WHY DO THEY LEAVE? AN EXPLORATION OF SITUATIONAL, DISPOSITIONAL, INSTITUTIONAL, TECHNOLOGICAL, AND EPISTEMOLOGICAL FACTORS ON UNDERGRADUATE STUDENT WITHDRAWAL FROM ONLINE STUDIES AT AN INSTITUTE OF TECHNOLOGY IN NEW ZEALAND

A thesis presented

by

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to

The School of Education

in partial fulfillment of the requirements for the degree of

Doctor of Education

in the field of

Education

College of Professional Studies
Northeastern University
Boston, Massachusetts
November 2014
Acknowledgements

The undertaking and completion of my doctoral degree would not have been possible without the support and understanding of my family who put up with me taking over the table and playing classical music, and seemed to have a sixth sense about when it was best to just go away and leave me alone. Without their help and support this journey would probably not have happened and definitely would not have had a successful conclusion.

I was also fortunate enough to have an awesome advisor, Dr. Jennifer Qian. Dr. Qian’s thoughtful advice and guidance has been invaluable, not only in shaping my dissertation, but also in keeping me engaged and on track during those times when my enthusiasm flagged. I am also grateful to my second reader, Dr. Gail Matthews-DeNatale for her collegial approach and discussions, and to my external reader, Dr. Joanne Whittle for her encouragement and willingness to forego sleep when different time zones meant a 4am defense.

Finally, I probably would never have embarked upon this journey in the first place if not for my Aunt, Dr. Ruby Meis, and her support of education from the time I was born and together with my Uncle, Dr. Stephen Brewer, have been the best role models I could ask for.
Abstract

The flexibility and convenience of online distance learning is attractive to adult learners who are not able to attend traditional on-campus study due to work, family or other responsibilities. The rapid, and sustained, growth in online distance education has given it increasing importance to both the academic and financial status of higher education institutions; however, this importance has been overshadowed by low retention and completion rates. Given the importance of online distance education to higher education institutions, the need to understand the factors which influence student withdrawal has become vital for higher education.

In New Zealand, where the viability and potential existence of higher education institutions is dependent upon meeting Government-set retention and completion outcomes, failure to gain this understanding and identify actions to improve student retention and completion may lead to loss of funding and academic accreditations. Therefore the need to adequately define, understand, and identify appropriate actions that an institution can implement to increase student persistence in online education is now urgent.

This research investigates the influence of situational, dispositional, institutional, technological, and epistemological factors on student withdrawal from foundation level online programs of study in higher education. It reflects and extends from the work of Cross (1981), Garland (1993), Roberts (2004), and Carroll (2008). As an exploration of the influences of different factors upon students’ decision to withdraw from online study, this research used a descriptive cross-sectional design, with a survey to collect data, in order to identify the extent to which each factor has had an influence on students’ decision to withdraw from their online study.

No significant demographic (age, gender, ethnicity) differences were found between the overall online, foundation study student population and the sample student population. Only 3
statements, made up of 1 institutional factor statement, 1 situational factor statement and 1 dispositional factor statement, were identified by 50% or more of the respondents as having an influence on their withdrawal from study. The results from this research highlighted the importance of student connectivity within the course of study and the influential relationship that situational and dispositional factors can jointly play in a student’s decision to withdraw from online, foundation level study.

Keywords: withdrawal, higher education, online study, situational, dispositional, institutional, technological, epistemological
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Chapter 1: Introduction

Statement of the Problem

As the demand for distance delivery continues to accelerate in higher education, distance delivery via online learning environments has become an important component in both the academic and financial structure of many higher education institutes (Betts, Hartman, & Oxholm, 2009). The Sloan Consortium surveys of online education since 2003 show that online enrolments are growing substantially faster than other higher education enrolments (Allen & Seaman, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010), with the 2012 report (Allen & Seaman, 2012) finding a 17.3% compound annual growth rate in online education in higher education between 2002 and 2011, as compared with a 2.6% compound annual growth rate in higher education overall during this same period. The conclusion from this report is that, “A plateau for online enrolments may be approaching, but there is no evidence that it has yet arrived” (Allen & Seaman, 2012, p. 18).

Poor retention in online education has been a concern, and the focus of studies, for over a decade (Anderson, Lee, Simpson, & Stein, 2011; Ashby, 2004; Boston & Ice, 2011; Lau, 2004; Simpson, 2004, 2010; Tait, 2004; Yorke, 2004). Boyle, Kwon, Ross, and Simpson (2010) considered poor retention a “fundamental weakness” (p. 115) of distance education, and chief academic officers in the United States have identified poor retention rates in online education as a barrier to growth in this area (Allen & Seaman, 2012). In New Zealand student retention has become a focus for the determination of funding available to higher education institutions, with poor retention rates having the potential of reducing government funding available (Anderson et al., 2011; Tertiary, 2010).
Cross (1981) identified three factors as potential barriers to adult learners’ participation in traditional education courses: situational (those which result from the personal circumstances of the student, such as employment or family responsibilities), dispositional (those which are founded in the beliefs, attitudes or values of the student), and institutional (those which are under the jurisdiction of the institution). In more recent times, studies in student persistence in online higher education have considered these factors (Carroll, 2008) and have identified additional factors: epistemological (those areas relating to the students’ conceptual frame, e.g. prerequisite knowledge, use of jargon) (Garland, 1993), and technological (those areas relating to the mode of delivery e.g. computer access, access to internet) (Roberts, 2004). Most studies to date have focused predominantly on student situational and dispositional factors thus creating a gap in the research with regards to the influence of other factors (Ashby, 2004; Boyle et al., 2010; Gibson & Graff, 1992; Nash, 2005; Packham, Jones, Miller, & Thomas, 2004; Park & Hee Jun, 2009).

Of particular interest is that the influence of institutional factors on a learner’s decision to withdraw from online higher education study has not been studied in any depth, despite the fact that institutional factors are those under the direct control of the institution and the ones that an institution can exert influence upon in order to encourage student persistence in online studies. Additionally, the more recent identification of epistemological and technological factors in online education means that the body of literature pertaining to these factors is in its infancy. If institutions wish to encourage student persistence in online studies, they must develop an understanding of the influence the differing factors have on student withdrawal.

Nearly two decades ago, Brown (1996) identified institutional factors as influencing student decisions to withdraw from distance study; however the primary influential factor was found to be the students’ physical distance from the higher education institute. While the
inclusion of institutional factors in Brown’s 1996 study was important as the first time these factors were identified as having an influence on student withdrawal, the fact that this study was set in the context of minimal, if any, online interaction means that its results cannot be extrapolated to an online environment. However, it is worthy to note that one of the recommendations to encourage continued enrolment made by Brown (1996) was greater use of the online environment.

In the online environment, Carroll, Ng, and Birch (2009) found that several institutional factors could present both positive and negative influences on a student’s persistence with study; however they did note that their research was of a limited nature and not generalizable due to its qualitative case-study design. While Herbert (2006) found the situational factor of time availability to be the main reason for student withdrawal, this study also included a limited consideration of institutional factors in terms of student satisfaction, and found that staff responsiveness did have a correlation with student satisfaction; however no correlation was made with student withdrawal.

There has been significant research surrounding personal influences on retention issues and motivation within online education (Deimann & Bastiaens, 2010; Kemp, 2002; Rovai, 2003; Woodley, 2004; Yuen & Tsang, 2011) and the usability of situational and dispositional factors to predict retention (Morris, Wu, & Finnegan, 2005; Park & Hee Jun, 2009; Roberts, 2004; Svedberg, 2010); however, the influence of other factors has not received the same focus of attention in the research. Institutions need to be able to recognize and understand the influence of the different factors on an online student’s persistence in studies in order to move towards increased retention and participation of these students.

**Significance of the Problem**
Practical significance.

The flexibility and convenience of distance learning is attractive to adult learners who are not able to attend traditional on-campus study due to work, family or other responsibilities (V. McGivney, 2004; Park & Hee Jun, 2009). The increasing importance of distance education to both the academic and financial status of higher education institutions (Betts et al., 2009; Herbert, 2006) coupled with the low retention and completion rates in distance education (Drouin, 2008; Heyman, 2010; Kember, 1989) means the need to understand the factors which influence student withdrawal has become vital for higher education.

In New Zealand, failure to gain this understanding and identify actions to improve student retention and completion may lead to loss of funding and academic accreditations, negatively impacting on both the fiscal and academic performance and standing of a higher education institution (Scott, 2005; Tertiary, 2010). The viability, and potential existence, of higher education institutions is dependent upon meeting Government-set retention and completion outcomes (S. Maharey, 26 March 2012), therefore the need to adequately define, understand, and identify appropriate actions that an institution can implement to increase student persistence in online education is now urgent.

Research significance.

This study will assist in informing the current gap in research on student decisions to withdraw from their foundation level online higher education study. This field of research has historically been hampered by differing terminology and definitions for decades (Tinto, 1975), resulting in very little replication of research or accumulation of knowledge (Boston, Ice, & Gibson, 2011; V. McGivney, 2004; Woodley, 2004). By providing a clear definition of terminology being used (e.g. withdrawal, persistence) and using previously identified factors (i.e.
institutional, situational, dispositional, technological, and epistemological) this research will assist in forging a link with previous research and will enable further comparative research to take place.

**Research Questions**

Given the issue regarding the importance of understanding the influence of factors on student withdrawal, this research will examine the following questions:

1. Which of the following factors: situational, dispositional, institutional, technological, and epistemological, have been perceived by foundation level, online students at the Southern Institute of Technology to have most influenced their withdrawal from study?

   Given that older students are more likely to have additional responsibilities, such as family or employment, making demands on their time (Bean & Metzner, 1985; Carroll et al., 2009; V. McGivney, 2004; Yorke, 2004), the second research question to be explored in this study is:

2. Are there any differences in the perceived influence of situational, dispositional, institutional, technological, or epistemological factors between different age groups of students?

   As different higher education institutes may use differing terminology, a short definition of the terms used in this research is given below in order to assist in the understanding and application of this research across other higher education institutes.

**Definition of Terms**

*Dispositional factors:* those areas related to the students’ intrinsic nature (e.g. beliefs, confidence, attitudes) (Carroll et al., 2009; Cross, 1981; Roberts, 2004)
**Epistemological factors:** those areas relating to student expectations and perceived relevance, the students’ conceptual frame, and the creation and dissemination of knowledge (e.g. prerequisite knowledge, use of jargon) (Garland, 1993; Roberts, 2004)

**Institutional factors:** those areas under the control of the institution (e.g. cost, staff responsiveness, course design) (Carroll et al., 2009; Cross, 1981; Roberts, 2004)

**Persistence:** remaining, and engaged, in the course of study to completion of the enrolment period.

**Situational factors:** those areas related to the personal circumstances of the student (e.g. employment, family, health) (Carroll et al., 2009; Cross, 1981; Roberts, 2004)

**Technological factors:** those areas relating to the mode of delivery (e.g. computer access, access to internet) (Roberts, 2004)

**Withdrawal:** requesting removal from the course of study prior to completion of the enrolment period, or not engaging in the course of study and being removed from it by the education institution.

**Theoretical Framework**

Tinto’s seminal work on student withdrawal from higher education noted that a major shortcoming of the research at that time was the absence of theoretical models which sought to explain, as opposed to describe, the decision-making processes of students leaving their higher education studies (Tinto, 1975). While there have been numerous models developed regarding student attrition from higher education studies, and a growing number relevant to online studies (Bean & Metzner, 1985; Berge & Huang, 2004; Kember, 1989; Lee, 2010) since Tinto’s observation, Woodley (2004) noted that the models being developed to explain student attrition were drawing from the health and crime fields in an attempt to also “‘treat’ and ‘cure’ ” (p. 49)
student attrition. Given the advent of governmental funding provisions based on attainment of educational performance indicators, Woodley (2004) considered that the need to successfully retain students was more of a priority for the educational institution than the student, which was a different individual-provider relationship than in either the health or crime fields.

A non-prescriptive conceptual model was developed by Garland (1992) to identify barriers to persistence for distance students undertaking natural resource sciences. Using an ethnographic framework she took the situational, dispositional, and institutional factors first identified by Cross (1981), and added epistemological factors to these to inform her model (Figure 1). This model was further expanded by Schilke (2001), who added a technology factor, stating that distance education as studied by Garland (1992) was primarily paper-based correspondence and did not include technological delivery innovations, such as computers and the internet.

*Figure 1* Conceptual model from Garland (1992).
The work of Garland (1992) and Schilke (2001) further informed that of Roberts (2004), who explored the effect the five different factors (situational, dispositional, institutional, technological, and epistemological) may have on students in business-based distance education. While Roberts (2004) was influenced by Garland (1992) and Schilke (2001), both of the earlier studies were qualitative and did not add to the empirical research in this field. Therefore, Roberts (2004) developed a quantitative survey instrument which would enable a correlational study to be undertaken for the conceptual model. Garland’s (1992) model, as further developed by Schilke (2001) and tested empirically by Roberts (2004), forms the framework for this research.

Figure 2 shows the conceptual model which has formed the framework for this research. This model has adapted Garland’s (1992) model and added to this the influence of technology factors (note: for situational, dispositional, institutional, and epistemological factors, Garland (1992) used the term “barriers” while this research will refer to all of these as “factors”).

Figure 2 Adaptation of Garland's (1992) model, used as conceptual model for this research.
As shown by Figure 2, the three main areas of interaction are the student, the content of the course, and the institution—which includes the tutor, or facilitator, as the intermediary between the student and the course content. As developed by Garland (1992) and informing the work of Roberts (2004), the arrows indicate the direction of influence. Added to Garland’s (1992) model by this research are the technology factors as identified by Schilke (2001) and Roberts (2004), noting that these factors may be influential on the student, institution, and course content.

A description of each of the individual factors, and the potential interrelationships between the differing factors is presented in Table 1 below. The interrelationships presented in Table 1 are not meant to be fully inclusive or exhaustive. Instead these are given as examples to underscore the complex nature of a student’s withdrawal/persistence decision (Hartnett, St. George, & Dron, 2011; Müller, 2008). Further discussion of the individual factors and their influences on student persistence and withdrawal is presented in Chapter 2.

Table 1

<p>| Description and Interrelationship Examples for Situational, Dispositional, Institutional, Technological and Epistemological Factors |
|---|---|---|
| <strong>Factor</strong> | <strong>Description/Example</strong> | <strong>Examples of Potential Interrelationships Between Factors</strong> |
| Situational | Specific to the personal circumstances of the student: employment, health, family, finances | Situational factors may influence/be influenced by institutional factors (e.g. student’s financial circumstances and institutional cost for study) and dispositional factors (e.g. changes in health or employment may impact upon the student’s confidence or motivation). |</p>
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<th>Factor</th>
<th>Description/Example</th>
<th>Examples of Potential Interrelationships Between Factors</th>
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<tr>
<td>Dispositional</td>
<td>Related to the student’s intrinsic nature: beliefs, confidence, attitudes, motivation</td>
<td>Dispositional factors may influence/be influenced by institutional factors (e.g. lack of staff response impacting upon student’s motivation) and technological factors (e.g. software or system stability issues impacting upon student’s confidence or attitude).</td>
</tr>
<tr>
<td>Institutional</td>
<td>Under the control of the institution: staff response times, media, course design, cost</td>
<td>Institutional factors may influence technological factors (e.g. media used impacting upon software or data cap requirements) and epistemological factors (e.g. course design impacting upon communication styles)</td>
</tr>
<tr>
<td>Epistemological</td>
<td>Student’s expectations and perceived relevance: personal interest, prerequisite knowledge, communication styles</td>
<td>Epistemological factors may influence dispositional factors (e.g. lack of prerequisite knowledge impacting upon confidence, or not perceiving any relevance of study to personal goals impacting upon motivation)</td>
</tr>
<tr>
<td>Technological</td>
<td>Relevant to the mode of delivery: computer/internet access, data caps, system stability, resource links, software</td>
<td>Technological factors may influence situational factors (e.g. software requirements impacting upon student’s financial situation).</td>
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**Summary**

With the increasing importance of online delivery and student retention, higher education institutions need to ensure that they understand the factors influencing a student’s decision.

However, while even more emphasis is being placed on understanding and increasing student retention (Boston & Ice, 2011), relatively little is known about the factors which influence a student’s decision to persist or withdraw from their distance study (Boston et al., 2011; Fozdar, Kumar, & Kannan, 2006; Heyman, 2010). In order for institutions to put in place effective
measures to increase the retention and completion of their online distance students, a greater understanding of the factors influencing student withdrawal from online higher education study is required. In order to assist in filling this gap, this research has adapted Garland’s (1992) conceptual model to include technological factors as identified by Schilke (2001) and Roberts (2004).
Chapter 2: Literature Review

This chapter reviews the scholarly literature relevant to situational, dispositional, institutional, technological, and epistemological factors and their influence on student persistence with and withdrawal from distance education courses delivered in online learning environments in higher education. The literature review begins with a brief overview of the key researchers in the field of student withdrawal in higher education and the issues encountered due to differing definitions of withdrawal. The review then focuses on the research in online higher education relevant to these factors. Finally, the review considers the research on interventions which institutions have put in place to date and then summarizes the findings from the review.

Key Researchers

Tinto (1975) is one of the seminal researchers in the field of student withdrawal and proposed that the interactions of a student with both social and academic environments of an institution would determine whether or not the student would withdraw from study. While Tinto’s model is based on traditional, classroom-based higher education, attempts have been made to adapt it to online education, with mixed success (Woodley, 2004).

Following from Tinto, Cross was the first to identify situational (such as health, employment or dependents), dispositional (such as enthusiasm, drive, or discipline) and institutional (such as enrolment procedures, technology, and course length) factors as three barriers to students’ participation in the traditional classroom (Cross, 1981) with this work being further developed by Gibson and Graff (1992) and applied to the area of online learning. While Gibson and Graff (1992) did include both “completers” and “non-completers” in their work (p. 41), the three factors identified by Cross (1981) were still considered primarily as being barriers for students to overcome. It wasn’t until over a decade later with the work of Carroll, Ng, and
Birch (2009) that these factors were synthesized as variables which could influence a student’s persistence in distance study both positively and negatively.

Another key researcher in the field of student withdrawal in higher education is Ormond Simpson, whose work has spanned both the Open University in the United Kingdom and the Open Polytechnic in New Zealand (Simpson, 2004, 2008) considering both motivations and interventions for online students, and more recently in collaborative work investigating the impact of student mentoring on student withdrawal (Boyle, Kwon, Ross, & Simpson, 2010). Other key researchers in this area are Kember (1989), who proposed a longitudinal-process conceptual model of student withdrawal, and Brown, who considered the influence of internal and external factors on withdrawal of off-campus (as opposed to online) students (Brown, 1996).

Packham et al. (2004) whose exploration of causes of student withdrawals in online learning was also important to informing the subsequent synthesis undertaken by Carroll et al. (2009), as were Mackie, who stressed the need to include consideration of the personal, institutional and contextual forces on a student’s decision to withdraw (Mackie, 2001), and V. McGivney (2004), who summarized data on non-completion patterns of adult learners in distance study.

There is a large, and still growing, body of research on student retention (both withdrawal and persistence) which has drawn from the knowledge and frameworks developed by the above key researchers (Yuen & Tsang, 2011). While Tinto (1975) first identified the student/institution interactions which may influence student withdrawal, it is the further development of this theory by Cross (1981) in the identification of three barriers and the further elucidation of these by Gibson and Graff (1992) and Carroll et al. (2009) which has been influential to this research.
This research also deals specifically with non-traditional students, and the work of Brown (1996), Mackie (2001), R. J. McGivney (2009), and V. McGivney (2004) have assisted in identifying the attributes of this student population. Finally, while this research is utilizing a theoretical framework adapted from Gibson and Graff (1992) and Roberts (2004), the work of Kember (1989), Boyle et al. (2010), Packham et al. (2004), and Simpson (2004, 2008) was influential in the consideration of the interrelationships between the various factors contained within the adapted framework.

**Defining Withdrawal**

In his seminal work on student withdrawal, Tinto (1975) observed that inadequate definitions of withdrawal had led researchers to combine leaving behaviors that were very different in character, leading to contradictory or misleading results being reported. In recent times, some researchers have additionally considered that all terminology used in the literature for student withdrawal is negative in its approach and argue that a student’s withdrawal may be the result of a student making a positive decision (e.g. the student has attained the desired goal, or moved to a different institution) rather than anomaly which requires fixing (Fozdar et al., 2006; Woodley, 2004). However, the realities of government funding regimes which penalize an institution for student withdrawal (Ashby, 2004; Fozdar et al., 2006; Scott, 2005; Tertiary, 2010; Woodley, 2004) means that research in this area will continue to focus on the causes and cures for student withdrawal, with Tinto’s observation regarding inadequate definitions of withdrawal being as valid today as it was when he made it, nearly four decades ago (Bean & Metzner, 1985; V. McGivney, 2004; Woodley, 2004).
Ashby (2004) noted that it is the definition of a phenomenon which determines the measurement of the phenomenon. With regard to student withdrawal in online education, two major themes can be drawn from the research.

**No definition.**

Several researchers into student withdrawal have not provided a specific definition of what constitutes a withdrawn student in their research context (Ariadurai & Manohanthan, 2008; Boyle et al., 2010; Fozdar et al., 2006; Woodley, 2004). Similarly, while other researchers have equated the term ‘dropout’ to that of ‘withdrawal’, they have also failed to provide a definition for either term (Calvin & Freeburg, 2010; Woodley, 2004). While some researchers have implied a sense of what they were meaning with regard to withdrawal through the context of their research discussions, they still have not stated exactly what the term’s definition was with regard to their research (Kember, 1989; Mackie, 2001).

**Specific definition.**

Researchers who have provided specific definitions for withdrawal generally consider withdrawal as being a student withdrawing from an entire program, or qualification, of study (Brown, 1996; Fozdar et al., 2006; V. McGivney, 2004; Packham et al., 2004); or withdrawal as being a student withdrawing from a specific course or unit of study (Ashby, 2004; Morris et al., 2005; Nichols, 2010). Related, but slightly different, to these two definitional areas are those researchers who provide a very specific, and possibly idiosyncratic, definition for withdrawal, such as Mackie (2001) who defined withdrawal as the complete abandonment of the university experience by the student; Yuen and Tsang (2011) who defined withdrawal in terms of registration, with a withdrawn student being one who had not registered for a new course within two semesters of having completed a course of study; and Bean and Metzner (1985) who
similarly identified a withdrawn student as one who did not register for further courses, but whose timeframe for registration was the semester directly following the previous study.

The continued use of differing terminology and definitions for student withdrawal in research in higher education has resulted in very little replication of research or accumulation of knowledge (Boston, Ice, & Gibson, 2011; V. McGivney, 2004; Nichols, 2010; Woodley, 2004). Adding to the definitional confusion surrounding research into student withdrawal in higher education is the body of research into student persistence, where persistence is considered to be the opposite of withdrawal in context, even when there is no stated definition for either term (Nash, 2005; Nora & Snyder, 2008; Park, Boman, Dean Care, Edwards, & Perry, 2008; Rovai, 2003). Persistence may also have multiple meanings or definitions, depending upon the institutional or research focus (Nora & Snyder, 2008; Tait, 2004); therefore, consideration of persistence and withdrawal as diametric opposites may not be a valid approach and should be viewed with caution.

From this review of the literature, it is clear that the variety of meanings used to define withdrawal underscores both the need for higher education institutions to contextualize withdrawal for their specific requirements (e.g. in response to government policies, to accommodate institutional-specific practices) and for continuing research in this area to clearly state how withdrawal is being defined, in order to enable the accumulation of a body of knowledge which can be replicable and results compared. This research has addressed the definitional issue by defining withdrawal in accordance with the formal reporting procedures of the educational institution where the research was undertaken. Therefore, for this research, a withdrawn student is either one who requests removal from the course of study prior to completion of the enrolment period, or is removed from the course of study by the educational
institution due to non-engagement in the course of study. Additionally, for this research persistence has been defined as a student remaining enrolled, and engaged, in the course of study through to the completion of the enrolment period. The purpose of stating at the outset the definition of withdrawal for this research, and additionally the definition of persistence, is to hopefully avoid any potential misrepresentation of research focus or findings, and to enable future replicable research to be undertaken.

**Situational, Dispositional, Institutional, Technological, and Epistemological Factors in Online Education**

As noted earlier, Patricia Cross was the first to identify situational (such as health, employment or dependents), dispositional (such as enthusiasm, drive, or discipline) and institutional (such as enrolment procedures, technology, and course length) factors as three barriers to students’ participation in the traditional classroom (Cross, 1981). This work was further developed by Gibson and Graff (1992), Garland (1993) and Brown (1996) and applied to the area of distance (but not online) learning. The findings from these early studies of students undertaking study remotely from the higher education institution without online delivery or support were varied and, at times, conflicting.

Gibson and Graff (1992) identified a significant difference in the dispositional factors between students who completed and students who did not complete their course of study; however, Garland (1993) did not find any major differences between students who withdrew from, or persisted with, their studies. Instead, Garland (1993) identified a fourth factor, epistemological, as the main barrier to student completion. In contrast, Brown (1996) found that institutional factors were the major reason for distance (not online) students to withdraw from their studies.
In the following decade, researchers exploring the reasons underlying student persistence or withdrawal from an online program of study have also built upon, or added to, the factors identified by Cross (1981). Comparisons of findings in this research are hampered by the use of differing terminology and examples of factors, as previously discussed with regard to the issues surrounding a definition of withdrawal. To address this difficulty, this review of the research has undertaken to relate the differing terminology to the three factors identified by Cross (1981) as far as possible.

Carroll et al. (2009) used the same terminology and definitions for situational, dispositional, and institutional factors as first identified by Cross (1981); however, this is the only study that appears to have made such a close relationship. Several studies have used the same three factors, but have presented them with different terminology. For example, situational factors have also been identified as circumstantial factors (Berge & Huang, 2004; Herbert, 2006); dispositional factors have been identified as personal or student factors (Berge & Huang, 2004; Herbert, 2006; Packham et al., 2004; Street, 2010); and institutional factors have also been identified as education system and course factors (Packham et al., 2004; Street, 2010).

Roberts (2004) used the same situational, dispositional, and institutional factors, and then incorporating the findings of Garland (1992) and Schilke (2001) added both technological factors and epistemological factors to these. Other researchers, such as Muilenburg and Berge (2005) and Müller (2008) provided definitions by example for the factors included in their studies. Examples such as administration, disappointment in faculty, learning community, support and technical requirements were all identified as institutional factors; while learner motivation, personal growth, anxiety, academic, and technical skills were identified as dispositional factors; and time, multiple responsibilities, technology availability and family support were identified as
situational factors. Muilenburg and Berge (2005) also combined institutional and situational factors into one term identified as “cost and access to the internet” (p. 35).

Other combinations of Cross’ factors into one term were found in the use of ‘internal’ to include both dispositional and institutional factors, ‘environment’ to include both situational and institutional factors, and ‘background’ to cover both dispositional and institutional factors (Lee, Choi, & Kim, 2012; Park & Hee Jun, 2009; Street, 2010). Also, while some studies used a term which incorporated two factors, other studies omitted some factors in order to focus on others. Of these studies more were found to identify dispositional factors (identified by a variety of terminology including individual characteristics, psychological traits, self-discipline, and learning motivation) as their focus (Georg, 2009; Heyman, 2010; Lee et al., 2012; Lim, Morris, & Yoon, 2006) than either institutional factors (also identified as support services or instructor engagement) or situational factors (also identified as external factors or time management) (Fozdar & Kumar, 2007; Park & Hee Jun, 2009).

One commonality amongst research from 1981, when Cross first discussed dispositional, situational, and institutional factors through to 2009, is that these factors were all viewed through the lens of barriers to study. It was not until the work of Carroll et al. (2009) that the factors first mooted by Cross (1981) were synthesized as variables which could influence a student’s persistence in distance study both positively and negatively. Further expanding on Cross’ (1981) work, Carroll et al. (2009) defined situational factors as those which result from the personal circumstances of the student, such as employment or family responsibilities; dispositional factors as those which are founded in the beliefs, attitudes or values of the student; and institutional factors as those which are under the jurisdiction of the institution, such as its enrollment policies or procedures.
As the situational, dispositional, and institutional factors have been used in the research for a longer period of time than either technological or epistemological factors, this synthesis of findings from research on student withdrawal contains more detail regarding these three factors. Also, it is important to note that while the factors influencing withdrawal are closely related to those influencing persistence, and can be categorized similarly, they are not simple opposites. Just because the presence of a factor positively influences student persistence does not mean that the absence of that factor will lead to student withdrawal. Additionally, while all factors are considered independently below, as noted in Table 1, they may be interrelated in influencing a student’s decision to withdraw from study.

**Situational factors.**

Situational factors are based on the personal circumstances of a student (Carroll et al., 2009; Cross, 1981). Online distance education students are typically older than traditional on-campus, higher education students and are more likely to have responsibilities, such as family or employment, making competing demands for their time (Bean & Metzner, 1985; Carroll et al., 2009; V. McGivney, 2004; Yorke, 2004). Carroll et al. (2009) identified situational factors which could influence a student’s persistence in online distance education as employment commitments, family responsibilities, financial demands, health, and ability to undertake study in an independent context and noted that these factors were most influential on a student’s decision to withdraw from study.

**Influence on persistence.**

A study of factors influencing persistence for online distance education students at the American Public University found students were predominately studying part-time with limited funds to pay for tuition, therefore they would limit their enrollment to the amount that would be
covered through the financial contribution from their employer (Boston & Ice, 2011; Boston et al., 2011). In this case the situational factor of being in employment with an employer who provided a financial contribution to the higher education study was a positive influence on persistence.

A different perspective on employment as a situational factor for influencing persistence was presented by Park and Hee Jun (2009). This study found that persistence could be positively influenced when students were given release time from their jobs in order to concentrate on their studies; however, no mention was made of whether this release time should be on full pay or unpaid. For students as identified by the American Public University study, unpaid release time from their jobs would not positively influence persistence, as finances, rather than time availability, were considered to be the primary situational factor influencing persistence (Boston & Ice, 2011; Boston et al., 2011).

Park and Hee Jun (2009) also found that receiving support from family members positively influenced persistence to a greater extent than either academic preparation or aspirations. This situational factor was considered so important that the suggestion was made for institutions to actively recruit the support of family members through informing them of the advantages of completing the course of study. Müller (2008) also explored the role of support as an influence on persistence for online distance education from the female students’ perspective. In this study the main situational factor which positively influenced persistence was the ability to create communities of support for the independent learning context (Müller, 2008).

Not all studies have found situational factors to have a large role in influencing student persistence in distance education. Kemp (2002) considered the situational factors of family, work, finances, and community commitments and found no correlation between these and
persistence in study. While this finding was considered to be in contrast to some earlier studies on persistence, it did agree with studies that suggested situational factors on their own could not be used as reliable predictors of persistence.

**Influence on withdrawal.**

V. McGivney (2004) identified several situational factors which could influence student withdrawal from a course of study. Lack of financial support was found to be a particularly strong influential reason for a mature student to withdraw from study, as was a lack of family or partner support (V. McGivney, 2004). This study also commented on a differential gender pattern, with male students most often citing financial pressures as their reason for withdrawing, while female students cited family pressures more often (V. McGivney, 2004).

Issues surrounding time management, or lack of time to undertake the study, were also found to strongly influence a student’s decision to withdraw from study (Fozdar & Kumar, 2007; Nash, 2005). Park and Hee Jun (2009) identified employment as the limiting factor for adult students who were unable to devote appropriate time to their studies while remaining in full-time employment. Other situational factors found to influence student withdrawal were a lack of employer support, illness, and an inability to have contact with other students (Packham et al., 2004; Yuen & Tsang, 2011).

**Dispositional factors.**

Dispositional factors arise from a student’s attitude, perceptions, beliefs and values (Carroll et al., 2009; Cross, 1981). These factors include a student’s self-confidence in undertaking an academic pursuit, motivation, possessing realistic goals, and feelings of satisfaction with the course of study (Carroll et al., 2009). Dispositional factors may also influence the impact of situational factors upon a student’s persistence in a course of study, for
example two students with similar situational factors (e.g. young children) may have differing persistence outcomes due to differing dispositional factors (e.g. one student with a higher motivational factor than the other).

**Influence on persistence.**

Heyman (2010) identified self-discipline as an important influencing factor for students undertaking distance education. Self-discipline is considered a dispositional factor as it is seated in the beliefs and values system of a student, similar to motivation. Students with a strong sense of self-discipline in their course of study were found to be more responsible for their learning and a strong presence of self-discipline was considered a positive influence on persistence in the course of study (Heyman, 2010).

Several studies found a positive relationship between student persistence and satisfaction in a course of study, whether due to the delivery being in a context which promoted feelings of well-being (Müller, 2008), the course being perceived as meeting the student’s aspirations and relevant to the student’s life (Park & Hee Jun, 2009), or the student receiving psychological support to promote the self-belief necessary to feel capable in completing the course of study (Yorke, 2004). Drouin (2008) found that students in distance education felt more satisfied with their course of study when they had a sense of community; however in this study satisfaction did not correlate with an increase in student persistence.

**Influence on withdrawal.**

Perceived relevance of the course of study to the student has been identified as a major dispositional factor influencing student withdrawal. Students who perceived the course of study not to be relevant to their own lives, or whose personal goals had changed during the course were more likely to withdraw from their study (Drouin, 2008; Yuen & Tsang, 2011). Yuen and Tsang
(2011) also found that students lacking self-discipline were more likely to withdraw from distance education, as were those who could not maintain their motivation.

In his study on student persistence Yorke (2004) considered the influence of psychological factors, also considered as dispositional factors, on student withdrawal. A low sense of self-belief, or self-confidence in ability to complete academic study, and feeling uncomfortable in the academic environment, even when accessing this in the security of their own home, were found to be influential factors on students’ decisions to withdraw from study.

Student aspirations of the academic environment were also found to be influential for decision-making as students with low educational aspirations were more likely to withdraw from study (Woodley, 2004). A similar perception was considered by V. McGivney (2004), who noted that feelings of alienation could be engendered in students who perceived the academic setting to be unfriendly and were therefore more likely to withdraw from their course of study.

In contrast to studies such as V. McGivney (2004) and Yorke (2004) which found that students’ feelings of isolation or discontent in the independent academic environment influenced a student’s decision to withdraw, Drouin (2008) found no correlation between a student’s lack of satisfaction with the social aspects of study and withdrawal from that study.

**Institutional factors.**

Institutional factors are founded within the educational institution and include policies, procedures, or structural components which may encourage or discourage a student to stay in study (Carroll et al., 2009). Institutional factors which may influence a distance education student include course design, acceptance and dismissal policies and procedures, technical or academic support, and the institutional grading policies (Boston & Ice, 2011; Boston et al., 2011; Herbert, 2006; Morris et al., 2005; Müller, 2008; Packham et al., 2004; Woodley, 2004). Of the
three factors: situational, dispositional, and institutional, it is the institutional factors which are considered to be most influential in encouraging a student to persist with study, and yet these appear to be the least studied (Carroll et al., 2009).

**Influence on persistence.**

Institutional policy which required early contact from the online academic staff to the student was found to encourage engagement with the institution and course of study and positively influence a student’s decision to stay in study (Tait, 2004). Tait (2004) also found that institutions which enforced a policy for academic staff to contact distance education students at the commencement of their course of study assisted in the establishment welcoming environment that was conducive to encouraging persistence in online education.

Institutional program admittance policies designed to identify high GPA and mathematical ability for entrants into an online course of study were found to correlate positively with student persistence (Morris et al., 2005). Similarly, institutional policies that enabled credit transfers from one program into a different program of study provided encouragement for students to stay in and complete their remaining studies (Boston & Ice, 2011; Boston et al., 2011).

Herbert (2006) undertook an empirical study to assess the importance of various institutional factors to students and student persistence. This study identified faculty responsiveness to student needs as the greatest influence on student persistence, closely followed by quality of the instruction, timely feedback and quick response time from the institution to requests for information (Herbert, 2006). Other institutional factors which were found to positively influence persistence were the availability of financial aid, teaching standards and
assessment methods, library facilities, student support structures and course design that was engaging and appropriate (Herbert, 2006; Müller, 2008; Packham et al., 2004; Woodley, 2004).

**Influence on withdrawal.**

Although not researched to the same extent as situational and dispositional factors, some links between institutional factors and student withdrawal have been discussed in the reviewed literature. Müller (2008) found that ineffective communication between the institution and the student prior to enrollment, leading to the student being unaware of, and potentially unprepared for, the study requirements was an important institutional factor influencing a student’s decision to withdraw from a course of study. In their study of student persistence at the American Public University System, Boston et al. (2011) also found that pre-enrollment advice presented to students by the institution regarding the rigor of the academic study could be an influential factor on how well the students ultimately did in their studies which then had the possibility of influencing any subsequent decision by the student to withdraw from study.

The design of the online course was also identified as an influential factor in whether or not a student withdrew from his or her course of study. Müller (2008) found that the various demands on working women’s time meant that the standard 3 credit, 15 week course was difficult for them to complete. A similar finding was presented by Packham et al. (2004) who noted that poorly structured and inflexible course design was a factor in student withdrawal from distance education. Park and Hee Jun (2009) also found that courses designed without motivational aspects or learning materials relevant to the learners’ goals would have a higher rate of withdrawal than courses which incorporated motivational aspects and relevant learning material. Packham et al. (2004) summed up the instructional factor of course design as inclusive
of providing a positive student experience, considering that negative experiences were more likely to influence withdrawal from study.

Other institutional factors which have been found to influence student decisions to withdraw from the course of study have included a lack of academic support (Fozdar & Kumar, 2007; Herbert, 2006); lack of access to library facilities (Woodley, 2004); and technology issues (Packham et al., 2004). While Schilke (2001) and Roberts (2004) considered technological factors as a separate factor, particularly in the advent of increasing uses of technology-based instruction and online learning, other researchers have considered technological factors within the domain of institutional factors.

**Technological factors.**

When incorporated within institutional factors, technology includes several aspects of the technology usage, from the course requiring a higher broadband connectivity than students may be able to readily access, to institutional issues with launching the technology platform, to an institutional expectation of higher technology skills than actually possessed by the students (Packham et al., 2004). However, what is not included here are the technological factors within the domain of the student (Roberts, 2004), such as access to a computer or existence of data caps. As technological factors within the domain of the student are relevant to online study, this research has identified technological factors identified separately, similar to Schilke (2001) and Roberts (2004).

**Influence on persistence.**

The influence of technological factors on persistence has not been identified in research to the same extent as other factors. However, some online learning strategies which rely on technology, such as online discussion forums, have been found to encourage student persistence.
in online study (Maathuis-Smith et al., 2011; Shea, Swan, Li, & Pickett, 2005). Additionally, the provision of technical support to students has also been identified as having the potential to positively influence student persistence (Müller, 2008; Packham et al., 2004).

**Influence on withdrawal.**

Technological factors, such as not gaining internet access or being comfortable in working the online learning technology or having access to the necessary hardware/software, have been identified as contributing to student withdrawal (Müller, 2008; Packham et al., 2004; Street, 2010). However, while some studies have found these factors to be an important consideration for student withdrawal (Packham et al., 2004) others have identified technical issues as less important (Muilenburg & Berge, 2005).

**Epistemological factors.**

Similarly to technological factors, epistemological factors as identified by Schilke (2001) have been more often included within other factors, particularly dispositional factors, in the research (Drouin, 2008; Yuen & Tsang, 2011); however, epistemological factors are concerned with barriers to comprehension, as opposed to the dispositional factors of a student’s attitude, perceptions, beliefs or values. A student’s comprehension of the course material may be affected by the student’s own conceptual framework, or level of foundational knowledge.

Epistemological factors have been identified as influential when a student’s conceptual framework is at odds with the course content or expectations, or when the use of jargon in the course content impacts on a student’s ability to understand, or develop an interest in, the study (Garland, 1993; Roberts, 2004). Additionally, another epistemological factor is seated in the student’s perception of relevance of the course, as the perception of non-relevance can also impede or encourage course comprehension. Roberts (2004) included research paradigms,
extent of modeling, amount of jargon, and communication approaches as epistemological barriers.

**Influence on persistence.**

The communication approaches and styles of a course can encourage interactions of students with similar interests and goals, and has been identified as contributing to the development of a sense of community which can also positively influence student persistence within a course of study (Rovai, 2003). However, research has also shown that a sense of community may be related to student satisfaction, but not necessarily to either student achievement or persistence (Drouin, 2008). Additionally, Anderson, Poellhuber, and McKerlich (2010) found that while some students were interested in collaborative working with other students, a similar proportion were not, and recommended that such interaction not be mandated in online study.

**Influence on withdrawal.**

Given their relative recent inclusion in the research, there is not yet a wide body of research which identifies the epistemological factors influencing student withdrawal. Roberts (2004) identified epistemological factors influencing withdrawal when an epistemological gap occurred between the students’ expectations and the course content, or when the course content lacked personal relevance. Hung and Yuen (2010) also found that a student’s personal interest (an epistemological factor) in the study being undertaken to be influential on course withdrawal if the student’s interest changed during the course of study. Additionally, Street (2010) considered perceived course relevancy, in the context of course factors, as an influential factor for student withdrawal and Woodley (2004) found that students with unfulfilled expectations of the academic environment were also more likely to withdraw from study.
Institutional Interventions

The bulk of the research into student withdrawal from online higher education study has been predominantly interested in investigating the influences of situational and dispositional factors and identifying potential interventions for these (Boston et al., 2011; Boyle et al., 2010; Herbert, 2006; Kemp, 2002; Packham et al., 2004; Simpson, 2004, 2008). Woodley (2004) considered the lack of research into institutional factors influencing student withdrawal could be due to institutions preferring to attribute the causes of withdrawal to student dispositional or situational factors rather than institutional ones. However, institutions seeking to implement interventions to decrease student withdrawal from their online courses need to consider institutional, as well as, situational and dispositional factors in their selection and implementation of interventions, given the complex interrelationships which may exist between these factors (Carroll et al., 2009; Nash, 2005).

Even though research into factors other than situational or dispositional is still in its infancy, several recommendations for possible institutional actions to decrease student withdrawal have been identified in the research. In the Open University courses in the UK, Ashby (2004) identified a series of institutional actions which could be undertaken. These actions included both further research within specific courses to better analyze and measure student trends and generic actions to be implemented across the wider institution. Some of the wider institutional interventions identified were: improvements to the information and advice given to students, finding the key times in the course of study where provision of proactive student support and advice will be most effective, and the development of workload maps to assist students in steering their way through their course of study (Ashby, 2004).
While not actually identifying specific interventions, Simpson (2004) identified a series of stages where interventions could be initiated by an institution. Included within these stages were triggers for interventions early on in the course of study, such as prior to the submission of the first assignment or at the non-submission of the first assignment, and further into the course of study, such as the failure to sit an exam or register for a further course (Simpson, 2004).

Dietz-Uhler, Fisher, and Han (2007) discussed the interventions which an institute could implement at the course design stage in order to influence persistence. They undertook a review which measured eight standards within two courses and identified specific actions to implement for increasing student persistence. Six of the eight standards were focused on course design and recommendations for implementation ranged from ensuring material was presented in a manner that was accessible to students with hearing or visual impairments, to using course technology that enhanced student learning and interactivity, to identifying assessment strategies that enabled students to measure their own learning and progress (Dietz-Uhler et al., 2007).

Dietz-Uhler et al. (2007) also recommended the enabling of student-student interaction through a variety of methods, such as open discussion forums and student group-led activities. The final element identified was the provision of clear and accurate information to students on the support services available to them from the institution, including support for academic, technical, and personal issues (Dietz-Uhler et al., 2007).

V. McGivney (2004) proposed several interventions that an institution could introduce in order to reduce student withdrawal from study. The provision of full and accurate information regarding course workload, content and student support services was considered especially important for distance education learners who may have no prior experience with the rigor and expectations of higher education (V. McGivney, 2004). Additionally, similar to other studies on
interventions (Ashby, 2004; Dietz-Uhler et al., 2007; Simpson, 2004), V. McGivney (2004) also noted that course design factors, such as quality of presentations, enabling of students to develop supportive groups within the course, and prompt interactions by academic staff could be important interventions for an institution to implement in order to reduce student withdrawal from its courses.

However, while some potential institutional interventions have been identified in the literature, not all of these interventions have been found to be successful. Nash (2005) noted that a tutoring service, which the majority of distance students had indicated would encourage them to stay in study, was only used by 13% of students and was ultimately discontinued. A similar result was found in Poellhuber, Chomienne, and Karsenti (2008) where course design was altered to enable greater peer interaction; but the low number of collaborative interactions actually eventuating resulted in no reduction of student withdrawal.

One study which showed a reduction in student withdrawal which was felt could be attributed to implementation of institutional interventions was that of Nichols (2010, 2011). In this study four institutional interventions were put in place: a compulsory readiness survey, orientation courses, general messages of support sent to students, and personal contact (e.g. phone call) with students. While this study found that these four interventions made a “compelling difference” (Nichols, 2011, p. 20) to reducing student withdrawal, it could not determine the individual influence of each separate intervention and also found that the students did not consider the interventions encouraged them to stay in study, rather they perceived these interventions as expected, rather than additional, services (Nichols, 2010).

Summary
Tinto’s concerns regarding inadequate definitions of withdrawal (Tinto, 1975) are as valid now, nearly four decades later, as they were when first made. The lack of a consistent definition for withdrawal makes study comparisons or replications difficult and highlights the need to establish and convey a clear definition prior to undertaking research in this area. While a synthesis of definitions in order to rationalize and identify a recognized, agreed definition for withdrawal would be beneficial to further research, it may be difficult to achieve, given the external factors (such as political requirements) influencing the relationship between study, students and institutions.

Given the lack of a single, agreed definition for withdrawal it is vital that any study in student withdrawal clearly defines exactly what withdrawal is for the purposes of the study, in order to enable others to either undertake comparative studies, or to determine the relevance of any findings in different higher education settings. An important consideration is for all studies in student withdrawal to state at the outset how withdrawal has been defined for the purpose of the study, it is not enough to simply state that the study is on student withdrawal without defining the parameters covered.

This review of the literature explored the factors first identified by Cross (1981) and further expanded upon and considered within the area of online educational delivery by Carroll et al. (2009) and synthesized other relevant research into these factors. Institutional factors were identified as being influential on student persistence in study (Miller, Greenwood, & Prakash, 2009), while situational factors were found to be influential on a student’s decision to withdraw from study (Carroll et al., 2009). However, institutional and situational factors are not diametrically opposed factors, for example: a course delivery method (an institutional factor) may influence some students to withdraw from their study, while at the same time meeting the
learning needs of other students and encouraging them to stay in study; similarly time spent
caring for dependents (a situational factor) may influence some students to withdraw from their
study, but not impact on other students at all (Carroll et al., 2009; Drouin, 2008). This synthesis
of the scholarly literature has uncovered a gap in the research surrounding the influence of
institutional, technological, and epistemological factors in particular on student withdrawal in
online higher education studies.

The decision-making process of a student to withdraw from study may be difficult to
draw conclusions from, as it is a reflection of a personal choice and two students with the similar
backgrounds, in the same course of study, may make different decisions. As shown by this
review, utilization of the differing factors category as made relevant for online studies by Carroll
et al. (2009) and Roberts (2004) will enable the findings from this study on how factors influence
a student’s decision to withdraw from online higher education study to enhance and provide
direction for the institute as it undertakes to increase the retention and completion of its
undergraduate students in online, foundational studies.
Chapter 3: Research Design

This chapter presents the research methodology proposed for this study. The research will use a descriptive design and quantitative approach to enable the exploration of perceived influence of the various factors on students’ decision to withdraw. The research methodology includes the discussion on research questions, population and sampling, data collection, data analysis and statistical technique, data sourcing and transformation, validity, reliability, and generalizability, and ethical considerations.

Research Questions

The purpose of this research is to discover whether there is any influential relationship of situational, dispositional, institutional, technological, or epistemological factors on student withdrawal from foundation level online study in higher education in New Zealand. The first research question explored in this study is:

Question 1: Which of the following factors: situational, dispositional, institutional, technological, and epistemological, have been perceived by foundation level, online students at the Southern Institute of Technology to have most influenced their withdrawal from study?

Secondly, this research will explore whether there is any difference between different age groups of students in the perceived influence of the various factors upon their withdrawal. The second research question for this research is:

Question 2: Are there any differences in the perceived influence of situational, dispositional, institutional, technological, or epistemological factors between different age groups of students?

Research Design
As this research is an exploration of perceived influence of different factors on the withdrawal decision made by a large population of students, it will utilize a descriptive design using quantitative data analysis. The advantage of a quantitative design approach is that it enables information to be collected from a large population at one time. Descriptive statistics are useful when undertaking exploratory studies and working with factors or populations which are not able to be studied in a formal experimental setting. This research will also undertake an analysis of variance to assist in determining the influence of different factors on students from different age groups (Muijs, 2011).

**Population and sampling.**

This research will be conducted within SIT2LRN, the online faculty (in New Zealand the term “faculty” is used to identify an organizational structure of an education institution and is inclusive of all qualifications, students, administrators and staff within the area) of the Southern Institute of Technology which has its main campus in Invercargill, New Zealand. Established in 2003 the SIT2LRN faculty specializes in the online delivery of tertiary qualifications to adult learners throughout New Zealand and globally. The researcher is the Head of Faculty of SIT2LRN and the results of this research will be relevant to a problem of practice for the faculty, enabling this research to be practically applied.

As the focus of this research is on the influence of a variety of factors on a student’s decision to withdraw from foundation level online study, the population group for this research will be the SIT2LRN students at “Enrolment Withdrawn” (EW) status in Level 1 to 4 qualifications in the 2013 academic year. EW status is a formal reporting status used by tertiary institutions in New Zealand and includes students who have completed enrolment procedures (e.g. submitted an application for study, were accepted into study, paid for the study) and then
either formally withdrew from study prior to the completion of the enrolment period, or were withdrawn by the institution due to not meeting engagement and/or assignment submission requirements.

In the New Zealand Qualifications Framework (NZQA), the first year of undergraduate study (bachelor’s degree) is designated Level 5, with tertiary foundation programs at Levels 1 to 4, and postgraduate programs commencing at Level 8. Of the qualification programs of study offered by SIT2LRN in 2013, one was postgraduate, 13 were within the undergraduate levels, and 13 were within the tertiary foundation levels. Of particular concern to the Faculty is the withdrawal of adult students from the foundation level qualification programs, therefore the population for this study is to be drawn from EW students in Level 1 to 4 programs in 2013.

The Institution’s official student management database will be used to identify and select the relevant students who were designated at EW status for any course, or unit, of study in the foundation programs within the 2013 academic year. This selection of students will be in accordance with the definition of withdrawal used for this study, which is the same as that used by the Institution. In 2013 there were 337 EW students out of a total of 1681 student enrolments, or approximately 20% of the student enrolments in Level 1 to 4 courses of study within the SIT2LRN faculty.

The demographics of the SIT2LRN student population are similar to those of non-traditional students (Horn & Carroll, 1996) and while the demographics of the target population are expected to be similar to the overall SIT2LRN student population in foundation level studies, demographic data will be extracted to either support, or refute, this expectation. In general the SIT2LRN student population is predominantly female (74%), mature students (approximately 70% over 25 years old), and of New Zealand/European ethnicity (approximately 80%).
Admission requirements for SIT2LRN programs of study are similar to the requirements for on-site programs of study, and also in accordance with the New Zealand Education Act 1989, particularly with regard to open entry for mature students (those over 20 years of age), with the over-riding criterion for admission to most programs of study being that of demonstrable ‘likelihood of success’ in the course of study. As this study is utilizing a sample of convenience taken from students at one tertiary institution, other information on the sample population such as demographic characteristics will also be extracted from the student management database to further inform and enable replication of the study (Fraenkel & Wallen, 2009).

In 2013 there were 337 students at EW status in the SIT2LRN online foundation qualifications. In order to receive a 95% confidence level, with a confidence interval of 5, a response rate of 53% (or 180 respondents) will be necessary. While this research strives for a 95% confidence level, with a confidence interval of 5, a confidence level of 95%, with a confidence interval of 7 (117 respondents or 35% response rate) would also be acceptable.

**Data collection.**

In order to investigate the influence of the factors on a student’s decision to withdraw from foundation level online study, this research will collect both nominal data (demographic characteristics such as gender, age, or ethnicity) and ordinal data from a four-point Likert scale survey.

**Instruments.**

The nominal data will be collected through two methods: 1) mining the student information database of the Southern Institute of Technology to collate the demographic characteristics of all students enrolled in foundation level studies in 2013, and 2) the first part of the survey instrument will contain demographic characteristic questions to collect data
comparative (e.g. using the same categories) to that held in the student information database. The collection of demographic data from the student information database will be used to compare the demographic characteristics of the respondent population with the demographic characteristics of both the total population and the total sample population to determine whether the survey respondents are characteristic of these populations for the 2013 year.

The second part of the survey instrument will consist of a 4 point Likert scale series of questions surrounding the five independent variables. While most previous research into these variables has been of a qualitative nature (Carroll et al., 2009; Cross, 1981; Gibson & Graff, 1992), Roberts (2004) developed and validated a 4 point Likert scale quantitative survey instrument to investigate situational, dispositional, institutional, technological, and epistemological factors, and it is this survey which will be presented to the target population via the call center.

Surveys enable the characteristics of the population to be described and to determine the relationship between the members of the population and one or more variables (Fraenkel & Wallen, 2009). Surveys, or questionnaires, have commonly been used in quantitative studies on student retention in online higher education (Fozdar et al., 2006; Herbert, 2006; Nichols, 2011). The survey utilized in this research will be adapted from Roberts (2004), with permission.

Roberts (2004) measured content validity through the use of both a pilot survey and professional evaluation of the survey. The pilot survey instrument was also used to determine the reliability, or consistency (Fraenkel & Wallen, 2009), of the instrument. The aggregate coefficient alpha for each of the five factors exceeded 0.70 and the Cronbach’s coefficient alpha number for the individual questions within each factor was also examined to determine if removal of any questions would improve the scale. Some adaptations to the demographic
questions were undertaken in order for the survey to be relevant to the New Zealand student population, with the sections containing survey questions for each of the individual factors remaining unchanged. For a copy of this survey, see Appendix A.

While Roberts (2004) deployed the survey as an online form via SurveyMonkey®, this study will use an independent call center, established by the institute over a decade ago for undertaking surveys for both in-house and external clients, to contact and survey the students. Previous researchers have found that obtaining responses from withdrawn students to be difficult, if not impossible (Fozdar et al., 2006; Kemp, 2002; Müller, 2008; Poellhuber et al., 2008). Across the various survey implementation types, telephone surveys have been found to have greater response rates than either mailed or online surveys (Glogowska, Young, & Lockyer, 2010). Therefore the utilization of a call center is considered the best way to achieve a higher percentage of responses from this notoriously difficult sample population.

**Procedures.**

Mining of the student information database was undertaken utilizing existing reports developed by the Southern Institute of Technology as part of its requirements to provide demographic data to the Tertiary Education Commission (the national higher education governance and funding body). This data is securely stored in the institute’s electronic database system and no new reporting or dissemination procedures or processes will be required in order to obtain the student data for this study.

A call center report, containing the names and contact phone numbers of the target student population was extracted and provided to the call center supervisor. Additionally, the survey instrument was provided to the call center supervisor as was the script for the call center staff. The script included an introduction of the call center staff member, the purpose of the
survey, and the voluntary nature of the survey. A copy of the call center script is included in Appendix B. If the respondent did not wish to participate in the survey, the call center staff member thanked the respondent for his/her time, ended the call and removed the respondent from the report. As per usual call center practice, each unanswered, or answered via message, phone number received three further call backs and each disconnected or unavailable phone number was noted as such.

The call center was staffed with trained personnel who undertake a variety of surveys for both internal and external clients. All call center staff are required to understand and comply with confidentiality and privacy policies of both the Institution and New Zealand legislation (Privacy Act 1993). For the number of students phoned for this survey (337 students), the call center ran for approximately one week from 5:30 to 8:30pm weeknights.

Data collected by the call center staff was entered into the Survey System survey software tool and then provided to the researcher in electronic format within the Institution’s secure server system. The Survey System tool is already used by the call center and enables data to be uploaded into both SPSS and Excel format for analysis. This data will be kept within the institution’s secure system and password protected for a period of one year.

Data analysis and statistical technique.

This research employed descriptive statistics to explore which of the following factors: situational, dispositional, institutional, technological, and epistemological are perceived by foundation level, online students to have most influenced their withdrawal from study. The data collected in the Survey System software was exported to both the SPSS/PAWS statistical software package and Microsoft Excel package which were both be used for data analysis.
For the first research question, “Which of the following factors: situational, dispositional, institutional, technological, and epistemological, have been perceived by foundation level, online students at the Southern Institute of Technology to have most influenced their withdrawal from study?”, the percentage, and significance was determined for each factor through cross-tabulations and Chi-square tests. The second research question, “Are there any differences in the perceived influence of situational, dispositional, institutional, technological, or epistemological factors between different age groups of students?”, was analysed through an one-way ANOVA on ranks to determine if there were any differences between the different age groups and factors.

**Data sourcing and transformation.**

Data for this study was collected from two sources: 1) the official student database, held by the Southern Institute of Technology; and 2) participant responses to the survey instrument, with data analysis undertaken through the SPSS/PAWS software package and Microsoft Excel. Extraction of data from the Southern Institute of Technology student database was undertaken using existing reports which collate descriptive information, such as student ages, gender, region of residence, and enrolment details. For the online survey, the Survey System software program was used to input data from a four-point (1=strongly agree; 2=agree; 3=disagree; 4=strongly disagree) Likert-scale survey instrument and then export this data directly into an SPSS/PAWS compatible file.

**Validity, Reliability, and Generalizability**

It is vital for a survey instrument to have validity in order for the results of the study to be appropriate and meaningful (Fraenkel & Wallen, 2009). The survey instrument to be used for this study was developed and validated by Roberts (2004).
All surveys may be subject to an array of biases, such as nonresponse bias, when those being surveyed do not participate or respond to the survey potentially leading to the survey not being representative of the overall population; and self-selection bias, when survey respondents are volunteers and potentially over-representative of a few strongly held opinions (Fraenkel & Wallen, 2009). In order to minimize the nonresponse bias as much as possible a call center procedure was utilized for the collection of the data.

Additionally, in the case of both survey and data extraction, it is very important for the researcher to ensure that the questions asked are objective and unbiased. For example, when extracting institutional data to determine the number of students who withdrew from their Level 1 to 4 online study in a given year, the extraction query should encompass all students who withdrew (or are at EW status) and not just a select group. Similarly survey questions should be neutral and not lead the respondent to favor one answer over another. These areas of potential bias will be addressed through the use of existing institutional reports for the extraction of data from the student database, and through the use of a validated survey instrument.

Finally, while this study is employing terminology and independent variables already identified and described in the literature, practices are specific to each institution. Therefore the generalizability of this research across other institutions and students needs to be undertaken cautiously to ensure that similar institutional practices are being employed and compared.

Ethical Considerations

There are several confidentiality considerations to be taken into account when undertaking call center surveys for data collection from the students. It is important for all participants to be fully informed about the survey, the reason for conducting it, how the information will be collated and used, and their rights of confidentiality and ability to opt out of
the survey at any time without fear of repercussion. All call center staff are trained in undertaking survey work of this nature and an important component of their role is to ensure respondents understand the nature of the survey and the ability to opt out at any time.

The student management database from which the sample population was selected is already securely held by the institution in accordance with legislative requirements. An extraction report will be undertaken to compile the sample population and the information in this report will be held electronically within the institute’s secure system and only available to the researcher. Similarly, survey responses will be kept in secure electronic storage and destroyed after one year (in accordance with the institution’s document destruction procedures under the New Zealand Public Records Act 2005).

Ethical consideration must also be given to the fact that the researcher is the Head of Faculty for the SIT2LRN Faculty and as such makes decisions regarding student acceptance into programs, material fees payments, compassionate leave or other requests. Therefore the entire sample population could be seen as a vulnerable population, even though these students withdrew from study in 2013, individuals may wish to return to study sometime in the future. Therefore confidentiality of respondents will be ensured by call center staff not entering any names or contact details into the Survey System database, thus ensuring that the researcher is not able to match responses with individuals. While the researcher will have access to the original sample population data, the confidentiality ensured to respondents noted above will mean that at no time will the researcher know who were the respondents, or non-respondents. The protection of anonymity to respondents will be foremost in the information provided to them at the outset of the telephone survey to ensure that any concerns regarding the researcher’s role within the institution will not have any influence or repercussions on their participation in the survey.
Summary

This study explored whether or not there is a relationship between situational, dispositional, institutional, technological, or epistemological factors and a student’s withdrawal from foundation level online study in higher education. An existing, validated, survey instrument and quantitative data analysis methods was used to gather and analyze the data received from all students at EW status in Level 1 to 4 programs of study in 2013. The survey instrument was deployed via an independent call center in order to help obtain the highest response rate possible from a cohort of students known to be difficult to gain responses from. Individual responders, and non-responders, were not be able to be identified by the researcher, and survey responses were reported on in summative format in order to further protect the confidentiality of individuals. The results of this research will be of assistance to the Southern Institute of Technology as it seeks to understand the factors which influence the withdrawal of foundation level online students, and may also be of interest/use to other higher education institutions with foundation level online students.
Chapter 4: Results

This study focused on the research questions of which factors were perceived by foundation level, online students to have most influenced their withdrawal from study and whether there were any differences in the perceived influence of these factors between different age groups of students. A survey of withdrawn students was undertaken by a call center and the responses were analyzed through descriptive and analysis of variance statistical procedures. The following section reports the results from this study.

Survey Response

In 2013 there were 1,681 adult students undertaking foundation level (levels 1-4) online study with SIT2LRN, of these 337 or 20% of the overall population were withdrawn. These 337 students were the overall survey population for this study. The last known telephone contact details for these 337 students were extracted from the Institution’s student database and a call center was established to undertake to contact each student and provide an opportunity to complete the survey. Of the 337 students, 140 were not able to be contacted (no answer after 4 callbacks, disconnected number, etc.) and 197 were able to be contacted. Of the 197 students contacted, 79 declined to participate in the survey and 118 agreed to participate. A total of 117 responses were complete and useable for the purposes of this study, with 1 response being deemed unable to be used as the respondent did not fully complete the survey. Therefore an overall response rate of 35% was achieved on this survey.

Demographics.

The demographic characteristics of gender, age, and ethnicity were compared between the study respondents and the overall student population to ascertain if there were any differences between the demographic characteristics of withdrawn and persisting students. The
gender composition of the two groups was exactly the same, with only age and ethnicity showing some variances between the two groups (see table 2). While there were some slight variances in the age compositions between the two groups, an F test did not reveal a significant difference in the variances among the groups ($F_{5,5} = 1.32, p > 0.05$). Similarly, ethnicity also did not show any significant difference among the groups ($F_{5,5} = 0.995, p = 0.50$).

Table 2

*Gender, Age, and Ethnicity* Demographics

<table>
<thead>
<tr>
<th>Overall Student Population</th>
<th>Sample Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 1,681</td>
<td>N = 117</td>
</tr>
<tr>
<td>Male</td>
<td>26%</td>
</tr>
<tr>
<td>Female</td>
<td>74%</td>
</tr>
<tr>
<td>19 &amp; under</td>
<td>8%</td>
</tr>
<tr>
<td>20-29</td>
<td>38%</td>
</tr>
<tr>
<td>30-39</td>
<td>29%</td>
</tr>
<tr>
<td>40-49</td>
<td>16%</td>
</tr>
<tr>
<td>50-59</td>
<td>7%</td>
</tr>
<tr>
<td>60 &amp; over</td>
<td>1%</td>
</tr>
<tr>
<td>Pakeha/European</td>
<td>86%</td>
</tr>
<tr>
<td>Maori</td>
<td>11%</td>
</tr>
</tbody>
</table>
Pacific Peoples          3%        4%
Asian                   4%        3%
African                 1%        1%
Other Ethnicity         0%        2%

*Note. Ethnicity percentages may total more than 100% as students may identify with up to three ethnicities.

**Study information.**

As part of the survey, respondents were asked where they had undertaken study and what type of internet access/speed they had access to. These questions were designed to provide a descriptive background of the respondents, particularly when considering responses to institutional and technological factor questions. Results from these questions are presented in tables 3 and 4 below.

Table 3
Venue(s) Used During Study

<table>
<thead>
<tr>
<th>Percentage Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home                 91%</td>
</tr>
<tr>
<td>Work                 8%</td>
</tr>
<tr>
<td>Library              6%</td>
</tr>
<tr>
<td>School Computer Lab  0%</td>
</tr>
</tbody>
</table>
Internet Café 2%
Other 9%

*Note.* Respondents could select more than one venue, therefore total equals more than 100%.

Table 4

*Available Internet Access While Studying*

<table>
<thead>
<tr>
<th>Percentage Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dial-up</td>
</tr>
<tr>
<td>Broadband with 10Gb data cap</td>
</tr>
<tr>
<td>Broadband with 11 to 30Gb data cap</td>
</tr>
<tr>
<td>Broadband with data cap greater than 30Gb</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Don’t Know</td>
</tr>
</tbody>
</table>

Respondents were also asked if they had been required to undertake the study for employment purposes or to access further study, and if so whether they would have undertaken the study had they not been required to. These questions were also designed to provide a descriptive background of the respondents for consideration with the responses to situational, dispositional and epistemological factor questions. Only 27% of the respondents stated that they were required to undertake the study for employment purposes or to access further study, and of
these respondents 72% responded that they would have undertaken the study even if it had not been required.

**Research Question 1**

Each respondent was presented with a series of statements pertaining to each of the factors in order to explore which of the following factors: situational, dispositional, institutional, technological, and epistemological, had been perceived by foundation level, online students at the Southern Institute of Technology to have most influenced their withdrawal from study. Respondents were requested to state whether they strongly disagreed, disagreed, agreed, strongly agreed with the statement, or indicate if the statement was not applicable to them. Responses were then grouped to identify the statements with which 50% or more of the respondents either agreed or strongly agreed.

**Situational factor statements.**

Respondents were presented with ten statements relevant to the influence of situational factors on their decision to withdraw from study and asked to respond as to their level of agreement with each statement. The responses for each statement were then analyzed to identify any statements where 50% or more of the respondents had identified it as an influential issue. Only one situational factor statement, “I could not fit the coursework into my schedule” presented a 50% or greater response, with 51.3% of the respondents agreeing or strongly agreeing with the statement.

The situational factor statement, “I could not fit the coursework into my schedule” was then analyzed against age, ethnicity and gender to see if there were any statistically significant relationships between these demographic characteristics and the factor. No statistically
significant relationship between the factor and any of the demographic characteristics was found.

**Dispositional factor statements.**

Of the eight dispositional factor statements presented to students only one statement, “I had other, more important, things to do” resulted in 50% or more agreement; however the dispositional factor statement, “I prefer face-to-face instruction” presented 49.6% agreement and since this result, if rounded, would equal the 50% agreement response it has therefore been reported here as well.

The statement, “I had other, more important, things to do” received an agreement response of 51.3%. This statement was then analyzed against age, ethnicity and gender to see if there were any statistically significant relationships between these demographic characteristics and the factor. No statistically significant relationship between this factor and gender, age group, or ethnicity was found.

Nearly 50% (49.6%) of the respondents agreed with the factor statement, “I prefer face-to-face instruction”. Analysis of this statement against age, ethnicity and gender found no statistically significant relationship with age, ethnicity or gender.

**Institutional factor statements.**

Respondents were presented with twelve institutional factor statements. The only statement receiving a 50% or greater response was that of, “I felt connected with the other students taking the course”, a statement with which 59% of the respondents disagreed. Of interest only 34% of the respondents agreed with the closely related statement of, “I felt isolated when taking the course”. While no statistically significant relationship was found between the statement, “I felt connected with the other students taking the course” and gender, age, or
ethnicity, a statistically significant relationship was found between the statement, “I felt isolated when taking the course” and gender ($X^2 (2, n = 117) = 8.73, p = 0.013$) see table 5.

Table 5

*Crosstab and Chi-Square Tests for Institutional Factor Statement, “I felt isolated when taking the course” and Gender*

<table>
<thead>
<tr>
<th>Crosstabulation</th>
<th>Not Applicable</th>
<th>Disagree</th>
<th>Agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>27</td>
<td>35</td>
<td>87</td>
</tr>
<tr>
<td>Male</td>
<td>7</td>
<td>18</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>45</td>
<td>40</td>
<td>117</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>8.727*</td>
<td>2</td>
<td>.013</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>8.876</td>
<td>2</td>
<td>.012</td>
</tr>
<tr>
<td>Linear-by-Linear</td>
<td>.258</td>
<td>1</td>
<td>.611</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>117</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.21."

**Technological factor statements.**

Respondents were presented with twelve technological factor statements. None of the technological factor statements received an agreement response from 50% or more of the
respondents. The technological factor statement receiving the highest agreement response was, “I could not access the course at work”, with which 17.1% of the respondents agreed.

**Epistemological factor statements.**

Respondents were presented with ten epistemological factor statements. As with technological factor statements, none of the epistemological factor statements received an agreement response from 50% or more of the respondents. The highest agreement response was for factor statement, “I was not comfortable communicating by email or discussion boards”, with which only 24.8% of the respondents agreed.

**Research Question 2**

The second question explored by this study was whether there were any differences in the perceived influence of situational, dispositional, institutional, technological, or epistemological factors between the different age groups of students. In order to determine if there were statistically significant differences between the ordinal independent variable (age group) and the ordinal, Likert-scale, dependent variables (the different factor statements) a one-way ANOVA on ranks, the Kruskal-Wallis H test, was used to explore this question.

**Kruskal-Wallis H test.**

There are four assumptions which data must meet in order for the Kruskal-Wallis H test to be deemed appropriate (Laerd Statistics, 2013). The first of these is that the dependent variable must be ordinal or continuous. The dependent variables for this study were ordinal, being measured using a Likert-scale, therefore this assumption was satisfied. The second assumption is that the independent variable consists of two or more categorical, independent groups. The independent variable for this study was the age group for each student, with a total
of six independent groups, plus a group for those who did not provide their age, identified; therefore the second assumption for the Kruskal-Wallis H test was also satisfied.

The third assumption for the Kruskal-Wallis H test is that there is no overlapping of groups, so that no participant is in more than one group. This assumption was also satisfied as students could only identify as being in one age group and could not be in more than one. The final assumption for the Kruskal-Wallis H test is that the distributions of each group within the independent variable have similar shape and variability (Laerd Statistics, 2013). This assumption was not satisfied by the age group independent variable data set (see Figure 3), therefore the Kruskal-Wallis H test was used to compare mean ranks and not medians of the dependent variables.
Those areas related to the students’ intrinsic nature (e.g. beliefs, confidence, attitudes)

Those areas under the control of the institution (e.g. cost, staff responsiveness, course design)
Those areas relating to the mode of delivery (e.g. computer access, access to internet)

Overall group results.

In order to explore this question regarding any differences in perceptions between respondents of different ages, respondents were grouped into one of six age groups: 19 and Under, 20-29, 30-39, 40-49, 50-59, and 60 and Over. Four respondents declined to state which age group they belonged to and were therefore placed in a separate group: No Response.

Given that the age of those respondents in No Response was unknown and therefore could not be used in further analysis to determine the effect of age on the dependent variable, the
Kruskal-Wallis H test was run across all dependent variables with the No Response Group excluded from the independent variable. No factor statements resulted in a statistically significant difference at p < 0.05 (see Table 6).
Table 6

*Kruskal-Wallis H test Output Table*

<table>
<thead>
<tr>
<th>Groups 1 - 6</th>
<th>My family commitments prevented me from completing the course</th>
<th>My supervisor did not allow me time to complete the course at work</th>
<th>I had health issues that stopped me from studying</th>
<th>My family did not allow me time to complete the course at home</th>
<th>I had to travel too often</th>
<th>My family interrupted me too frequently</th>
<th>My work commitments prevented me from completing the course</th>
<th>I had to stop studying in order to seek employment</th>
<th>I spent too much time working on the course</th>
<th>I could not fit the coursework into my schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.121</td>
<td>.787</td>
<td>.290</td>
<td>.306</td>
<td>.609</td>
<td>.298</td>
<td>.464</td>
<td>.742</td>
<td>.484</td>
<td>.836</td>
</tr>
<tr>
<td>Groups</td>
<td>I found the course to be too regulated</td>
<td>I had trouble signing up for the course</td>
<td>I found the course to be too unstructured</td>
<td>I found the course boring</td>
<td>I felt connected with the other students taking the course</td>
<td>I felt isolated when taking the course</td>
<td>I did not receive confirmation from SIT2LRN that I was enrolled in the course</td>
<td>I found the course to contain too much information</td>
<td>I found the course had too many graphics or pictures</td>
<td>I found the course had too much text</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------</td>
<td>-----------------------------------------</td>
<td>-------------------------------------------</td>
<td>--------------------------</td>
<td>--------------------------------------------------------</td>
<td>---------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>------------------------------------------------</td>
<td>------------------------------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>1 - 6</td>
<td>Chi-square</td>
<td>8.629</td>
<td>2.056</td>
<td>3.261</td>
<td>.806</td>
<td>2.457</td>
<td>1.178</td>
<td>9.309</td>
<td>2.547</td>
<td>7.036</td>
</tr>
<tr>
<td></td>
<td>df</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Asymp. Sig.</td>
<td>.125</td>
<td>.841</td>
<td>.660</td>
<td>.977</td>
<td>.783</td>
<td>.947</td>
<td>.097</td>
<td>.769</td>
<td>.218</td>
</tr>
<tr>
<td>Groups 1 - 6</td>
<td>I did not receive the course information, web site information and/or directions in a timely manner</td>
<td>I was not prepared to do the work the course required</td>
<td>I prefer face-to-face instruction</td>
<td>I was prepared to do the work the course required</td>
<td>I had other more important things to do</td>
<td>I found I did not learn well on my own</td>
<td>I did not like to ask questions by email</td>
<td>I found I wasn't interested in the course subject</td>
<td>I found it too hard to do work on the computer</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------</td>
<td>---------------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------</td>
<td>-----------------------------------------</td>
<td>------------------------------------------</td>
<td>---------------------------------------------</td>
<td>---------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Chi-square</td>
<td>5.444</td>
<td>2.847</td>
<td>3.040</td>
<td>5.923</td>
<td>2.433</td>
<td>1.310</td>
<td>4.532</td>
<td>3.385</td>
<td>4.147</td>
<td>3.070</td>
</tr>
<tr>
<td>df</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.364</td>
<td>.724</td>
<td>.694</td>
<td>.314</td>
<td>.787</td>
<td>.934</td>
<td>.476</td>
<td>.641</td>
<td>.528</td>
<td>.689</td>
</tr>
</tbody>
</table>
The course did not live up to my expectations
The course was too technical
The course was not practical
The course was not interesting
I did not have the prerequisite subject-matter knowledge to complete the course
The examples in the course were not relevant to me
The course materials did not seem applicable
I could not understand what I was supposed to do
There was too much jargon in the course materials

<table>
<thead>
<tr>
<th>Groups 1 - 6</th>
<th>The course did not live up to my expectations</th>
<th>The course was too technical</th>
<th>The course was not practical</th>
<th>The course was not interesting</th>
<th>I did not have the prerequisite subject-matter knowledge to complete the course</th>
<th>The examples in the course were not relevant to me</th>
<th>The course materials did not seem applicable</th>
<th>I could not understand what I was supposed to do</th>
<th>There was too much jargon in the course materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>2.457</td>
<td>2.695</td>
<td>3.265</td>
<td>1.547</td>
<td>3.024</td>
<td>6.710</td>
<td>3.549</td>
<td>2.533</td>
<td>1.435</td>
</tr>
<tr>
<td>df</td>
<td>5</td>
<td>5</td>
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<td>5</td>
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</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.783</td>
<td>.747</td>
<td>.659</td>
<td>.908</td>
<td>.696</td>
<td>.243</td>
<td>.616</td>
<td>.772</td>
<td>.920</td>
</tr>
<tr>
<td>Groups 1 - 6</td>
<td>I was not comfortable communicating by email or discussion boards</td>
<td>I could not find a computer to use to take the course</td>
<td>I could not access the course at work</td>
<td>It took too long for a course material to load or download on my computer</td>
<td>My computer was not working when I wanted to take the course</td>
<td>I could not access the Internet</td>
<td>The supplementary material, such as movies, video clips, audio clips, or reference material was not available</td>
<td>My computer did not have the required hardware in order to complete the course</td>
<td>I did not have the prerequisite technical/computer knowledge to complete the course</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------------------------------------------------------</td>
<td>--------------------------------------------------------</td>
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<td>--------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
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</tr>
<tr>
<td>Chi-square</td>
<td>2.551</td>
<td>5.018</td>
<td>5.804</td>
<td>1.452</td>
<td>5.123</td>
<td>2.968</td>
<td>2.627</td>
<td>4.307</td>
<td>2.806</td>
</tr>
<tr>
<td>df</td>
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<td>5</td>
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<td>5</td>
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<td>5</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.769</td>
<td>.414</td>
<td>.326</td>
<td>.919</td>
<td>.401</td>
<td>.705</td>
<td>.757</td>
<td>.506</td>
<td>.730</td>
</tr>
<tr>
<td>Groups 1 - 6</td>
<td>The course contained too many broken hyperlinks</td>
<td>My computer did not have the required software to run the course</td>
<td>The course information took too long to download</td>
<td>I could not access the course at home</td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Chi-square</td>
<td>7.296</td>
<td>.931</td>
<td>1.818</td>
<td>3.331</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.200</td>
<td>.968</td>
<td>.874</td>
<td>.649</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Open Response Data Analysis

Respondents were also asked if they wished to provide a comment on what they felt was the primary reason for their withdrawal from their online studies. Of the 117 respondents, 105 provided a response. These open-ended comments were then categorized into the five major themes of this research: situational, dispositional, institutional, technological, and epistemological factors.

The majority of responses to this question (59%) fell into the category of situational factors; followed by dispositional factors (16.2%), institutional factors (11.4%), technological factors (7.6%), and epistemological factors (5.7%). Table 7 displays representative comments from respondents in each category.

Table 7
Student Comments Regarding Main Reason for Withdrawal from Study

<table>
<thead>
<tr>
<th>Situational Factors</th>
<th>Dispositional Factors</th>
<th>Institutional Factors</th>
<th>Technological Factors</th>
<th>Epistemological Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family and work</td>
<td>Found it</td>
<td>Financial, I was</td>
<td>No internet</td>
<td>One course too basic and the other</td>
</tr>
<tr>
<td>commitments were</td>
<td>difficult not</td>
<td>not able to pay my</td>
<td>access.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being in a classroom</td>
<td>fees as I went. I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>factor, lifestyle</td>
<td>environment</td>
<td>could not afford to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>got too busy</td>
<td></td>
<td>continue to study.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Situational Factors</td>
<td>Dispositional Factors</td>
<td>Institutional Factors</td>
<td>Technological Factors</td>
<td>Epistemological Factors</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------</td>
<td>----------------------</td>
<td>----------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Health issues and family issues</td>
<td>Time management, too much going on</td>
<td>I didn’t realize it went as long as it did. I couldn’t do it for that length of time.</td>
<td>Inconsistent internet connections.</td>
<td>Assignments were not applied to me and didn’t reflect the course material.</td>
</tr>
<tr>
<td>I found a job so I was not mentally prepared to do the course</td>
<td>Lack of contact, bad communication, I didn’t know what was going on.</td>
<td>Computer not working.</td>
<td>I didn’t know how to answer the questions because of my study gap.</td>
<td></td>
</tr>
<tr>
<td>Ran out of money and had to start looking for employment to end up going to Otago University</td>
<td>The course was just to enjoy based off of the marking system.</td>
<td>I was put off from the first program high enough computer skills to complete study requirements.</td>
<td>Did not have</td>
<td></td>
</tr>
</tbody>
</table>
Lack of feedback from the tutors whether I was doing the right thing or not.

Being told the course was unavailable.

Respondents were also asked if they had any recommendations for the institution to assist other students in completing their studies and if they had any further comments they wished to make. Recommendations were provided by 83 of the respondents (71%) and primarily surrounded the provision of more communication between the institution and the students. Additionally 40 respondents (34%) provided additional comments which were primarily either providing a further explanation to the main reason for withdrawal or praising an aspect of their interaction with the institute. Table 8 displays representative comments from respondents in each category and the results from the open-ended questions will be further interpreted with associated recommendations in Chapter 5.

*Table 8*
**Student Comments Regarding Recommendations for the Programme or Support to Assist Student in Staying in and Completing Online Study**

<table>
<thead>
<tr>
<th>Situational Factors</th>
<th>Dispositional Factors</th>
<th>Institutional Factors</th>
<th>Technological Factors</th>
<th>Epistemological Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have more support and family and friends that understand the commitment</td>
<td>Be dedicated</td>
<td>Tutors should pursue students and do more reminding about assignments</td>
<td>Better online system that isn’t complicated</td>
<td>Make the work harder</td>
</tr>
<tr>
<td>Make sure all other affairs are covered before taking study on</td>
<td>Try your best and don’t give up</td>
<td>More communication and interaction with students, administrator, facilitator</td>
<td>Email system is a bit slow, do more testing of it first</td>
<td></td>
</tr>
<tr>
<td>Schedule time and don’t let anything interfere</td>
<td>Send course confirmation more speedily</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Situational Factors</td>
<td>Dispositional Factors</td>
<td>Institutional Factors</td>
<td>Technological Factors</td>
<td>Epistemological Factors</td>
</tr>
<tr>
<td>---------------------</td>
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<td>-----------------------</td>
<td>-----------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Provide more support for tutors so they can provide more support for students</td>
<td>Have block face to face courses</td>
<td>More contact and on-going support for students</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary**

The 35% response rate from withdrawn students achieved in this study is one of the highest found in the research literature (Fozdar, Kumar, & Kannan, 2006; Müller, 2008), highlighting the difficulties in gaining feedback from students who have withdrawn from study and are no longer associated with an institution. The results from this study also demonstrated no significant difference in the demographic characteristics of gender, age, or ethnicity between the withdrawn students and the overall student population.

Analyses of responses to the factor statements for situational, dispositional, institutional, technological, and epistemological factors only found three statements with which 50% or more
of the respondents agreed (one each in situational, dispositional, and institutional factors respectively). This finding indicates that neither technological nor epistemological factors influenced the withdrawal decision of these respondents.

No statistically significant relationships between age, gender and ethnicity were found with the three factor statements which received a 50% or greater agreement. While the statement, “I felt isolated when taking the course” did not receive a 50% or greater agreement, it was considered due to its close relationship to “I felt connected with other students taking the course” and a statistically significant relationship was found between this statement and gender.

Respondents were also asked to provide what they felt was the main reason for their withdrawal from study as an open-ended question. Responses from this question were categorized into the five factor themes (situational, dispositional, institutional, technological, or epistemological). The majority of respondents (59%) gave a situational factor response for their withdrawal. Similar to the findings from the responses to the factor statements, both technological and epistemological factors were identified by the least number of respondents as the main reason for their withdrawal from study.
Chapter 5: Discussion of Findings

The purpose of this study was to explore the influence of situational, dispositional, institutional, technological, and epistemological factors on students who withdrew from online, foundational level, studies. Data collected through a telephone survey of withdrawn students was analyzed with the use of SPSS/PAWS software with open-ended questions providing additional insight to inform the discussion of results. Given the paucity of research on the withdrawal of foundational level students from higher education, the discussion of results has had to consider findings from research on students in degree level programs. While the respondents in this study do share non-traditional student characteristics (e.g. adult, working, studying part-time) with the online degree level students, there may be differences not currently identifiable which means that such comparisons must be treated with some caution. The following chapter discusses the results presented in Chapter 4 relative to the research questions and considers implications for current activities and future research.

Survey Response

As previously noted, it can be very difficult in obtain survey responses from students who have withdrawn from study (Fozdar et al., 2006; Kemp, 2002; Müller, 2008; Poellhuber et al., 2008), and previous studies have been unsuccessful in achieving response rates above 26% (Fozdar et al., 2006; Yuen & Tsang, 2011). Given that the study population for this research was students who had withdrawn from study in the previous year a telephone survey administered through a call center was utilized for this study to overcome the non-response phenomena as much as possible, as telephone surveys have been found to obtain better response rates than either mailed or online surveys (Glogowska, Young, & Lockyer, 2010). The 35% response rate achieved in this study is not only higher than the response rate achieved in other studies, but is
also close to the 38% response rate from withdrawn students achieved through the use of telephone surveys in Redmond, Quin, Devitt, & Archbold (2011).

Demographics

No significant demographic (age, gender, ethnicity) differences were found between the overall online, foundation study student population and the sample student population. This finding corresponds with that of Park and Hee Jun (2009) which concluded that demographic characteristics such as age and gender did not have a significant or direct effect on the decision to withdraw from study. The high proportion (74%) of female students in both the overall and study populations is comparable with that of other studies (Park & Hee Jun, 2009; Poellhuber & Anderson, 2011) and reflects a gender disproportion associated with online education in general (Müller, 2008; Poellhuber & Anderson, 2011).

Research Question 1

The first research question for this study explored which factors (situational, dispositional, institutional, technological, or epistemological) had most influenced the withdrawal of foundation level, online students from their study. Permission was gained to employ a questionnaire, designed and validated by Roberts (2004) with students contacted by telephone and their responses recorded by call center staff.

Institutional factors.

Only 3 statements were identified by 50% or more of the respondents as having an influence on their withdrawal from study. The highest percentage response was found for the institutional factor statement of “I feel connected with the other students taking the course” with 59% of the respondents noting their disagreement (thereby identifying that they did not feel connected with other students). Of additional interest is that only 34% of the respondents agreed
with the corresponding statement “I felt isolated when taking the course”. These statements were identified as institutional factors as the institute has policies in place which oversee interactions such as facilitator-student communication and use of asynchronous course design tools for the specific purpose of enabling students to feel connected both with their peers and with the institute during their study.

The results for these two statements indicate that while students may not feel connected with their peers in online study, they are not feeling isolated. This finding is in contrast to that of Rovai and Wighting (2005) who found feelings of alienation were inversely related to the sense of community within a student group.

Further investigation into the “connected” statement did not find any significant relationship between this statement and the age, ethnicity or gender of the respondent. However, while only 34% of the respondents agreed with the statement, “I felt isolated when taking the course”, this statement did have a statistically significant difference ($X^2 (4, n = 117) = 10.48, p = 0.033$) between male and female respondents with 40% of female respondents agreeing and only 16.7% of the male respondents agreeing with the statement. This finding may support Müller (2008) comments regarding the feelings of isolation which women studying online encounter; however, given the differences in Müller’s study population (degree level, persisting students) and this study (foundation level, withdrawn students), some caution needs to be taken with any direct comparison.

At the conclusion of the survey, respondents were asked an open ended question to describe what they felt was the main reason for their withdrawal. Twelve respondents identified institutional factors with most of the comments (42%) being that a lack of communication or feedback from their facilitators or instructors was the main reason for their withdrawal from
study. McGivney (2004) and Yorke (2004) also found that feeling isolated or discontented with the independent academic environment influenced a student’s withdrawal decision, with Yorke noting the difficulty for an institution in developing connectivity when learners are remotely based. While Drouin (2008) found that a sense of community or connectedness did influence student satisfaction, she did not find any influence on student persistence or withdrawal. This lack of influence may be due to the fact that Drouin did not include withdrawn students in her study; instead her research was with students engaged in study, with the measurement for withdrawal being the student’s intention to undertake further online study. When considered with the results of the factor statement above, the responses to the open ended question indicate the pivotal role of the facilitator in engaging students in their study and enabling them to feel connected.

**Situational and dispositional factors.**

Both the situational factor statement, “I could not fit the coursework into my schedule” and the dispositional factor statement, “I had other, more important, things to do” received agreement from 51.3% of the respondents. Neither statement was found to have a significant relationship with age (p = 0.698 and p = 0.697 respectively), ethnicity (p = 0.758 and p = 0.551 respectively) or gender (p = 0.08 and p = 0.571 respectively). The dispositional factor statement, “I prefer face-to-face instruction” received agreement from nearly 50% of the respondents and was found to have a statistically significant (p = 0.048) relationship with ethnicity. When the data were reviewed, the largest differences between the expected count for agreement responses and the actual count of agreement responses was found with the European/Pakeha respondents, with fewer agreeing than expected; and with the Maori respondents, with more (over 58%) agreeing with the statement than expected.
The significant relationship between Maori respondents and agreement with the factor statement, “I prefer face-to-face instruction” found here is of particular interest given the finding in Guiney (2014) which noted that in New Zealand Maori students had higher participation in extramural/distance courses than other ethnic groups, but there had been a large decline in the number of Maori students undertaking their study in the online environment, a finding not encountered for any other ethnic group. It appears from these findings that the online education environment may not be meeting the learning/engagement needs of Maori; however more research would be necessary to confirm and identify why this may be so.

When the responses to the open ended question regarding the main reason for withdrawal are considered in conjunction with the first two factor statements identified above, a relationship between the situational statement of not fitting the coursework into a schedule and the dispositional statement of having more important things to do appears to arise. Twenty-four percent of the respondents identifying a situational factor as the main reason for their withdrawal explained that it was other commitments which led them to withdrawing from study and 47% of respondents identifying a dispositional factor as the main reason for their withdrawal cited issues with time management at the main reason for their withdrawal.

Yuen and Tsang (2011) found a similar relationship surrounding the concepts of time management and other commitments in online students. The dispositional factor of managing one’s time and the situational factor of a person’s commitments outside of study may be two sides of the same coin with the other commitments being the ‘more important things to do’ which are given priority over study when struggling with time management.

**Technological and epistemological factors.**
In contrast to Sitzmann, Ely et al. (2010), and Packham et al. (2004), who identified technical factors as influencing student withdrawal, in this study neither technological nor epistemological factors were considered by respondents as influential in their withdrawal decision. Also, with regard to the open ended question, only 7.6% of the respondents described a technological factor as their main reason for withdrawing and less than 6% of the respondents described an epistemological factor as their main reason for withdrawing.

Respondents were also asked where they accessed their study and what their available internet access was in order to provide further background information should technology factors of access to a computer and access to adequate internet capacity be found to be influential to their decision to withdraw. With over 90% responding that they accessed their study at home and 80% responding that they had broadband with a monthly data cap of 10Gb or greater, neither of these technological factors appear to have been influential on the decision to withdraw from study.

**Conclusions research question 1.**

A difficulty in considering the results of this study with those of other studies is the paucity of information about foundation level students in higher education. Out of the total of 52 factor statements only 3 received over 50% responses indicating that they had been influential in the respondent’s decision to withdraw from study, with an institutional factor statement receiving the highest response overall. Georg (2009) highlighted the importance of the interaction between institutional factors and individual decisions when considering why students withdraw from study. The findings of this study support the importance of this interrelationship, particularly when situational and dispositional factors, which received equal responses indicating their influence, are considered.
Implications

The results from research question 1 highlighted the importance of student connectivity within the course of study, noting that women (which comprise nearly three-quarters of the student population) are more likely to feel isolated when studying than their male peers. Additionally, the findings from this study support the influential relationship that situational and dispositional factors can jointly play in a student’s decision to withdraw from online, foundation level study. Therefore, when looking at methods for increasing student connectivity within the course, the institute should consider ways which integrate connectivity and time management support. The institute could also undertake further research into why female students feel more isolated in order to identify potential means for enabling these students to feel they are with others and not isolated in their studies. Similarly, the apparent withdrawal of Maori students from online study requires further investigation in order for the institute to identify and implement strategies to help engage these students in the online educational environment.

Given the feelings of isolation identified by the female students and the preference noted by Maori students for face-to-face learning, the institute may also consider the inclusion of social learning pedagogies within its courses. A key principle to social learning is the importance of the facilitator in modeling behaviors that establish performance expectations of students, noting that concurrently with modeling behavior the facilitator is also facilitating learning (Varvel, 2010). The targeted and frequent feedback from a facilitator to students is identified in social pedagogies as one of the most important factors for improving learning, regardless of the context (Bass, 2014). An exploration into the inclusion of social learning pedagogies into the online learning environment would be worthwhile in order to address both the student comments regarding lack of facilitator feedback and the isolation feelings of female students. The inclusion
of social pedagogies may also assist with engaging Maori students in the online environment, even though they have identified with a preference for face-to-face learning.

**Research Question 2**

The second research question explored whether there were any differences in the perceived influence of situational, dispositional, institutional, technological, or epistemological factors between different age groups of the respondents. No statistically significant relationships were found between any of the factor statements and the respondent age group.

**Conclusions research question 2.**

As noted by Lee et al. (2012) researchers have not come to any consensus with regard to the importance of demographic characteristics such as age on a student’s decision to withdraw, or persist, with online studies. While some studies, such as Packham et al. (2004), have found demographic characteristics such as age to play an important role in influencing a student’s decision to withdraw from online study, others, such as Park and Hee Jun (2009) and Boston and Ice (2011), have found that individual characteristics such as age had little influence on a student’s decision to withdraw from study. The findings from this study support those such as Park’s and Boston’s as no statistically significant relationships were found between age groups and the factor statements. However, in order to understand whether or not this finding is an anomaly relevant to this particular cohort of withdrawn students, where 82% were in the age categories between 20 and 49 years of age, further research is required.

**Implications**

While this study did not find any statistically significant relationships between the age of the withdrawn students and the factors influencing withdrawal, further research is warranted here to ensure that this finding is not simply an artefact of a specific cohort of students. For example
the institution may consider the establishment of an exit survey for students withdrawing from online studies, where the students provide their age as well as reason for withdrawal.

Summary

Müller (2008) described the complexity and interactions of factors which may influence a student’s decision to withdraw from online study. The potential interactions of factors has also been highlighted in this study where the main factor perceived by students as influencing their decision to withdraw from foundation level, online studies was them not feeling connected with their studies and their further comments identifying poor communication underpinning this perception. This factor can be considered and addressed by an institution through a variety of methodologies, including working with facilitators and course designers to improve communication pathways and connection, or engagement, opportunities within courses.

For example, in the current online environment more emphasis is placed on facilitator responsiveness than proactive connectivity, with facilitators being required to respond to student emails or discussion board questions within a 48 hour time period. It may be more beneficial for these foundation level online students, and make them feel more connected to their studies, if facilitators initiate correspondence through the tools available within the learning management system, as opposed to waiting for the students to contact them. Other initiatives which could be undertaken are the collation of frequently asked questions, which the facilitator makes available and collaborates with each student group to add to, or enhance; or the initiation of group work, through social tools such as wikis where the facilitator can group students together and provide guidance as they undertake their teamwork.

While situational and dispositional factors influencing withdrawal decisions may be more difficult for an institution to work on, or may even seem outside the dominion of the institution,
there are still actions which an institution may be able to undertake to assist its students and encourage them to continue with their studies. This study found that managing conflicting commitments, which could be considered from both a situational and a dispositional factor perspective, was also influencing withdrawal decisions. Provision of time management tips and techniques, or consideration of assignment timing by an institution may prove effective in assisting these students.

**Future Research**

While there is a large, and still growing, body of research on student withdrawal and persistence in online learning, very little of this research has been undertaken with students who have withdrawn from their studies due to the difficulties in gathering information/responses from them. Herbert (2006) noted that results from surveys from withdrawn students carried far greater implications, as it was through these that institutions would be able to identify areas for improvement in order to reduce withdrawals. Additionally, the vast majority of research in online higher education is with degree, or postgraduate, level students, therefore further research on foundation level online students is necessary in order to build up a body of knowledge relevant to this cohort of online student. An example of further research which would assist in developing a better understanding of the withdrawal influences would be the initiation of an exit survey for online students, which could be conducted through a call center system in order to obtain the best possible response rate.

Specifically the results of this study are valuable to the practitioner-researcher in the design and implementation of methods to engage online, foundation level students and ultimately decrease student withdrawals. As an example, the Southern Institute of Technology holds an annual workshop for facilitators and the findings from this study will be able to be made
available to facilitators and initiate discussions on potential methods to trial to engage female and Maori students in particular. As the workshop is held prior to the start of the academic year the inclusion of a social learning pedagogy may be undertaken throughout the year and then the survey used in this study performed again in for comparative analysis.

Conclusion

This study has taken the first step in understanding which of situational, dispositional, institutional, technological, and epistemological factors may influence the decision of adult students in online foundation level studies to withdraw from their study. In particular this study has identified the importance of how the inter-relationship of factors may influence a student’s decision to withdraw from online study. Additionally, this study has found that improving connectivity is important for online students, but particularly for female students who feel more isolated during their online studies than their male peers.

The next step will be the implementation of actions to try and address the influences found in this study, including a review of the effectiveness of any actions. Given that female students make up nearly three-quarters of the online student body, reducing their feelings of isolation should be a priority for the institution. Similarly, further study is necessary to understand the phenomenon of Maori withdrawal from online study, at a time when online enrolments are increasing overall. The decline in participation in online study by Maori signals that the online environment is not meeting their learning needs. If Maori students are not to be disadvantaged learners in the increasingly important online study environment, it is necessary to better understand what institutions can do to reverse this decline.
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Appendix A – Survey Instrument

Demographic Questions:

1. Male  Female (filled in by call center staff)

2. Ethnicity (may select up to 3):
   a. European/Pakeha or New Zealand European
   b. New Zealand Maori
   c. Samoan
   d. Cook Island Maori
   e. Tongan
   f. Niuean
   g. Tokelauen
   h. Fijian
   i. Other Pacific Island __________________________
   j. Chinese
   k. Indian
   l. Other Asian _________________________________
   m. Other (not covered above) _____________________

3. Age group
   a. 19 and Under
   b. 20-29
   c. 30-39
   d. 40-49
   e. 50-59
   f. 60 and older

4. I worked on the course at (all that apply):
   a. Home
   b. Work
   c. Library
   d. School Computer Lab
   e. Internet Café
   f. Other

5. What type of internet access did you have when studying?
   a. Dial-up
   b. Broadband – with data cap of 10 Gigabytes or less per month
c. Broadband – with data cap of 11 to 30 Gigabytes per month

d. Broadband – with data cap of greater than 30 Gigabytes per month

e. Other __________________________

f. Don’t Know

6. Did you feel prepared for taking the SIT2LRN course?  Yes  No

7. Were you required to take the course (either for employment or to access further study)?
   Yes  No

8. If Yes above, would you have taken the course even if it was not required? Yes  No
Situational Factors

1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree  N/A

For each question select the number that best fits your opinion on whether the factor influenced your withdrawal from the SIT2LRN course

1. My family commitments prevented me from completing the course
2. My supervisor did not allow me time to complete the course at work
3. My supervisor did not clear my schedule so that I would have time to complete the course
4. My supervisor expected me to complete the course in my personal time
5. My family did not allow me time to complete the course at home
6. I had to travel too often
7. My co-workers interrupted me too frequently
8. I did not think the course was interesting
9. My work commitments prevented me from completing the course
10. The course took longer to complete than I expected
11. I found the course to be too difficult
12. I spent too much time working on the course
Institutional Factors

1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree  N/A

For each question select the number that best fits your opinion on whether the factor influenced your withdrawal from the SIT2LRN course

1. I found the course to be too formally designed

2. I had trouble signing up for the course

3. I found the course to be too informally designed

4. I found the course to be boring

5. I felt connected with the other students taking the course

6. I felt isolated when taking the course

7. I did not receive confirmation from SIT2LRN that I was enrolled in the course

8. I found the course to contain too much information

9. I found the course had too many graphics or pictures

10. I found the course had too much text

11. I did not receive the course information, web site information, and/or directions in a timely manner

12. I found the course to be too expensive
For each question select the number that best fits your opinion on whether the factor influenced your withdrawal from the SIT2LRN course.

1. I was not willing to do the work the course required
2. I had other more important things to do at home
3. I prefer face-to-face instruction
4. I did not have the necessary time to complete the course
5. I was prepared to do the work the course required
6. I had other more important things to do at work
7. I found I did not learn well on my own
8. I did not like to ask questions
9. I could not fit the coursework into my schedule
**Epistemological Factors**

1 Strongly Agree  
2 Agree  
3 Disagree  
4 Strongly Disagree  
N/A

*For each question select the number that best fits your opinion on whether the factor influenced your withdrawal from the SIT2LRN course*

1. The course did not live up to my expectations
2. The course was too technical
3. The course was not practical
4. The course was not interesting
5. I did not have the prerequisite subject-matter knowledge to complete the course
6. The examples in the course were not relevant to me
7. The course material did not apply to my work
Technological Factors

1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree  N/A

For each question select the number that best fits your opinion on whether the factor influenced your withdrawal from the SIT2LRN course

1. I could not find a computer to use to take the course
2. I could not access the course at work
3. I had to wait too long to view the course material
4. My computer was not working when I wanted to take the course
5. I could not access the Internet or Intranet to take the course
6. The supplementary material, such as movies, video clips, audio clips, or reference material was not available
7. My computer did not have the required hardware in order to run the course
8. I did not have the prerequisite technical/computer knowledge to complete the course
9. The course contained too many broken hyperlinks
10. My computer did not have the required software to run the course
11. The course information took too long to download
12. I could not access the course at home
Open Ended questions:

1. Overall what do you feel was the main factor/reason for your withdrawal from study in 2013?

2. What suggestions or recommendations would you have for the programme or support to assist students in staying in and completing their online studies?

Thank you for completing the survey – do you have any further comments regarding your withdrawal that you would like noted?
Appendix B – Call Center Script & Instructions

Withdrawn Student Survey
Hello, my name is ______________________ from the Southern Institute of Technology Call Centre. As part of her doctoral studies at Northeastern University in Boston, Massachusetts, Teri McClelland is undertaking research on factors which influence student withdrawal from online study and all students who were withdrawn from SIT2LRN Level 1 to 4 programmes in 2013 are being called to see if you’d mind participating in a short telephone survey.

- The survey should only take 5 to 10 minutes to complete.
- You can refuse to answer any question, or stop at any time.
- All responses are kept confidential and anonymous.
- Reports will use overall data and will not identify you or any individual.
- While there are no direct benefits to you for participating in this survey, your responses may help us learn more about why students withdraw from online studies, and assist us in providing better services or information to assist students.
- If you have any questions about this research, you can contact Teri McClelland (mcclelland.t@husky.neu.edu), who is mainly responsible for the research. You can also contact Jennifer Qian (je.qian@neu.edu), the Principal Investigator, or Jackie Flutey (jackie.flutey@sit.ac.nz) SIT2LRN Acting Head of Faculty if you have any concerns.
- If you have any questions regarding your rights as a research participant, you can contact Nan C. Regina, Director, Human Subject Research Protection, Northeastern University, n.regina@neu.edu. And if you’d like, we can email a copy of this information to you.
- Are you willing to participate in this quick survey?
  - Yes – commence survey      No – thank respondent and end call
Survey Steps

*Introduce Demographic questions*

*Situational Factors* – Situational factors are those areas related to your personal circumstances (such as employment, family, health). For each question could you please tell me if you strongly agree, agree, disagree, strongly disagree – or if the question is not applicable to you…

*Dispositional Factors* – Dispositional factors are those related to your values, beliefs, confidence, attitudes. For each question could you please tell me if you strongly agree, agree, disagree, strongly disagree – or if the question is not applicable to you…

*Institutional Factors* – Institutional factors are the areas which are under the control of the institution (such as course costs, staff responsiveness, course design). For each question could you please tell me if you strongly agree, agree, disagree, strongly disagree – or if the question is not applicable to you…

*Technological Factors* – Technological factors are those which relate to the mode of delivery (such as computer access, access to internet). For each question could you please tell me if you strongly agree, agree, disagree, strongly disagree – or if the question is not applicable to you…

*Epistemological Factors* – Epistemological factors are those areas which relate to your expectations and how relevant you perceived the study to be. For each question could you please
tell me if you strongly agree, agree, disagree, strongly disagree – or if the question is not applicable to you…

Ask Open Ended Questions

At conclusion

Thank you for completing this survey. Do you have any comments regarding your withdrawal which you would like noted?
Survey Steps

*Introduce Demographic questions*

*Situational Factors* – Situational factors are those areas related to your personal circumstances (such as employment, family, health). For each question could you please tell me if you strongly agree, agree, disagree, strongly disagree – or if the question is not applicable to you…

*Dispositional Factors* – Dispositional factors are those related to your values, beliefs, confidence, attitudes. For each question could you please tell me if you strongly agree, agree, disagree, strongly disagree – or if the question is not applicable to you…

*Institutional Factors* – Institutional factors are the areas which are under the control of the institution (such as course costs, staff responsiveness, course design). For each question could you please tell me if you strongly agree, agree, disagree, strongly disagree – or if the question is not applicable to you…

*Technological Factors* – Technological factors are those which relate to the mode of delivery (such as computer access, access to internet). For each question could you please tell me if you strongly agree, agree, disagree, strongly disagree – or if the question is not applicable to you…

*Epistemological Factors* – Epistemological factors are those areas which relate to your expectations and how relevant you perceived the study to be. For each question could you please
tell me if you strongly agree, agree, disagree, strongly disagree – or if the question is not applicable to you…

Conclude with open ended questions and thank respondent.