First-Generation University Students:

University Experiences and Outcomes

Gina Wilson

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Abstract

Gaining a university qualification has the potential to reduce socioeconomic inequalities through several economic and social benefits of studying beyond secondary school. Students who are the first in their family to attend university originate from backgrounds that may benefit especially from higher education. Unfortunately, first-generation students are disproportionately challenged in a number of ways that may have an impact on their experience at university and subsequent beneficial returns of gaining a university qualification. The overarching goal of the present study was to investigate the university experiences and subsequent outcomes of first-generation students compared to continuing-generation students. In the present study, first-generation students were those whose parents had gained a qualification lower than a bachelor's degree, whilst continuing-generation students were those whose parents had gained a qualification equal to or higher than a bachelor's degree. In their final year of study, participants were asked a host of questions about their experiences at university, including satisfaction, aids/barriers while studying, finances, and their academic beliefs. In a follow-up survey at 2 years post-graduation, participants were asked similar questions to determine the extent to which gaining a university qualification may have had an impact on their lives and their communities in the short-term. Results indicated that whilst first-generation students were more likely to report certain barriers and lower academic self-esteem compared to continuing-generation students, on the whole first-generation students reported comparable university experiences and as well as comparable, if not more favourable, economic and social benefits at 2 years post-graduation. These findings provide valuable insight into the university experiences of and outcomes for first-generation students, and are uniquely placed to provide a foundation for informing any future policy changes at the governmental or university level.

Contents

First-Generation University Students: University Experiences and Outcomes

Individuals whose parents did not go to university may benefit especially from gaining a university qualification (Pascarella, Pierson, Wolniak, & Terenzini, 2004). A university qualification is associated with several benefits to the individual and society, including improving one's socioeconomic status (Baum, Ma, & Payea, 2013; Bowen, Kurzweil, Tobin, & Pichler, 2005). Specifically, having a university qualification is associated with higher earnings (Bartik & Hershbein, 2016; Ma, Pender, & Welch, 2016) and lower rates of unemployment (Bureau of Labor Statistics, 2013). In addition, the benefits of a university-educated society may include increased pro-social behaviours such as helping others (Wilson & Musick, 1997), which, in turn, contribute to a well-functioning society.

Given the variety of positive outcomes that gaining a university education may contribute to graduates' lives and society, it is particularly important to identify groups that may struggle to complete a university qualification. A specific group of disproportionately-challenged students are those whose parents did not complete a bachelor's degree or above, also known as *first-generation students* (Collier & Morgan, 2008; DeRosa & Dolby, 2014; Engle & Tinto, 2008; Mehta, Newbold, & O'Rourke, 2011; Pascarella et al., 2004; Stebleton & Soria, 2013). The demand for research about first-generation students is growing because, in recent years, the proportion of these students enrolling in university education is increasing (Mehta et al., 2011; Munro, 2011). Despite the increase in university enrolments of first-generation students, research has shown that these students are nearly four times more likely to drop out in their first year compared to continuing-generation students (Engle & Tinto, 2008) and more than 8 times more likely to drop out before they have finished their degree (Ishitani, 2006). It is, therefore, not surprising that the most-commonly studied area of research into first-generation students appears to focus on why first-generation students are less likely to graduate successfully compared to continuing-generation students (Collier & Morgan, 2008; Inman & Mayes, 1999; Pascarella et al., 2004; Stinebrickner &

Stinebrickner, 2003).

The research on first-generation students' experience at university has shown that they are susceptible to a number of challenges *before* and *during* university study that may explain why they are less likely to graduate than are continuing-generation students. Specifically, compared to continuing-generation students, first-generation students: Are less likely to have the academic preparation required to succeed at a university level (Penrose, 2002; Perna, 2005; Warburton, Bugarin, & Nunez, 2001), may have lower social capital (Bers, 2005; Bourdieu, 1986) and cultural capital (Bourdieu, 1973), may have less support from family in their endeavours to go to university (Billson & Terry, 1982; York-Anderson & Bowman, 1991), and may not have access to academic role models (Penrose, 2002) before they enrol in university courses. In addition, first-generation students also appear to report more academic difficulties while they are studying (Stebleton & Soria, 2013) and feel a lack of belonging to their university (Thayer, 2000) during the completion of their university qualification compared to continuing-generation students. First-generation students may also experience challenges that overlap before *and* during their enrolment at university, such as a financial difficulty (Callender & Jackson, 2005; Callender & Mason, 2017). This finding is perhaps not surprising as first-generation students are more likely to come from lower-income families than are continuing-generation students (Bui, 2002; Chen, 2005; Mehta et al., 2011; Terenzini, Springer, Yeager, Pascarella, & Nora, 1996).

In contrast, there has been relatively little research on how first-generation students fare after they graduate from university. Research focusing on first-generation students' experiences at university *and* after graduating is relevant not only to prospective first-generation students, who are deciding whether it is worth the time, cost, and effort to pursue a university education, but is also relevant to university policy makers who desire to create a positive university environment for these students. Universities need to know how they can

provide a supportive university experience for first-generation students, so that they have the best possible chance to complete their qualifications and can reap the benefits of studying beyond secondary level. A strong empirical research base is important to help guide this support.

The following sections will address, in more detail, the current body of knowledge regarding first-generation students' experiences before, during, and after university. Specifically, beginning with the ways in which first-generation students may be at a disadvantage before they enrol in university education, followed by what challenges they face while completing their university qualifications, and concluding with the ways in which a university qualification could improve the lives of first-generation graduates and all them to contribute to a better-functioning society.

Pre-enrolment challenges

It is important to recognise that disparities between first-generation and continuing-generation students are present before they enrol in university education and may set the stage for continuing challenges while studying at university. As mentioned briefly above, these five main disparities include: (1) A lack of academic preparedness (Perna, 2005; Perna, May, Yee, Ransom, Rodriguez, & Fester, 2015), (2) lower cultural capital (Bourdieu, 1973), (3) lower social capital (Bourdieu, 1986; Coleman, 1988), (4) fewer academic role models and less family support (Billson & Terry, 1982; Penrose, 2002, York-Anderson & Bowman, 1991), and (5) financial difficulties (Callender & Jackson, 2005; Callender & Mason, 2017). These disparities will be discussed in further detail in the following sub-sections.

Academic preparedness. Prospective first-generation students have been described as being less prepared for the academic rigour of university courses (Atherton, 2014; Choy, 2001; Pascarella et al., 2004; Penrose, 2002; Perna, 2005; Warburton et al., 2001), which may

leave them at an academic disadvantage right from the outset (Stebleton & Soria, 2013). Not only has research shown that first-generation students tend to have lower high-school grades compared to continuing-generation students (Grayson, 1997; Riehl, 1994), but they also tend to score lower on standardised university admissions tests (Warburton et al., 2001). In saying this, research has also shown that first-generation students who took intensive high-school classes were less likely to require bridging courses at university (Warburton et al., 2001). A lack of academic preparedness may, therefore, be a result of the tendency for some first-generation students to take less rigorous courses in high school to prepare them for university courses. It is important to note, however, that students' subject choices in high school are not necessarily decided upon by the student alone; students' schools are responsible for the: (1) Availability of subjects, (2) timetabling of the subjects, (3) prerequisites that allow enrolment in the subjects, (4) sub-topics chosen to focus on within the subjects, and (5) adult support available to help students make informed choices when choosing their subjects (Madjar, McKinley, Jensen, & Van der Merwe, 2009). In fact, first-generation students' schools may be under-resourced to push their students academically for study beyond high school (Choy, Horn, Nunez, & Chen, 2000; Harrell & Forney, 2003; Pascarella, et al., 2004; Perna, 2005). In this way, it is important to note that although first-generation students may place a similar value on education to continuing-generation students, there may be fewer resources available to help them in their academic endeavours (Lareau, 2000).

Whilst schools play an important role in preparing their students for university education, research has suggested that parents' education may also play an important role in academic preparedness. Specifically, research has shown that mothers with a higher level of formal education tend to be more assertive with regard to their children's progress at primary school than are less formally-educated mothers (Reay, 2004). Parents' involvement in their children's schooling is important because there is evidence that early schooling experiences

pave the way for success at post-secondary level (Henderson & Berla, 1994). Since the parents of first-generation students are, by definition, less formally-educated than are parents of continuing-generation students, first-generation students' parents may not have had the opportunity to be as involved in their early years of schooling, thereby contributing to a lack of preparation for university later on. In this way, it is important to note that parents' involvement in their children's schooling is not entirely driven by the parent alone. In fact, general research not exclusive to first-generation students, has suggested that although parents want to be involved in their children's schooling, some lack confidence in a school setting and may feel intimidated when asking questions or making suggestions (Caplan, 2000; Drake, 2000), and some have language and cultural differences that hinder effective communication with teachers (Caplan, 2000; Liontos, 1992). In addition, some parents may have had negative experiences when they were at school (McKinley, 2000). These negative experiences can impact how parents think and feel about formal education system (Kaplan, Liu, & Kaplan, 2004; Räty, 2007; Räty, 2011), which may in turn influence their involvement in their own child's schooling. Schools are responsible for regaining the trust of parents who have had negative experiences at school and helping them to feel welcome in an environment that may intimidate them (Kaplan et al., 2004). In summary, first-generation students may have been less prepared for the academic work required to succeed at university level through a lack of access to and participation in rigorous academic courses at high school, as well as differences in their parents' education and educational experiences. As a result, first-generation students may struggle more academically compared to continuing-generation students.

Cultural capital. First-generation students may struggle to be successful at university beyond the impacts of their high-school experiences. Specifically, in order to be successful, a student must not only integrate academically into the university but also into the social

culture (Lundberg, Schreiner, Hovaguimian, & Miller, 2007; Wortman & Napoli, 1996). Hsiao (1992) conceptualised the university culture and home culture as two separate worlds. As a result, transitioning to university can represent a significant 'culture change' for first-generation students (London, 1992; Thayer, 2000). In this way, the difficulty integrating into the culture of university may be a reflection of differences between first- and continuing-generation students' cultural capital.

Cultural capital is a term developed by Bourdieu (1973) and defines the accumulation of knowledge, behaviours, and skills that reflect one's social standing in society. Several researchers have stressed the importance of cultural capital in education settings; cultural capital reflects the familiarity with the traditions and norms of a university environment which, in turn, eases students' transition into university and their subsequent academic success at university (Andersen & Jæger, 2015; Lundberg et al., 2007). Researchers have argued that cultural capital typically develops through interactions with others, particularly one's parents (Bourdieu, 1973; Calarco, 2014; Lareau & Calarco, 2012). Given that first-generation students are defined as those whose parents have not experienced the culture of university, they may, therefore, not have as much knowledge of university and ways of doing things congruent with being in a university environment to aid their integration into university life (York-Anderson & Bowman, 1991). For example, university culture tends to be individualistic, while the home cultures of many first-generation students value working towards community goals (London, 1989; London, 1992). For this reason, there may be confusion for some first-generation students' parents because they may not understand the types of commitments required to succeed in a university climate (Sparkman, Maulding, & Roberts, 2012).

In addition, research has suggested that first-generation students are particularly challenged with fulfilling the 'role of a student' in a university context, a type of role mastery

that is considered a form of cultural capital (Collier & Morgan, 2008). Fulfilling the role of a student involves understanding the expectations of university faculty and applying one's skills to meet these expectations (Collier & Morgan, 2008). Faculty expectations that first-generation students appear to struggle with may include the focus on critical thinking, education being the top priority, the purpose of office hours, and communication geared towards problem-solving as opposed to the purpose of rapport building (Collier & Morgan, 2008). Research into mastery of the role of a student was informed by early research about the Symbolic Interactionist version of role theory (Becker, 1963; Mead, 1934). Researchers who support the Symbolic Interactionist version of role theory argue that roles serve as resources that help individuals to pursue their goals through interactions with others (Becker, 1963; Mead, 1934). They argued that first-generation students are less likely to have mastered the role of a traditional university student before enrolling because of missed opportunities to grow up listening to their parents' university experiences and other knowledge about university expectations given by university alumni mentors (Collier & Morgan, 2008). In summary, the university culture may be incongruent with what first generation students are familiar with and, in turn, this lack of cultural capital specific to the university environment may leave first-generation students less prepared for the culture of university and ability to fulfil the role of a traditional university student.

Social capital. Social capital is a measure of the social contacts one has in multiple areas of life and who support one's goals (Bourdieu, 1986). Similar to cultural capital, researchers have argued that social capital is passed down through generations; parents pass social capital on to their children (Bourdieu, 1986; Coleman, 1990). As a consequence, first-generation students may be less likely to have the same types of social-capital that continuing-generation students have acquired from their university-educated parents. Given that the academic culture is novel to first-generation students (Thayer, 2000), a lack of social

capital in a university environment may be disadvantageous because networks of relationships can help students to navigate through a new environment (Attinasi, 1989; Padgett, Johnson & Pascarella, 2012) by providing them with emotional and informational support (Stanton- Salazar, 1997). Without these connections, students can be left unsure about what services are available to help them succeed (e.g., financial aid services; Levine & Nidiffer, 1996; Rodriguez, 2003), or know how to fill out formal documents (e.g. applying financial aid; Banks-Santilli, 2014), disadvantaging them compared to their peers. In summary, first- generation students, in particular, may have less social capital within the university environment than do their continuing-generation peers, which may result in less knowledge about university and its services to be able to better succeed within universities.

Academic role models and family support. Research has shown that some students aspire to go to university as early as primary school (Cabrera & LaNasa, 2000; Harding, Parker & Toutkoushian, 2017; Hossler, Braxton, & Coopersmith, 1989). This is less often the case for first-generation students (Choy, 2001; Pike & Kuh, 2005) as research with high-school students have shown that the highest level of parental education was positively associated with post-secondary education plans (Carpenter & Fleishman, 1987). According to Appadurai (2004), an individual's capacity to aspire is dependent on their navigational capacity. Navigational capacity, in this context, is the extent to which the prospective student is able to steer him- or herself through the university preparation process. In turn, navigational capacity is dependent on the knowledge base of that individual, which relies on various resources, notably social connections (Appadurai, 2004). These social connections may include academic role models who can facilitate academic discourse, thereby pre-exposing the aspiring student to traditional university life (Penrose, 2002; White & Lowenthal, 2011).

Unlike their peers, whose parents have attended university, it is less likely that first-generation students will be given the opportunity to have discussions about what to expect at university, as their parents do not have the first-hand knowledge of studying at university level to facilitate academic discourse (Collier & Morgan, 2008). As result, prospective first-generation students may be less likely to be aware of resources to help them when enrolling in university (Moschetti & Hudley, 2015; Wallace, Abel, & Ropers-Huilman, 2000). They are also less likely to have the information necessary to make important university enrolment decisions, such as field of study choice (Collins & Giordani, 2004; Galotti, 1999), as well as knowledge of important terms to help steer them though the university pre-enrolment process (Davis, 2012). In summary, prospective first-generation students may be less informed about what to expect from university life through a lack of academic role models (e.g., a parent who has attended university), thereby hindering successful navigation through the university enrolment process.

A challenge closely related to a lack of academic role models is that prospective first-generation students may get less advice from their families, in particular, during their endeavour to enrol in university education compared to continuing-generation students (Billson & Terry, 1982; York-Anderson & Bowman, 1991). For example, first-generation students are less likely to report that their parents helped them to decide what university to attend compared to continuing-generation students (Bers, 2005; Choy, 2001; Terenzini et al., 1996; York-Anderson & Bowman, 1991). This may have an impact on first-generation students because university students credit family with being one of the most helpful sources of advice about higher education (Buissink-Smith, Spronken-Smith, & Grigg, 2008; Buissink-Smith, Spronken-Smith, & Walker, 2010). As mentioned, parents of first-generation students having had no first-hand experience of university may be unsure of how best to help their children navigate through the university enrolment process.

Conversely, some students also report a lack of emotional support from their family in their desire to go to university. Whilst families of prospective first-generation students do express pride in their family member's desire to study beyond secondary level (Gofen, 2009; Wang & Nuru, 2017), some parents are wary of their child's interest in going to university (Lee & Kramer, 2013; Wildhagen, 2015) and are likely to lack personal experience that they can reflect upon to empathise with their child, given that they did not go through the university experience themselves (Sy, Fong, Carter, Boehme, & Alpert, 2011). The general reasons for a lack of encouragement include emotional and instrumental concerns. From an emotional point of view, these students may be perceived by family members to be breaking the family mould by pursuing a different life path and this may be unsettling for some parents of first- generation students (London, 1989; London 1992). From an instrumental point of view, the expected responsibilities the prospective student has in the family (e.g., making money to support the household and household chores) may be more difficult if they were to be pursuing study beyond secondary level (McKay & Estrella, 2008; Phinney & Haas, 2003). Also, the parents of first-generation students, compared to continuing-generation students' parents, may be less aware of the benefits of gaining a university qualification that can compensate for the struggles temporarily caused by going to university (Mitchell, 1997). In summary, first-generation students report different levels of family support than do continuing-generation students when enrolling in university, which may result in a more difficult university enrolment process and subsequent experience at university.

Finances. In light of increasing tuition costs, the financial strain that paying for university tuition puts on prospective students and their families has been widely documented in the literature (Clark, Hordósy, & Vickers, 2017; Mehta et al., 2011; Wilkins, Shams, & Huisman, 2013). Although governments worldwide have student loan policies in place to reduce the immediacy of the financial strain of paying for university tuition (Barr, Chapman,

Dearden, & Dynarski, 2017), taking out a loan increases one's debt. This is a problem because debt aversion has been cited as one of the main deterrents to studying beyond secondary level for many prospective university students, especially those from lower-income backgrounds (Callender & Jackson, 2005; Callender & Mason, 2017).

The prospect of having student loan debt may not be considered as much of a deterrent to studying at university for prospective students from wealthier backgrounds because they are more likely to receive financial support from family to help them pay back the debt (Baum et al., 2013). Specifically, one study showed that nearly three quarters of continuing-generation students' parents paid for some of their loan, compared to one third of first-generation students' parents (Mehta et al., 2011). These findings are not surprising because educational attainment is positively associated with income and, as a result, the parents of continuing-generation students may be more likely to have the financial resources to cover tuition costs for their children (Baum et al., 2013; Goldin & Katz, 2007). In fact, not only are wealthier parents able to provide financial support to their children when they enrol in higher education (West, Roberts, Lewis, & Noden, 2015), students with wealthier parents are more likely to rely on their parents to pay for tuition than are students from less wealthy backgrounds (Bozick, 2007; Harper & Griffin, 2011).

In summary, given that first-generation students are less likely to get financial support from family with regard to university tuition costs, they may be at a financial disadvantage prior to enrolling in university. The financial challenge of paying for tuition fees may not only discourage prospective first-generation students from enrolling in university, but they are also less likely to be able to have their tuition paid for them compared to their continuing-generation peers.

Challenges during enrolment

Once first-generation students and their families have overcome the obstacles of enrolling in university, they are faced with further challenges that could make degree completion more difficult compared to continuing-generation students. To ensure that these students have the best chance at graduating with a university qualification, the challenges faced by these students in gaining a university qualification should be evaluated so that a more supportive university environment can be developed for them. Three main challenges facing first-generation students while they are at university include: (1) Academic challenges, (2) financial difficulties, and (3) a lack of belonging.

Academic challenges. First-generation students commonly report academic challenges during their university studies (Stebleton & Soria, 2013). From lower grade point averages (Warburton et al., 2001) to perceiving a lack of academic support from faculty members (Terenzini et al., 1996), the academic experience for first-generation students at university appears to be more difficult compared to that of continuing-generation students. As mentioned in the previous section, the foundation for these academic challenges may begin as early as childhood. It appears that the academic rigour that may contribute to students' academic success at university is something that the high-school courses that are offered or available to first-generation students may lack (Madjar et al., 2009; Warburton et al., 2001). Students may not be given sufficient academic opportunities early on in their schooling lives, which could impact their academic success later on through a lack of academic preparation (Madjar et al., 2009). In addition, given that first-generation students are under-represented in the student cohort, faculty members may not understand how best to support students with a lack of academic preparation as the majority of students will be sufficiently prepared (Mehta et al., 2011; Munro, 2011). A lack of academic opportunities may also hinder one's ability to

build self-esteem and a sense of self-efficacy in an academic context, which could, in turn, hinder one's academic success (Naumann, Bandalos, & Gutkin, 2003; Tiwari, 2011)

Academic self-esteem, or self-concept in an academic setting, refers to how one feels about one's own academic skills and ability (Byrne, 1984; Rosenberg, 1979; Shavelson & Bolus, 1982; Wigfield & Karpathian, 1991). Academic self-efficacy refers to the extent to which individuals feel they are capable of achieving academic success (Bandura, 1986, 1997, 2010; Schunk, 1991). Research has shown that first-generation students report lower academic self-esteem (DeFreitas & Rinn, 2013; Inman & Mayes, 1999; Reid & Moore, 2008; Stephens, Hamedani, & Destin, 2014). Research has indicated that students who believe that they are capable of succeeding academically are more likely to be academically engaged (Naumann et al., 2003).

Besides a lack of academic preparation, academic challenges during university enrolment for first-generation students may arise from: (1) Difficulty mastering the role of a student (i.e., recognising what faculty members expect of them; Collier & Morgan, 2008), (2) insufficient study skills (Davis, 2012), (3) less time spent on campus (McKay & Estrella, 2008), and (4) financial challenges. Specifically, with regard to mastering the role of a student, research suggests a misalignment between first-generation students and expectations of faculty (Collier & Morgan, 2008). The Symbolic Interactionist version of the role theory (Becker, 1963; Mead, 1934) purports that identifying one's role (i.e., the role of a student) is important to reach a goal (i.e., academic success) through interaction with others (i.e., academic role models). According to this theory, students who come to university with an idea of what faculty members will expect of them will perform better academically. Unfortunately, coming from a less academic background, first-generation students may be less likely to have this knowledge through a lack of traditional academic role models (Stanton-Salazar, 1997). In this way, continuing-generation students are at an advantage

when navigating the academic climate of university as they are more likely to have knowledge about what university faculty will expect of them from discussions with academic role models.

Universities have been criticised by researchers as being monocultural (Stephens, Brannon, Markus, & Nelson, 2015; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Stephens, Townsend, Markus, & Philips, 2012). Recall that first-generation students may be less likely to have the support of academic role models to help them aspire for university (Carpenter & Fleishman, 1987; Choy, 2001; Collier & Morgan, 2008: Penrose, 2002: Pike & Kuh, 2005; White & Lowenthal, 2011). First-generation students' lack of academic role models is noticeable in the university environment as well, by way of a lack of academic staff that understand their backgrounds. For example, Collier and Morgan (2008) highlighted the disconnect between university faculty expectations and first-generation students' knowledge of how to perform in a university context in order to succeed academically, which can be explained by the differing cultures of the university environment and the cultures of many first-generation students. This includes the need for many first-generation students to juggle multiple commitments (e.g., work, education, family) (Collier & Morgan, 2008). In addition, first-generation students are more likely to desire more clarity regarding assignments, syllabuses, and the purpose of services available to students, including office hours (Collier & Morgan, 2008). In this way, Collier and Morgan's (2008) findings highlight how difficult it can be for first-generation students to integrate academically into the university culture.

Research has also shown that studying with peers is an effective study practice (Engle & Tinto, 2008) yet there is evidence that first-generation students are less likely to use this method compared to continuing-generation students (Engle & Tinto, 2008; Yee, 2016). Also, first-generation students may feel less comfortable speaking up when they do not understand

what is expected of them (Terenzini et al., 1996) or they may not notice until it is too late when they receive a poor grade for an assignment where they may have misunderstood the instructions (Collier and Morgan, 2008).

Another characteristic of first-generation students that may impact their academic success includes their ability to choose certain types of accommodation. First-generation students are more likely to live off campus (Nuñez & Cuccaro-Alamin, 1998; Terenzini et al., 1996), which advantages continuing-generation students because living on campus is positively associated with learning (Pascarella et al., 2004; Pike & Kuh 2005; Smith & Macgregor, 2000). Research has indicated that first-generation students are more likely than are continuing-generation students to identify location-related reasons, such as the ability to live at home, for their university choice (Nuñez & Cuccaro-Alamin, 1998). Financial reasons may be a factor that influences the decision to live at home (Bui, 2002; Chen, 2005; Mehta et al., 2011; Saenz, Hurtado, Barrera, Wolf, & Yeung, 2007; Terenzini, et al., 1996), although there may also be other reasons why first-generation students live off campus even when on-campus accommodation is considered affordable (Davis, 2012). The decision to live off campus may include other factors such as family responsibilities (McKay & Estrella, 2008; Phinney & Haas, 2003) and the desire to live within the comfort of their home culture (Hsiao, 1992; London, 1992; Thayer, 2000).

Finally, research has suggested that the stress induced from financial difficulties could interfere with academic success. Specifically, in a sample of primarily first-generation students, greater financial stress (e.g., worrying about expenses and missing academic activities due to costs) was associated with lower academic grades (Bennett, McCarty, & Carter, 2015). This suggests that financial burdens could make it difficult for students to be able to prioritise their university studies over other commitments (e.g., part-time work). Financial difficulties may explain why first-generation students need to work longer hours

per week, which may leave less time for studying as a result (Terenzini et al., 1996). In summary, academic challenges are common for first-generation students due to factors that are personal, social, and a combination of both.

Finances. In addition to the challenge of paying for university tuition (West et al., 2015), research has suggested that finances may also have a negative impact on the day-to-day lives of first-generation students due to the costs of necessities such as food and accommodation (Saenz et al., 2007). First-generation students are more likely than are continuing-generation students to report financial difficulties during their university studies (Saenz et al., 2007). For example, research has shown that first-generation students are more likely than are continuing-generation students to rely on student loans to finance their university studies (Furquim, Glasener, Oster, McCall, & DesJardins, 2017). This is not surprising as first-generation students are more likely to come from lower-income families than are continuing-generation students (Bui, 2002; Chen, 2005; Mehta et al., 2011; Terenzini, et al., 1996) and, as a consequence, their families may be less able to provide financial assistance (Mehta et al., 2011). This is likely to place continuing-generation students at an advantage as students who receive financial help from their parents are more likely to graduate (Kim, 2007). In fact, wealthier first-generation students are more likely to continue into the second year of their degree than are first-generation students with lower incomes (Lohfink & Paulsen, 2005). First-generation students are also more likely than are continuing-generation students to have dependants and the associated financial responsibilities (Nunez & Cuccaro-Alamin, 1998). In addition, as mentioned in the previous section, many first-generation students have part-time work, which leaves less time for studying (Warburton et al., 2001).

Students' challenges with finances is relevant to university policy makers because being challenged by financial difficulties during the academic year may result in inequitable

enrolment and retention outcomes for first-generation students. Moreover, financial stress is associated with students perceiving the university environment to be less supportive (Fosnacht & Dong, 2013), highlighting the need for universities to develop supportive university environments to help students from lower-incomes families who are struggling financially.

In summary, first-generation students are disproportionately affected by financial challenges during university enrolment and, without financial support, may have higher loan uptake, work more part-time hours and, therefore, have different university experiences compared to continuing-generation students. Financial difficulties are an issue for university policy makers as financial stress is associated with students' perceptions that university environments are unsupportive.

Belonging. As mentioned previously, transitioning to university may represent a significant culture change for first-generation students (London, 1992; Thayer, 2000). While at university, trying to integrate may result in a lack of belonging (Housel & Harvey, 2009; Johnson, Richeson, & Finkel, 2011; Ostrove & Long, 2007; Rendón, 1992; Stebleton, Soria & Huesman, 2014). A lack of belonging in this context is related to a lack of connectedness the student feels towards to the university institution, staff, and their peers (Thomas, 2012). These feelings can become more complex as first-generation students may begin to feel disconnected from their university *and* their life prior to university (Rendón, 1992; Thayer, 2000, Oldfield, 2007). As a consequence, students may not feel as if they belong in either environment, which can be an unsettling experience for many first-generation students (Mitchell, 1997. Stebleton et al., 2014).

Aside from the difference in culture, developing a connection to one's university may also be made more difficult for first-generation students as they tend to spend less time on campus (McKay & Estrella, 2008). A lack of belonging is an issue that concerns both the

student and the university. Specifically, not only is a sense of belonging a basic human need (Strayhorn, 2012), but it is also a factor associated with student engagement and persistence (Baron & Corbin, 2012; Bok, 2006; James, Krause, & Jennings, 2010; Walton & Cohen, 2011). Student engagement in this context relates to the level of participation a student has not only in their university studies, but also in extracurricular activities (Krause & Coates, 2008). Student engagement is considered to be an important part of getting the full university experience because it is related to academic success (Kuh, Kinzie, Schuh, & Whitt, 2005; Pascarella et al., 2004) as well as post-graduation career earnings (Hu & Wolniak, 2013). Yet the research described previously suggests that first-generation students are less likely to be engaged with their university experience. In summary, a combination of both the different culture of the university environment and time spent on campus may negatively impact student belonging, which may have important implications for outcomes post-university.

Post-graduation outcomes

There is a gap in the literature regarding how first-generation students' outcomes after graduation differ compared to those of continuing-generation students, particularly within the New Zealand context. This is not ideal because an important motivator for first-generation students is the social and economic benefits that might result from studying beyond secondary school level (London, 1989). Research that has addressed post-graduation outcomes for first-generation students can be broken down into two main categories: (1) Private outcomes and (2) social outcomes. Private outcomes include benefits to the graduate themselves, specifically employment and earnings (Bartik & Hershbein, 2016), while social outcomes include benefits to society (e.g., increased levels of civic participation; Brand, 2010) and benefits to the graduates' communities (e.g., through informal helping behaviours; Covarrubias & Fryberg, 2015).

Private benefits. Financial returns are a notable private benefit of a university education, which contributes to one's upward economic mobility (McMurrer & Sawhill, 1998). Upward economic mobility refers to one's ability to improve one's economic status (Iyigun, 1999). Research has shown that those with a university qualification tend to earn more than do those without (Bartik & Hershbein, 2016; Becker, 1993; Ma et al., 2016). In fact, having a university qualification is associated with an increase of 91% in the lifetime earnings of graduates from low-income backgrounds (Bartik & Hershbein, 2016). This is important given that first-generation students are more likely to come from lower-income backgrounds (Bui, 2002; Chen, 2005; Mehta et al., 2011; Terenzini, et al., 1996). This is a positive argument for enrolling in university education because, although one may acquire debt by doing so, obtaining a university qualification appears to be an investment that can result in higher earnings beyond the cost of the price paid to gain the qualification. This is particularly important for graduates from economically-disadvantaged backgrounds who are likely to have gone into tuition debt (Furquim et al., 2017). Graduates from higher-income backgrounds, however, appear to benefit disproportionately with regard to the financial returns of a university education. Research has shown that graduates from middle to high income backgrounds earn 162% more over their careers, on average (compared to 91% for graduates from lower-income backgrounds) (Bartik & Hershbein, 2016). Gaining a university qualification is also associated with lower unemployment rates (Bureau of Labor Statistics, 2013). Note, however, that the research presented above has not explicitly investigated differences as a function of whether or not graduates were first-generation students.

Social benefits. A well-educated society is beneficial for a number of reasons. Specifically, having a university qualification is associated with higher civic participation, such as involvement in community groups and voting in elections (Baum et al., 2013; Brand, 2010); this represents a more socially-conscious society. Gaining a university education may

help develop communicative skills, which in turn promote civic participation (Hillygus, 2005) and greater knowledge about political issues promotes voting specifically (Baum et al., 2013). Other research has suggested that gaining a university qualification has the potential to have a positive impact on the lives of those closer to the graduate, in particular their family members. First-generation students report that their family is a big motivating factor for them to attend university (Bui, 2002). In fact, one study showed that 69% of first-generation students desired to go university to help their family, compared to only 39% of continuing-generation students (Stephens et al., 2012).

First-generation students have also reported feelings of guilt because of their opportunity to further their own education whilst other family members have not been afforded the same opportunity (Covarrubias & Fryberg, 2015). In the literature, these feelings of guilt have been referred to as 'family achievement guilt;' the negative feeling that arises when one's opportunity to surpass the achievements of one's family members is greater (O'Connor, Berry, Weiss, Schweitzer, & Sevier, 2000; Whitten, 1992). The extent to which this social comparison elicits feelings of guilt is associated with the graduate's knowledge that they have helped those around them. Specifically, Covarrubias and Fryberg (2015) found that first-generation students who were primed to think about a time they helped a family member reported less guilt about attending university than did those who were not primed in this way. Although the direction of this relationship is unclear, helping others around them may promote first-generation graduates' feelings of wellbeing for having the opportunity to go to university.

It is also important to note that the desire to help is not always driven by negative feelings. Research has suggested that first-generation graduates desire to help those around them, with many being positive about the opportunity to give back to their families (Stephens et al., 2012). Moreover, furthering one's education gives rise to the opportunity to learn new

skills, meaning that one is better able to help others, through providing formal advice, support, and finances (Theodore et al., 2017; Theodore et al., 2018b).

Of course, gaining a university qualification has the potential to have an impact on future generations of family members through social mobility. Social mobility is the ability of an individual to move from one social class level to another (Southgate et al., 2017). Higher education is positively associated with movement to higher social class positions (Haveman & Smeeding, 2006; Milburn, 2012). Social class is important because there is research to suggest that parents' social class is associated with their children's developmental outcomes, especially school performance (Sullivan, Ketende, & Joshi, 2013). In turn, school performance (and parental education) is positively associated with enrolment in education beyond secondary level (Duncan, Kalil, Mayer, Tepper, & Payne, 2005). In this way, the cycle of further education is able to continue on.

The New Zealand context

The previous sections included reference to international research, however it seems that there is a lack of research that has been conducted in New Zealand to investigate specifically how first-generation students experience their studies in New Zealand universities, and the ways in which they benefit from their university education post-graduation. There have, however, been recent studies of non-traditional groups of students who are more likely to be first-generation students. Higher proportions of Māori and Pasifika students are more likely to be first-generation students compared to their non-Māori and non-Pasifika peers. Specifically, 48% of Māori students (Theodore et al., 2016) and 50% of Pasifika students (Theodore et al., 2018b) are first-generation students. Examining Māori and Pasifika university students' experiences can help to shed light on factors important in New Zealand universities. Māori and Pasifika students are more likely than their non-Māori and

non-Pasifika peers to come from lower-income backgrounds (McKinley & Madjar, 2014), be older (Theodore et al., 2017; Theodore et al., 2018b), have lower cultural capital in relation to university environments (Benseman, Coxon, Anderson & Anae, 2006; Gorinski & Abernathy, 2007; Wilson, Hunt, Richardson, Phillips, Richardson, & Challies, 2011), and lower rates of degree completion (McKinley & Madjar, 2014; Tertiary Education Commission, 2014). In addition, Māori students may also have less academic preparation for university (Hunt, Morgan, & Teddy, 2001; Van der Meer, Scott, & Neha, 2010). Research has also shown that these students can find university environments and curricula to be monocultural, ethnocentric, and environments to be isolating and, at times, racist (Theodore et al., 2017; Theodore et al., 2018b). Other negative institutional factors include having a lack of Māori and Pasifika staff and role models, non-inclusive and competitive tertiary environments, and not feeling welcomed on campus (Theodore et al. 2017; Theodore et al., 2018b). Research has also indicated that whilst family support is helpful for Māori and Pasifika students (e.g., child-care and financial support), family responsibilities may also be a hindering factor (Theodore et al., 2017; Theodore et al., 2018b). In addition, financial factors are also reported to be particularly challenging for Pasifika students (Theodore et al., 2018b).

It is important to conduct New Zealand-based research regarding first-generation students without relying on international research to guide New Zealand university policies for two main reasons. First, different policies are in place influencing students' university experiences in other countries, particularly with regard to financial aid (Johnstone, 1986; Kane, 2003). Second, the proportion of first-generation students that make up the student cohort varies across countries, which may also influence their university experience (Orr, Gwosć, & Netz, 2011). In addition, given that a lot of the international research has been conducted in the United States, where the university institutions are diverse (public, private for profit, private for non-profit, community colleges, liberal arts colleges), it is perhaps more

likely that they attracted particular types of students that may produce different results than would research conducted in New Zealand universities.

Limitations of past research

In addition to the scarcity of New Zealand-based research regarding first-generation students, the worldwide research regarding first-generation students is limited in three main ways relating to: (1) Generalisability of the findings, (2) date of the research, and (3) the breadth of research relating to first-generation students' lives post-graduation. First, with regard to the generalisability of the findings, the nationwide studies conducted internationally (e.g., National Study of Student Learning; Pascarella et al., 2004; Terenzini et al., 1996) are not necessarily representative of the country's universities due to purposive sampling of the universities. Samples need to be randomly selected and representative of the population they intend to measure. Second, with regard to the date of past research, there is little research on first-generation students' experiences during and after university that has taken place within the last 10 years. It is important to continue to research this group of students as university environments change. Specifically, as the range of opportunities and experiences offered at university changes, the proportion of first-generation students going to universities has also increased (Mehta et al., 2011; Munro, 2011). Third, with regard to the breadth of the research relating to first-generation students, there is little data on post-graduation outcomes for first-generation students. It is important to research first-generation students' lives after they have graduated to find out if going to university has benefited their lives, and if it has not, to find out why.

The present study

In late 2017, the New Zealand Government announced plans for free tertiary education, to increase the maximum student allowance, and to increase the maximum living cost loan amount (New Zealand Government, 2017). It is not clear what (if anything) the New Zealand government is doing to target first-generation students, however. More research involving first-generation students is needed to examine how policies and university programmes could be developed to support these students while they are studying to ensure that they have a positive university experience and reap the maximum benefits of a university education after graduating. The present study is uniquely placed to answer some of these questions and to inform any future policy changes.

The overarching goal of the present study is to investigate the university experiences and subsequent outcomes of first-generation students compared to continuing-generation students using data from the Graduate Longitudinal Study New Zealand (GLSNZ). The GLSNZ is a representative, longitudinal study designed to measure the employment, health, and social outcomes of graduates from all eight New Zealand universities (for detailed information about the study design see Tustin et al., 2012, and Tustin et al., 2015), and has data appropriate to address the above aims further. To this end, we examined data from the two GLSNZ surveys conducted to date: The baseline survey (i.e., during students' final year of study) and the first follow-up survey (i.e., approximately two years post-graduation). Specifically, we examined how first-generation students' experiences at university compare to those of continuing-generation students in the following areas: Barriers and aids during the completion of their university qualification; satisfaction with their experience at university; academic engagement, self-esteem, and self-efficacy; finances and employment; and social capital (i.e., participation in the local community, social agency, tolerance of diversity). We also examined whether the university experiences of first-generation students and continuing-

generation students persist over time, focusing on: The perceived benefits of a university education; finances and employment; desires to further their tertiary education; voting behaviour; involvement in community groups and associations; social capital; and helping family, friends, and colleagues/neighbours/acquaintances.

Method

Participants and procedure

The participants were members of the GLSNZ (for detailed information about the study design see Tustin et al., 2012). The GLSNZ conducted baseline sampling across the eight New Zealand universities between July and December 2011. A representative sub-sample of all potential graduates that year was identified (approximately 30% of the expected total) and invited to take part in an online baseline survey and in follow-up online surveys over the next decade. All international PhD students and all students from the smallest university (Lincoln) were invited to participate. Participants were those in a study programme allowing them to graduate with a bachelor's degree or higher after the successful completion of their studies in 2011. Eligible students were contacted by letter and email. Non-responders were sent multiple reminder emails, and contacted up to four times by trained call centre staff. A total of 72% participation was achieved in the baseline survey in some form (i.e., students answering some but not all of the questions). A conservative criterion of full completion of the survey was required for ultimate inclusion in the sample, resulting in a baseline cohort of N = 8719 or 65.2% of the target sample (Tustin et al., 2012).

The first follow-up survey was conducted from March to September 2014, approximately 2.5 years after participants completed the baseline survey (Tustin et al., 2015). From the baseline cohort of 8719, a total of 6104 respondents (70%) participated in the first follow-up survey (henceforth referred to as the 2-year post-graduation survey). Participants

completed a lengthy online survey of 600+ questions that took, on average, 45 minutes to complete (see Tustin et al., 2015, for more detail). The GLSNZ was approved by the Multi-Region Ethics Committee for the baseline survey in 2011 and by the University of Otago Human Ethics Committee for the first follow-up survey in 2014.

Measures

The following measures and items from the GLSNZ baseline and 2-year post-graduation survey were used (for further details of all measures please see Tustin et al., 2012 and Tustin et al., 2015).[1]

Demographic characteristics. Information regarding whether or not the participant was the first in their family to attend university was self-reported; Participants were asked to indicate the highest level of education each of their parents attained (ranging from *did not attend secondary school* to *postgraduate university degree, certificate or diploma*). As shown in Table 1, the participants classified as 'first-generation' indicated that neither of their parents had attained a bachelor's degree. The participants who were classified as 'continuing-generation' indicated that at least one of their parents had attained a bachelor's degree or higher. Across the two survey time points (final year of study and 2 years post-graduation) first-generation students made up approximately 41% of the sample and continuing-generation students made up 59% of the sample.

[1] Where measures have been adapted from existing sources, this is noted. All other measures were created by the GLSNZ team in consultation with stakeholders (see Tustin et al., 2012, 2015 for more information).

Table 1. *Highest Level of Education of Participants' Highest-Educated Parent (%) as a Function of Generation Status and Time Point (Final Year of Study and 2 Years Post-Graduation)*

	Generation status			
	First-generation		Continuing-generation	
Parents' highest education level	Final year	2 years	Final year	2 years
No secondary school	5.1	5.2	-	-
Some/all secondary school	54.1	53.1	-	-
Vocational qualification	40.8	41.7	-	-
Undergraduate qualification	-	-	56.4	56.2
Postgraduate qualification	-	-	43.6	43.8
N (%)	3418 (40.7%)	2457 (41.3%)	4990 (59.3%)	3487 (58.7%)

Information regarding gender, age, and ethnicity was self-reported by participants. Ethnicity was provided by participants in response to a New Zealand Census of Populations and Dwellings (Statistics New Zealand, 2011) question, which allows multiple ethnic identities to be selected. Participants' ethnic group endorsements were classified into broad ethnic groups (European, Māori, Pacific Peoples, Asian, Middle Eastern/Latin American/African [MELAA], or Other Ethnicity) as per the New Zealand Standard Classification of Ethnicity (Statistics New Zealand, 2005).

Information regarding the qualifications participants were completing in 2011 (level and field of study), as well as participants' course load (full-time vs part-time), mode of study (intramural vs extramural), and citizenship status (domestic vs international) was provided by the universities prior to the baseline survey (please see Tustin et al., 2012). Table 2 shows the demographic characteristics of participants as a function of generation status (first-generation students or continuing-generation students) at both the baseline survey (final year) and the 2-year post-graduation survey (2 years).

In order to determine whether first-generation and continuing-generation students differed with respect to any of these demographic variables, we conducted a series of chi-square analyses for the final-year sample. As shown in Table 2, compared to continuing-generation students, first-generation students were more likely to be: Female, older, studying

towards a qualification of a lower level, studying part-time, studying extramurally, and a domestic student. With regard to ethnicity, first-generation students were more likely to identify as European, Māori, and Pacific Peoples, but less likely to identify as Asian or MELAA than were continuing-generation students. With regard to field of study, first-generation students were more likely to be enrolled in education, but were less likely to be enrolled in natural and physical sciences, information technology, engineering and related technologies, architecture and building, and creative arts than were continuing-generation students.

Table 2. *Demographic Characteristics (%) of Participants in Their Final Year of Study and 2 Years Post-Graduation as a Function of Generation Status*

	Generation status					
	First-generation		Continuing-generation		Effect of generation[b]	
Demographic variable	Final year	2 years	Final year	2 years	*N*	χ^2 (*p*)
N	3418	2457	4990	3487		
Gender (%)					8408	11.36 (<.001)
Male	35.1	34.2	38.8	36.7		
Female	64.9	65.8	61.2	63.3		
Age band (%)					8408	26.32 (<.001)
15-19 years	0.1	-	0.2	-		
20-24 years	46.6	22.1	58.4	27.8		
25-29 years	14.0	29.5	19.2	39.6		
30-34 years	8.7	9.8	8.6	12.8		
35-39 years	8.0	8.3	4.9	6.7		
40-44 years	7.1	9.4	3.1	4.4		
45-49 years	5.6	6.2	2.7	3.7		
50-54 years	5.3	6.5	1.5	2.5		
55-59 years	2.8	4.6	1.1	1.3		
60-64 years	1.2	2.0	0.2	0.9		
65-69 years	0.3	1.1	0.04	0.1		
70+ years	0.2	0.4	0.1	0.1		
Ethnic group (%)[a]						
European	74.9	78.9	67.4	73.6	8390	54.44 (<.001)
Māori	9.2	9.4	5.8	6.0	8390	35.83 (<.001)
Pacific Peoples	5.9	6.0	2.8	2.6	8390	49.95 (<.001)
Asian	17.8	14.0	27.1	21.4	8390	97.51 (<.001)
MELAA	1.9	1.7	3.1	2.9	8390	12.30 (<.001)
Other ethnicity	0.3	0.4	0.3	0.4	8390	0.23 (.63)

Demographic variable	Generation status: First-generation, Final year	First-generation, 2 years	Continuing-generation, Final year	Continuing-generation, 2 years	Effect of generation[b]: N	Effect of generation[b]: χ^2 (p)
Level of study (%)					8408	4.34 (.04)
Level 7 (bachelor's)	59.4	55.4	58.4	54.3		
Level 8 (post-graduate)	22.3	23.6	23.2	24.9		
Level 9 (master's)	12.9	14.8	13.6	15.0		
Level 10 (PhD)	5.4	6.3	4.8	5.8		
Field of study (%)[a]						
Natural & physical sciences	12.5	11.4	15.4	14.7	8408	13.46 (<.001)
Information technology	1.9	2.2	2.6	3.1	8408	4.56 (.03)
Engineering & related technologies	3.3	3.3	4.6	4.5	8408	8.73 (<.01)
Architecture & building	2.2	2.2	2.9	3.0	8408	4.21 (.04)
Agriculture, environmental & related studies	2.6	2.6	2.7	3.1	8408	0.16 (.69)
Health	12.4	14.0	12.8	13.9	8408	0.32 (.57)
Education	17.3	17.7	10.1	10.2	8408	92.56 (<.001)
Management & commerce	22.0	19.9	20.8	18.0	8408	1.68 (.19)
Society & culture	22.5	23.6	22.8	25.3	8408	0.14 (.71)
Creative arts	4.9	5.0	7.4	7.1	8408	20.37 (<.001)
Course load (%)					8343	44.61 (<.001)
Full-time	59.3	59.2	66.5	66.5		
Part-time	40.7	40.8	33.5	33.5		
Mode of study (%)					8408	56.57 (<.001)
Extramural	14.4	15.4	9.1	9.9		
Intramural	85.6	84.6	90.9	90.1		
Citizenship status (%)					8408	11.82 (<.001)
Domestic student	90.2	91.8	87.8	90.1		
International student	9.8	8.2	12.2	9.9		

Note: [a] Participants could be assigned to more than one group, hence percentages do not sum to 100%. [b] Analyses were conducted for the baseline (final-year) sample.

Barriers and aids. In the baseline survey, participants were asked to report whether or not there was anything that hindered or helped the completion of their qualification in two separate questions. Specifically, they were asked: "Are there any key factors that hindered the completion of your qualification?" and "Are there any key factors that helped the completion of your qualification?" If participants reported that there were barriers or aids, they were asked to elaborate on the key factors that hindered or helped them, separately. The open-ended responses participants gave were categorised into broad factors for analysis (see Appendix A for further detail of the broad factors). Given the open-ended nature of the questions, participants were able to provide as many key factors as were applicable. In this way, their responses could be categorised into more than one broad factor. Participants may also have specified two or more key factors within the same broad factor. Multiple key factors such as these were collapsed under one broad factor. For example, responses of "injury" and "illness" were collapsed under the broad "health" factor. A second coder independently categorized 16% of the participants' responses for the barriers (n = 467 participants; n = 715 key factors) and aids (n = 753 participants; n = 1,254 key factors). Agreement between the coders was 82.9% (Cohen's $\kappa = .82$) for the barriers and 84.9% (Cohen's $\kappa = .84$) for the aids.

Academic beliefs. In the baseline survey, participants' academic beliefs were gauged in three separate scales: (1) Academic engagement, (2) academic self-esteem, and (3) academic self-efficacy. Academic engagement was measured using three items adapted from Major, Spencer, Schmader, Wolfe, and Crocker (1998) to reflect academic achievement rather than general intelligence. These three items were answered on 7-point Likert scales (1 = *strongly disagree* to 7 = *strongly agree*) and summed to produce a total score for the scale. An example of a question used to measure academic engagement is "I really don't care about what academic achievements say about my intellectual capacity." The original scale has

shown fair reliability (α = 0.62; Major et al., 1998), (α = 0.78; Cokley et al., 2015). Academic self-esteem was measured using five items taken from Marsh and O'Neill (1984). These five items were answered on 8-point Likert scales (1 = *definitely false* to 8 = *definitely true*) and summed to produce a total score for the scale. An example of a question used to measure academic self- esteem is "I'm good at most academic subjects". The original scale has demonstrated high reliability (α = 0.89; Marsh & O'Neill, 1984). Academic self-efficacy was measured using five items adapted from Muris (2001) to reflect a university context. These five items were measured on 5-point Likert scales (1 = *not at all* to 5 = *very well*) and summed to produce a total score for the scale. An example of a question used to measure academic self-efficacy is "How well can you succeed in passing all your university courses?" The original scale has demonstrated good reliability (α = 0.88; Muris, 2001). Higher scores on all three scales indicated higher academic disengagement, academic self-esteem, and academic self-efficacy, respectively.

University Satisfaction. In the baseline survey and the 2-year post-graduation survey, participants' overall satisfaction with their university experience was gauged in four separate items relating to: (1) Whether participants' study programme had been worth the time, cost, and effort (adapted from Coates & Edwards, 2009); (2) whether participants' experience at university had met their expectations; (3) whether participants were willing to retain formal links with their university; and (4) whether participants were willing to retain social connections made during university. Each question was answered using a 5-point Likert scale (1 = *definitely no* to 5 = *definitely yes*). Two further questions assessed participants' overall impressions of their experience at university. First, participants were asked how they would evaluate their entire experience at their university using a 5-point Likert scale (1 = *poor* to 5 = *excellent*). This item was adapted from the Postgraduate Student

Engagement Questionnaire (The Australian Council for Educational Research, 2010). Second, participants were asked if they would recommend their university to others, also using a 5-point Likert scale (1 = *definitely no* to 5 = *definitely yes*). An additional two questions in the 2-year post-graduation survey only assessed participants' likelihood of going to the same university, and enrolling in the same qualification, if they were to start over. Each question was answered using a 4-point Likert scale (1 = *definitely no* to 4 = *definitely yes*).

Perceived benefits of university education. Adapted from the 2005 REFLEX Master Questionnaire (REFLEX - short for Research into Employment and professional FLEXibility), in the baseline and 2-year post-graduation surveys, participants were asked to report how they believed their university education would benefit or had benefited their lives by selecting from a list of 15 items (e.g., a good income, engagement with community, personal development, status and respect). Each item was answered using a 5-point Likert scale (1 = *not at all* to 5 = *to a very high degree*).

Employment and enrolment status. Adapted from the University of Otago (2009) Graduate Opinion Survey, in the baseline survey, participants were asked to report their employment status (i.e., not employed, employed full-time, employed part-time, or self-employed). In the 2-year post-graduation survey, participants were asked to report their employment status again, however, the self-employed option was further broken down into self-employed full-time and self-employed part time. Participants were also asked to report whether they were currently enrolled in tertiary education (i.e., at university, polytechnic, or another provider), in the 2-year post-graduation survey only. The participants who were not enrolled in further tertiary education (but who would have liked to enrol) were asked to indicate the reason(s) why (selecting from lack of time, changes to the student allowance scheme, other financial reasons, geographical location, or other reasons).

Finances. In the baseline and 2-year post-graduation survey, participants were asked to answer the following questions related to their financial situation (all dollar values are in NZ$). The question regarding income was adapted from the New Zealand Census of Population and Dwellings (2011).

Participants indicated their current annual income on scale that went up in approximately $5,000 increments to $40,000, then approximately $10,000 increments to $150,000, and then an approximately $100,000 increment to $250,000 (max $250,000+).

Participants were asked whether or not they took out a student loan. For the participants who answered "yes" to this question, they were asked to indicate how much they had left to pay back, on a scale that went up in approximately $5,000 increments to $40,000, then $10,000 increments to $100,000+.

Participants were asked whether or not they had any significant, regular financial commitments (e.g., childcare, elderly relative, contributions to charitable organisations); those who indicated "yes" to this question were asked to indicate how many financial commitments they had (up to 10). Note that in the 2-year post-graduation survey this item was altered to specify that standard living costs (e.g. rent, mortgage payments, food, power, etc.) were excluded.

Participants were asked to indicate the approximate value of their assets on a scale that began at $0–$25,000 and subsequently went up in approximately $5,000 increments to $40,000, then approximately $10,000 increments to $100,000, then approximately $50,000 increments to $300,000, then approximately $100,000 increments to $1,000,000+.

The Iowa Youth and Family Project's Financial Strain Scale (Wave B 1990) (Conger et al., 1989-1992) based on work by Pearlin and Lieberman (1979) was used to collect information on how participants felt about their financial situation. Participants indicated on 5-point Likert scales (1 = *strongly disagree* to 5 = *strongly agree*) whether they felt they had

enough money to afford basic necessities (i.e., accommodation, food, clothing) and luxuries (i.e., leisure/recreational activities), and meet their financial commitments.

Social capital. In the baseline and 2-year post-graduation surveys, social capital was assessed using 15 items adapted from the Social Capital Questionnaire (Onyx & Bullen, 2000), comprising three subscales: Participation in the local community (7 items), social agency or proactivity in a social context (6 items), and tolerance of diversity (2 items). All items were answered on 4-point Likert scales ranging from 1 (*no, not at all/not much/never*) to 4 *(yes, often/frequently/nearly always*, etc.). Mean scores were calculated separately for each subscale, as well as for the overall scale. Higher scores reflect higher levels of social capital and higher endorsement of the traits described by each subscale. The original Social Capital Scale (Onyx & Bullen, 2000) has a high reliability ($\alpha = 0.84$) for use in a school setting (Stewart, McWhirter, Sun, & Stewart, 2007).

Voting behaviour. In the 2-year post-graduation survey, two items regarding voting behaviour were adapted from the World Values Survey (2010-2014). Participants indicated on 4-point Likert scales (1 = *always* to 4 = *never*) how often they voted in local and national elections.

Helping behaviours. In the 2-year post-graduation survey, participants were asked to report if they had helped friends, family, or others (work colleagues, neighbours, or acquaintances) in the last 12 months in eight types of situations, using an adapted version of the Special Eurobarometer 223 (European Commission, 2005).

Group associations. In the 2-year post-graduation survey, participants were asked about the extent of their involvement in a range of groups (e.g., political groups, churches, sports groups, charitable organisations) using items adapted from the International Social Survey Programme (ISSP) (2001) – Social Relational and Support Systems (Social Networks II) Questionnaire. Participants indicated on 4-point scales the extent of their involvement in

each type of group separately (0 = *I do not belong to such a group*; 1 = *I belong to such a group but never participate*; 2 = *I have participated once or twice*; 3 = *I have participated more than twice*).

Statistical analyses

The analyses that follow focus on two independent variables to examine students' experiences at university and their lives following university. The independent variables were generation status (first-generation vs continuing-generation students) and time point (final year of study vs 2 years post-graduation). Separate linear regression models were used to quantify the unadjusted associations of various indicators of university experience, student characteristics, and post-graduation outcomes as a function of generation status and time point (for the repeated measures only). Because the demographic profile of first-generation students differed significantly from that of continuing-generation students (see Table 2), where there were significant effects of generation status or time point in the univariate analyses, adjusted linear regression models were performed in two steps to determine whether the associations changed after adjusting for: (1) Age and gender only and (2) age and gender plus all other potential confounding variables (ethnicity, citizenship status, course load, mode of study, level of qualification, and field of study).

Results

Barriers to the completion of study

A total of $N = 2721$ participants reported (in their final year of study) that there were key factors that hindered the completion of their studies. Table 3 shows participants who reported barriers to the completion of their study and what those barriers were, as a function of generation status. See Appendix A for descriptions of these broad categories for barriers.

Table 3. *Students' Identification of Barriers, Reported in Their Final Year of Study, as a Function of Generation Status (%)*

	Generation status			
Barrier	First-generation	Continuing-generation	*N*	χ^2 (*p*)
Personal	20.9	26.3	2721	11.02 (<.001)
Family	19.0	14.7	2721	8.97 (<.01)
Health	17.9	19.6	2721	1.23 (.27)
Employment	17.6	13.0	2721	10.89 (<.001)
Financial	15.1	12.8	2721	2.95 (.09)
University–academic	11.2	13.9	2721	4.24 (.04)[1,2]
Time pressure	8.6	6.9	2721	2.67 (.10)
University–other	8.3	11.0	2721	5.43 (.02)
Natural disasters/weather	7.9	6.8	2721	1.16 (.28)
Bereavement	6.5	4.8	2721	3.54 (.06)
Miscellaneous	5.7	5.7	2721	0 (.99)
Lack of support	4.2	3.4	2721	1.26 (.26)
Residence	4.0	3.6	2721	0.26 (.61)
Interpersonal relationships	3.5	3.0	2721	0.5 (.48)
Pregnancy/birth	2.7	1.6	2721	4.08 (.04)

Notes: Ordered from most to least frequently endorsed (by first-generation students and then by continuing-generation students). [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

Compared to continuing-generation students, first-generation students were more likely to report barriers to the completion of their qualification such as employment, family, and pregnancy/birth but they were less likely to report barriers such as personal, university–academic and university–other barriers. After controlling for age and gender, however, the effect of generation status was non-significant for the employment, family, pregnancy/birth, personal, and university–other barriers (smallest $p = .05$). The only barrier for which the effect of generation status remained significant was university–academic ($p = .04$), and this effect also remained significant after controlling for all potential confounders ($p = .03$).

Aids to the completion of study

A total of $N = 4323$ participants reported (in their final year of study) that there were key factors that aided the completion of their studies. Table 4 shows participants who reported aids to the completion of their study, and what those aids were, as a function of generation status. See Appendix A for descriptions of these broad categories for aids.

Table 4. *Students' Identification of Aids, Reported in their Final-Year of Study, as a Function of Generation Status*

	Generation status			
Aid	First-generation	Continuing-generation	*N*	χ^2 (*p*)
Family	32.4	39.2	4323	21.04 (<.001)[1,2]
University–academic	28.4	27.0	4323	1.01 (.31)
Personal	26.3	25.9	4323	0.1 (.75)
Friends	16.0	19.7	4323	9.41 (<.01)
University–other	10.8	9.2	4323	3.09 (.07)
Financial	10.5	12.3	4323	3.46 (.06)
Employment	8.2	5.3	4323	14.37 (<.001)
Partner	8.1	7.6	4323	0.47 (.49)
Peer support	7.2	6.0	4323	2.46 (.12)
Other support	5.3	6.8	4323	0.07 (.79)
Miscellaneous	3.2	3.0	4323	3.73 (.05)
Religion	2.4	2.7	4323	0.54 (.46)
Therapy	1.0	1.0	4323	0.01 (.92)
Childcare	0.9	0.4	4323	3.14 (.08)
Residence	0.8	1.4	4323	2.99 (.08)

Notes: Ordered from most to least frequently endorsed (by first-generation students and then by continuing-generation students). [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

Compared to continuing-generation students, first-generation students were more likely to report that having employment helped in the completion of their studies, but they were less likely to report aids such as family and friends. After controlling for age and gender, however, the effect of generation status was no longer significant for employment and friends (smallest $p = .26$). The only aid for which the effect of generation statusremained significant was family ($p < .01$) and this effect also remained significant after controlling for all potential confounders ($p < .001$).

Academic beliefs

Table 5 shows participants' academic beliefs (academic engagement, academic self- esteem, and academic self-efficacy) reported in their final year of study, as a function of generation status.

Table 5. *Participants' Mean Scores (SD) on the Academic Beliefs Scales, Reported in their Final-Year of Study, as a Function of Generation Status*

	Generation status			
Scale	First-generation	Continuing-generation	*N*	*t* (*p*)
Academic Engagement	10.82 (4.68)	10.59 (4.62)	8396	4.98 (.03)[1,2]
Academic Self-Esteem	26.58 (6.96)	26.93 (6.89)	8389	5.16 (.02)[1,2]
Academic Self-Efficacy	18.53 (3.21)	18.62 (3.17)	8400	1.73 (.19)

Notes: Data were summed for each Academic Beliefs Scale to create a total score for all items: Academic Engagement (min = 3, max = 21), Academic Self-Esteem (min = 5, max = 40), Academic Self-Efficacy (min = 5, max = 25). Higher scores reflect greater academic disengagement, academic self-esteem, and academic self-efficacy, respectively. [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

Compared to continuing-generation students, first-generation students reported higher academic disengagement than did continuing-generation students, as well as lower academic self-esteem. After controlling for age and gender, the effects of generation status for lower academic engagement and lower academic self-esteem remained significant (largest $p < .01$). Both of these effects also remained significant after controlling for all potential confounders (largest $p = .04$).

University satisfaction

Table 6 shows participants' university satisfaction in their final year of study and 2 years post-graduation as a function of generation status. The statistics columns in the Table show: (1) The overall effect of generation status (averaged over survey time point: final year of study and 2 years post-graduation), (2) the effect of survey time point (final year vs 2 years post-graduation) for first-generation students only, and (3) the effect of survey time point for continuing-generation students only.

Averaging over both survey time points, compared to continuing-generation students, first-generation students reported higher satisfaction on the items evaluating whether they thought their study programme been worththe time, cost and effort; whether their experience at university met their expectations; and their entire experience at their university. Theywere also more likely to recommend their university to others, go to the same university, and enrol in the same qualification if they were to start over. In contrast, first-generation students were less likely than were continuing-generation students to retain social connections formed at university. After controlling for age and gender, the effect of generation status onlyremained significant for the questions relating to retention of social connections formed at university and whether participants would recommend their university to others (largest $p < .01$) and these effects also remained significant after controlling for all potential confounders (largest $p = .02$)

Table 6. *Students' Mean University Satisfaction Ratings (SD), Reported in their Final Year of Study and 2 Years Post-Graduation, as a Function of Generation Status*

	Generation status									
	First-generation		Continuing-generation		Effect of generation		Effect of time (FGS)		Effect of time (CGS)	
Question	Final year	2 years	Final year	2 years	*N*	*t* (*p*)	*N*	*t* (*p*)	*N*	*t* (*p*)
Overall, has your study programme been worth the time, cost, and effort?[a]										
	4.11 (0.94)	4.16 (0.94)	4.08 (0.94)	4.12 (0.93)	14193	5.06 (.03)	5812	2.64 (.10)	8838	5.95 (.01)
Did your overall experience at university meet your expectations?[a]										
	3.88 (0.96)	3.96 (0.94)	3.83 (0.98)	3.90 (0.96)	14196	12.09 (<.001)	5812	11.65 (<.001)[1,2]	8841	15.91 (<.001)[1,2]
Would you like to retain/ have you retained links with your university (e.g., Alumni)?[a]										
	3.62 (1.12)	2.83 (1.32)	3.57 (1.10)	2.85 (1.23)	14189	2.93 (.09)	5810	595.54 (<.001)[1,2]	8831	1033.50 (<.001)[1,2]
Would you like to retain/ have you retained social connections formed at university?[a]										
	3.90 (1.18)	3.35 (1.45)	4.07 (1.10)	3.59 (1.35)	14180	87.60 (<.001)[1,2]	5803	253.14 (<.001)[1,2]	8832	337.91 (<.001)[1,2]
If you could start over, would you go to the same university?[b]										
		3.26 (0.71)		3.21 (0.75)	5785	7.10 (<.01)				
If you could start over, would you choose to enrol in the same qualification?[b]										
		3.08 (0.86)		3.04 (0.87)	5783	4.06 (.04)				
How would you evaluate your entire experience at your university?[c]										
	3.95 (0.80)	3.93 (0.83)	3.92 (0.84)	3.90 (0.86)	14083	5.44 (.02)	5765	0.66 (.42)	8772	1.10 (.29)
Would you recommend your university to others?[a]										
	4.22 (0.94)	4.19 (0.91)	4.16 (0.97)	4.12 (0.96)	14083	17.94 (<.001)[1,2]	5765	1.47 (.22)	8772	4.13 (.04)[1,2]

Notes: FGS = First-generation student; CGS = Continuing-generation student. [a] Options ranged from 1= definitely no to 5 = definitely yes; [b] Options ranged from 1 = definitely no to 4 = definitely yes; [c] Options ranged from 1 = poor to 5 = excellent. [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

With regard to differences between the two survey time points, first-generation students reported higher satisfaction on the item evaluating whether they thought their overall experience at university had met their expectations but a lower desire to retain either formal links with their university or social connections formed at university at 2 years post-graduation than they had during their final year of study. After controlling for age and gender, the significant effects of time point for each of these variables remained significant (largest $p < .01$) and each of these effects also remained significant after controlling for all potential confounders (largest $p < .01$).

Continuing-generation students reported higher satisfaction on the items evaluating whether they thought their overall experience at university had met their expectations and whether their study programme had been worth the time, cost, and effort at 2 years post-graduation than they had during their final year of study. They indicated that they were, however, less likely to recommend their university to others and to either retain formal links with their university or social connections formed at university at 2 years post-graduation than they had during their final year of study. After controlling for age and gender, the variables for which the effect of time remained significant were whether continuing-generation students thought their overall experience at university had met their expectations, whether they would retain formal links with their university and social connections formed at university , and whether they would recommend their university to others (largest $p = .03$). Each of these effects also remained significant after controlling for all potential confounders (largest $p < .01$).

Benefits of a university education

Table 7 shows participants' perceived benefits of a university education in their final year of study and 2 years post-graduation as a function of generation status. Once again, the statistics columns in the Table show (1) the overall effect of generation status (averaged over survey time point), (2) the effect of survey time point for first-generation students only, and (3) the effect of survey time point for continuing-generation students only.

Averaging over both survey time points, first-generation students were more likely than were continuing-generation students to highly rate personal development, being a role model for education with in their own family or community, developing leadership skills, enabling oneself to develop a secure identity, engagement with their community, and developing entrepreneurial skills, as benefits of a university education. They were less likely, however, to highly rate geographic mobility (e.g., moving overseas) as a benefit of a university education. After controlling for age and gender, the effects of generation status remained significant for the perceived benefits of personal development, being a role model, developing leadership skills, enabling oneself to develop a secure identity, engagement with one's community, and developing entrepreneurial skills (largest $p = .02$) but not geographic mobility ($p = .60$). After controlling for all potential confounders, each of these effects, except for engagement with one's community ($p = .25$), remained significant (largest $p < .01$).

Table 7. *Students' Mean Ratings (SD) of the Perceived Benefits of a University Education, Reported in their Final Year of Study and 2 Years Post-Graduation, as a Function of Generation Status*

	Generation status									
	First-generation		Continuing-generation		Effect of Generation		Effect of time (FGS)		Effect of time (CGS)	
Perceived benefits	Final year	2 years	Final year	2 years	*N*	*t* (*p*)	*N*	*t* (*p*)	*N*	*t* (*p*)
Personal development	4.18 (0.85)	4.18 (0.87)	4.05 (0.90)	4.06 (0.91)	11356	63.14 (<.001)[1,2]	4700	3.13 (.08)	6946	0.27 (.61)
Your career	3.93 (0.96)	3.81 (1.08)	3.91 (0.96)	3.83 (1.05)	11374	0.11 (.74)	4706	29.96 (<.001)[1,2]	6962	22.58 (<.001)[1,2]
Obtaining employment	3.86 (1.04)	3.84 (1.16)	3.83 (1.05)	3.88 (1.15)	11376	0.01 (.94)	4708	3.76 (.05)	6960	0.74 (.39)
Undertaking further study	3.83 (1.01)	3.70 (1.09)	3.83 (1.02)	3.75 (1.07)	11314	2.35 (.12)	4688	34.25 (<.001)[1,2]	6916	30.95 (<.001)[1,2]
Being a role model (for education) within your own family or community	3.73 (1.08)	3.73 (1.11)	3.52 (1.10)	3.50 (1.15)	11318	129.7 (<.001)[1,2]	4694	0.75 (.39)	6912	0.02 (.90)
Performing work tasks	3.72 (0.95)	3.65 (1.02)	3.70 (0.95)	3.62 (1.03)	11380	2.98 (.08)	4708	9.47 (<.01)[1,2]	6966	11.09 (<.001)[1,2]
Graphic mobility (including moving overseas)	3.56 (1.08)	3.35 (1.20)	3.61 (1.08)	3.41 (1.18)	11334	5.22 (.02)	4692	46.27 (<.001)[1,2]	6934	60.87 (<.001)[1,2]
A good income	3.54 (1.01)	3.42 (1.14)	3.53 (1.03)	3.41 (1.15)	11358	0.94 (.33)	4706	23.21 (<.001)[1,2]	6942	22.07 (<.001)[1,2]
Status and respect	3.49 (1.01)	3.42 (1.07)	3.49 (1.01)	3.45 (1.03)	11314	0 (.95)	4676	5.56 (.02)[1,2]	6926	0.31 (.58)
Developing leaderships skills	3.42 (1.10)	3.27 (1.13)	3.36 (1.07)	3.13 (1.14)	11350	33.74 (<.001)[1,2]	4696	20.24 (<.001)[1,2]	6942	49.44 (<.001)[1,2]
Acceptance by others	3.42 (1.05)	3.41 (1.10)	3.42 (1.05)	3.38 (1.06)	11304	2.31 (.13)	4676	0 (.99)	6918	0.34 (.56)
Enabling you to develop a secure identity	3.37 (1.09)	3.30 (1.13	3.36 (1.07)	3.25 (1.10)	11350	33.74 (<.001)[1,2]	4696	20.24 (<.001)[1,2]	6942	49.44 (<.001)[1,2]
Job security	3.32 (1.10)	3.25 (1.21)	3.31 (1.10)	3.24 (1.22)	11352	1.24 (.27)	4702	2.51 (.11)	6942	2.65 (.10)
Engagement with community	3.25 (1.14)	3.06 (1.22)	3.24 (1.13)	2.97 (1.21)	11348	10.32 (<.01)[1]	4700	28.41 (<.001)[1,2]	6940	57.91 (<.001)[1,2]
Developing entrepreneurial skills	2.89 (1.17)	2.68 (1.15)	2.90 (1.13)	2.58 (1.15)	11316	8.42 (<.01)[1,2]	4674	18.27 (<.001)[1,2]	6930	62.26 (<.001)[1,2]

Notes: FGS = First-generation student; CGS = Continuing-generation student. Options ranged from 1 = not at all to 5 = a great extent. Ordered from most to least frequently endorsed (by final-year first-generation students and then by final-year continuing-generation students). [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

With regard to differences between the two survey time points, first-generation students gave lower ratings to career, undertaking further study, performing work tasks, geographic mobility, a good income, status and respect, developing leadership skills, enabling oneself to develop a secure identity, engagement with community, and developing entrepreneurial skills as benefits of a university education at 2 years post-graduation than they did during their final year of study. After controlling for age and gender, all of these effects remained significant (largest $p = .02$). Each of these effects also remained significant after controlling for all potential confounders (largest $p = .02$).

There was a similar pattern of the effects of time point for continuing-generation students. Specifically, continuing-generation students gave lower ratings to career, undertaking further study, performing work tasks, geographic mobility, a good income, developing leadership skills, and enabling oneself to develop a secure identity, engagement with one's community, and developing entrepreneurial skills, as benefits of a university education at 2 years post-graduation than they did during their final year of study. Once again, each of these effects remained significant after controlling for age and gender (largest $p < .001$) as well as after controlling for all potential confounders (largest $p < .001$).

Employment and further study

Table 8 shows participants' employment status and enrolment in further study in their final year of study and 2 years post-graduation as a function of generation status.

Table 8. *Participants' Employment Status and Enrolment in Further Study in their Final Year of Study and 2 Years Post-Graduation, as a Function of Generation Status*

	Generation status					
	First-generation		Continuing-generation			
Variable (%)	Final year	2 years	Final year	2 years	*N*	χ^2 (*p*)
Employed – final year of study					8403	3.39 (.07)
No	36.4		40.8			
Yes	63.6		59.2			
Full-time	26.4		20.7			
Part-time	34.3		36.3			
Self-employed	2.9		2.2			
Employed – 2 years post-graduation – of whom:					5583	6.97 (<.01)[1]
No		11.8		14.2		
Yes		88.2		85.8		
Full-time		67.9		67.0	4838	0.97 (.33)
Part-time		16.8		15.5	4838	0.78 (.38)
Self-employed full-time		3.1		2.6	4838	0.78 (.39)
Self-employed part-time		4.6		4.5	4838	0.01 (.91)
Enrolled in tertiary study – 2 years post-graduation					5829	0.56 (.45)
No		76.7		75.5		
University		18.8		21.3		
Polytechnic		1.8		1.1		
Another provider		2.8		2.2		
Reasons for not enrolling in further study (for those not enrolled 2 years post-graduation)						
Lack of time		48.3		47.8	1671	0.04 (.84)
Changes to student allowance		15.2		16.4	1671	0.48 (.49)
Other financial reasons		49.6		46.8	1671	1.28 (.26)
Geographical location		11.3		12.3	1671	0.40 (.53)
Other		28.2		32.0	1671	2.68 (.10)

Notes: [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

In their final year of study, there was no significant difference in the overall employment status of first-generation versus continuing-generation students. At 2 years post-graduation, on the other hand, first-generation students were more likely than were continuing-generation students to be employed, an effect which remained significant after controlling for age and gender (p = .04) but not after adding in all potential confounders (p = .06).

There were no differences between first-generation and continuing-generation students with regard to enrolment in further tertiary study at 2 years post-graduation. Of those who had not enrolled in further tertiary study (but who had wanted to do so), their reasons for not enrolling did not differ between first- and continuing-generation students.

Finances

Table 9 shows participants' financial circumstances in their final year of study and 2 years post-graduation as a function of generation status. Again, the statistics columns in the Table show (1) the overall effect of generation status (averaged over survey time point), (2) the effect of survey time point for first-generation students only, and (3) the effect of survey time point for continuing-generation students only.

Averaging over time points, compared to continuing-generation students, first-generation students reported slightly higher incomes, lower student loan debt, a greater number of regular financial commitments, and higher value of assets. Furthermore, compared to continuing-generation students, first-generation students were less likely to disagree/strongly disagree that they had enough money for accommodation. After controlling for age and gender, however, none of these effects remained significant (smallest p = .15).

Table 9. *Financial Circumstances of Participants in their Final Year of Study and 2 Years Post-Graduation as a Function of Generation Status*

	Generation status									
	First-generation		Continuing-generation		Effect of generation		Effect of time (FGS)		Effect of time (CGS)	
Variable	Final year	2 years	Final year	2 years	*N*	χ^2 (*p*)	*N*	χ^2 (*p*)	*N*	χ^2 (*p*)
Current income in NZ$ (of those employed) (%)					9634	14.87 (<.001)	3942	81.08 (<.001)[1,2]	5902	240.55 (<.001)[1,2]
Loss–$15,000	45.3	10.3	53.4	13.3						
$15,001–$35,000	24.9	18.1	22.9	20.6						
$35,001–$70,000	18.0	48.7	15.9	48.0						
$70,001–$100,000	7.9	15.3	5.3	12.1						
$100,001+	3.9	7.5	2.5	6.1						
Current student loan in NZ$ (%)					10778	50.78 (<.001)	4466	3.05 (.08)	6576	4.23 (.04)
Didn't take out loan	20.4	20.3	19.2	17.9						
Zero	8.1	18.1	6.5	17.2						
$1–$25,000	43.3	28.6	39.5	24.9						
$25,001+	28.2	33.0	34.8	40.1						
Regular financial commitments (%)					10858	53.88 (<.001)	4474	1.27 (.26)	6654	7.86 (<.01)[1,2]
Zero	72.0	71.4	79.8	74.8						
1	11.4	13.3	9.8	13.6						
2	7.5	7.5	5.2	6.6						
3+	9.1	7.8	5.2	5.1						
Value of Assets in NZ$ (%)					10140	150.37 (<.001)	4168	2.52 (.11)	6196	5.74 (.02)
Zero–$25,000	62.7	39.3	73.5	50.1						
$25,001–$50,000	8.1	18.8	8.9	19.8						
$50,001–$100,000	4.2	9.3	4.0	8.2						
$100,001–$250,000	4.1	6.1	2.9	4.7						
$250,001+	20.8	26.6	10.7	17.3						

	Generation status									
	First-generation		Continuing-generation		Effect of generation		Effect of time (FGS)		Effect of time (CGS)	
Variable	Final year	2 years	Final year	2 years	*N*	*t* (*p*)	*N*	*t* (*p*)	*N*	*t* (*p*)
Financial Strain (%)										
Disagree/strongly disagree they have enough money for:										
Accommodation	12.4	7.5	13.0	7.9	10944	9.56 (<.01)	4526	62.02 (<.001)[1,2]	6691	114.65 (<.001)[1,2]
Clothing	14.6	6.9	13.5	7.0	10958	1.04 (.31)	4530	159.26 (<.001)[1,2]	6701	212.93 (<.001)[1,2]
Food	7.8	4.3	7.0	3.8	10957	0.60 (.44)	4530	79.8 (<.001)[1,2]	6700	141.3 (<.001)[1,2]
Leisure	32.7	18.7	29.9	19.7	10960	0.19 (.66)	4530	152.55 (<.001)[1,2]	6701	194.73 (<.001)[1,2]
Agree/strongly agree they had difficulty with:										
Financial commitments (12 months)	29.6	20.3	26.9	19.1	10944	0.55 (.46)	4526	77.42 (<.001)[1,2]	6689	152.47 (<.001)[1,2]

Notes: FGS = First-generation student; CGS = Continuing-generation student. [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

At 2 years post-graduation, first-generation students reported higher incomes than they did in their final year of study, an effect which remained significant after controlling for age and gender ($p < .001$) and then all potential confounders ($p < .001$). First-generation students were also more likely to agree that they had enough money for accommodation, clothing, food, leisure, and to meet their financial commitments over the past 12 months at 2 years post-graduation than they were during their final year of study. After controlling for age and gender, each of these effects remained significant (largest $p < .001$), as well as after controlling for all potential confounders (largest $p < .001$).

There were similar effects of time point for continuing-generation students. At 2 years post-graduation, continuing-generation students reported higher incomes, lower amounts of student loans, and higher values of assets, but more regular financial commitments than they did in their final year of study. After controlling for age and gender, only the effects of time point for income and regular financial commitments remained significant (largest $p < .01$). After controlling for all potential confounders, both of these effects remained significant (largest $p < .01$). Like first-generation students, continuing-generation students were more likely to agree that they had enough money for accommodation, clothing, food, leisure and to meet their financial commitments over the past 12 months at 2 years post-graduation than they were during their final year of study. After controlling for age and gender, each of these effects remained significant (largest $p < .001$), as well as after controlling for all potential confounders (largest $p < .001$).

Social capital

Table 10 shows participants' scores on the Social Capital Questionnaire and its subscales in their final year of study and 2 years post-graduation as a function of generation status. Again, the statistics columns in the Table show (1) the overall effect of generation status (averaged over survey time point), (2) the effect of survey time point for first-generation students only, and (3) the effect of survey time point for continuing-generation students only.

Averaging over time point, first-generation students scored slightly higher on the participation in the local community and social agency or proactivity subscales, and also slightly higher on overall social capital than did continuing-generation students. After controlling for age and gender, however, none of these effects remained significant (smallest $p = .32$).

At 2 years post-graduation, first-generation students scored higher on the social agency or proactivity and tolerance of diversity subscales, as well as overall social capital, but lower on the participation in the local community subscale, than they did during their final year of study. Each of these effects remained significant after controlling for age and gender (largest $p < .001$) as well as after controlling for all potential confounders (largest $p < .001$).

Similar to the first-generation students, continuing-generation students scored higher on the social agency or proactivity and tolerance of diversity subscales, as well as overall social capital, but lower on the participation in the local community subscale at 2 years post-graduation than they did during their final year of study. Again, each of these effects remained significant after controlling for age and gender (largest $p < .001$) as well as after controlling for all potential confounders (largest $p < .001$).

Table 10. *Participants' Mean Scores (SD) on the Social Capital Questionnaire and its Subscales in Their Final Year of Study and 2 Years Post-Graduation as a Function of Generation Status*

	Generation Status									
	First-generation		Continuing-generation		Effect of generation		Effect of time (FGS)		Effect of time (CGS)	
Social Capital measure	Final year	2 years	Final year	2 years	*N*	*t* (*p*)	*N*	*t* (*p*)	*N*	*t* (*p*)
Participation in the local community	1.85 (0.72)	1.81 (0.71)	1.87 (0.73)	1.79 (0.69)	16665	4.17 (.04)	6789	1677.48 (<.001)[1,2]	10477	3047.7 (<.001)[1,2]
Social agency or proactivity	3.09 (0.50)	3.14 (0.49)	3.03 (0.50)	3.11 (0.48)	16670	7.83 (<.01)	6787	1650.78 (<.001)[1,2]	10488	2913.77 (<.001)[1,2]
Tolerance of diversity	3.25 (0.70)	3.29 (0.70)	3.30 (0.69)	3.36 (0.68)	16638	1.61 (.20)	6767	1541.86 (<.001)[1,2]	10468	2805.49 (<.001)[1,2]
Overall social capital	2.530 (0.48)	2.540 (0.47)	2.525 (0.48)	2.528 (0.45)	16672	5.32 (.02)	6789	1675.66 (<.001)[1,2]	10490	3012.19 (<.001)[1,2]

Notes: [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

Helping behaviours

Table 11 shows whether participants reported helping family members with a variety of different tasks at 2 years post-graduation as a function of generation status. Compared to continuing-generation students, first-generation students were more likely to report helping family with: Occasional care for a dependent member of their household (e.g., child, elderly, disabled); personal care (washing, dressing, eating, etc.); formal paperwork (e.g., government benefits, preparing tax returns, getting a phone or another service, etc.); lending money; lending valuable goods; and assistance if they were threatened, harassed, or assaulted. After controlling for age and gender, each of these effects except for help with formal paperwork (p = .30) remained significant (largest p = .04). After adding in all potential confounders, however, the only effects that remained significant were for providing personal care, lending money, and help if family members were threatened, harassed, or assaulted (largest p = .04).

Table 11. *Participants' Reports (at 2 Years Post-Graduation) of Helping **Family** in the Past 12 Months (%) as a Function of Generation Status*

	Generation status			
Helping behaviour	First-generation	Continuing-generation	*N*	χ^2 (*p*)
Helped with household tasks	71.3	71.7	5381	0.11 (.74)
Occasional care for a dependent member of their household	38.6	31.1	5381	32.71 (<.001)[1]
Provided personal care	27.8	23.4	5381	13.03 (<.001)[1,2]
Helped with formal paperwork	38.4	35.3	5381	5.09 (.02)
Discussed personal problems	75.2	76.6	5381	1.44 (.23)
Lent money	35.2	27.2	5381	39.89 (<.001)[1,2]
Lent valuable goods	39.2	35.0	5381	10.15 (<.01)1
Helped them if they were threatened, harassed or assaulted	10.2	8.1	5381	7.08 (<.01)[1,2]
None	7.0	7.2	5381	0.04 (.84)

Notes: [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

Table 12 shows whether participants reported helping friends with the same tasks (as per Table 11) at 2 years post-graduation as a function of generation status. First-generation students were more likely to report helping friends with occasional care for a dependent member of their household than were continuing-generation students. After controlling for age and gender, however, this effect was no longer significant (p = .23).

*Table 12. Participants' Reports (at 2 Years Post-Graduation) of Helping **Friends** in the Past 12 Months (%) as a Function of Generation Status*

	Generation status			
Helping behaviour	First-generation	Continuing-generation	*N*	χ^2 (*p*)
Helped with household tasks	44.2	44.4	5376	0.10 (.91)
Occasional care for a dependent member of their household	16.9	13.9	5376	9.2 (<.01)
Provided personal care	8.2	8.9	5376	0.89 (.35)
Helped with formal paperwork	23.8	23.6	5376	0.06 (.81)
Discussed personal problems	80.2	81.4	5376	1.21 (.27)
Lent money	22.7	24.4	5376	1.99 (.16)
Lent valuable goods	33.4	35.2	5376	1.86 (.17)
Helped them if they were threatened, harassed or assaulted	14.6	13.3	5376	1.82 (.18)
None	9.9	8.9	5376	1.32 (.25)

Notes: [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

Table 13 shows whether participants reported helping work colleagues, neighbours, or acquaintances with the same tasks (as per Tables 11 and 12) at 2 years post-graduation as a function of generation status. Compared to continuing-generation students, first-generation students were more likely to report helping this group of people with household tasks, formal paperwork, discussing personal problems, and assistance if they were threatened, harassed, or assaulted. Conversely, first-generation students were less likely to report that they had *not* helped colleagues, neighbours, or

acquaintances in any of these ways than were continuing- generation students. After controlling for age and gender, however, the only helping behaviour for which the effect of generation status remained significant was discussing personal problems (p = .02). This effect remained significant after controlling for all potential confounders (p = .04).

*Table 13. Participants' Reports (at 2 Years Post-Graduation) of Helping **Work Colleagues/ Neighbours/ Acquaintances** in the Past 12 Months (%) as a Function of Generation Status*

	Generation status			
Helping behaviour	First-generation	Continuing-generation	*N*	χ^2 (*p*)
Helped with household tasks	14.4	12.2	5367	5.32 (.02)
Occasional care for a dependent member of their household	5.0	4.0	5367	3.42 (.06)
Provided personal care	2.1	2.0	5367	0.13 (.72)
Helped with formal paperwork	15.9	13.4	5367	6.81 (<.01)
Discussed personal problems	49.3	45.1	5367	9.24 (<.01)[1,2]
Lent money	6.9	6.6	5367	0.21 (.64)
Lent valuable goods	11.8	10.4	5367	2.53 (.11)
Helped them if they were threatened, harassed or assaulted	7.2	5.6	5367	5.58 (.02)
None	37.1	41.7	5367	11.19 (<.001)

Notes: [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

Voting behaviour

Table 14 shows participants' voting behaviour at local and national level elections at 2 years post-graduation as a function of generation status. There was no difference in participants' reports of voting in national elections as a function of generation status, but first-generation students reported higher levels of voting in local elections than did continuing-generation students. After controlling for age and gender, however, this effect was no longer significant (p = .33).

Table 14. *Participants' Mean Voting Frequency (SD) at Local and National Level Elections, Reported at 2 Years Post-Graduation, as a Function of Generation Status*

	Generation status			
Election level	First-generation	Continuing-generation	*N*	*t* (*p*)
Local elections	2.22 (1.11)	2.32 (1.10)	5362	12.19 (<.001)
National elections	1.51 (0.89)	1.56 (0.94)	5362	3.72 (.05)

Notes: Options ranged from 1 = always to 4 = never; higher scores reflect lower frequency of voting in local/national elections. [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

Group associations

Table 15 shows participants' associations with and involvement in various groups at 2 years post-graduation as a function of generation status. First-generation students were more likely to belong to/participate in trade unions or professional associations and neighbourhood associations or groups but less likely to belong to/participate in churches or religious organisations than were continuing-generation students. After controlling for age and gender, the only effect that remained significant was for churches or religious organisations ($p <$ .001), an effect which also remained significant after controlling for all potential confounders ($p <$ .001).

Table 15. *Participants' Associations With and Involvement in Groups (%) at 2 Years Post Graduation as a Function of Generation Status*

	Generation Status									
	First-generation				Continuing-generation					
Group	0	1	2	3	0	1	2	3	*N*	χ^2 (*p*)
A political party, club or association	86.4	2.9	5.6	5.2	86.6	3.6	4.9	4.9	5734	0.10 (.75)
A trade union or professional association	57.1	14.6	14.5	13.7	62.2	15.0	11.2	11.6	5373	17.52 (<.001)
A church or other religious organisation	75.8	3.4	3.9	16.8	72.2	4.2	5.1	18.5	5734	7.98 (<.01)[1,2]
A sports group, hobby or leisure club	46.3	2.5	11.5	39.6	45.3	1.7	11.4	41.7	5382	1.61 (.20)
A charitable organisation or group	66.8	4.8	10.6	17.8	65.0	5.0	12.7	17.4	5379	1.10 (.29)
A neighbourhood association or group	86.9	3.5	5.3	4.4	90.3	2.4	4.6	2.8	5381	15.41 (<.001)
Other associations or groups	94.9	0.3	1.1	3.7	95.0	0.5	1.4	3.2	5362	0.03 (.87)

Notes: Response options were: 0 – I do not belong to such a group; 1 – I belong to such a group but never participate; 2 – I have participated once or twice; 3 – I have participated more than twice. [1]There were significant effects for these variables after controlling for age and gender only. [2]There were significant effects for these variables after controlling for all potential confounders.

Discussion

Given that previous research has suggested that first-generation students tend to have more challenges while they are studying than do continuing-generation students, the first aim of the present study was to determine whether these same basic findings would be replicated in a New Zealand sample. A second aim was to examine outcomes at 2 years post-graduation to determine whether these differences persist over time. In the sections that follow, I will present the main findings, focusing on the differences between first- and continuing-generation students that remained significant after controlling for potential confounders (age, gender, ethnicity, citizenship status, course load, mode of study, level of qualification, and field of study).

Demographic profiles of first- versus continuing-generation students

First-generation students were more likely to be: Female, older, studying towards a qualification of a lower level, studying part-time, studying extramurally, and domestic students. With regard to ethnicity, first-generation students were more likely to identify as European, Māori, and Pacific Peoples, but less likely to identify as Asian or MELAA. With regard to field of study, first-generation students were more likely to be enrolled in education but were less likely to be enrolled in natural and physical sciences, information technology, engineering and related technologies, architecture and building, and creative arts. These demographic differences between first-generation students and continuing-generation students are consistent with findings from other research (National Centre for Education Statistics, 2014; Nuñez & Cuccaro-Alamin, 1998; Terenzini, et al., 1996). Given the statistical differences in the demographic profiles of first-generation students and continuing-generation students, and the potential association of those demographic variables with university experiences and outcomes, it was important to control for each of these variables in the subsequent analyses.

Barriers and aids to the completion of studies

Compared to continuing-generation students, first-generation students were less likely to report university–academic factors as a barrier to the completion of their studies. Examples of university–academic barriers included issues relating to supervision, teaching, and academic staff; the content, delivery and assessment of academic programmes/papers; and lack of peer engagement/support (see also Appendix A). This finding contradicts other research showing that first-generation students report less academic support from faculty members (Terenzini et al., 1996), struggle to realise the expectations faculty have of them (i.e., fulfil the role of a student; Collier & Morgan, 2008), a tendency to be less likely to study with their peers (Engle & Tinto, 2008), and receive encouragement from peers (Terenzini et al., 1996). Instead, our findings suggest that first-generation students may not find adjusting to the academic culture of university as difficult as other research has found. In fact, other research has suggested that first-generation students are used to figuring things out on their own in university, given that they do not have the advantage of being able to ask family for academic support, so may have developed independent problem-solving skills as a result (Wilkins, 2004). In this way, perhaps a lack of academic-related support from peers and faculty is not perceived to be as much of a barrier to the completion of their degree, because they have developed the independence to offset such difficulties. In saying this, given that the cohort of students in this study were in their final year of study and were on track to successfully complete their qualification, perhaps the first-generation students who struggled with academic university factors had already discontinued their qualifications.

First-generation students were also less likely than were continuing-generation students to report family-related factors as something that helped them to complete their studies. Examples of family-related aids included family support; financial support from family; and the family as a source of motivation, encouragement, inspiration, or expectations

(see also Appendix A). This finding is consistent with other research showing that first-generation students are less likely to report financial support from their families (Baum et al., 2013; Bozick, 2007; Harper & Griffin, 2011; Mehta et al., 2011). Given that educational attainment is positively associated with income, it could be that parents of first-generation students have less disposable income to financially support their children's tertiary education (Bui, 2002; Chen, 2005; Mehta et al., 2011; Terenzini et al., 1996).

In addition, other research has suggested that parents of first-generation students are less able to provide informational support to their children in their studies because they have not been through the university system themselves and, as a result, have less knowledge about everything involved (Collier & Morgan, 2008; York-Anderson & Bowman, 1991). For example, research has shown that first-generation students receive less help from family when choosing their course (Collins & Giordani, 2004; Galotti, 1999) and which university to attend (Bers, 2005; Choy, 2001; Terenzini et al., 1996; York-Anderson & Bowman, 1991). Furthermore, other research has also indicated that first-generation students may receive less emotional support from family members (Lee & Kramer, 2013; London, 1989; London 1992; Sy et al., 2011; Wildhagen, 2015). For example, first-generation students may struggle to feel understood by their parents given that their parents have not been through the university experience themselves, which may hinder their ability to empathise with their child's university experience (Sy et al., 2011). Last, other research has indicated that first-generation students are more likely to have family responsibilities and dependants than are continuing-generation students (McKay & Estrella, 2008; Phinney & Haas, 2003), which suggests that first-generation students may be more likely to be on the giving end of help rather than on the receiving end of help.

Taken together, this research suggests that the first-generation students in our sample may have been less likely than the continuing-generation students to report family as aids

because of potential differences in the financial, informational, and emotional support their families could provide to them whilst they were studying. In saying this, it is important to note that whilst first-generation students were less likely than continuing-generation students to report family as an aid, family still appeared to be the top aiding factor reported by first-generation students. Specifically, nearly a third of the first-generation students who reported that there were aids that helped them to complete their qualification indicated that family helped them complete their qualification. This suggests that family support was still an important contributor to first-generation students' success.

Academic beliefs

Compared to continuing-generation students, first-generation students reported slightly higher academic disengagement. This finding is consistent with other research that suggests that first-generation students are more academically disengaged and, specifically, that they are less likely to engage in academic activities such as peer study and less likely to contact peers and faculty for help (Pascarella et al., 2004; Pike & Kuh, 2005; Soria & Stebleton, 2012; Yee, 2016).

Although lower academic engagement may reflect first-generation students' discomfort in the academic environment (Hsiao, 1992; London, 1992; Thayer, 2000; York-Anderson & Bowman, 1991), the difference in academic engagement between first- and continuing-generation students may be due to factors outside of the academic environment. Recall that first-generation students are more likely to have been brought up in households where, although academia is important, priorities may be spread between academia and other areas of life, including family and working towards community goals (Lohfink & Paulsen, 2005; London, 1989; London, 1992; Mamiseishvili, 2010). This is a finding that is consistent with other research where caution has been issued regarding students' lower academic engagement (D'Antonio et al., 2010). In light of the wording used for the items in the

academic engagement scale in the present study (e.g., “How I do academically has little relation to who I really am;” Major et al., 1998), it does not necessarily follow that participants can be described as having low academic engagement if they tend to agree with these statements. Instead, perhaps a lower score on this scale reflects the presence of a safe boundary between one’s academic life and psychological health. In fact, research has suggested that individuals will protect their self-esteem by placing less value on the domain of interest (i.e. academia, Crocker & Major, 1989), especially when they believe that others may expect them to struggle in that domain; in this case first-generation students may be fully aware that they are a non-traditional university student who will be likely to struggle in academia (Steel, 1992, 1997). It is possible, therefore, that first-generation students may place less value on academic achievements (i.e., the domain of interest) to protect their self-esteem. It is also worth noting that all participants in the present study (regardless of generation status) tended to score fairly highly on academic engagement on this scale, and the mean difference per item between first- and continuing-generation students equated to less than 0.1 of a point on the 7-point scales. Therefore, although we see significant differences between the two groups of students on this scale, the absolute difference in scores is small.

First-generation students also reported slightly lower academic self-esteem compared to continuing-generation students. This finding is also supported by other research showing that first-generation students report lower academic self-esteem (DeFreitas & Rinn, 2013; Reid & Moore, 2008; Stephens et al., 2014). Lower academic self-esteem may reflect attendance at under-resourced schools (prior to entering tertiary study) that may not have been able to provide students with the opportunities and academic experiences that are afforded to students who attend well-resourced schools (Choy et al., 2000; Harrell & Forney, 2003; Martinez et al., 2009; Pascarella et al., 2004; Perna, 2005). It is possible that if students are given the opportunity to build their confidence in their ability to succeed academically

within universities that they may experience a concomitant increase in academic self-esteem. Once again, it is worth noting that all participants in the present study (regardless of generation status) scored fairly highly on academic self-esteem on this scale and the mean difference per item between first- and continuing-generation students equated to less than 0.1 of a point on the 8-point scales. Thus, although we see significant differences between the two groups of students on this scale, the absolute difference in scores is small.

University satisfaction

Recall that participants were asked a number of questions designed to tap their general satisfaction with their experience at university, both in their final year of study and again at 2 years post-graduation. Overall, first-generation and continuing-generation students reported similar levels of satisfaction with the exception of two questions.

First, compared to continuing-generation students, first-generation students were less likely to want to retain or to have retained the social connections they formed at university. There have been no other studies that have explicitly investigated first-generation students' retention of social connections formed at university. Other external research may provide some insight into these findings, however. Given that first-generation students are likely to have been brought up in a different culture to continuing-generation students (London, 1989; London, 1992; Thayer, 2000), they may be less likely to want to retain social connections formed at university because individuals tend to want to connect with others who share a similar background to themselves (Hampton, Fisher Boyd, & Sprecher, 2010). It is also possible that first-generation students' opportunities to develop these social connections in the first place may have been reduced simply because first-generation students are more likely to live off-campus while they are studying (Terenzini et al., 1996), spend less time on campus (McKay & Estrella, 2008), are less likely to study with their peers (Engle & Tinto, 2008), and are less likely to engage in various activities on offer on campus (Dennis,

Phinney, & Cuateco, 2005; Lohfink & Paulsen, 2005; Lundberg et al., 2007; Pascarella et al., 2004; Pike & Kuh, 2005).

Second, first-generation students were more likely than were continuing-generation students to report that they would recommend their university to others. No apparent research has directly compared first- and continuing-generation students' likelihood of recommending their university to others. Other research, however, has shown that students who were more satisfied with their university experience were more likely to have perceived their parents to be involved with their education (National Survey of Student Engagement, 2007). Recall that, in the present study, first-generation students were less likely than were continuing-generation students to report that family support helped them to complete their qualification, and other research also shows that first-generation students are less likely to receive advice from family when choosing their university (Bers, 2005; Choy, 2001; Terenzini et al., 1996; York-Anderson & Bowman, 1991). In this way, more family support can't necessarily explain why first-generation students in the present study expressed greater satisfaction with their university. This finding also shows that while first-generation students may possibly be less likely to be able to discuss university choices with their family, it does not negatively impact their satisfaction with their university choice. Other research that has sought to determine what factors influence students to recommend their universities may also provide some insight to why first-generation students were more likely to recommend their university to others. Specifically, research has indicated that students' personal university experiences play a major role when they are asked to report whether they would recommend their university to others (Avram, 2016). This finding suggests that first-generation students may have had a more positive personal experience at university than did continuing-generation students. In saying this, it is important to note that all participants were still very likely to recommend their university to others.

When we examined whether first- and continuing-generation students' responses to the university satisfaction questions changed between the two survey time points (final year of study vs 2 years post-graduation), the pattern for both groups of students was very similar. First, both continuing-generation students and first-generation students were more likely to say that their experience at university had met their expectations at 2 years post-graduation than in their final year of study. Second, continuing-generation students and first-generation students were less likely to have retained formal links with their university (e.g., alumni) as well as social connections formed at university at 2 years post-graduation than in their final year of study. The latter findings imply that graduates may get preoccupied with their lives post-graduation to retain social connections and links with their university, in a similar way in which being employed while studying may reduce opportunities to be involved with campus activities and time spent studying (Terenzini et al., 1996). Finally, continuing-generation students (but not first-generation students) were slightly less likely to recommend their university to others at 2 years post-graduation than they were in their final year of study. It is unclear why continuing-generation students would be less likely to recommend their university with time (and note also that all participants were still very likely to recommend their university to others at both time points), but it is encouraging that first-generation students continue to express high levels of satisfaction with their universities well after having graduated.

Perceived benefits of a university education

First-generation and continuing-generation students appeared to share the same top three perceived benefits of a university education: Personal development, career development, and obtaining employment. There is a wealth of research indicating that each of these are major benefits of studying at university level (Bartik & Hershbein, 2016; Baum et al., 2013; Bowen et al., 2005; Bureau of Labor Statistics, 2013; Ma et al., 2016; Norton &

Martini, 2017). Despite these similarities, first-generation students did differ from continuing-generation students on their ratings of five of the perceived benefits of a university education. Specifically, compared to continuing-generation students, first-generation students were more likely to highly rate personal development, being a role model within one's family and community, developing leadership skills, enabling oneself to develop a secure identity, and developing entrepreneurial skills as benefits of a university education. To date, there has been no research examining whether first-generation and continuing-generation students differ in their perceptions of the benefits of a university education. The findings from the present study represent the first investigation of these benefits and suggest that a university education may be more beneficial in a number of ways to individuals who are the first members of their families to attend university.

When we examined whether first- and continuing-generation students' endorsements of the perceived benefits of a university education changed between the two survey time points (final year of study vs 2 years post-graduation), the pattern for both groups of students was very similar. First-generation students and continuing-generation students gave lower ratings to career development, undertaking further study, performing work tasks, geographic mobility, a good income, developing leadership skills, enabling oneself to develop a secure identity, engagement with community, and developing entrepreneurial skills at 2 years post-graduation than they did in their final-year of study. Where first-generation students differed from continuing-generation students was on their ratings of status and respect as a benefit of a university education; first-generation students rated this item lower at 2 years post-graduation than they did in their final-year of study. There has been no research that has investigated the extent to which students' perceptions of the benefits of a university education change over time. The present findings are consistent, however, with research indicating that university graduates struggle in the short term as they transition from a university student into

the world of work and beyond (Arum & Roska, 2014; Valstar, 2019; Valstar, Krause-Levy, Macedo, Griswold, & Porter, 2020). Given that work-related factors as university benefits appear to feature most in the list above, the present findings suggest that the difficulty transitioning to work could have a negative impact on the perceived benefits of a university education after graduating. Encouragingly, however, first-generation students do not seem to be disproportionately affected compared to continuing-generation students.

Employment and further study

There were no significant differences in the employment rates of first- and continuing-generation students either during their final year of study or at 2 years post-graduation after controlling for all potential confounders. There were also no significant differences between first-generation students and continuing-generation students in their uptake of further tertiary study at 2 years post-graduation and no differences in the reasons given for not enrolling in further tertiary study (had they wished to do so). These findings contrast other research that has indicated that first-generation students work more hours per week during their studies (Pascarella et al., 2004), although note that, in the present study, there is no measure of hours worked during participants' final year of study. The sample in the present study also represents those students who have successfully neared the completion of their qualifications. It is possible, therefore, that students who were working long hours during their time at university had discontinued their studies before reaching their final year (Engle & Tinto, 2008; Ishitani, 2006), as concurrent employment appears to be a barrier to university integration and success (Terenzini et al., 1996; Warburton et al., 2001).

Importantly, these data represent the first empirical attempt to determine whether there are differences between first- and continuing-generation students' rates of employment post-graduation. Consistent with data showing that gaining a university qualification is associated with lower unemployment rates (Bureau of Labor Statistics, 2013), our data show

that first-generation students are on par with continuing-generation students regarding employment outcomes post-graduation, at least over the short term. In fact, before taking into account confounding factors, first-generation students were slightly more likely to be employed than were continuing-generation students, an effect which cannot be explained by any differences in the uptake of further study at 2 years post-graduation.

Finances

Before controlling for factors such as age, gender, ethnicity, and study-related variables, first-generation students reported higher incomes, lower student loan debt, a greater number of regular financial commitments, greater value of assets, and were less likely to disagree/strongly disagree that they had enough money for accommodation (that is, they were more likely to have enough money for accommodation) compared to continuing-generation students. Each of these effects disappeared after controlling for only age and gender. Given that first-generation students in this sample tended to be older and that age is associated with greater financial stability (Ryan, 2012), it seems likely that participants' age explained these differences.

With regard to differences over time (final year of study vs 2 years post-graduation), both first-generation students and continuing-generation students reported higher incomes at 2 years post-graduation than they did in their final year-of study. This finding is consistent with students leaving university and going on to employment and with research showing that having a university qualification is associated with higher earnings (Bartik & Hershbein, 2016; Ma et al., 2016).[2] The increase in post-graduation earnings can also likely be explained by an increase in employment rates from participants' final year of study to 2 years post-graduation and transitioning away from part-time work into full-time positions (see Table 8).

[2] Although note that in order to truly test this assumption, one would need to examine earnings outcomes for those who did and did not gain university qualifications.

The reported increase in income also supports further findings from the present study that, at 2 years post-graduation, both first-generation students and continuing-generation students were less likely to disagree or strongly disagree that they had enough money for accommodation, clothing, food, leisure, and their financial commitments (that is, they were more likely to have enough money for these necessities) than they were during their final year of study. This is despite the fact that continuing-generation students reported a greater number of regular financial commitments at 2 years post-graduation than they had in their final year-of study, which suggests that the increase in income may have compensated for these participants' rise in financial commitments.

Social capital

There were interesting findings regarding first-generation students' initial tendency to report higher participation in the local community, social agency and proactivity, and overall social capital, compared to continuing-generation students. These initial significant findings contradicted other research that has suggested that first-generation students may have lower social capital compared to continuing-generation students (Bourdieu, 1986; Coleman, 1990), but these effects disappeared after controlling for the confounding variables. This suggests that something other than generation status explains the difference between first-generation and continuing-generation students' social capital. Ethnic differences may explain the change in significance of social capital. Specifically, research that was based upon the same data from the present study found that Māori and Pasifika students had higher social capital in their final-year of study and 2-years post-graduation compared to non-Māori and non-Pasifika students (Theodore et al., 2018a)

With regard to differences over time (final year of study vs 2 years post-graduation), both first-generation students and continuing-generation students scored higher on the social agency or proactivity and tolerance of diversity subscales, as well as overall social capital,

but lower on the participation in the local community subscale, at 2 years post-graduation than they did during their final year of study. Overall, these findings are consistent with research suggesting that the university experience provides an environment for students to build their social capital (Bourdieu, 1986; Coleman, 1988; Pascarella et al., 2004) and is evidence that social capital is not static. In contrast, the specific finding that participation in the local community reduced post-graduation is somewhat non-consistent with the research that suggests the university experience provides an environment for students to build their social capital (Bourdieu, 1986; Coleman, 1988; Gatz & Hirt, 2000; Kao & Rutherford, 2007; Pascarella et al., 2004). It is important to note that, on the one hand, participants' participation in the local community was based upon the *frequency* of times the participants had been involved in their local community. On the other hand, tolerance of diversity and social agency/proactivity was mainly based on the participants' attitudes and behaviours that would not typically take extended time away from other responsibilities. In this way, the finding that participants had lower participation in their local community 2-years post-graduation is consistent with research that suggested students had less time to participate in university activities if they worked while they studied (Lohfink & Paulsen, 2005; Mamiseishvili, 2010; Terenzini et al., 1996; Warburton et al., 2001), implying that working may hinder participation in the local community. The majority of participants were employed at 2 years post-graduation, and largely in full-time roles, and they may simply have had less time available to participate in their local communities compared to when they were studying (and less likely to be employed, particularly in full-time positions).

Helping behaviours

At 2 years post-graduation, first-generation students were more likely than were continuing-generation students to report having helped family with personal care, lending family money, having helped family if they were threatened harassed or assaulted, and

having helped work colleagues, neighbours, or acquaintances by discussing personal problems over the previous 12 months. Whilst no apparent research has directly compared first- and continuing-generation students' likelihood of helping others after they have graduated, qualitative research has indicated that first-generation students express the desire to help family members after they have graduated (Azmitia, Sumabat-Estrada, Cheong, & Covarrubias, 2018). There is also evidence to suggest that first-generation students may feel guilty about their opportunity to succeed and, consequently, do as much as they can to help their family members (O'Connor et al., 2000; Whitten, 1992). It is important to note that not only does going to university have the potential to put individuals in a better position to help others financially (Bartik & Hershbein, 2016; Ma et al., 2016), helping family seems to come naturally to many first-generation students who are more likely to come from backgrounds emphasising collectivist values and see helping family as benefiting the whole family unit (London, 1989; London, 1992). Furthermore, data analyses from the present study indicated that the differences between the helping behaviours of first-generation students and continuing-generation students appear to be strongest for family and, to a lesser extent, work colleagues, neighbours, or acquaintances, but not friends. This finding is consistent with research showing that first-generation students are motivated to get a university education to help family members in particular, and also to help their community (Stephens et al., 2012).

There were interesting findings regarding first-generation students' initial tendency to report several other helping behaviours prior to controlling for confounding variables. Compared to continuing-generation students, first-generation students were more likely to report helping family, friends, and work colleagues, neighbours, or acquaintances with a range of other tasks (e.g., help with formal paperwork, occasional care for dependants, help with household tasks). Other researchers that have used the same sample as the present study found that Mā ori and Pasifika university graduates were more likely to have helped family

and work colleagues, neighbours, acquaintances compared to non-Māori and non-Pasifika graduates (Theodore et al., 2018a). Given that first-generation students were more likely to be Māori or Pacific Peoples in this sample, and the Māori or Pasifika cultures are collectivistic in nature and value working towards community goals (Brougham & Haar, 2013; Podsiadlowski & Fox, 2011), this may explain or strengthen the findings regarding certain helping behaviours.

Voting behaviour

There were no significant differences in participants' likelihood to vote in local or national elections between first- and continuing-generation students after controlling for confounding variables. Research shows that individuals who have a university education are more likely to vote in elections (Baum et al., 2013) and the participants in the present study, regardless of generation status, are no exception, exhibiting high levels of voting in elections (usually or always).There is no apparent research to date that has compared first- and continuing-generation students' voting behaviour. In this way, the findings regarding voting behaviour from the present study provide initial evidence that a university education has the potential to facilitate positive voting behaviour.

Group associations

Compared to continuing-generation students, first-generation students were less likely to belong to or participate in churches or religious organisations at 2 years post-graduation. No other research has examined first-generation students' participation in churches or religious organisations after graduating, and it is unclear why the first-generation students in the present study were less likely to belong to these groups. In contrast, first-generation students' participation in a number of other groups (e.g., political groups, sports groups, charitable organisations, etc.) did not differ significantly from that of continuing-generation students, suggesting that there is no widespread lack of participation in community groups by

first-generation students. In fact, before controlling for confounding variables, first-generation students were more likely to be involved in trade unions and neighbourhood associations than were continuing-generation, findings which are possibly explained by their older age, although further research in this area would be required to draw evidence-based conclusions.

Implications

Overall, the results of the present study show that first-generation students differ from continuing-generation students on a number of demographic dimensions including age, gender, and ethnicity, as well as several study-related variables (level of study, field of study, course load, mode of study, and citizenship status). For this reason, it was really important to take these variables into account when examining participants' experience at university as well as their outcomes at 2 years post-graduation. Once we took these factors into account, we found that first-generation students and continuing-generation students were comparably satisfied with their experience at university, identified the same major barriers and aids to the completion of their studies, had nearly identical employment and earnings outcomes, and exhibited similar levels of social capital, voting behaviour, and associations with groups. These effects were also subjected to similar changes over time (i.e., between participants' final year of study and 2 years post-graduation) for first-generation and continuing-generation students.

Furthermore, in many ways, first-generation students fared better than did continuing-generation students; they were less likely to report issues relating to their academic experience at university had hindered the completion of their qualification, more likely to recommend their university to others (indicating greater satisfaction with their experience), more likely to place greater value on a number of perceived benefits of attending university (e.g., personal development, being a role model, developing leadership skills, etc.), and more

likely to help their family and others with a range of everyday tasks (e.g., personal care, lending money, discussing personal problems, etc.).

The only areas in which first-generation students did not fare quite as well as continuing-generation students were in their academic beliefs (academic self-esteem and academic engagement), social indicators of university satisfaction (retaining links with one's university and social connections formed at university), and support from family during their studies.

Overall, these findings challenge those of the majority of other studies, which show that first-generation students experience more challenges during their time at university. The implication here is that if first-generation students are supported through their studies, their experience at university as well as their post-graduation outcomes mirror those of continuing-generation students. In fact, several outcomes seem to be even more pronounced for first-generation students, which supports the transformative influence of post-secondary education.

There were also significant differences between first- and continuing-generation students for several of the measures in our initial analyses that disappeared after adjusting for the confounding variables. The fact that controlling for these confounding factors weakened or eliminated several previously-significant effects sheds some light on why previous research in this area may have shown several differences for first-generation compared to continuing-generation students, which are inconsistent with our own findings. For example, Terenzini and colleagues (1996) found different results to the present study regarding academic support in particular. Although Terenzini and colleagues (1996) controlled for similar factors as the present study, such as age and gender, the present study controlled for different factors such as field of study, multiple ethnic groups, and mode of study (i.e. full-

time vs part-time). This highlights the importance of controlling for a range of potential confounders that first- and continuing-generation students differ on.

Despite the similarities in the university experiences and outcomes for first-generation and continuing-generation students, first-generation students may still benefit from improved access to support (e.g., academic support). It is important to remember that the participants in the GLSNZ are those who have already successfully navigated their university studies and that, for these students, the personal and social benefits of a university education are at least on par with (and often exceed) those of their peers. Nevertheless, the findings from the present study may help to inform government and university policy that will benefit future first-generation students by easing the transition to university and retention of these students.

At a governmental level, when governments are developing policies to ensure equitable access to tertiary education, they must ensure that higher education institutions have the resources available to create inclusive environments that all students have the opportunity to thrive in, given that students will come from different cultural backgrounds (Tienda, 2013). At the university level, given that parents of first-generation students may not have the breadth of knowledge about university processes, universities could support first-generation students specifically with advice on subject and career choices and involve the students' parents/caregivers in this process as much as possible. This support should begin before students have enrolled at university (Gullatt & Jan, 2003), which highlights the need for universities and secondary schools to work closely together to ensure that prospective students are aware of the university services available to help them make well-informed subject and career decisions. There is also a need for universities to work with families to support student participation and achievement (Tertiary Education Commission, 2014). Families should feel welcomed onto campus and receive information on education and career opportunities so that they are prepared to help their children in their university decisions and

endeavours. Furthermore, universities could facilitate the development of functional peer relationships to ease first-generation students' integration into the university culture (Tinto, 1998). For example, new first-generation students could be peer mentored by past first-generation students so that they can develop a connection with someone who was in the same position as them. First-generation student mentors can answer questions that new first-generation students may feel too intimidated to ask faculty, and they could even accompany the new first-generation student to on-campus activities and services that they may otherwise not have known of.

Strengths, limitations, and directions for future research

The present study has a number of strengths. First, the sample was large and representative of graduates of all New Zealand universities. Second, the founding cohort was comprised of final-year first-generation students who were on track to complete their qualification; because of this, the findings give a different perspective on what the supports and outcomes of completing a university qualification are for successful final-year students, compared to other research that mainly focuses on first-generation students who are at risk of dropping out before their first year of study is completed. Third, the study was longitudinal, which allowed insight into how the students' university experiences changed from one time point to the next and how it could be associated with their post-graduation outcomes. Last, important confounders were controlled for that may have influenced the strength of the relationship between generation status and the variables of interest. Whilst other studies in this area have controlled for similar confounders such as age, gender, and income (Terenzini et al., 1996), the present study incorporated different confounders such as multiple ethnic groups, mode of study, and field of study. These different confounders appear to be important to control for, given that the present study found contradicting results to studies that had still controlled for confounders, suggesting that other confounders may have influenced the

strength of the relationship between generation status and the variables of interests. Although it was beyond the scope of the present study, future research in this area could investigate more closely exactly how these confounding variables may impact the university experiences and outcomes of first-generation students.

There were a few limitations of the present study that are worth considering. First, the university experiences reported by the first-generation students in the GLSNZ sample do not necessarily represent the challenges faced by all first-generation students and specifically those who had to leave university before completing their final year of study. Therefore, caution is advised when drawing conclusions regarding the experiences of all first-generation university students. Given that limited New Zealand-based research has investigated the experiences of first-generation students in their first year of study, further research during this time period would be useful.

Second, we employed a somewhat restrictive categorisation of first-generation students. Specifically, the participants classified as first-generation in the present study were those who had indicated that neither of their parents had attained a bachelor's degree. The reasoning behind this cut-off was for consistency between the present study and other studies in this field; the highest level of parents' education appears to be the most common criterion to define a first-generation student. Note, however, that the criterion for being classed as a first-generation student can vary in some studies and, in turn, could affect the conclusions drawn from those results. For example, Pascarella and colleagues (2004) compared students whose parents did not have a bachelor's degree (first-generation student) with students who only had one parent who did not have a bachelor's degree (moderate level of post-secondary education student) or both parents had a bachelor's degree (high level of post-secondary education). Their findings indicated a few differences in the associations between pre-college characteristics and university experiences, and subsequent university outcomes for first-

generation students, depending on the definition used. For example, involvement in extracurricular activities was significantly correlated with positive outcomes such as educational plans for first-generation students and those with parents who had a moderate level of post-secondary education, but not for those whose parents had a high level of post-secondary level of education. In addition, the average precognitive development of students at the institution attended was significantly correlated with openness to diversity and challenge for first-generation students and students whose parents had a high-level of post-secondary education, but not for students whose parents had a moderate level of post-secondary education (Pascarella et al., 2004). In much the same way, it may also be important to consider the potential impact that siblings who have been to university could have on first-generation students' university experiences and outcomes (Smith, 2011), or even a parent that has some university experience but did not complete their university education.

Third, the time period between the two GLSNZ surveys (2 years) represents a relatively short amount of time and does not reflect long-term outcomes of university study. The conclusions we can make about the findings from this study are therefore limited to this timeframe. Note, however, that a third wave of data collection in the GLSNZ is currently underway. Once complete, the data from this second follow-up survey (8 years post-graduation) will enable us to examine how outcomes for first-generation students may persist or change over time.

Overall conclusions

The present study has provided a starting point for further New Zealand-based research into the university experiences and post-graduation outcomes of first-generation students, by identifying how first-generation students fare compared to continuing-generation students regarding their university experiences and short-term outcomes. Overall the findings from the present study indicate that gaining a university qualification may help first-generation students to achieve comparable, or even better, social and economic outcomes to their continuing-generation peers. Hopefully, these results will help universities and schools implement evidence-based policies and strategies to further support first-generation students in New Zealand.

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Appendix A

What follows are descriptions of the broad categories for barriers and aids to completion of study and examples of key factors within each broad category.

Barrier Factors

1. **Personal** – factors relating to the individual student in the university context – includes their lack of motivation, commitment or interest; uncertainty or concern about their choice of university or degree; personality traits, characteristics or emotions; study habits, academic ability and performance; language and immigration/visa issues; a withdrawal or reduction in study and/or a change of course or university; outside interests or commitments (exclusive of work or family); readiness or preparedness for university attendance; and adjustment to university.
2. **Family** – includes family responsibilities/commitments; parenthood; family problems; caring for family members; family members' health issues; lack of family support; and issues to do with balancing family life with study and work.
3. **Health** – includes physical and mental health issues; surgery; hospitalisation; injury; pain; stress; drug and alcohol abuse; fatigue; and disability or impairment.
4. **Employment** – includes working (either part-time or full-time); employment-related issues; having to work for financial reasons; and issues to do with balancing work with family and/or study.
5. **Financial** – includes financial hardship or stress; having to work for financial reasons; lack of scholarships; and issues to do with Studylink (a New Zealand government service dealing with the administration and delivery of Student Loans to students).
6. **University–academic** – issues relating to supervision, teaching, and academic staff (supervisors, lecturers or tutors); lack of peer engagement/support; the content, delivery

and assessment of academic programmes/papers; work experience or practicums; lack of academic support; and research-related issues.

7. **Time pressure** – references to having a lack of time to studyand difficulties balancing multiple aspects of one's life with study.
8. **University–other** – factors relating to non-academic or general/professional staff; administrative issues and errors; poor information, advice or support; university resources, services and facilities; the availability and prerequisites of courses/papers; course restructuring; and the culture of the university.
9. **Natural disasters/weather** – includes the consequences of the 2010 and 2011 Christchurch earthquakes, other natural disasters, or extreme weather [N.B. The overwhelming majority related to the Christchurch earthquakes].
10. **Bereavement** – includes the death(s) of family members, friends and others as well as generic references to loss and grief.
11. **Miscellaneous** – includes generic references to life events or problems; traumatic events (such as crime or accidents); technological issues; other people's health issues (non-family); transport issues; problems with external agencies; and any other miscellaneous responses not falling into any of the other categories.
12. **Lack of support** – from university staff, family and others as well as generic references to lack of support.
13. **Residence** – includes factors relating to living circumstances; distance from university; living away from family and friends; relocation and issues to do with the 2010 and 2011 Christchurch earthquakes (e.g., house damage and/or relocation).
14. **Interpersonal relationships** – includes separation/divorce; domestic violence; relationship difficulties with others (e.g., friends, boyfriends/girlfriends or flatmates); and social problems (e.g., difficulty making friends).

15. **Pregnancy/birth** – includes any references to pregnancy, birth or having a new-born. This could be in reference to oneself or one's partner. Responses about having children or being a parent were categorised under the 'Family' factor.

Aid Factors

1. **Family** – any reference to family or family members; family support; financial support from family or being able to live at home; and the family as a source of motivation, encouragement, inspiration or expectations.
2. **University–academic** – factors relating to supervision; teaching; academic staff (supervisors, lecturers or tutors); the content, delivery and assessment of academic programmes/papers; mode of study; peer support and engagement; and practicums/work experience.
3. **Personal** – factors relating to the individual participant, such as their beliefs about the value or benefits of the qualification; prior experience and knowledge; interest and enjoyment of university study and their chosen qualification; academic ability, skill and effort; personal characteristics and qualities; health and well-being; and outside interests and recreation.
4. **Friends** – includes references to friends; support from friends; having friends in the same course; and studying with friends.
5. **University–other** – factors relating to non-academic staff; university facilities, resources or services; and generic references to the university or university staff.
6. **Financial** – any factors relating to finances, including financial support from the government, employers, family and partners; scholarships; student loans; and references to having a source of income.

7. **Employment** – any factors relating to working or being employed or unemployed; support from employers or work colleagues; financial support from employers; and benefits of employment.
8. **Partner** – includes references to partners/spouses/girlfriends/boyfriends and support from a partner, including financial support.
9. **Peer support** – support from or engagement with fellow students; working in groups; having friends doing the same course; and studying with friends.
10. **Other support** – support from sources other than family, partner, peers, work or church and generic mentions of support, assistance and mentorship.
11. **Miscellaneous** – includes references to technology; generic references to environment; parental status; exchange programmes; and other miscellaneous responses not falling into any of the other categories.
12. **Religion** – factors relating to religious or spiritual beliefs and faith, and support from religious or church groups.
13. **Therapy** – includes references to receiving help, support or therapy from mental health professionals, both university and community-based.
14. **Childcare** – childcare, both university and community-based or from friends or family.
15. **Residence** – factors relating to where the participant lives; their living situation; accommodation; relocation; and living close to family and friends.