this person e.g. role modelling or behaviour modelling of this person would increase confidence/ self-efficacy. Again similarly 98 out of 125 students answered that yes being more like this person would increase their levels of confidence/ self-efficacy. This is an interesting finding and an important finding which has significant implications for entrepreneurial education. It is acknowledged that ESE, plays a role in determining whether individuals pursue entrepreneurial careers (Chen, Greene and Crick, 1998).

### 4.4 Repertory Grid Findings

**Objective:** The central theme of the Personal Construct Theory as discussed in the methodology chapter (Chapter 3) is that people organise their experiences into classifications that can be described using constructs (Kelly, 1955).

**Method:** A full repertory grid contains three components: "elements" (define the topic which the grid will be based on) "constructs" (the ways that the respondent is grouping and differentiating between the elements), and a "linking mechanism" (shows how each element is being assessed on each construct) (Easterby-Smith, 1980).
Often, these constructs manifest themselves as polar opposites on a scale. A repertory grid is a representation of the relationships between elements and constructs (Jankowicz, 2004).

**Findings:** When the respondents were filling out the grids as mentioned earlier, they were asked to rank the constructs from 1 (being extremely) to 5 (not at all). Therefore, the researcher knew the lower the number when the construct was summed, the higher the ranking/importance by the student. In other words, if the student ranked hardworking, confident and doesn’t give up as 1, then this meant their current role model is extremely hardworking, confident and doesn’t give up which would equal to three as opposed to if they gave those characteristics a five which would result in a total of fifteen.
The results are seen below:

<table>
<thead>
<tr>
<th></th>
<th>Males Sum of Constructs</th>
<th>Females</th>
<th>Females Sum of Constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard working</td>
<td>91</td>
<td>Hardworking</td>
<td>87</td>
</tr>
<tr>
<td>Risk Taker</td>
<td>95</td>
<td>Generous</td>
<td>93</td>
</tr>
<tr>
<td>Successful</td>
<td>98</td>
<td>Doesn’t give up</td>
<td>94</td>
</tr>
<tr>
<td>Ambitious</td>
<td>101</td>
<td>Kind</td>
<td>98</td>
</tr>
<tr>
<td>Confident/doesn’t give up</td>
<td>104</td>
<td>Caring</td>
<td>99</td>
</tr>
<tr>
<td>Passionate</td>
<td>106</td>
<td>Successful</td>
<td>100</td>
</tr>
<tr>
<td>Independent</td>
<td>111</td>
<td>Independent</td>
<td>102</td>
</tr>
<tr>
<td>Kind</td>
<td>122</td>
<td>Passionate</td>
<td>108</td>
</tr>
<tr>
<td>Clever/Generous</td>
<td>129</td>
<td>Ambitious</td>
<td>112</td>
</tr>
<tr>
<td>Original</td>
<td>139</td>
<td>Clever</td>
<td>115</td>
</tr>
<tr>
<td>Innovative</td>
<td>140</td>
<td>Innovative</td>
<td>131</td>
</tr>
<tr>
<td>Creative</td>
<td>144</td>
<td>Confident</td>
<td>134</td>
</tr>
<tr>
<td>Caring</td>
<td>147</td>
<td>Original</td>
<td>135</td>
</tr>
</tbody>
</table>

The purpose of the repertory grid was to examine to what degree the students current role model possesses several entrepreneurial characteristics as outlined in the constructs of the repertory grid. This section will compare the similarities and differences between the two genders regarding the fifteen characteristics and how they ranked them.

The researcher was most interested in the current role model. Having analysed the repertory grids the students ranked the characteristics all as 1 for the perfect role model and 5 for the bad role model.
The biggest differences can be seen (see figure 4.11) in the following characteristics between the males and the females—kind, confident, generous, caring, risk-taker. When the researcher was analysing the data it was evident there was a large difference between the sum of a number of the constructs as seen in the characteristics highlighted in yellow in figure 4.11. All of these constructs have a difference of more than 20, which the researcher perceived to be a significant difference.

The results show that when the constructs were summed the females gave **low values** to the characteristics—kind, generous and caring and a high value to confident and risk taker. The males gave low values to confident and risk taker and high values to kind, generous and caring.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Males (Sum of Construct)</th>
<th>Females (Sum of Constructs)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-taker</td>
<td>95</td>
<td>144</td>
<td>-49</td>
</tr>
<tr>
<td>Caring</td>
<td>147</td>
<td>99</td>
<td>-48</td>
</tr>
<tr>
<td>Generous</td>
<td>129</td>
<td>93</td>
<td>-36</td>
</tr>
<tr>
<td>Confident</td>
<td>104</td>
<td>134</td>
<td>-30</td>
</tr>
<tr>
<td>Kind</td>
<td>122</td>
<td>98</td>
<td>-24</td>
</tr>
<tr>
<td>Clever</td>
<td>129</td>
<td>115</td>
<td>-14</td>
</tr>
<tr>
<td>Ambitious</td>
<td>101</td>
<td>112</td>
<td>-11</td>
</tr>
<tr>
<td>Doesn’t give up</td>
<td>104</td>
<td>94</td>
<td>-10</td>
</tr>
<tr>
<td>Independent</td>
<td>111</td>
<td>102</td>
<td>-9</td>
</tr>
<tr>
<td>Innovative</td>
<td>140</td>
<td>131</td>
<td>-9</td>
</tr>
<tr>
<td>Original</td>
<td>139</td>
<td>135</td>
<td>-4</td>
</tr>
<tr>
<td>Creative</td>
<td>144</td>
<td>140</td>
<td>-4</td>
</tr>
<tr>
<td>Hardworking</td>
<td>91</td>
<td>87</td>
<td>-3</td>
</tr>
<tr>
<td>Successful</td>
<td>98</td>
<td>100</td>
<td>-2</td>
</tr>
<tr>
<td>Passionate</td>
<td>106</td>
<td>108</td>
<td>-2</td>
</tr>
</tbody>
</table>

This is again very similar to the results for theme 2 and the characteristics of an entrepreneur where the characteristics differ between the males and the females. Characteristics like creative, smart, kind and patient are polar opposites of the types of characteristics mentioned by the boys-intelligent, smart, risk-taker, confident and so on.
It is also important to note that the characteristic or trait ‘risk-taker’ is highly associated with entrepreneurship according to the literature. According to this research the females don’t associate risk taking with either entrepreneurs or current role models. This is one of the main reasons the researcher used the repertory grid technique as a complement method to the semi structured questionnaire.

4.5 Summary
In summary, the findings of this study illustrate the attitudes and perceptions of students towards entrepreneurship, an insight into how students perceive role models, examined factors affecting entrepreneurial intention and explored gender differences in levels of self-efficacy. A summary of the key findings is outlined below:

- Students believe entrepreneurs are predominantly male. This provides greater insight into gender differences regarding perceptions of the entrepreneurial profile and characteristics. Stereotypes affect future decisions.
- Characteristics of Entrepreneurs: perceptions of the key characteristics of an entrepreneur differ between males and females. Although they had characteristics in common a difference in the characteristics they mentioned was also observed.
- Perceptions of role models- role models for the males were male with the celebrity role models being key. For the females, it is much closer to home (teacher, parents). Teachers and parents also feature for the males but celebrities were given a higher status. This reinforces the value of the positive entrepreneurial role model (parents/teacher) for females.
- Career intentions- 15 of 125 students chose setting up their own business as number one career choice. All 15 of these students were male. 58% of females rated setting up a business in the top 7 career choices. 64% of males rated setting up a business in the top 7 career choices. This shows that the intention is present for both males and females to become entrepreneurs in the future. This contradicts prior theories which indicate that females have a significantly lower level of preference when compared to males for becoming entrepreneurs (Blanchflower, Oswald, and Stutzer, 2001).
- Specifically entrepreneurial intention was higher for the males than the females for items regarding taking courses and improving skills in entrepreneurship.
• Urban students had higher entrepreneurial intentions than rural students for taking courses in business skills, running their own business in the future and preferring to own their own business than to work for someone else.

• No significant statistical result for social economic status of the students.

• Self-efficacy- Females ranked themselves lower in four of the six competencies related to entrepreneurial success, assigning higher value only to creative skills and managing money, compared to the males. The opposite holds for males, who ranked themselves higher in all skills of successful entrepreneurial activity assigning lower value only to creative skills and managing money. A significant statistical result appeared for the item being a leader whereby males rated themselves as having a statistically significant higher score on this item.

• Role models- when the students were asked if becoming more like this person would make you more confident 96 of 125 students stated yes. This shows that role models favourably impact self-efficacy. Successful role models reinforce role model identification and generate favourable attitudes, therefore enhancing self-efficacy.

• Another significant finding to emerge from this study was with regard to creativity. People tend to associate the ability to think creatively with stereotypical masculine qualities (Association for Psychological Science, 2015). However both in theme 2 (Characteristics of Entrepreneurs) and theme 5 (Entrepreneurial Self-Efficacy) creativity appeared to have a higher association with the females. For theme 2 respondents were asked to list the characteristics of the figure they had drawn in question one, creative came out as the most mentioned characteristic by the females. In theme 5 when the researcher was measuring entrepreneurial self-efficacy the females reported as having higher levels of self-efficacy when compared to their classmates for the item ‘being creative’.

• How the students form and perceive their current role models characteristically is different according to gender.

• Factors that male and females students consider to be most important in issues of entrepreneurship education are identified, providing a framework for the effective design, quality and delivery of such programmes.
5 Discussion of Findings

5.1 Introduction

Chapter five provides a discussion of the main findings from the research. The findings will be discussed in terms of themes one to five and the findings of the repertory grid section. The purpose of this study is to explore attitudes and perceptions of an entrepreneur, to gain an insight into the role models of students, to determine if entrepreneurial career intentions and levels of self-efficacy differ amongst the respondents. Furthermore the empirical model is discussed.

This research aims to explore four key areas: (a) attitudes and perceptions, (b) role models (c) entrepreneurial career intentions and (d) entrepreneurial self-efficacy.

5.2 Discussion

This study was informed by an overarching research question and four research objectives, pertaining to perceptions, role models, entrepreneurial career intentions and self-efficacy.

The themes discussed in this thesis are revisited to highlight the main findings and conclusions.
### 5.2.1 Theme 1- Who is an Entrepreneur?

<table>
<thead>
<tr>
<th>Objectives</th>
<th>To determine students’ perceptions of entrepreneurship as well as identifying who is an entrepreneur and what are the characteristics of an entrepreneur.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>Data was collected in the form of drawings. Respondents were asked to draw a picture of an entrepreneur and describe who this person represents for them.</td>
</tr>
<tr>
<td>Findings</td>
<td>91 students drew a male figure. Only 16 students thought that an entrepreneur could possibly be either a male or a female. Only 18 of 125 students drew a female. The drawings ranged from identifying both genders in the pictures, to identification of assets associated with entrepreneurs (airplanes, cars, currency notes), physical appearance (suits, ties, glasses) to drawing pictures depicting famous entrepreneurs like Michael O’Leary, of Ryanair and Steve Jobs.</td>
</tr>
<tr>
<td>Limitations</td>
<td>The drawing method presents specific challenges in terms of both implementation and data interpretation. Because of logistical considerations the researcher concluded that it is unfit for use with large groups of respondents, so samples usually tend to be rather small. Another concern is in regards to the interpretation of the findings.</td>
</tr>
<tr>
<td>Implications</td>
<td>The drawings provide a concrete representation of entrepreneurs in general. The task to draw a picture, even though very simple in its nature shows that students do have stereotypes and perceptions about what they think an entrepreneur is and even physically looks like. This method presented the researcher with a physical representation of an entrepreneur which is invaluable. This finding concludes that negative stereotypes of entrepreneur’s exist and that educational initiatives addressing entrepreneurial perceptions are critical and especially important for females.</td>
</tr>
</tbody>
</table>

When put to the task of drawing an entrepreneur during this research study, seventy two percent of the students drew a male. This means that out of 125 male and female students aged 14-18 living in Ireland seventy two percent think that entrepreneurs are male. The statistics in Ireland are stark when it comes to female entrepreneurship as it is: if you are in a room with 10 entrepreneurs, the likelihood is just two will be female.
According to the literature, only 20.1% of Irish entrepreneurs are female (GEM, 2018) women remain an untapped resource. Is this as a result of female’s perceptions of entrepreneurship being male dominated and females not associating with entrepreneurship as a potential future career? Despite a number of initiatives and programmes across Ireland as outlined in the literature review, Ireland still does not have an active entrepreneurship education strategy and progress is slow. Underlying issues for entrepreneurs in Ireland include the mind-set and skills of the younger generation (European Commission, 2002) as well as the low exposure to entrepreneurship combined with a lack of role models. So how do we overcome this?

The research outcomes will help policy makers in assessing the potential of enterprise education particularly for females. The promotion of entrepreneurship among children at a young age will enable a change in perceptions of entrepreneurship. The challenge now for entrepreneurship educators nationally, from primary to third level, is to convert females’ interest in entrepreneurship into future entrepreneurs. These perceptions that males dominate the entrepreneurial space must be changed and the only way to do this is through education, changing perceptions and this needs to start at a younger age, for example at primary school level. Ireland needs to focus more on entrepreneurship education to help spur on growth in entrepreneurship and job creation (OECD, 2019). Entrepreneurship is viewed as a major driver of innovation, competitiveness and growth (Szirmai et al., 2011). National governments and international organisations such as the OECD, the European Commission and others have increased focus on entrepreneurship education in recent years as outlined in the literature review.
5.2.2 Theme 2- Characteristics of an Entrepreneur

<table>
<thead>
<tr>
<th>Objectives</th>
<th>To uncover knowledge, attitudes and beliefs regarding the characteristics of an entrepreneur.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>Respondents were asked to list characteristics of the person they had drawn for question one.</td>
</tr>
<tr>
<td>Findings</td>
<td>The characteristics mentioned by the boys are more male orientated than female orientated. Characteristics like sociable, kind, patient, loving and nice are polar opposites of the types of characteristics mentioned by the boys-leadership, risk taker, rich and so on. This shows the importance of nurturing, bonding and social connection (sometimes known as maternal characteristics) for females.</td>
</tr>
<tr>
<td>Limitations</td>
<td>Firstly, the sample was limited to secondary school students; it is not possible to generalise the findings to other age groups of learners. Future studies could probe students of different age groups: for example, primary school or college students. Secondly, the time frame of this research was restricted. Future studies could conduct a longitudinal study.</td>
</tr>
<tr>
<td>Implications</td>
<td>This sums up the different thoughts between, males and females with regards to the characteristics of an entrepreneur. This can have implications in how we teach entrepreneurship programmes. This finding concludes that educational initiatives addressing entrepreneurial characteristics are necessary and should form part of all entrepreneurship education programmes.</td>
</tr>
</tbody>
</table>

This research showed that the characteristics which males and females perceive as being necessary or important to being an entrepreneur or that entrepreneurs possess are very different. The outcomes of this question showed very clearly the differences in the characteristics mentioned by both the males and the females. The researcher categorised the characteristics into characteristics mentioned by the males, characteristics as mentioned by the females and characteristics they had in common as discussed in the findings chapter. The researcher took the top seven characteristics listed by both genders in order of number of mentions.
While both genders had characteristics in common there were characteristics that the females rated much higher than the males (e.g. kind, patient, maternal and caring type characteristics) whilst the males rated characteristics such as leadership, risk taker, rich as more important.

According to the prior literature (Sullivan and Meek, 2012, Ahl and Marlow, 2012), entrepreneurship and the traits associated with it are commonly referred to as male characteristics, however it is clear from this research that actually both genders have their own perceptions on characteristics in entrepreneurship as well as a common set of characteristics which appear to be gender neutral. This sums up the different thoughts between, males and females with regards to the characteristics of an entrepreneur. This can have implications in how we “teach” entrepreneurship programmes particularly for females. This shows there are certain characteristics that both genders agree on however both males and females also differ in terms of the characteristics an entrepreneur could or does possess. This gave the researcher a great representation of how males and females perceive entrepreneurs and the characteristics each gender associated with entrepreneurship.
### 5.2.3 Theme 3- Perceptions of Role Models

<table>
<thead>
<tr>
<th>Objectives</th>
<th>To determine <em>Who are the role models for Generation Z?</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>The respondents were asked if the person they illustrated in question one could potentially be a role model for them. The respondents were also asked to state who their current role models were.</td>
</tr>
<tr>
<td>Findings</td>
<td>110 of the students answered yes that this person could be a role model for them. 13 answered no and 3 answered that they did not know. The respondents were then asked who their role models were. The top three role models for boys were: Conor McGregor, Father, Richard Branson. For the girls it was: parent, father, grandfather/teacher. This shows girls relate better to people they know personally.</td>
</tr>
<tr>
<td>Limitations</td>
<td>Questionnaires that contain several open-ended questions can take a long time to complete. It also takes time to analyse responses, which prolongs the research process. In addition to the time it takes to answer numerous open-ended questions, wearing down the respondent with never-ending questions that require thought can be an arduous task.</td>
</tr>
<tr>
<td>Implications</td>
<td>Inspiration stems from real life people the respondents could relate to - a positive entrepreneurial role model. This is particularly important for females.</td>
</tr>
</tbody>
</table>

For the purpose of this study, students were asked a series of questions relating to role models. The respondents were asked if the person they illustrated in question one could be a role model for them.

The respondents were also asked to state who their current role models were. There were a total of 196 role models mentioned between both genders. 110 of the students answered yes that this person could be a role model for them. 13 answered no and 2 stated that they did not know. The respondents were then asked who their role models were.

The female respondents chose role models whom they knew personally and very few celebrity role models got a mention. Parents, grandfather, teacher, brother all came within the top five choices. The researcher thought Nelson Mandela to be a strange choice for such young females. However social cognitive theory does suggest that individuals are more likely to select role models who they perceive as being similar to themselves (Bandura and Walters, 1963).
Boys were more likely to choose male celebrity role models as a first choice. Parents and teachers also featured for the boys but not as a first choice. Conor McGregor has appeared as the boy’s first choice but it would be interesting to see if since this data was collected and the recent negative media coverage on Conor McGregor has this possibly changed? Can the behaviour of role models change how they are perceived?

This shows that there are many celebrity role models available for the boys to look up to in the popular media, however none of the females had a female celebrity in their top five role models. Does this mean they simply do not exist in the minds of the students or do females not relate to celebrity role models? These are questions that emerged from the findings but are outside of the scope of this thesis. They do however present a fruitful area of potential further research. The main issue is that students need to be inspired. Inspiration does not have to come from successful business people’s stories but from real life people they can relate to who show the traits required and have given it a go - a positive entrepreneurial role model. This is particularly important for females.
### 5.2.4 Theme 4- Future Entrepreneurial Career Intentions

<table>
<thead>
<tr>
<th>Objectives</th>
<th>To determine if entrepreneurial career intentions are present.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>This section contained two questions:</td>
</tr>
<tr>
<td></td>
<td>1. Most desirable career choice</td>
</tr>
<tr>
<td></td>
<td>2. Future entrepreneurial intentions</td>
</tr>
<tr>
<td></td>
<td>The students were given a list of fourteen different types of</td>
</tr>
<tr>
<td></td>
<td>careers and asked to number these careers in order of</td>
</tr>
<tr>
<td></td>
<td>preference. Please see appendix F for list of careers</td>
</tr>
<tr>
<td></td>
<td>provided to the students.</td>
</tr>
<tr>
<td>Findings</td>
<td>Only 12% of the respondents ranked setting up their own</td>
</tr>
<tr>
<td></td>
<td>business as their number one career choice which shows that</td>
</tr>
<tr>
<td></td>
<td>as a number one career choice entrepreneurship is ranked quite</td>
</tr>
<tr>
<td></td>
<td>low. All fifteen of these respondents were also male.</td>
</tr>
<tr>
<td></td>
<td>However, 58% of the females ranked setting up a business in</td>
</tr>
<tr>
<td></td>
<td>their top seven as a potential future career whilst 64% of</td>
</tr>
<tr>
<td></td>
<td>males ranked setting up a business in their top seven.</td>
</tr>
<tr>
<td>Limitations</td>
<td>In this study, we have explored entrepreneurial career</td>
</tr>
<tr>
<td></td>
<td>intentions. Many studies revealed that intention is one of</td>
</tr>
<tr>
<td></td>
<td>the best predictors of future behavior (Ajzen, 2011). However,</td>
</tr>
<tr>
<td></td>
<td>there is a gap between intention and actual behavior and also</td>
</tr>
<tr>
<td></td>
<td>perceptions of occupation may differ from what these</td>
</tr>
<tr>
<td></td>
<td>occupations really are (Walls, 2000). Future actual career</td>
</tr>
<tr>
<td></td>
<td>choices of students may differ from what they intended to do</td>
</tr>
<tr>
<td></td>
<td>and a future study might investigate this next step.</td>
</tr>
<tr>
<td>Implications</td>
<td>Previous literature states that entrepreneurial intentions are</td>
</tr>
<tr>
<td></td>
<td>an important indicator of becoming an entrepreneur, and that</td>
</tr>
<tr>
<td></td>
<td>females have a lower level of preference when compared to</td>
</tr>
<tr>
<td></td>
<td>males for becoming entrepreneurs (Blanchflower, Oswald, and</td>
</tr>
<tr>
<td></td>
<td>Stutzer, 2001). However, this research shows that intention</td>
</tr>
<tr>
<td></td>
<td>is present amongst the female respondents and only at a</td>
</tr>
<tr>
<td></td>
<td>slightly lower value than the males, overall.</td>
</tr>
</tbody>
</table>
### 5.3 Synopsis of Theme 4 (part 2) - Future Entrepreneurial Career Intentions

<table>
<thead>
<tr>
<th>Objectives</th>
<th>To determine if desirability and feasibility to study and become an entrepreneur are present amongst the students. The respondents were asked more specifically about entrepreneurial related courses and skills.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>Entrepreneurial intentions of respondents were measured using eleven items split into two scales. Firstly respondents' desire to take courses in entrepreneurship was measured using items that required them to rate their expectations to take more subjects in entrepreneurship. The second scale looked at measuring perceived feasibility of entrepreneurship, or self-efficacy. Five-point Likert-type items (1 = strongly disagree to 5 = strongly agree) were identified to measure all eleven items.</td>
</tr>
<tr>
<td>Findings</td>
<td>A statistically significant difference existed for two of the eleven items used to identify entrepreneurial intentions- “I plan to take more courses in the future to improve my business management skills” and “I plan to take courses for technical skills in business.” Entrepreneurial intention for these two items was higher for the males than the females. A significant statistical result appeared for three of the eleven items “I plan to take more courses in the future to improve my business management skills”, “I would like to run my own business in the future” and “I would prefer to own my own business than work for someone else”. For all three items it showed that students from urban areas had higher entrepreneurial intentions. Finally, the researcher examined the relationship (if any) between the social economic status of the students and entrepreneurial intentions. In this case there was no statistically significant difference between the two groups for their entrepreneurial intentions. The main reason for this is most likely due to the small sample size.</td>
</tr>
<tr>
<td>Limitations</td>
<td>Further validation in more specific and larger samples, perhaps by nationality, age, and location would be beneficial to confirming generalisability.</td>
</tr>
<tr>
<td>Implications</td>
<td>Females need more encouragement to take courses particularly in the area of business skills. Rural areas need to be targeted for entrepreneurship programmes and the promotion of entrepreneurship.</td>
</tr>
</tbody>
</table>
Previous literature states that entrepreneurial intentions are an important indicator of becoming an entrepreneur, and that females have a lower level of preference when compared to males for becoming entrepreneurs (Blanchflower, Oswald, and Stutzer, 2001). For decades scholars have introduced various intention models (Ajzen, 1991; Kolvereid 1996; Krueger 1993; Shapero and Sokol 1982) into the entrepreneurship domain to offer a way to explore the relationships between the environment and the entrepreneur (Krueger, Reilly, and Carsrud, 2000). Intention models have demonstrated reliability in explaining entrepreneurial behavior, and have become widely accepted in entrepreneurial research (Krueger, Reilly, and Carsrud 2000). Intentions are the best predictor of entrepreneurial behavior (Krueger, Reilly, and Carsrud, 2000, Kautonen, van Gelderen, and Fink, 2015).

In this study, we used the Shapero-Krueger model (2000) to determine if there are differences in entrepreneurial career intentions between males and females, urban and rural second level students and also if social economic background has a part to play in entrepreneurial intentions. To date entrepreneurial career choice has received very limited attention in career guidance psychology (Gorgievski and Stephan, 2016).

One of the main reasons for this may be that most people opt to be employed as opposed to self-employed (Biemann, Zacher and Feldman, 2012)

Firstly the students were given a list of fourteen careers and asked to number these careers in order of preference, (one being their most desirable career and fourteen being their least desirable career). Starting their own business (entrepreneurship) was given as one of these career choices. Only 15 out of 125 (12%) respondents ranked setting up their own business as their number one career choice.

All fifteen of these respondents were male. However, 58% of the females ranked setting up a business in their top 7 as a potential future career whilst 64% of males ranked setting up a business in their top 7. This is a difference of 6% between genders. Their entrepreneurial career intentions were not significantly different.

Differences between males and females regarding their entrepreneurial career interests and attitudes have received increasing attention in recent years. Rivera et al. (2007) found that women tend to perceive higher career barriers, and that these perceptions can influence career choices. This is evidenced by research on gender stereotypes that career barriers are usually related to gender-based differences (Cardoso and Marques, 2008).
Gender stereotypes impact individuals’ career choices by affecting their attitudes and perceptions about entrepreneurship, which is traditionally considered as a male profession (Johnson, Stone, and Philips, 2008).

Thus, female students are assumed to have lower entrepreneurial intentions as compared with males. However as the results for this study above show, this is not necessarily the case.

For the second part of the entrepreneurial intentions question entrepreneurial intentions of respondents were measured using eleven items. Respondents' desire to take courses in entrepreneurship was measured using items that required them to rate their expectations to take more subjects in entrepreneurship.

This scale also measured perceived feasibility of entrepreneurship. Firstly, the researcher ran the test on gender (male and females). The results showed that the male students had a significantly higher level of intention for two of the items (“I plan to take more courses in the future to improve my business management skills” and “I plan to take courses for technical skills in business.”). This shows that when future careers are mentioned both males and females rate setting up their own business as a viable career however for taking courses or improving skills the males showed more interest than the females.

The respondents were then asked more specifically about entrepreneurial related courses and skills. The basic assumption here being that the desirability and feasibility to study and become an entrepreneur is an intentional, planned behaviour. Entrepreneurial intentions of respondents were measured using eleven items split into two scales. Secondly the researcher ran the test on rural vs urban schools. A significant statistical result appeared for three of the eleven items “I plan to take more courses in the future to improve my business management skills”, “I would like to run my own business in the future” and “I would prefer to own my own business than work for someone else”. It showed that students from urban areas had higher entrepreneurial intentions. Research confirms that intentions play an important role in the decision to becoming an entrepreneur. But what factors influence intention? Considerable agreement exists about the importance of promoting entrepreneurship in both urban and rural areas. These findings reveal that location (rural vs urban areas) influences entrepreneurial intention. This would indicate that providing entrepreneurship training and skills to local rural communities as well as introducing entrepreneurship initiatives to rural schools should be measures used to improve rural entrepreneurship in the future.
Confirming prior work (Wheeler et al, 2005, Wohlford et al, 2004), the findings also indicate that there is a statistically significant relationship among gender and entrepreneurial intention. This research shows that intention is present amongst the female respondents and only at a slightly lower value than the males. So, if entrepreneurship-oriented intentions are considered precursors of entrepreneurial action (Bird, 2002; Kolvereid and Moen 1996; Krueger and Brazeal, 1994; Krueger, Reilly, and Carsrud, 2000) then why are there so few female entrepreneurs?

Finally, the researcher examined the relationship (if any) between the social economic status of the students and entrepreneurial intentions. In this case there was no statistically significant difference between the two groups for their entrepreneurial intentions. The main reason for this as mentioned in chapter four is most likely due to the small sample size.
5.3.1 Theme 5- Entrepreneurial Self Efficacy

<table>
<thead>
<tr>
<th>Objectives</th>
<th>To determine different levels of entrepreneurial self-efficacy between males and females.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>The six-item measure used in this study was the scale used in (Wilson, Kickul and Marlino, 2007). In each sample, the respondents were asked to compare themselves to their classmates. The items included &quot;being able to solve problems,&quot; &quot;making decisions,&quot; &quot;managing money,&quot; &quot;being creative,&quot; &quot;getting people to agree with you,&quot; and &quot;being a leader.&quot; The respondents rated their self-efficacy level on a 5-point Likert scale.</td>
</tr>
<tr>
<td>Findings</td>
<td>A significant statistical result appeared for the item “Being a leader”. Results revealed a significant difference between gender with males reported as having higher scores on this item (mean = 3.65) than females (mean = 3.12). The males rated themselves much better or a little better at being a leader when compared to the females. Although not indicated as statistically significant it is evident in the case summary that the males reported as having higher scores in the following items: “being able to solve problems, getting people to agree with you, being a leader and making decisions. The females reported as having higher scores in just two items- managing money and being creative.</td>
</tr>
<tr>
<td>Limitations</td>
<td>The limitation of this study is the use of only self-report measures, a second source of data would be useful. Further studies could be done to explore the sources of information that construct students’ entrepreneurial self-efficacy in order to provide a clearer picture.</td>
</tr>
<tr>
<td>Implications</td>
<td>Females don’t consider themselves as leaders. When creating an environment to develop more female leadership, recognising prejudice and bias is imperative to overcoming barriers.</td>
</tr>
</tbody>
</table>

The respondents were asked to compare themselves to their classmates on six items relating to entrepreneurial self-efficacy which included "being able to solve problems," "making decisions," "managing money," "being creative," "getting people to agree with you," and "being a leader." The respondents rated their self-efficacy level on a 5-point Likert scale (1 = much worse; 5 = much better).
The most notable result was that a significant statistical result appeared for the item “Being a leader” with males reporting that they were better or much better at being a leader when compared to their classmates. This result is in line with the traditional gender stereotypes around leadership (Wood and Eagly, 2009).

Prior research has indicated that females lack self-efficacy in general compared to males however this research shows that it is only in certain areas. Although not indicated as statistically significant it is evident in the case summary and data presented that the males reported as having higher scores in all of the following items: “being able to solve problems, getting people to agree with you, being a leader and making decisions”. The females reported as having higher scores in just two items- managing money and being creative. Research shows that females are perceived as less “creative” in many contexts. Research published in Psychological Science journal in 2015 suggest that the work and achievements of men tend to be evaluated as more creative than similar work by women (Proudfoot et al., 2015).

“Our research shows that beliefs about what it takes to ‘think creatively’ overlap substantially with the unique content of male stereotypes, creating systematic bias in the way that men and women’s creativity is evaluated” (Proudfoot, 2015, pg. 23)

Both in theme 2 (Characteristics of Entrepreneurs) and theme 5 (Entrepreneurial Self-Efficacy) of this research study creativity appeared to have a higher association with the females. For theme 2 respondents were asked to list the characteristics of the figure they had drawn in question one, creative came out as the most mentioned characteristic by the females. In theme 5 when the researcher was measuring entrepreneurial self-efficacy the females reported as having higher levels of self-efficacy when compared to their classmates for the item “being creative”. With regards to the finding for the item- managing money, research by McKinsey has found that organisations with more females in leadership performed significantly better financially (41% higher return on equity and 56% better operating results) than those without. Fortune 500 companies that had at least three female board directors for a minimum five years, outperformed those with zero by 84% return on sales, 60% return on invested capital and 46% return on equity. Does gender diversity drive better returns because as is the case in this research study females believe they are better at managing money and so have confidence in themselves in that particular area.
### 5.3.2 Repertory Grid Findings

<table>
<thead>
<tr>
<th>Objectives</th>
<th>The purpose of the repertory grid was to examine how the students construct their current role models and to what degree the student’s current role model possesses certain characteristics.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>Repertory Grid Technique- an interviewing technique which uses nonparametric factor analysis. It was devised by George Kelly in 1955 and is based on his personal construct theory of personality.</td>
</tr>
<tr>
<td>Findings</td>
<td>The researcher was most interested in the current role model as having analysed the repertory grids the students ranked the characteristics all as 1 for the perfect role model and 5 for the bad role model. If not flawless behaviour, what characteristics do their real-life current role models possess? The biggest differences can be seen in the following characteristics between the males and the females- kind, confident, generous, caring, risk-taker.</td>
</tr>
<tr>
<td>Limitations</td>
<td>Due to the way that constructs are elicited, traits of the knowledge domain that are important may be overlooked (Hassenzahl and Wessler 2000). The construct-elicitation process can be long winded and lead to higher participant dropout rates than with other techniques (Brown 1992). The repertory grid process is an exploration of an area as it currently stands so it is not the most effective tool for capturing participants’ future needs or expectations (Verlinden and Coenders 2000). Placing an imaginary “ideal” element is a technique that can reduce this limitation as was done in this research using the ‘perfect role model’.</td>
</tr>
<tr>
<td>Implications</td>
<td>This section will compare the similarities and differences between the two genders regarding the fifteen characteristics and how they ranked them. The biggest differences can be seen in the following characteristics between the males and the females- kind, confident, generous, caring, risk-taker. This shows that the characteristics their current role models possess are very different. This can have implications in the way role models are incorporated into entrepreneurship education and also shows differences in how the genders construct these role models.</td>
</tr>
</tbody>
</table>
The students on the pilot study provided the researcher with the original constructs. Respondents were asked to rank each construct against each of the elements (current role model, perfect role model and bad role model). From one to five—Extremely, Very, Moderately, Slightly, Not at all. This prompted the students to consider the degree of importance of each construct (Gray, 2014). The researcher was most interested in knowing where they placed these characteristics in terms of ranking. When the respondents were filling out the grids they were asked to rank the constructs from 1 (being extremely) to 5 (not at all). Therefore, the researcher knew the lower the number when the construct was summed, the higher the ranking/importance given by the student. See table 5.1.

Table 5.1 Entrepreneurial Characteristics

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Males (Sum of Construct)</th>
<th>Females (Sum of Constructs)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-taker</td>
<td>95</td>
<td>144</td>
<td>-49</td>
</tr>
<tr>
<td>Caring</td>
<td>147</td>
<td>99</td>
<td>-48</td>
</tr>
<tr>
<td>Generous</td>
<td>129</td>
<td>93</td>
<td>-36</td>
</tr>
<tr>
<td>Confident</td>
<td>104</td>
<td>134</td>
<td>-30</td>
</tr>
<tr>
<td>Kind</td>
<td>122</td>
<td>98</td>
<td>-24</td>
</tr>
<tr>
<td>Clever</td>
<td>129</td>
<td>115</td>
<td>-14</td>
</tr>
<tr>
<td>Ambitious</td>
<td>101</td>
<td>112</td>
<td>-11</td>
</tr>
<tr>
<td>Doesn’t give up</td>
<td>104</td>
<td>94</td>
<td>-10</td>
</tr>
<tr>
<td>Independent</td>
<td>111</td>
<td>102</td>
<td>-9</td>
</tr>
<tr>
<td>Innovative</td>
<td>140</td>
<td>131</td>
<td>-9</td>
</tr>
<tr>
<td>Original</td>
<td>139</td>
<td>135</td>
<td>-4</td>
</tr>
<tr>
<td>Creative</td>
<td>144</td>
<td>140</td>
<td>-4</td>
</tr>
<tr>
<td>Hardworking</td>
<td>91</td>
<td>87</td>
<td>-3</td>
</tr>
<tr>
<td>Successful</td>
<td>98</td>
<td>100</td>
<td>-2</td>
</tr>
<tr>
<td>Passionate</td>
<td>106</td>
<td>108</td>
<td>-2</td>
</tr>
</tbody>
</table>
Overall the biggest differences can be seen in the following characteristics between the males and the females (as highlighted in yellow in table 5.1) - risk taker, caring, generous, confident and kind. This shows that how the students perceive their current role models characteristically is different according to gender. Although they agree on about half of the characteristics, a difference in perceptions was observed. Between the findings of theme two and the findings of the repertory grids the researcher was able to gather a great insight into the current role models of Gen Z for both the males and females ranging from who these role models are and the characteristics they possess.
5.4 Empirical Model

To illustrate the key findings that emerged from this study a model has been developed. The final model is presented below.

In the early stages of this research as discussed in chapter 2 Figure 2.1, the researcher thought the female element of the model to be of particular importance as a result of the pilot study first carried out with the attendees of the Exxcel programme at CIT. The researcher had originally placed the female at the center of the conceptual model. However, having completed the study and analysed the data the model changed to include the student in general. It was found the factors associated with the study had an effect on both male and female students and not just female students alone.

The findings of the study showed that the female was not the sole beneficiary of entrepreneurship education and role models to increase entrepreneurial career intentions and to increase self-efficacy, so too were the males. If the education system included role models in entrepreneurship education, student’s self-efficacy levels in general would increase which in turn would increase entrepreneurial career intentions, which will bring about an increase in role models to be used in education. It is true that males and females have different role models. For example the females find role models that they can directly relate to as more important—parents, teacher.

The males look to celebrities for role models and don’t necessarily have to know the role model personally. This study showed that while males naturally have higher levels of self-efficacy in some areas and higher entrepreneurial career intentions, these levels of self-efficacy and intentions need to be brought along and encouraged also. Concentrating on role models, self-efficacy and career intentions in entrepreneurship education is equally important for both genders. It should be noted the model shows a two way relationship meaning that the arrows relate to each element in both a clockwise and anti-clockwise manner.

Going clockwise- entrepreneurship education using role models will lead to higher levels of self-efficacy which will in turn lead to higher entrepreneurial career intentions but also looking at the model anti clockwise entrepreneurship education leads to higher entrepreneurial career intentions which will lead to higher levels of self-efficacy which will encourage the use of role models to be used in education. All of these elements combined will change how entrepreneurs are perceived as well as adding a solid number of elements to be included in entrepreneurship education.
**Figure 5.1 Empirical Model**

<table>
<thead>
<tr>
<th>Findings</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students believe entrepreneurs are predominantly male.</td>
<td>Through effective design, quality and delivery of entrepreneurship education programmes these perceptions can be changed.</td>
</tr>
<tr>
<td>Lack of entrepreneurship education strategy.</td>
<td>Role models favourably impact self-efficacy.</td>
</tr>
<tr>
<td>Lack of role models.</td>
<td>Using role models in entrepreneurship education will lead to higher levels of self-efficacy.</td>
</tr>
<tr>
<td>Lower levels of self-efficacy among females.</td>
<td>All of these elements combined will lead to higher entrepreneurial career intentions amongst students but particularly amongst the females.</td>
</tr>
<tr>
<td>Entrepreneurial Intention- Lack of female entrepreneurs (only 20% of Irelands entrepreneurs are female).</td>
<td></td>
</tr>
</tbody>
</table>
5.5 Identifying the Gaps

As (Webster and Watson, 2002) state: “a review should identify critical knowledge gaps and thus motivate researchers to close this breach” (Webster and Watson 2002, p.19). Identifying research gaps is a fundamental goal of reviewing the literature written about a specific topic or area of interest. In the next section the researcher has developed a table to identify the theme discussed, the literature reviewed, the main study results and a possible course of action. Table 5.3 will also outline suggestions for improvement of entrepreneurial practices.

Table 5.3 Comparison of Themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>Literature Review</th>
<th>Main Study Results</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who is an entrepreneur?</td>
<td>Association of entrepreneurship with masculinity.</td>
<td>Students believe entrepreneurs are predominantly male.</td>
<td>Change student perceptions through specialised entrepreneurship education- particularly important for females.</td>
</tr>
<tr>
<td></td>
<td>The value of reflection through pictures and symbols.</td>
<td>The students showed a large variation of visual representations. The typical “entrepreneur” can be described as a male, well dressed most often in a suit, with a briefcase or laptop or other physical items such as a car or tall building.</td>
<td>Introduces a relevant and important research method to determine student perceptions of entrepreneurship.</td>
</tr>
<tr>
<td>Characteristics of entrepreneurs.</td>
<td>Very little research on the topic of characteristics. Characteristics are discussed in the literature mainly in the context of “characteristics of the successful entrepreneur” or “entrepreneurial characteristics”.</td>
<td>Perceptions of the key characteristics of an entrepreneur differ between males and females.</td>
<td>Change the “one size fits all” approach to entrepreneurial characteristics and acknowledge these differ according to gender. This should be used in the development of entrepreneurship education programmes.</td>
</tr>
<tr>
<td>Perception of Role Models</td>
<td>French and Pena’s theory that role models begin to change as children get older to people who are not in their everyday lives e.g. Celebrities- this may be true for the males but not for the females.</td>
<td>Role models for generation Z are for the males- the celebrity male and for the females- teacher, parents.</td>
<td>Use a mix of realistic identifiable role models as well as both male and female celebrity role models in entrepreneurship education. Celebrity female role models do exist.</td>
</tr>
<tr>
<td>Perception of Role Models</td>
<td>The effect of the role model is positive.</td>
<td>Role models favourably impact self-efficacy and career intentions. The more role models an individual has the higher their levels</td>
<td>Use of role models in entrepreneurship education. “If you can see it, you can be it”.</td>
</tr>
<tr>
<td><strong>Entrepreneurial Career Intentions</strong></td>
<td>Theory states that females have a lower level of preference when compared to males for becoming entrepreneurs.</td>
<td>The intention to become an entrepreneur in the future was present almost equally for both males and females (64% and 58% respectively).</td>
<td>Acknowledge that both males and females have similar intention in becoming entrepreneurs.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Entrepreneurial Career Intentions: Gender</strong></td>
<td>This showed that entrepreneurship as a future career does appeal to the females but to take courses and improve skills does not.</td>
<td>Males had a statistical significant result for entrepreneurial intention for taking courses and improving skills when compared to the females.</td>
<td>Determine why females have an aversion to taking courses and improving entrepreneurial skills.</td>
</tr>
<tr>
<td><strong>Entrepreneurial Career Intentions: Urban vs Rural students</strong></td>
<td>There is very little prior research on this topic.</td>
<td>Urban students had had significantly higher entrepreneurial intentions than rural students.</td>
<td>Are rural students not receiving the same exposure to entrepreneurship as urban students?</td>
</tr>
<tr>
<td><strong>Entrepreneurial Career Intentions: Social Economic Status</strong></td>
<td>There is very little prior research on this topic.</td>
<td>No significant statistical result for social economic status of the students and entrepreneurial intention.</td>
<td>This may require further research using a larger sample.</td>
</tr>
<tr>
<td><strong>Entrepreneurial Self Efficacy</strong></td>
<td>According to the literature, females have lower entrepreneurial self-efficacy than males.</td>
<td>Females ranked themselves lower in all competencies related to entrepreneurial success, assigning higher value only to creative skills and managing money.</td>
<td>Through targeted entrepreneurial education programmes entrepreneurial self-efficacy will increase.</td>
</tr>
<tr>
<td><strong>Entrepreneurial Self Efficacy</strong></td>
<td>This is in line with previous research whereby men reported significantly higher leadership self-efficacy than women.</td>
<td>A significant statistical result appeared for the item being a leader whereby males rated themselves as having a statistically significant higher score on this item.</td>
<td>Leadership self-efficacy. Why do females not consider themselves as leaders?</td>
</tr>
</tbody>
</table>
5.6 Summary

A number of contributions materialised from the overall findings of this research, which have relevance for academic policy and practice. These findings conclude that educational initiatives addressing entrepreneurial perceptions, entrepreneurial characteristics, role models, career intentions and self-efficacy are critical and especially important for females because of their self-efficacy bias. Our findings imply that entrepreneurship education is more important for females than for males in changing perceptions, and increasing self-efficacy and future entrepreneurial intention. As Scherer et al. (1989) suggest, women need the self-confidence and the expectation of success in order to fully participate in venture creation. Overall, these findings and perspectives point to the importance of recognising that a "one size fits all" approach to entrepreneurship education is not appropriate, and that gender-sensitive programming is required (Wilson, Marlino, and Kickul, 2004).

The findings of this study illustrate the attitudes and perceptions of the public image of the entrepreneur, gives an insight into the role models of students, and determines if entrepreneurial career intentions and levels of self-efficacy differ amongst the respondents according to gender and other factors. Through entrepreneurial education, students develop certain skills, knowledge and attitudes that enable them to act in an entrepreneurial manner, both in their own lives and with others (Wang and Ellinger, 2011). There is a clear need to advance an entrepreneurial culture by encouraging students to adopt the right mind-set, learn certain entrepreneurial skills and maintain awareness of career opportunities, and teaching entrepreneurship at every level of education is important in this context (Commission of the European Communities, 2006). Practitioners and researchers should share a common understanding of the main elements that entrepreneurship education should include.
6 Conclusion

6.1 Introduction

This study was informed by an overarching research question and four main research objectives, pertaining to the attitudes and perceptions of entrepreneurs, role models, entrepreneurial career intentions and entrepreneurial self-efficacy.

Research Question: This study seeks to discover the role of Gender, Role Models, Entrepreneurial Self Efficacy and Entrepreneurial Intentions in entrepreneurship education.

In order to address this question, the following research objectives were addressed:

- To explore the attitudes and perceptions of students towards entrepreneurship.
- To gain an insight into how students perceive role models.
- To examine factors affecting the intention to become an entrepreneur.
- To determine if gender differences exist in levels of entrepreneurial self-efficacy.

Research objectives and findings are outlined in table 6.1 below.
### Table 6.1 - Research Objectives and Findings

<table>
<thead>
<tr>
<th>Research Objectives</th>
<th>Main Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>To explore the attitudes and perceptions of students towards entrepreneurship.</td>
<td>Students believe entrepreneurs are predominantly male.</td>
</tr>
<tr>
<td></td>
<td>Perceptions of the key characteristics of an entrepreneur differ between males and females.</td>
</tr>
<tr>
<td>To gain an insight into how students perceive role models.</td>
<td>The females chose role models they knew personally. The males were more likely to choose celebrity role models.</td>
</tr>
<tr>
<td></td>
<td>Repertory grid- male and female students perceive their current role models characteristics differently. Kind, generous and caring were the</td>
</tr>
<tr>
<td></td>
<td>characteristics important to the females. Confident and risk taker were important for the males.</td>
</tr>
<tr>
<td>To examine factors affecting the intention to become an entrepreneur.</td>
<td>Entrepreneurial intention was higher for the males than for the females.</td>
</tr>
<tr>
<td></td>
<td>Entrepreneurial intention was higher in urban areas vs rural areas.</td>
</tr>
<tr>
<td>To determine if gender differences exist in levels of entrepreneurial self-efficacy</td>
<td>Females ranked themselves lower in four of the six competencies related to entrepreneurial success, however they did assign higher value to</td>
</tr>
<tr>
<td></td>
<td>creative skills and managing money. Males ranked themselves higher in four of the six competencies assigning lower value to creative skills and</td>
</tr>
<tr>
<td></td>
<td>managing money. Overall males had higher levels of self-efficacy.</td>
</tr>
</tbody>
</table>
To ground the thesis, an extensive literature review was conducted. To theoretically consider multiple areas of relevance, the literature review spanned themes of (1) entrepreneurship education, (2) gender, (3) role model theory, (4) entrepreneurial career intentions, and (5) self-efficacy. This was followed by a chapter describing the methodology used, to include the research purpose, instruments used and research design. In chapter four the data analysis and findings of the study were presented. These results were then discussed in chapter five. Finally, this chapter is organised as follows: The major research contributions (empirical, methodological, theoretical and contributions to practice) are discussed. Subsequently, the main limitations of the research are considered and since limitations provide opportunities for future research both recommendations for future research and recommendations for policy makers are presented. The chapter ends with some suggestions on matching the key findings to suitable recommendations and some final thoughts.
6.2 Contributions of the Thesis

A thesis identifies “knowledge gaps” by conducting a gap analysis during the literature review stage as discussed in chapter 2 of this thesis. The new knowledge acquired in the process of closing this gap is known as the researcher’s contribution to knowledge. It often remains unclear to investigators how their research contributes to an academic field. Colquitt and Zapata-Phelan (2007) discuss the ways that research studies contribute to an academic field by introducing a classification that reflects the theoretical contribution also commonly known as theory building and theory testing.

![Figure 6.1 A Taxonomy of Theoretical Contributions for Empirical Articles](image)

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The vertical axis of Figure 1 describes levels of theory building - clarifying or supplementing existing theory. The horizontal axis of Figure 1 describes levels of theory testing - the degree to which existing theory is applied in an empirical study as a means of grounding a specific set of hypotheses. This thesis contributes to both modes as described below:

This section discusses the present thesis key empirical, theoretical and methodological contributions. These contributions are considered in terms of whether they (1) support existing knowledge (2) develop or build upon current knowledge, or (3) add new aspects or dimensions.

### 6.3 Empirical Contributions

This study adopted a realist approach to coincide with the mixed methods research approach. A cross sectional study of secondary school students was conducted using a sample of students aged fourteen to eighteen from secondary schools across the Munster region in Ireland. A response rate of 125 students was obtained. Overall five major themes emerged from the use of a semi structured questionnaire and the use of the repertory grid technique. The themes were analysed using both qualitative and quantitative methods as is often the case with the realist approach (Saunders et al., 2012).

The first theme explored the relevance and value of reflection through pictures and symbols. This approach is based on the assumption that students’ role identity (“seeing themselves as an entrepreneur”) might be of particular relevance in entrepreneurship education (Krueger 2007). The results of this research question are strong and provide a number of interesting insights into the student’s perceptions of entrepreneurs - that entrepreneurs are predominantly male. In entrepreneurship literature there have been very few studies which have employed this method where visualisation techniques form part of entrepreneurship education. Firstly these findings add to the literature on gender and entrepreneurship and secondly it introduces a relevant and important teaching method that should form part of entrepreneurship education in the future. Should it not be one of the first steps in an education programme, to determine the students perceptions on a given topic or phenomenon before continuing to explore the subject or topic in detail? It is then clear to the educator if these perceptions are positive or negative.

Why do some people become entrepreneurs and others don’t? This is one of the most debated questions in entrepreneurial intentions research.
In the second and third questions students had to determine (written reflections) who this picture represented (to ensure rigour during the analysis stage that the person the researcher perceived in the picture in question one was in fact a male or female) and to list characteristics of this person that they had drawn in question one.

The characteristics mentioned by the boys were far more male orientated than female orientated. Characteristics like sociable, kind patient, loving, nice are polar opposites of the types of characteristics mentioned by the boys—leadership, risk taker, rich and so on. In the general literature on entrepreneurship, one of the most commonly discussed topics are the attributes (characteristics and skills) associated with an entrepreneur (Goliath, Farrington and Saunders, 2014). Characteristics are discussed mostly in the context of “characteristics of the successful entrepreneur or “entrepreneurial characteristics” and the student’s perceptions of entrepreneurial characteristics are not explored. To be an entrepreneur it is not necessary to possess all the attributes associated with successful entrepreneurs. By asking these questions and using visual and written reflection the researcher wanted to create a psychological profile of an entrepreneur. Determining who an entrepreneur is in the mind of the student can have implications in how we “teach” entrepreneurship programmes particularly for females. This shows there are certain characteristics that both genders agree on however both males and females also differ in some respects in terms of the characteristics an entrepreneur should possess. It cannot be a one size fits all approach. Are females not associating with entrepreneurship because of the terms used so often in education literature when characteristics are discussed—“male characteristics”.

In relation to role models, the importance of them has been stressed by various scholars (Gibson, 2003; Bandura, 1997; Lockwood and Kunda, 1997).

Young people look up to social media influencers, Love Island contestants, and sports players. Not quite, according to this study this will depend on their gender. This research question analysed the role models of a group of fourteen to eighteen year old, male and female secondary school students. The researcher found that the females chose role models whom they knew personally. Parents came first. Boys were more likely to choose male celebrity role models as a first choice. First choice for the boys was Conor McGregor. Research specifically on role models in entrepreneurial activities remains scant. This research shows that females require role models whom they know and can relate to personally whereas males look to celebrities and the media for role models.
This research supports the findings that more emphasis should be put on the role model for educating future entrepreneurs. However this research also shows that role models differ according to gender.

Understanding what factors influence and shape students ‘intentions’ about starting a business in the future is vital for developing relevant education programmes to promote entrepreneurial behaviour (Barkovic and Kruzic 2010). Therefore, investigating what factors determine the entrepreneurial intention is crucial (Miller et al. 2009).

The students were given a list of fourteen different types of careers and asked to number these careers in order of preference. Only 15 out of 125 respondents ranked setting up their own business as their number one career choice. All fifteen of these respondents were male. However, 58% of the females ranked setting up a business in their top 7 as a potential future career whilst 64% of males ranked setting up a business in their top 7.

This showed that over half of the females would consider “setting up their own business in the future”. It was also interesting that just a slightly higher proportion of the males considered the same. Previous literature states that entrepreneurial intentions are an important indicator of becoming an entrepreneur, and that females have a lower level of preference when compared to males for becoming entrepreneurs (Blanchflower, Oswald, and Stutzer, 2001). This may be true for entrepreneurship coming in as a first choice however it is not discounted by the females entirely, this research shows that intention is present amongst the female respondents and only at a slightly lower value than the males. So, if entrepreneurial intentions are considered precursors of entrepreneurial action (Bird, 1988; Kolvereid, 1996; Krueger and Brazeal, 1994; Krueger, Reilly, and Carsrud, 2000) then why are there so few female entrepreneurs?

The researcher was interested in three key variables- gender (male’s vs females) as discussed above, rural vs urban and the social economic background of the students. The researcher wanted to determine if there was a difference between these groups and their entrepreneurial intentions. Previous research has looked at differences in gender however rural vs urban and social economic background remains under investigated.

Entrepreneurial intention was higher overall for the males than the females and this research also showed that students from urban areas had higher entrepreneurial intentions. This shows there is an even greater need for targeted entrepreneurship education programmes particularly for the female cohort and in rural areas.
As mentioned in chapter four, the researcher examined the relationship (if any) between the social economic status of the students and entrepreneurial intentions. In this case there was no statistically significant difference between the two groups for their entrepreneurial intentions. Self-efficacy has emerged as a key area in entrepreneurship research (Miao, Qian and Ma, 2017) as it has been found to not only influence entrepreneurial intention but also as being a critical outcome of entrepreneurship education.

As outlined by the World Economic Forum and discussed in chapter two the area of self-efficacy has become increasingly relevant to career researchers, educators and policy makers. In view of the significant relevance of self-efficacy to educators and policy makers this research study reviews extant work on self-efficacy at the literature review stage. The six-item measure used in this study was the scale used in (Wilson, Kickul and Marlino, 2007). The biggest finding related to a significant statistical result appearing for the item “Being a leader”. Results revealed a significant difference between gender with males reported as having higher scores on this item (mean = 3.65) than females (mean = 3.12). The males rated themselves much better or a little better at being a leader when compared to the females.

Although not indicated as statistically significant it was also evident in the case summary that the males reported as having higher scores in the following items also: “being able to solve problems, getting people to agree with you and making decisions. The females reported as having higher scores in just two items- managing money and being creative.

The students were also asked about who they might look up to in their chosen career and if being more like this person would increase their level of confidence in themselves (self-efficacy). The researcher was looking to see if being more like this person e.g. role modelling or behaviour modelling of this person would increase confidence/ self-efficacy. 98 out of 125 students answered that yes being more like this person would increase their levels of confidence/ self-efficacy.

The purpose of the repertory grid was to examine to what degree the students current role model possesses several entrepreneurial characteristics as outlined in the constructs of the repertory grid. This section compared the similarities and differences between the two genders regarding the fifteen characteristics and how they ranked them. The biggest differences could be seen in the following characteristics between the males and the females- kind, confident, generous, caring, risk-taker.
Again these findings are in line with the findings on characteristics from earlier on in this study that the characteristics differ between males and females and their current role models (how they construct this role model). This also shows that identifying role models for males and females is also not a one way approach.

6.4 Theoretical Contributions

The thesis applied the Shapero-Krueger model (2000) when studying entrepreneurial intentions and the six-item measure used in this study when looking at self-efficacy was the scale which related to the entrepreneurial self-efficacy measure used by (Wilson, Kickul and Marlino, 2007) and Chen et al. (1998) and De Noble et al. (1999). Additionally, the literature review examined a number of other theories of relevance including institutional theory (North, 1990) for understanding gender differences in entrepreneurship (Ahl, 2006), gender role theory and social cognitive theory (Bandura, 1977; 1986). This is of importance due to the observation that commonly entrepreneurship education studies tend to lack theoretical underpinning (Nabi et al., 2017; Henry and Lewis, 2018). While the relationship between self-efficacy and career choice has been well established in the career theory literature, most studies have not included specific career options around entrepreneurship (Marlino and Wilson, and Kickul, 2007). This research makes a number of contributions to the entrepreneurship literature, as well as having implications for policy makers and educators. Prior research on self-efficacy and career intentions is fragmented, with researchers from many diverse backgrounds adopting a wide variety of both methodological and theoretical approaches to examine their research question and objectives. Prior research has been conducted on entrepreneurial self-efficacy, career intentions, role models and gender in entrepreneurship as well as a large amount of research attention on entrepreneurship education however there is a gap in combining these theories together.

The researcher also contributes to the literature by developing a model which brings together both findings from existing research and the research outcomes. Such a model will assist educators and policy makers to develop entrepreneurship education programmes.
Thirdly and most importantly, the present study makes a critical contribution by identifying neglected research fields (perceptions of entrepreneurship, relevance and value of reflection, characteristics associated with entrepreneurship) and inconsistencies in the literature (entrepreneurial career intentions, role models and self-efficacy) and highlighting opportunities for empirical and theoretical advancement of this research domain.

6.5 Methodological Contributions

Methodology is said to comprise of the underlying assumptions and justification guiding the choice of methods (Alvesson and Deetz 2000). Measurement and methodological rigor in entrepreneurship education studies are considered integral (Lorz et al., 2013; Nabi et al., 2017). Lorz et al. (2013, p. 141) recommends that “researchers focus on the research design in particular the theoretical foundation, measurement detail, and sampling”. These key recommendations are acknowledged in this thesis.

At the beginning of the research process the focus was on the constructivist philosophy. However when the researcher decided to go from a qualitative methodology to a mixed methods methodology it was decided to explore realism. As discussed in detail in Chapter 3 the realist approach can make important contributions to mixed method research (Maxwell and Mittipali, 2010).

This thesis makes several methodological contributions to entrepreneurship theory as it benefits from adopting a mixed methods approach, the drawing method, as well as the application of the repertory grid technique which has not been fully utilised in entrepreneurial research (Goffin, Lemke and Szwejczewski, 2006). A repertory grid is, “a form of structured interviewing, with ratings or without, which arrives at a precise description uncontaminated by the interviewer’s own viewpoint” (Jankowicz 2004 p. 14).

The application of George Kelly's repertory grids within an entrepreneurial context allowed for an in-depth analysis (Klapper, 2014).

This is very much in line with Goffin, Lemke and Szwejczewski (2006) who emphasised the value of repertory grids in pushing interview subjects ‘to articulate their views on complex issues’ (p. 196) which would move them ‘beyond the use of jargon’ (p. 196). As a result, repertory grids have the primary purpose of enhancing our understanding of individual human action and the personal context from which experience originates (Klapper, 2014).
The use of the repertory grid technique in a new target group (14-18 year old students) is also a significant methodological contribution.

It has been proposed that considerable changes are required in the process of learning. Entrepreneurship should not be equated with new venture creation but with creativity and change (Kirby, 2004). The use of drawing and reflection in data collection is also an area of methodological contribution. The results of this research have strongly suggested the need to urgently develop student’s perceptions of both entrepreneurship and entrepreneurs as they go through the process of education which is useful in molding their future entrepreneurial career intentions. The researcher also recommends that future studies be undertaken of a longitudinal nature to examine how perceptions change over time for example at the beginning and end of a school cycle e.g. beginning of primary school and end of primary school.

This study contributes to the overall understanding of students perceptions of entrepreneurs, the influence of role models, and the impact of self-efficacy and entrepreneurial intentions towards entrepreneurship. The study suggests that while relevant role models, attitudes towards entrepreneurship and entrepreneurial self-efficacy and career intentions are all key to promoting entrepreneurial intentions, it is their interplay that is likely to be most effective. Thus, this research study has added substantial rigor, and was a significant methodological contribution as a study which acknowledges all of these factors do not exist in the entrepreneurial education context to date.

### 6.6 Contribution to Practice

Entrepreneurship courses have enjoyed considerable world-wide growth over the last number of years (Karlsson and Honig, 2004). It is still argued that it is not possible to teach entrepreneurship and that entrepreneurship is a matter of personality and traits that an individual is born with. Rae and Carswell (2001) and Shepherd and Douglas (1997) have discussed that there is a distinction between the teachable and the non-teachable elements of entrepreneurship.

A distinct goal of this research was to add value and insight for the entrepreneurship educator and for the education system. Entrepreneurship education has a positive effect on the student. It was found that role models, self-efficacy and career intentions should be more heavily focused on in entrepreneurship education.
However, the negative link to perceptions of entrepreneurs highlights the need for this type of discussion to open up further and that in entrepreneurship training and education to first focus on the perceptions surrounding entrepreneurship and entrepreneurs is a good starting point.

In this thesis, a number of outcomes and outputs were studied: perceptions, characteristics, role models, entrepreneurial career intentions and, finally, self-efficacy. The suggestions for improvement of entrepreneurial practice are summarised in table 6.3 below.

**Table 6.2 Suggestions for Improvement of Entrepreneurial Practices**

<table>
<thead>
<tr>
<th>Perceptions</th>
</tr>
</thead>
</table>
| Educational initiatives addressing entrepreneurial perceptions are critical and especially important for females.  
The promotion of entrepreneurship among children at a young age will enable change in perceptions of entrepreneurship from an early stage in life. This should begin at primary school.  

<table>
<thead>
<tr>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational initiatives addressing entrepreneurial characteristics are necessary and should form part of all entrepreneurship education programmes. Males and females perceive entrepreneurial characteristics differently and entrepreneurship educators should be made aware of this.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Role Models</th>
</tr>
</thead>
</table>
| Use of positive entrepreneurial role models. This is particularly important for females. Role models impact on self-efficacy.  
Incorporating role models into entrepreneurship education, recognising how differently these role models are constructed according to gender. Celebrity role models may be effective for males but females need real life models with whom they can associate with. |

<table>
<thead>
<tr>
<th>Entrepreneurial Career Intentions</th>
</tr>
</thead>
</table>
| Females need more encouragement to take business courses particularly in the area of business skills.  
Entrepreneurship educators nationally should aim to convert females’ interest in entrepreneurship into more active entrepreneurs.  
Providing entrepreneurship training and skills to local rural communities as well as introducing entrepreneurship initiatives to rural schools should be measures used to improve rural entrepreneurship in the future. |

<table>
<thead>
<tr>
<th>Self-Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating educational environments to develop female self-efficacy focusing on areas such as problem solving, leadership and decision making.</td>
</tr>
</tbody>
</table>
Overall the current study has provided a combination of theoretical, empirical, methodological and contribution to practice implications for the entrepreneurship literature. Table 6.13 below gives a summary of the main contributions. The findings contribute to the expanding body of entrepreneurship education literature. As a direct outcome of these findings, entrepreneurship educators have a more definitive list of important factors to take into account when teaching entrepreneurship.

6.7 Summary of the Main Contributions of this Study

Table 6.3 Main Contributions

<table>
<thead>
<tr>
<th>Empirical Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributes to empirical work focusing on perceptions of entrepreneurship, influence of role models and the impact of role models and self-efficacy on career intentions.</td>
</tr>
<tr>
<td>Perceptions of entrepreneurship are that it is a masculine line of work.</td>
</tr>
<tr>
<td>Provides empirical evidence that student’s perceptions of entrepreneurial characteristics are very different according to gender.</td>
</tr>
<tr>
<td>Empirically proves that role models differ between males and females not just in who the role model is, but the role of that person in their lives.</td>
</tr>
<tr>
<td>Contributes to empirical work on career intentions. Entrepreneurial career intentions are present among the females but not as a number one career choice. Overall intention was present at only a slightly lower value than the males. Entrepreneurial intentions were also found to be higher amongst urban students.</td>
</tr>
<tr>
<td>Contributes to empirical work on self-efficacy. The males reported as having higher levels of self-efficacy in four of the six items used in the self-efficacy measure- being able to solve problems, getting people to agree with you, being a leader and making decisions. The being a leader item being statistically significant. The females reported as having higher scores in managing money and being creative.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methodological Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research design benefits from adopting a mixed methods approach using both a semi structured questionnaire and the repertory grid technique.</td>
</tr>
<tr>
<td>Examined the theme of perceptions through reflection and drawings which introduces an important new teaching method.</td>
</tr>
</tbody>
</table>
The application of repertory grids has not been fully utilised in entrepreneurship education research.

Examines the themes of characteristics, role models, entrepreneurial career intentions and self-efficacy both qualitatively and quantitatively and draws conclusions based on this analysis.

The use of drawing and reflection in data collection.

<table>
<thead>
<tr>
<th>Theoretical Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A number of theories were examined during the literature review stage including institutional theory, gender role theory and social cognitive theory.</td>
</tr>
</tbody>
</table>

While some aspects of this study are well established in theory there is very little research existing in combining all of these aspects together e.g. Perceptions and attitudes, role models, entrepreneurial career intentions and self-efficacy.

A model combining these theories and identifying a relationship between them all has been developed which will inform future research as well as entrepreneurship education policy and practice.

Finally one of the most important theoretical aspects of this research is the identification of neglected research areas most notably surrounding perceptions of entrepreneurship and role models.

### 6.8 Limitations of the Study

Despite the contributions this thesis makes to research and practice, there are a number of limitations that must be acknowledged, which provide avenues for future research investigation. Cooper and Schindler (2008) emphasise that all research studies have their limitations. Although the findings of this research have contributed to the existing knowledge on entrepreneurship and all of the contributing factors there are some limitations which should be taken into consideration.

- Considering that this research juxtaposes the experiences of the second level student, a limitation existed in identifying and accessing these students before the research process. For inclusion into the sample, schools were required to be located within Munster to include students aged 14–18 years. In addition, it was desirable that the schools selected would provide a relatively even geographical spread across Munster.
Based upon these eligibility criteria, 10 schools were purposively selected for inclusion into the study. Of these 10, 5 (50%) of the schools participated in the study, which covered both urban and rural, mixed and single sex schools.

- Our research has certain limits related to the structure of the sample and size. We included only a limited number of students from only five schools in the Munster region of Ireland: thus, the results obtained cannot be extrapolated at the level of the population. Admittedly, considering this group as representative of a wider population, or indicative of entrepreneurship education on a national or international basis would be misleading. Future studies embracing larger numbers of students by including more schools from different regions of Ireland and possibly even other countries could give more robust data.

- A further limitation of the research relates to the existing literature on self-efficacy and role models in entrepreneurship in Ireland which is at present relatively sparse. It was difficult to find academic papers in an Irish context particularly involving primary and secondary level education. A lot of the research has been carried out in the UK, the US as well as Nordic countries. This was highlighted as a substantial gap in the literature to validate the current study.

- This research only captured a snapshot of the entrepreneurial intentions at a given point in time. A longitudinal study could capture a clearer image of entrepreneurial intentions amongst Irish youths. It is also difficult to generalise these findings to other age groups.

- The repertory grid process can be time consuming also and can only explore a domain as it currently exists so is not effective in determining future needs or expectations.
6.9 Recommendations for Further Research

The research that has been undertaken for this thesis has highlighted a number of areas on which further research would be beneficial. Several areas where information is lacking were highlighted in the literature review. Whilst some of these were addressed by the research in this thesis, others remain unanswered.

For future research the following recommendations can be made:

- For future research the sample size should be increased to explain fully the population’s characteristics and to limit the chance of a sampling error occurring, and to increase the response rate of the respondents.
- The birth order of the students could be explored to determine if any differences exist in entrepreneurial intentions and self-efficacy according to birth order within the family.
- The occupation of the students’ parents could be explored to determine if any differences exist in entrepreneurial intentions and self-efficacy according to the occupations of the parents.
- It would be interesting to see if there is a correlation between student grades and entrepreneurial intentions. In other words do students who are more academic have more or less of a tendency to pursue entrepreneurship as a career?
- Further research on the role of the teacher or educator in entrepreneurship education.
- An extensive longitudinal research project could be launched to investigate if there is a difference in entrepreneurial intentions and self-efficacy of students living in urban or rural areas across Ireland.
- Further research on career intentions should look at what the most popular career choice was for both males and females separately, and what the other top career choices were.
- The lack of available literature and lack of an available government enforced strategy made it challenging to provide a detailed account of the entrepreneurship education situation in Ireland as no strategy currently exists.
- Further research should be conducted to determine why females are less inclined to enhance their entrepreneurial skills and to take courses in entrepreneurship.
6.10 Recommendations for Policy and Practice

The recommendations for policy and practice development are drawn from the key findings in this research study summarised in chapter five. They are presented in relation to the key findings in the themes which emerged throughout this research in the areas of entrepreneurship education practice, government policy and legislation, self-efficacy, gender roles and stereotypes, career intentions and use of role models.

1. Introduce and implement an entrepreneurship education strategy in Ireland and devise action plans specifically for entrepreneurship education.

2. Introduce solid procedures and policies that all students receive entrepreneurship education throughout their schooling years beginning at primary school level.

3. Appoint an Entrepreneurship Steering Group and involve relevant government departments.

4. Introduce legal rules similar to the “Entrepreneur’s Act” in Spain whereby promoting entrepreneurial culture from the classroom is established legislatively.

5. Overcome gender roles and stereotypes through education-interventions involving relevant role models to prevent the effects of stereotype threat.

6. Promote the role of inquiry activities in supporting students understanding of entrepreneurship. Give more attention to the value of reflection and drawing in entrepreneurship education and training.

7. Female educators are pivotal in encouraging females to choose subject fields in which they are being underrepresented for example- entrepreneurship.

8. Make females aware of the possibility of becoming entrepreneurs and actively encourage them – starting at an early stage by promoting tailored information.

9. Counter gender stereotyping, and develop specific measures for girls to enrol in and complete education in entrepreneurship to increase their levels of self-efficacy.

10. Make successful female entrepreneurs more visible through the use of role models in education and the general media. Showcasing women in entrepreneurship plays a vital role in encouraging females to consider careers in entrepreneurship.

11. Address the specific needs of active female entrepreneurs by providing them with relevant information, mentoring and access to both finance and funding to make their entrepreneurial experience as positive as possible.

12. Improve access, quality and availability of entrepreneurship education and initiatives in rural areas throughout Ireland.
Table 6.4 Matching the key findings to suitable recommendations

<table>
<thead>
<tr>
<th>Key Findings</th>
<th>Recommendations Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students believe entrepreneurs are predominantly male. Stereotypes affect future decisions.</td>
<td>5,7,8,9,10</td>
</tr>
<tr>
<td>Characteristics of Entrepreneurs- perceptions of the key characteristics of an entrepreneur differ hugely between males and females.</td>
<td>6,8,9</td>
</tr>
<tr>
<td>Perceptions of role models- role models for generation Z are for the, males most importantly the celebrity and for the females, much closer to home (teacher, parents).</td>
<td>5,7,9</td>
</tr>
<tr>
<td>Career intentions- only 15 of 125 students chose setting up their own business as number one career choice. All 15 of these students were male. 58% of females rated setting up a business in the top 7 career choices. 64% of males rated setting up a business in the top 7 career choices. This shows that the intention is present for both males and females to become entrepreneurs in the future.</td>
<td>1,3,5,7,8,9,10</td>
</tr>
<tr>
<td>Entrepreneurial intention was significantly higher for the males than the females for items regarding taking courses and improving skills in entrepreneurship.</td>
<td>1,4,5,8,10</td>
</tr>
<tr>
<td>Urban students had significantly higher entrepreneurial intentions than rural students for taking courses in business skills, running their own business in the future and preferring to own their own business than to work for someone else.</td>
<td>1,3,4,12</td>
</tr>
<tr>
<td>No significant statistical result for social economic status of the students.</td>
<td>This is an area for further research.</td>
</tr>
<tr>
<td>Self- efficacy- Females ranked themselves lower in all competencies related to entrepreneurial success, assigning higher value only to creative skills and managing money. The males ranked themselves higher in all skills of successful entrepreneurial activity assigning lower value only to creative skills and managing money. A significant statistical result appeared for the item being a leader whereby males rated themselves as having a statistically significant higher score on this item.</td>
<td>2,5,7,8,9,10,11</td>
</tr>
</tbody>
</table>
Role models - when the students were asked if becoming more like this person would make you more confident 96 of 125 students stated yes. This shows that role models favourably impact self-efficacy.

Another significant finding to emerge from this study was with regard to creativity. People tend to associate the ability to think creatively with stereotypical masculine qualities.

How the students form and perceive their current role models characteristically is dramatically different according to gender.

6.11 Final Conclusions

The concept of ‘entrepreneur’ and entrepreneurship education is well established in the literature, but how the concept is understood in practice is not. Rather than accept the status-quo thinking that entrepreneurship is about coming up with the best business idea and the monetary rewards associated with that, but rather about creating an experience and an open environment for creative learning and discussion for students. This study was motivated by a belief in the importance of a better approach to entrepreneurship education in Ireland, to change negative perceptions towards entrepreneurship (particularly in females), to encourage a pipeline of future female entrepreneurs, the desire to better understand the differences in gender in entrepreneurial perceptions, characteristics, identification of role models, entrepreneurial self-efficacy and entrepreneurial career intentions.

The results suggest that entrepreneurship is still predominantly perceived as a "male" field, but that young women do have entrepreneurial career intentions and that contrary to the literature females are interested in learning entrepreneurial skills. If this is the case then why are there so few female entrepreneurs? Are they limiting their entrepreneurial career aspirations because they feel that they do not have the requisite characteristics, skills, abilities and relevant role models to aspire to? Entrepreneurship education should be based on the desire to provide an effective and well-rounded learning experience for all students beginning at a very early age.

There is a lot to learn within this research topic, however by gaining an understanding of the student, it may be possible to offer a more beneficial, versatile entrepreneurship education experience.
Appendix A – PhD Related Publications

Presentations at International Conferences


Lavelle, C and Kenny B (2016), *The Influence of the Female Role Model in Entrepreneurship Education: A Research Agenda*, Paper presented at Faculty of Business and Humanities Research Seminar, Munster Technological University, May 9th.


Kenny, B and C Lavelle (2014), *Female Entrepreneurship Programmes: A change agent or a stepping stone?* Paper presented by B. Kenny at 3E conference (ECSB Entrepreneurship Education conference), Turku (Finland), April 10 – 11<sup>th</sup>.

Attendance at Conferences and Events:

- Accelerating Campus Entrepreneurship Workshop on implementing the HETAC draft guidelines on Enterprise and Entrepreneurship Education - Nimbus CIT Cork March 2013.
- European Creative Futures Programme – Oslo, Norway January 2013.
- Innovating Method: Researching Gender and Entrepreneurship Ulster Business School, Belfast Campus.
- Discourse Analysis - Dr Sally Jones, University of Leeds.
- PhD Research Methods Clinic - Professor Helle Neergaard, Aarhus University, Denmark.
- Statistics and Data Analysis Module Level 9 delivered by Dr. Sean Lacey at Munster Technological University January 2015- May 2015.
- Innovation and Entrepreneurship Module Level 9 delivered by Dr. Breda Kenny at Munster Technological University February 2015- May 2015.
- Introduction to NVivo delivered by Ben Meehan of QDA Training.EU at Munster Technological University May 26th and 27th 2015
- Innovation Week 2016 Educators Seminar- How best educators can devise appropriate strategies for an entrepreneurship curriculum- CIT 9th March 2016
- The Contribution of Mixed Methods - Dr Julia Rouse, Manchester Metropolitan University and Professor Joan Ballantine, Ulster Business School.
- Innovative Qualitative Research Methods Overview - Professor Helle Neergaard, Aarhus University, Denmark.
- Personal Interviews, Life History and Narrative Approaches - Dr Maura McAdam, Queen's University Management School.
- Getting Published: Overcoming the Challenges - Professor Susan Marlow, Nottingham.
- Entrepreneurship Conference (ISBE) November 5th and 6th 2014 Manchester Conference Centre.
- IAM Conference NUIG Galway 2nd September 2015.
- CERC Conference- Blackrock Castle Cork- 23rd September 2016
- RENT Conference- Antwerp Belgium- November 16th to 18th 2016.
Appendix B - Information Letter and Consent Form for Parents or Guardians

Permission for Research with Children

Dear Parent(s) or Guardian(s):

I am writing to ask your permission for your child to participate in a Munster Technological University PhD research project on Gender, Entrepreneurial Self-Efficacy, and Entrepreneurial Career Intentions: Implications of Role Models for Entrepreneurship Education. The objective of the research activity is to further the understanding of how entrepreneurship contributes to economic growth, competitiveness and social wellbeing. Within the context of entrepreneurship education and entrepreneurial role models, this research explores the impact of gender. This research will examine the effect that entrepreneurship education has on students as well as examining the effect of role models on the entrepreneurial mind-set and career intentions of students.

The project in which your child has been invited to participate is expected to be an enjoyable experience. Students will firstly be asked to fill out a short questionnaire. Students will then meet with the researcher within the classroom for approximately 10 minutes. In this session, they will be asked to read a set of words linked to role models in entrepreneurship. They will then be asked to determine in what way the words are different from one another as well as the opposites of these words. This is known as the Repertory Grid Technique. The repertory grid is a technique for identifying the ways that a person construes (interprets/ gives meaning to) his or her experience- in this case role models in entrepreneurship.

Data protection procedures will be strictly adhered to in order to maintain anonymity and to ensure that participants cannot be identified in the PhD thesis or published literature. Also, children or parents may withdraw their permission at any time during the study by indicating this decision to the researcher. There are no known or anticipated risks to participation in this study.
I would like to assure you that this study has been reviewed and approved by the Research Ethics Committee at Munster Technological University. Should you have any concerns or comments resulting from your child’s participation in this study, please contact:

Ciara Lavelle
Munster Technological University

We would appreciate it if you would permit your child to participate in this project, as we believe it will contribute to furthering our knowledge of entrepreneurship education and entrepreneurial role models. Please complete the attached permission form, whether or not you give permission for your child to participate.
If you have any questions about the study, or if you would like additional information to assist you in reaching a decision, please feel free to contact my research supervisor:

Dr. Breda Kenny

Thank you in advance for your interest and support of this project.

Sincerely,

Ciara Lavelle
PhD Risam Scholar

Dr. Breda Kenny
PhD Supervisor
Hincks Centre for Entrepreneurship
Appendix C - Parental Consent Form

I have read the information letter concerning the research project entitled Gender, Entrepreneurial Self-Efficacy, and Entrepreneurial Career Intentions: Implications of Role Models for Entrepreneurship Education conducted by Ciara Lavelle of the Department of Management and Enterprise at Munster Technological University.

I acknowledge that all information gathered on this project will be used for research purposes only and will be considered confidential. I am aware that permission may be withdrawn at any time without penalty by advising the researchers.

I realise that this project has been reviewed by and approved by the Research Ethics Committee at Munster Technological University, and that I may contact this office if I have any comments or concerns about my son or daughter’s involvement in the study.

If I have any questions about the study I can feel free to contact the researcher at:
Ciara Lavelle
Munster Technological University

☐ Yes – I would like my child to participate in this study.
☐ No – I would not like my child to participate in this study.

Child’s Name (please print) ________________________________________________

Child’s Birth Date ______________________ Gender of Child ___ Male  ___ Female
Parent or Guardian Signature ___________________________ Date ____________
Appendix D - Principal Permission Letter

For the attention of the Principal

Dear ____________.

I am emailing to request permission to carry out a research project as part of a doctoral degree with the Munster Technological University. I would be grateful for your permission and support. I hope to conduct the research primarily with transition year students.

The research I wish to conduct for my Doctoral thesis involves examining the effect that entrepreneurship education has on students as well as examining the effect of female role models on the entrepreneurial mind-set and career intentions of students.

This project will be conducted under the supervision of Dr. Breda Kenny, Head of the Hincks Centre at Munster Technological University.

Students, who volunteer to participate, will be given a consent form to be signed by their parent or guardian and returned to the primary researcher at the beginning of the research process. If approval is granted students will firstly be asked to complete a short questionnaire which would take no more than 20 minutes. Having completed the questionnaire they will then meet with me individually for approximately 10 minutes.

As I am aware this can raise child protection issues, this session can take place within the classroom with the class teacher present. I have also been vetted by the Garda Síochána National Vetting Bureau.

In this session, they will be asked to read a set of words linked to role models in entrepreneurship. They will then be asked to determine in what way the words are different from one another as well as the opposites of these words. This is known as the Repertory Grid Technique. The repertory grid is a technique for identifying the ways that a person construes (interprets/ gives meaning to) his or her experience- in this case role models in entrepreneurship and human characteristics associated with entrepreneurship.

Data protection procedures will be strictly adhered to in order to maintain anonymity and to ensure that participants cannot be identified in the PhD thesis or published literature. Also, children or parents may withdraw their permission at any time during the study by indicating
this decision to the researcher. There are no known or anticipated risks to participation in this study.

I would like to assure you that this study has been reviewed and approved by the Research Ethics Review Board at Munster Technological University.

Your approval to conduct this study would be greatly appreciated. If you agree, kindly sign the attached form and scan and return via email to [redacted], or alternatively post the signed form to the address below.

Once I have received your consent, I will:

- arrange a short meeting with selected school personnel (normally principal and lead teacher)
- arrange for informed consent to be obtained from participants’ parents
- arrange a time with your school for data collection to take place
- obtain informed consent from participants

Should you have any concerns or comments about this study, please don’t hesitate to contact me.

Kind Regards,

Ciara Lavelle

Department of Management and Enterprise

Munster Technological University,

Rossa Avenue,

Bishopstown,

Cork.

[redacted]
“Examining the effect of role models on the entrepreneurial mind-set and career intentions of students”.

School Principal Consent Form

I give consent for you to approach 4th year students to participate in the above study.

I have read the Project Information Statement explaining the purpose of the research project and understand that:

- The role of the school is voluntary
- I may decide to withdraw the school’s participation at any time without penalty
- Participants will be invited to participate and that permission will be sought from their parents.
- Only learners who consent and whose parents consent will participate in the project
- All information obtained will be treated in strictest confidence.
- The learners’ names will not be used and individual learners will not be identifiable in any written reports about the study.
- The school will not be identifiable in any written reports about the study.
- Participants may withdraw from the study at any time without penalty.
- A report of the findings will be made available to the school.
- I may seek further information on the project from Ciara Lavelle O’Brien at

________________________________________________________________________

Principal

________________________________________________________________________

Signature

________________________________________________________________________

Date
### Appendix E - Responses to Pilot Study 1.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Respondent 1</th>
<th>Respondent 2</th>
<th>Respondent 3</th>
<th>Respondent 4</th>
<th>Respondent 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you receive any form of entrepreneurship education during your school or college years?</td>
<td>No</td>
<td>We did have a module in college for coming up with a business idea as a project.</td>
<td>No</td>
<td>Yes I did a Masters in International Entrepreneurship and Management in UL.</td>
<td>In final year of college I did a module called entrepreneurship. It was an elective. Based around interest in business and entrepreneurship, basically coming up with a business idea. I didn’t do it with a business idea in mind though.</td>
</tr>
<tr>
<td>As a female would you rather females conduct training, give advice. Do you connect better with females?</td>
<td>It doesn’t really matter but it is good to hear the females individual stories.</td>
<td>I would prefer a mixture of both.</td>
<td>No just the best person to give the training and insight into entrepreneurship, it doesn’t really matter.</td>
<td>I liked the mix, I liked how the person running the program overall was female however for mentorship and training and training purposes I think it’s important to see a mix to get both perspectives as at the end of the day we are working in a mixed gender world.</td>
<td>It’s better that females give advice and training as they are more like peers to me with similar issues to the ones I may have experienced as opposed to males. They wouldn’t understand.</td>
</tr>
<tr>
<td>Question</td>
<td>Response 1</td>
<td>Response 2</td>
<td>Response 3</td>
<td></td>
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<tr>
<td>Do you think that having more female led entrepreneurial courses like Exxcel would increase the amount of female entrepreneurs?</td>
<td>Yes you wouldn’t normally take the opportunity but when it is all women you would be more inclined.</td>
<td>I think we are focusing too much on females and the division of males and females.</td>
<td>I do definitely.</td>
<td></td>
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<tr>
<td>Do you think that entrepreneurship is primarily a very male dominated area?</td>
<td>I think it’s becoming more females to be honest. I suppose it is becoming more female but is really more male dominated I suppose.</td>
<td>It is No not male dominated however I do think it is more difficult for females to enter into entrepreneurship because of responsibilities like children and the home. The domestic side of my life. We kind of have to organise training ourselves if we want to take part in it.</td>
<td>Yes. I think this because any of the seminars I have attended in this area are predominantly about 85% male dominated.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>I do ya. Even in my own experiences when working in industry I worked with male led SMEs. Trying to find a female entrepreneur for mentorship is quite difficult. I could count ten males for every female.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Answer 1</td>
<td>Answer 2</td>
<td>Answer 3</td>
<td>Answer 4</td>
<td></td>
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<tr>
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<td>--------------------------------------------------------------------------</td>
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<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Do you become more confident having interacted with other successful female entrepreneurs?</td>
<td>Yes that really helped.</td>
<td>Yes without shadow of a doubt. More exposure to females increases confidence definitely.</td>
<td>I don’t really know. I think you become more confident with knowledge more so than seeing other success stories because business ideas can be so different.</td>
<td>Yes I feel I have. Knowing more female entrepreneurs than I did before. Not knowing them feels lonely and isolated. Talking to them is better as we are all on the same level.</td>
<td></td>
</tr>
<tr>
<td>How important was the female only aspect of the programme?</td>
<td>It wouldn’t have mattered.</td>
<td>It is very important.</td>
<td>It was good and bad. Bad because it was a female only program the qualification doesn’t seem as good or as legitimate I think. It was good because men are normally more confident in their ideas and it also gives women who have family responsibilities the chance to take part in training programs.</td>
<td>Very important. I felt more at ease. I better communicated with the group. The female environment worked well. Women are naturally carers and nurturers so we helped each other out when we were finding things tough.</td>
<td></td>
</tr>
<tr>
<td>Do you see yourself as an entrepreneur?</td>
<td>Yes it’s hard to say I’m an entrepreneur but I tick the box.</td>
<td>I hate that word entrepreneurship. The word entrepreneurship brings it up a notch to</td>
<td>Yes</td>
<td>Probably not no. I’d be a nascent entrepreneur. I’m not fully fledged. I would be fully fledged if I had a</td>
<td></td>
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<tr>
<td>Question</td>
<td>Response</td>
<td>Role</td>
<td></td>
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<tr>
<td>Who was your primary role model/ mentor at the time of starting up your business</td>
<td>I didn’t have one, I saw the opportunity and went for it.</td>
<td>Kathleen Fitton and my supervisor in my Masters.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td>My sister</td>
<td>My lecturer in entrepreneurship Lisa Murphy.</td>
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<td></td>
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<tr>
<td>Mother</td>
<td>I didn’t have one. My daughter was my main focus and reason behind my business.</td>
<td>My mother and 2 aunts were entrepreneurs who influenced me greatly but Lisa was a huge inspiration to me from the beginning.</td>
<td></td>
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<tr>
<td>Family Member</td>
<td>I didn’t have one.</td>
<td></td>
<td></td>
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<tr>
<td>Teacher/educator</td>
<td>My sister</td>
<td></td>
<td></td>
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<tr>
<td>An already successful entrepreneur</td>
<td>I didn’t have one. My daughter was my main focus and reason behind my business.</td>
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<tr>
<td>Entrepreneur from the media</td>
<td></td>
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<tr>
<td>Spouse</td>
<td>I didn’t have one.</td>
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<td></td>
<td></td>
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<tr>
<td>I didn’t have one</td>
<td></td>
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<tr>
<td>Other (please specify)</td>
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<tr>
<td>Do you consider yourself a risk taker?</td>
<td>No I’m not limited to the amount of risk I am</td>
<td>Yes and no. Yes in that I love adventure but no when it comes to money gambling</td>
<td></td>
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<tr>
<td></td>
<td>No – not when it comes to money. I won’t risk losing large</td>
<td>Yes and no. Yes in that I love adventure but no when it comes to money gambling</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Yes no fear of risk within reason.</td>
<td>Yes and no. Yes in that I love adventure but no when it comes to money gambling</td>
<td></td>
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<tr>
<td></td>
<td>I would be I suppose. I wouldn’t be a crazy risk taker. Still a bit hesitant. I would</td>
<td>I would be I suppose. I wouldn’t be a crazy risk taker. Still a bit hesitant. I would</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

something law dee daw which it is certainly not. I think anyone who can create a product or service is an entrepreneur.
<table>
<thead>
<tr>
<th>Is any member of your family an entrepreneur or used to be an entrepreneur?</th>
<th>willing to take.</th>
<th>amounts of money.</th>
<th>or security I’m a scardie cat.</th>
<th>give myself 7/10 in terms of risk taking. I’d take calculated risks.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>A lot of family are self-employed if that counts.</td>
<td>Father, 2 brothers and 1 sister.</td>
<td>Not really. My dad would have tried his hand at a few things but nothing major.</td>
<td>Mother, 2 aunts, uncle and grandmother.</td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Brother</td>
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<tr>
<td>Sister</td>
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<tr>
<td>Grandparent</td>
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<tr>
<td>Uncle/Aunt</td>
<td></td>
<td></td>
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<tr>
<td>Husband/Wife</td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Do you have children? Yes/No</th>
<th>Yes</th>
<th>No</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If Yes: Would you be inclined to encourage your children to opt for entrepreneurship as a viable career option? If so why….</td>
<td>No I still think I would encourage more traditional means of income.</td>
<td>NA</td>
<td>I would love them to work for themselves however not to leave school to pursue a business idea or anything. I would probably encourage it more as they got older and gained</td>
<td>NA</td>
</tr>
<tr>
<td>No</td>
<td>NA</td>
<td>No</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>
As far as you are aware does your child partake in any form of entrepreneurship education at school or university?

<p>| | | | | | |</p>
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</thead>
<tbody>
<tr>
<td>No</td>
<td>I don’t think so.</td>
<td>NA</td>
<td>She did in primary school. They wrote a cook book and then used entrepreneurial skills to sell the cook book. This was run by the Jim Barry Group in Mallow.</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
Appendix F – Questionnaire and Repertory Grid- Main Study

DRAW A PICTURE OF AN ENTREPRENEUR IN THE BOX BELOW
WHO DOES THIS PICTURE REPRESENT? (ADD NAME IF APPROPRIATE)

LIST SOME CHARACTERISTICS OF THIS PERSON
COULD THIS PERSON BE A ROLE MODEL FOR YOU? IF NOT, WHY NOT.

WHO ARE YOUR OTHER ROLE MODELS AND WHY? (you can name more than one!)

WHAT HAVE THEY DONE TO BE CONSIDERED A ROLE MODEL?
How interested are you in the following future careers? Please number 1 – 14 (1 being your most desirable career choice and 14 being your least desirable career choice).

Medical Professional (doctor, nurse etc) □

Business manager □

Actor/Actress or performer □

Artist □

Lawyer □

Starting or owning your own business □

Scientist/engineer □

Professional athlete □

Journalist / Writer □

Computer programmer □

Military □

Sales/Marketing □

Teacher □

Government □
Are there other careers you may be interested in that we might have missed?

Please list__________________________________________________

WHO DO YOU LOOK UP TO IN THE CHOSEN CAREER CHOICE?


WOULD BECOMING MORE LIKE THIS PERSON MAKE YOU CONFIDENT? WHY?


WHAT TRAITS OF THIS PARTICULAR ROLE MODEL APPEAL TO YOU?

Entrepreneurial Self-Efficacy was measured by asking respondents to rate themselves against their peers on the following measures.

<table>
<thead>
<tr>
<th></th>
<th>Much worse</th>
<th>A little worse</th>
<th>About the same</th>
<th>A little better</th>
<th>Much better</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being able to solve problems</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Managing money</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Being creative</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Getting people to agree with you</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Being a leader</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Making decisions</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
Entrepreneurial Intentions
The questions below ask about your intentions to take courses and follow a career that involves entrepreneurship. Please indicate your level of agreement with each statement.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I will take more courses in entrepreneurship to gain more knowledge and understanding.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I intend to participate in entrepreneurship competitions in the future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I plan to take courses in the future to improve my business skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I plan to take courses for technical skills in business</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>I would participate in business workshops if the opportunity arose</td>
<td>1</td>
<td>2</td>
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<tr>
<td>I would participate in a course that would teach me how</td>
<td>1</td>
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to run my own business

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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>I will look for a summer job in a business to learn more</td>
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<tr>
<td>I would like to run my own business in the future</td>
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<tr>
<td>I would prefer to own my own business than work for someone else</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I plan to run my own business to have greater flexibility in my life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>I would run my own business to continue a family tradition</td>
<td>1</td>
<td>2</td>
<td>3</td>
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**Repertory Grid Section**

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<tr>
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<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td><strong>Preferred Pole</strong></td>
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<tr>
<td>Your current role model</td>
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<td>Your perfect role model</td>
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<tr>
<td>A bad role model</td>
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<tr>
<td><strong>Opposite Pole</strong></td>
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<tr>
<td>Hard working</td>
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<td>Attribute</td>
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Appendix G - Garda Vetting Form

11 December 2014

GCVU Reference No: 14/319040

Re: Result of Application to the Garda Central Vetting Unit

Dear Ms O’Brien

Thank you for completing the Garda Vetting Application Form which was forwarded from Cork Institute of Technology to the Garda Central Vetting Unit (GCVU).

I can confirm that the result of the GCVU vetting process shows there are no convictions recorded against you, in line with the declaration made by you in the form.

Yours sincerely,

[Signature]

Bishopstown, Cork, Ireland. Tel: +353 21 432 6100 Web: www.cit.ie
Appendix H – Respondents Drawings

Male respondent, rural school.

Female respondent, urban school
Female respondent urban school

Female respondent rural school
Female respondent, rural school

Male respondent, rural school
Male respondent, rural school
Female respondent, urban school
Appendix I – Completed Repertory Grids

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Completed Repertory Grid B
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