

# A Phenomenographic Study of Talented, Low-income Undergraduate Students

Pam Millward; Janna Wardman; Christine Rubie-Davies

The University of Auckland, New Zealand

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## Abstract

This article explores the patterns of variation in the responses of talented, low-income students engaged in a program of undergraduate study. For this article, we focused on a subset of data from an earlier study of talented undergraduate students. Our aim was to add to the literature exploring the resilience of people from impoverished backgrounds that complete an undergraduate qualification, despite challenging circumstances. The data were collected from individual interviews with 10 participants, who also completed a demographic survey. Participants had not previously been identified as talented, nor, despite their consistently high achievement, did they consider themselves to be gifted or talented. Phenomenographic analysis of the interview transcripts revealed an outcome space that explained not only what the students had experienced, but also how they had experienced it. Implications for the retention and success of such students are discussed. Although this is a New Zealand study of talented, low-income, undergraduates, our findings may have application elsewhere.

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**Keywords:** Talented; low-income; undergraduate students; phenomenography.

## A phenomenographic study of talented, low-income undergraduate students

This article reports on the findings of a subset of data related to the lived experiences of low-income students from the second phase of a study of talented undergraduate students (Millward, Wardman & Rubie-Davies, 2016). An exploratory study by Rubie-Davies et al. (2010) in New Zealand found the identification of talented undergraduate students, providing support, and tracking their retention through to completion of their undergraduate degrees and on to postgraduate study was not common practice. The lecturers at one university faculty (i.e., college) were unaware of who their talented students might be and had no planned strategy for fostering their retention or success. Rubie-Davies et al. (2010) concluded that this faculty did not appear to meet the needs of their talented students and as a result recommended a low-cost intervention strategy to support talented students (Garrett & Rubie-Davies, 2014). We completed a follow-up study to examine the lived experiences of talented students in this faculty.

The subgroup of talented, low-income students from the follow-up study was composed of 10 mature-aged, ethnically diverse, talented, low-income students studying across three sites at one university. We did not initially set out to specifically study low-income, talented, undergraduate students; however, the sample from Phase 2 of the study indicated a high representation of low-income students. Ten of the 22 interviewees (45%) self-identified as low-income students. We did not measure the income levels of our sample but rather reviewed transcripts from participants who described themselves as being poor, or living in low-income environments.

Currently there is no agreed definition of the terms gifted and/or talented. Scholars have endeavored to establish a satisfactory definition for more than a century without consensus (Subotnik, Olszewski-Kubilius & Worrell, 2011). Gagné (2009) developed a differentiated model of giftedness and talent (DMGT) that distinguished between the two terms 'gifted' and 'talented'. Gagné described giftedness as possession of natural ability in a minimum of one domain within the top 10% of learning peers. Talent, according to Gagné, emerged from the transformation of those natural abilities or gifts into developed competencies. Talent he described as having mastery of systematically developed ability referred to as reaching competency, encompassing both knowledge and skills as well as achieving within the top 10% of learning peers (Gagné, 2009).

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After a comprehensive review of the gifted and talented literature, Subotnik et al. (2011) proposed a mega-model of talent development that integrated the most compelling components of already established models, and had application to *all* domains of endeavor. Subotnik et al. defined giftedness as follows: "Giftedness is the manifestation of performance that is clearly at the upper end of the distribution in a talent domain even relative to other high-functioning individuals in that domain" (p. 3). They described talents as being developmental in nature, emerging variously through childhood, adolescence or adulthood. The authors proposed that abilities matter and are developed through several transitions. Their model highlighted psychosocial, external, and chance factors having the potential to act as delimiters or enhancers to talent development (Subotnik et al., 2011).

We selected the talented label for the participants in this study because we believed the students' high academic achievement met the criteria suggested by Gagné's (2009) DMGT for talented students. The participants in our study achieved in the top 10% of their cohort across a range of diverse courses over an extended period. We also considered the developmental trajectory of the students' talents aligned with Subotnik et al.'s (2011) model.

The retention of talented low-income undergraduate students through to degree completion in the United States has been identified as an achievement trap (Wyner, Bridgeland, & DiIulio, 2007). Wyner et al. profiled 3.4 million exceptional American students and found that although low-income students entered college from high school at similar rates to their wealthier counterparts (93% compared with 98%), their completion rates differed significantly. Completion rates within 6 years, however, were only 59% for low-income students compared to 77% for their more affluent peers. Schmidt (2007) suggested it could be important for tertiary institutions to assess their programs to enhance the retention and success of talented, low-income students.

Stevenson and Clegg (2012) commented on a significant body of literature from the United Kingdom and Europe that explored how risk factors such as age, social class, gender, and ethnicity affected the transition of mature

learners into higher education. First-in-family undergraduate students from minority ethnic or low-income groups often find the transition to undergraduate studies uncomfortable and difficult (Jehagir, 2009; Soria & Stebleton, 2012; Tupai, 2010). Stevenson and Clegg noted there was little research into how these learners became focused towards their futures.

The current study addresses this research gap. Stevenson and Clegg encouraged others to employ self-authoring as a technique to further investigate how such learners become future-focused given there are compelling theoretical reasons to pay attention to participants' self-authoring (Scanlon, 2008). Scanlon utilized self-authoring to explore adult students' motives for returning to further education in Australia. The method enabled Scanlon to access participants' considerations of their prior and current life circumstances and to explore their motives for returning to education. Stevenson and Clegg (2012) saw a focus on how adult learners orientated themselves towards the future as essential in an age of riskier employment.

Universities throughout the world are recognizing that responsible efforts are required to improve educational opportunities for minority students. It is encouraging that data from international studies (e.g., Bowen & Bok, 1998; Wyner et al., 2007) has helped to dispel impressions that abilities and performance of minority students admitted to selective colleges and universities are disappointing. On the contrary, Bowen and Bok's study contained abundant evidence that minority students had strong academic credentials when they entered college, that they graduated in large numbers, and that they enjoyed successful careers and greater financial stability on completion of their college education. The authors also noted the graduating students enjoyed economic success and involved themselves extensively in a wide range of civic and community activities.

Bowen and Bok (1998) concluded that the development of personal talents through higher education opportunities paid off handsomely for individuals from minority ethnic groups and those from low-income backgrounds. They went on to explain that benefits were not just restricted to the talented low-income individuals themselves, but that additional

benefits accrued to society at large through the subsequent leadership and civic participation of graduates. Social benefits are a major justification to not merely recruit, but also to support the successful engagement and completion of talented low-income students in their undergraduate programs.

The cohorts of students that universities throughout the world are recruiting are increasingly diverse. A stated goal of several New Zealand universities is to increase the recruitment, retention, and success of ethnic

minority groups, who are identified as being at risk of underachieving educationally and financially in New Zealand: Māori (indigenous people of New Zealand) and Pasifika (individuals originating from any one of the South Pacific Islands). To this end, several New Zealand universities have developed targeted admission schemes to support students from low-income backgrounds to study at university. Hence the focus for this study was to explore the experiences of very high achieving low-income students as they progressed through their undergraduate degree programs.

## Methodology

### Participants

Interview data were obtained from 10 talented, low-income students. The participants were a subset of a larger sample of talented undergraduate students involved in an earlier study. The original study identified 278 students who had achieved a grade point average (GPA) of seven or higher out of a possible nine points. Seven points is equivalent to an A- average across all courses studied, whereas nine is equivalent to an A+ average. A GPA of five is more common for students from the faculty that is the focus of this study. Potential participants were identified from a cohort of 2,612 undergraduate students studying in one university faculty. The personal identification numbers of students with GPAs of 7.0 or higher were generated from the university's database. A participant information sheet and an anonymous survey requesting demographic data were mailed to all potential participants at the beginning of the 2012 academic year.

Demographic surveys were returned by 128 students (46%). An invitation to volunteer to be interviewed was included with the survey. Of those who volunteered to be interviewed ( $N = 100$ ), 22 participants were randomly selected. Of those 22 students, 10 self-identified as being from low-income environments. These 10 students made up the sample for the current study. Demographic data for the 10 participants are displayed in Table 1. Most of the students (70% of the sample) were from ethnic minority groups traditionally identified as underachieving educationally in New Zealand. All were from low-income environments and were mature-aged parents with childcare responsibilities.

**Table 1:** Demographic characteristics of the sample.

| Ethnicity   | Sex    | Dependent children | University entry qualification | Income status |
|-------------|--------|--------------------|--------------------------------|---------------|
| Maori       | Female | Yes                | No                             | Low           |
| Pasifika    | Male   | Yes                | No                             | Low           |
| NZ European | Female | Yes                | No                             | Low           |
| Maori       | Female | Yes                | No                             | Low           |
| NZ European | Female | Yes                | No                             | Low           |
| Maori       | Female | Yes                | No                             | Low           |
| NZ European | Female | Yes                | Yes                            | Low           |
| Maori       | Female | Yes                | No                             | Low           |
| Maori       | Female | Yes                | Yes                            | Low           |
| Pasifika    | Female | Yes                | No                             | Low           |

### Phenomenography

Phenomenography, a qualitative methodology, was selected because it provides a theoretical framework that enables the researcher to consider different ways people experience and understand phenomena (Harris, 2008, 2011; Martin et al., 2001; Ornek, 2008). This methodology enabled us to generate an in-depth understanding of the talented, low-income students' undergraduate experiences.

This theoretical research framework was developed to answer questions about thinking and learning (Marton, 1986). In phenomenographic research, the focus is on *how* people experience phenomena rather than a study of phenomena (Ornek, 2008). Phenomenography provides a means to demonstrate the collective meaning of shared experiences, because different people experience phenomena in different ways. Phenomenographers attempt to describe phenomena as understood by participants, rather than imposing the researcher's view on data. Instead of attempting to find the singular essence of a given phenomenon, it is the variation and the structural relationships of the different aspects of the phenomenon that are sought (Walker, 1998).

Phenomenography differs from phenomenology and ethnographic research methods because of its analytical emphasis on the *structural* relationships within the data (Martin, 2004). The range of experiences are described in words by participants and then mapped onto a two-dimensional matrix or outcome space by the researcher. The participants' expressions of their experiences are referred to as categories of description (Martin, 2004). The two dimensions of the matrix describe (a) *what* is focused on by participants and (b) *how* what is focused on is experienced. The mapping exercise enables the researcher to present a hierarchy of understanding of the phenomenon (Harris 2008, 2011; Marton & Booth, 1997). The focus is on what and how different experiences are represented. The researcher is looking for differences among the participants' descriptions of the phenomenon. The result is an in-depth picture of the participants' thinking and feelings associated with each category of analysis (Martin et al., 2001).

Semi-structured interviews with a small sample of participants are the preferred method for collecting data for phenomenographical analysis. The aim of the interview is for participants to reflect on their experiences of the phenomenon and then relate those experiences to the interviewer in such a way that both come to a mutual understanding about the meanings of the experience (Martin, 2004; Ornek, 2008). The talented low-income students involved in this study had varied undergraduate experiences. It was important the researchers were neutral to the ideas of the participants and so the researchers had to make their personal feelings and beliefs explicit, by bracketing preconceived ideas before analyzing the data (Martin, 2004; Orneck, 2008).

## Procedure

Semi-structured interviews lasting approximately 60 minutes were carried out with each participant. The interviews were conducted by one of the researchers who did not teach on the program and included three interview prompts. These were as follows: (a) Tell me a little about your history that you think might be relevant to this study; (b) What single factor has contributed most to your academic success; and (c) Explain your feelings on being informed of your selection for participation in a study of talented students. The interviews were audio-recorded and transcribed by a contracted transcriber who had signed a confidentiality agreement.

## Data analysis

Phenomenographic analysis is an iterative process that involves repeated sorting and resorting of data. The ongoing comparisons between the data and developing categories or themes of description are necessary. A number of steps are involved in the analytical process. We used the seven-step process identified by Sjöström and Dahlgren (2002) for this analysis. The process used is explained below.

- Step 1: Familiarization. This step requires researchers to familiarize themselves with the data by reading the interview transcripts and making any necessary corrections. The 10 transcripts were reviewed and edited by the researcher who carried out the interviews. She listened to each audio-recording and corrected any transcription errors.
- Step 2: Compilation of answers to specific prompts by the different participants. The most significant element in each answer was identified and the elements for all 10 participants placed on an interview matrix (see Table 2 for an extract of the matrix related to responses to one interview prompt).

- Step 3: Condensation or reduction of the individual responses. This was carried out to find the central element of a dialogue.
- Step 4: Preliminary groupings or classifications of similar answers.
- Step 5: Preliminary comparison of the categories.
- Step 6: Naming categories.
- Step 7: Contrastive comparison of categories. This involved describing the character of each category and the similarities between categories.

**Table 2:** An Excerpt from the Interview Matrix for Question 6

| Interview   | #2  | #8  | #13   |
|---|---|---|---|
| <b>Q6.</b><br><b>How did you feel when you were invited to participate in this study?</b> | Took me by surprise. Don't consider myself gifted. I really enjoy then challenge of uni[varisty] work. I don't want to be seen as a nerd. | Shock. I never believed I would do well. Pride but shock. | Surprise! I sort of laughed about it at first. I thought Okay I don't think I've reached my full potential. |

This process of analysis enabled us to reduce the complexity to a conceptual framework that showed how the various elements might be connected. Through this process, we developed initial categories that described different participants' experiences as talented, low-income undergraduates. After identifying multiple aspects of the students' experiences of the phenomenon, we developed categories that explained all the variations in their responses. We then re-examined the transcripts to make sure the categories were sufficiently descriptive of the data. A process of review and modification continued until the modified categories appeared consistent with the interview data. The first and second authors independently coded six of the transcripts using the agreed themes. Codes were allocated to each relevant line of transcript. The coding of the six transcripts was compared and any instances of ambiguous coding discussed by the researchers until agreement could be reached on the most appropriate coding. The first author then coded the remaining transcripts. Quotations from the transcripts have been used to illustrate the findings, because these have been taken verbatim, the excerpts may not always be grammatically correct. Through this analytical process, we strove to describe how talented, low-income students viewed the lived experience of their undergraduate studies.

## Results

Our phenomenographic analysis indicated an outcome space with four categories of description (see Table 3). These categories described the lived experiences of the participants as they transitioned into their undergraduate programs and subsequently experienced high levels of academic achievement, resulting in an invitation to participate in this study. The talented low-income undergraduate students came from *disbelieving* perspectives.

**Table 3:** Four categories of description mapped on an outcome space.

| What is focused on     |              |                  |             |                       |                          |
|------------------------|--------------|------------------|-------------|-----------------------|--------------------------|
|                        |              | Prior experience | Recruitment | Program participation | Qualification completion |
| How what is focused on | Disbelieving | 1                |             |                       |                          |
|                        | Engaging     |                  | 2           |                       |                          |
|                        | Believing    |                  |             | 3                     |                          |
|                        | Challenging  |                  |             |                       | 4                        |

Once enrolled in their current program, however, they found themselves *engaging* more deeply than anticipated. As the students began receiving high grades for coursework they started *believing* in their capabilities. Success gave the students the confidence to start *challenging* themselves, to constantly seek high levels of achievement. The lived experiences of the 10 participants are presented under these subheadings.

### Category 1: Disbelieving

When participants were asked how they felt about being identified as talented students and invited to participate in our study, their responses differed. Although they were gratified to have been identified among the top 10% of achievers in the faculty, there was an overwhelming response of surprise. Typical responses included “shocked,” “surprised,” “anxious,” “pretty happy,” and “proud.” All of the participants had grown up in challenging, low-income environments and had experienced limited success during their periods of compulsory education. The 10 students had all entered university as mature-aged students, eight of them via the university’s special admission pathway. This pathway waives the regular university entrance requirements for applicants who are over the age of 20 and are New Zealand citizens or permanent residents.

Some of the participants described, in vivid detail, their harrowing childhoods. Three students talked about frequent experiences of domestic violence. One recalled strategies she employed to help her deal with the violent world she grew up in:

So how did I deal with domestic violence? I enjoyed reading and that may have been a way of me escaping and strengthening my inner world, so I could deal with life around me (Interview 5).

For some participants, the cycle of family violence followed them into their adult life. One tearful participant stated:

When I first started [at university] my sister-in-law was murdered. Her partner beat her to death. I was having a bit of trouble at home studying and me and my partner had domestic things happen (Interview 13).

Many of the students spent periods of their childhood living with adults other than their parents. Some moved frequently between family members, requiring them to often change schools. One participant attended 17 different schools. Students who lived with parents talked about how hard their parents worked to provide for them. One student, the youngest child in his family, whose mother was a solo-parent explained:

We were living out [a low socio-economic area], from a broken home; my mum was working three jobs to keep payments up on the mortgage, food on the table, looking after schooling for my elder siblings and helping them out through their challenges. Mum thought that it was just too hard to get me out there as well (Interview 3).

All participants described their formal educational experiences as challenging. Their enjoyment and achievement at undergraduate level was in stark contrast to their compulsory schooling experiences. One participant recalled:

I hated school and I had a terrible time at school. I was told I was thick at school. So hence I’ve never done anything with my life because I believed them [teachers] (Interview 8).

Participants commonly talked about hating school, bunking [playing truant], being bored, leaving school as soon as possible, and occasionally being bullied by peers for appearing more able than their peers. These students quickly learnt to hide their talents so they could merge in with their less able peers. Three participants left school because they were pregnant and were then immersed in childcare responsibilities. Others had attempted courses after leaving school but had not completed them. None of the talented low-income students discussed enjoying studying or successful careers prior to entry into their undergraduate courses.

### Category 2: Engaging

The decision to embark on a three-year undergraduate course required commitment. One participant was caring for several of her siblings as well as her own three children. One was caring for her elderly mother and her teenage daughter. All of the participants were still living in low-income environments. Three had applied for and won scholarships that covered their course fees and living costs. Two of the scholarships were for fluent speakers of Te Reo (the Māori language). The other students had been able to access interest-free loans to cover their study costs, as well as a living allowance, from the New Zealand government. Without these financial supports none of the students

would have been able to entertain embarking on a three-year degree program. Even with these financial supports, most participants worked part-time to supplement the household income. Six of the 10 participants were studying at a satellite campus some distance from the main campus. The availability of the university program in their local communities enabled these students to consider studying at the undergraduate level.

Despite their challenging circumstances, the students, without exception, talked enthusiastically about how much they enjoyed engaging in their undergraduate studies. Typical comments included, "I'm loving it," "It's been fantastic," "I'm really enjoying studying," "Yes, I've enjoyed my learning journey so far," and "It's been a great experience." One participant explained how she felt daunted initially: "My first week at uni[versity] I came home and cried every night, but after the first few weeks I just loved it" (Interview 12). Another participant commented: "I'm really enjoying studying, getting quite addicted to it" (Interview 13). Interestingly these students found the more academically challenging courses particularly engaging.

### **Category 3: Believing**

As the students engaged with their courses they started to read more widely, they attended all lectures and tutorials and invested significant time and effort in their studies. They gradually came to the realization that they could be successful. Typical responses included: "I work hard. I'm doing a lot better than I anticipated" (Interview 3). Another student commented:

I didn't really know what I was walking into. I was willing to take this journey and see where it would lead me. I made a pact with myself I would do my best. I've mostly had A+ (Interview 4).

A common theme was a realization that if the participants put effort into their studies, they would reap the rewards. One student summed this up saying:

I just work hard; I put in a lot of hours; I work so hard to get good grades; I work really, really hard (Interview 8).

The participants' lives were more complicated and challenging now than when they were at school. One student told us how her dream of achieving her career goal had been 14 years in the making. At the age of 17, she worked as a support person to the professionals in her chosen career and that opportunity prompted her future aspirations, but she became pregnant and so had to delay her plan. Four children later and her life became even more complicated when her husband's leg was amputated as the result of a work-related accident.

Many participants worked part-time, some up to 25 hours per week. For one student her day began at 5:30am attending to her family. She also worked as a cleaner and dishwasher late into the evening, finally returning home to attend to her family's needs before she could make time for her own studies, usually after midnight. Other students reported studying into the early hours of the morning. They believed that if they worked hard they would achieve their degrees and achieving their qualification had the potential to change their lives. Participants frequently commented that they tried so hard because they wanted to be successful for their children. One student summed up the sentiments:

I want a better life for my kids. I try hard because I want to be successful for them. I want to have a better life and help my family (Interview 17).

The participants saw education as the key to future success and financial security for themselves and their families, and they now believed they could achieve it.

### **Category 4: Challenging**

With a new found belief in their capabilities came the confidence to challenge themselves, their lecturers, and their peers. The students constantly challenged themselves to maintain or better their grades: "I'm not satisfied with B grades. Year 1 was a shock, so from that moment I decided not

to spout crap” (Interview 2). Another explained how she expended additional effort to maintain her high grades:

I just work hard and research. So if we’ve got required readings for an assignment, I also do the recommended readings. I’m always looking for other recommended readings. I do a lot of preparation. I overwrite essays. For a 2,000 word essay I can write 5,000 [words] and then chop it back. I’ll write that three times. I work really, really hard (Interview 8).

One student was not impressed when she received a grade lower than she anticipated for an assignment. She commented:

When I got to [lecturer’s] class I didn’t get away with anything. She knocked it on the head right there and said, no, this is the standard and you haven’t met it, and this is what you need to do. So soon as I got C+ I was like, are you serious? She gave me practical feedback and feed-forward and I took it on board and I smashed the next essay. I went from C+ to an A” (Interview 22).

Students commented that they did not like lecturers making course work easy. They preferred to be challenged to engage with new information, to make links with their prior learning and apply knowledge to new situations. One Pasifika male student commented:

I love challenges. I like to be uncomfortable with new information and try to find ways to apply it, to give it context. I don’t like it [spoon feeding]. It just doesn’t make sense to me to be given all the information you need. I like to work for it. I would say about 40% of the work that we have is spoon-fed. This year [second year] it’s been a bit better, it’s been about 30 to 25%. One paper in particular has been very easy. I would be surprised if anyone was to fail that paper (Interview 3).

One of the talented Māori students also described how she was frustrated when lecturers made the content too easy:

I was really serious about being challenged. I like to work them [problems] out for myself. No, I said to her, I was serious about being challenged and she just sort of laughed, because yeah that [lecture content] was pretty basic (Interview 13).

The students had achieved grades that made them eligible to apply for postgraduate study on completion of their undergraduate degrees, and this opened up new horizons for them.

## Discussion

The aim of this study was to research the lived experiences of talented students as they transitioned into and through their degrees. For this article, we focused on a subgroup of low-income participants. A phenomenographic approach revealed how the participants experienced their learning journeys and gave us a deeper understanding of their lived experiences as they overcame challenging delimiters and maintained an A grade GPA across all their courses..

### Talent trajectories of low income students

Our participants consistently achieved in the top 10% of a cohort of 2,612 undergraduate students; thus, they clearly met Gagné’s definition of giftedness. Their high levels of academic success were relatively recent, however, as none were particularly successful at school and most entered the university via its special admissions pathway. Subotnik et al.’s (2011) description of talents being malleable and having a developmental trajectory thus applied to this sample of participants. Our findings demonstrated the developmental trajectory of the 10 participants’ talents, illustrating that these students were able to overcome previously experienced delimiters and instead capitalize on psychosocial and chance enhancers that fostered rather than restricted their talent development (Subotnik et al. 2011).

### Barriers to talent development for low-income students

The literature relating to first generation students’ academic engagement and retention (e.g., Soria & Stebleton, 2012) has highlighted the retention and engagement issues experienced by first-generation undergraduate students. The 10 students in our sample all experienced the risk factors



described by these authors, yet somehow they were able to demonstrate the resilience and persistence required to successfully engage in a degree program. They were as Scanlon (2008) described both past- and future-focused.

Given this change, we wondered, “What had changed for these students?” They were still living in low-income environments. Their lives were more complex now, as they all had family responsibilities. Some had experienced personal traumas and challenges, yet here they were achieving to very high standards and enjoying their academic studies. The talented, low-income students in this sample still had significant barriers to overcome, in order to reach their lofty educational goals. These participants were still experiencing financial hardship. None had sufficient income to pay study fees without the support of a scholarship or a government subsidy. Most of the participants engaged in paid employment to supplement the family income, restricting their time for independent study. If we could identify what caused the change in their achievement trajectories, perhaps we could implement an intervention strategy that might support others’ achievement.

The heart-rending stories revealed by the participants, highlighted the need to make undergraduate programs accessible and achievable. These successful students knew what it was like to live in a world of failure and disappointment. They had succeeded and had the potential and passion to be able to make a difference to others from similarly disadvantaged backgrounds. Through their self-authored explanations we were able to see how past experiences provided motivation for future-focused endeavors (Scanlon, 2008). Without exception, these students wanted to be role models for their children. They described their prior and current life circumstances as well as their focus on an improved future. Some talked about their motivation to engage in higher education as *unfinished business*. The majority of our participants had exited school early without gaining formal qualifications. They all held dreams of better lives for themselves and their families, thus they were all now future-focused (Stevenson & Clegg, 2008).

Although all participants recalled their school experiences as unsatisfactory, they now saw education as their gateway to a better life for themselves and their families. Our findings concur with those of Scanlon (2008) who found negative formative education experiences had an impact on adults, and that in order to progress, they needed to “remove blocks to learning created by earlier experiences” (Scanlon, 2008, p29). Motives situated in our participants’ lives at a particular time were powerful enough to enable them to take the first step towards their future-focused dreams and apply for entry into an undergraduate program. Their retention in the program, however, appeared to be influenced by their strong academic achievement, as well as a newly found love of learning that enabled them to embrace the challenges they encountered on their undergraduate learning journeys. The participants in this project appreciated the invitation to participate in a study of talented students. Although they expressed surprise at their eligibility, they were pleased and proud that their strong academic achievement had been recognized, especially given their previous negative experiences in academic institutions.

## **Recommendations**

Our study suggested that the test scores of mature students who were unsuccessful at school may be poor predictors of their ability to succeed at undergraduate level. Furthermore, the maturity and life experiences these students brought to their studies may have provided motivation for educational success. It is recognized that low-income students may be underprepared educationally, but we contend that they have greater insight into the lived experiences of students from similar environments. Talented students who move into such professions as teaching, engineering, medicine, or law have the potential to make a significant difference to children growing up in similar low-income environments. They have experienced negotiating the unfamiliar labyrinth of academia and can help to bridge this gap for their students and their families. They are insiders.

Recognition of their strong achievement appeared to be an important motivator for these students. The faculty involved in this study had previously focused on the identification and support

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of underachieving students, but not of high achieving students. The interviewees all expressed pleasure at the recognition of their achievements, as this was not something they had previously experienced. The participants received a personal letter congratulating them on their strong achievement and an invitation to a morning tea where they could meet other high achieving students. This provided opportunities for them to network with other similarly driven individuals. The participants were also invited to attend professorial lectures and presentations by visiting academics. These invitations had previously been restricted to postgraduate students. These simple cost-effective strategies were greatly appreciated by the participants. We encourage other institutions to consider recognizing their talented students in similar ways.

The greatest barrier these talented, low-income students faced was entry to undergraduate programs, given their lack of university entrance qualifications from secondary school. Several strategies facilitated this access. The first was the location of the degree program in their local area. Although it is not always possible for universities to re-locate programs, several students commented that if they had had to travel to the main campus, then university study would not have been an option they could have considered. The second was the special entry requirement that enabled them to enroll in their desired program without meeting the usual university entry requirements. As only two students earned a university entrance from school, the eight other capable students would have been denied access. The third was the provision of interest-free loans to cover course expenses, living allowances for students from low-income backgrounds, and for three participants, scholarships that provided additional funding. If we are to encourage capable mature students to consider further education opportunities then the provision of scholarships seems to be a strong motivator, not only for enrolling but for also maintaining participation.

The final suggested strategy is for universities to consider the difficulties mature students with childcare responsibilities encounter, when developing their timetables. These mature students discussed the additional challenge of attending to the needs of their families while studying. Scheduling classes during school hours was reported as greatly assisting students' ability to attend lectures. Making course materials available electronically also meant students could engage with course content at their convenience, which was often in the early hours of the morning. Many universities are utilizing blended models of delivery providing more opportunities for students to engage with learning activities at times suitable for them. In the case of low-income students however, connectivity to the internet and access to such online resources may be an issue.

## **Limitations and conclusion**

There are limitations to this study. The sample size was small and relied on voluntary participation. These characteristics limit the generalizability of our findings (Gay & Airasian, 1992). The participants in the study may have been more motivated to take the opportunity to share their stories (Marsh & Dunkin, 1992), than students who did not experience such challenging learning journeys. Despite these limitations, this study highlighted interesting findings that we believe are worth further investigation by other universities both in New Zealand and in countries experiencing similar issues with low-income groups identified as underachieving educationally.

In conclusion we were surprised at the number of low-income students identified in our talented student study, particularly as these students had not been successful during their period of compulsory education. Our findings showed that these students could be highly successful in an academic environment due to their commitment and engagement. It is important for both social and economic reasons that the learning and achievement of capable students from low socioeconomic backgrounds is supported and nurtured so that such students can become role models for their communities.

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## **About the Authors**

Pam Millward, Faculty of Education and Social Work, The University of Auckland.

Janna Wardman, Faculty of Education and Social Work, The University of Auckland.

Christine Rubie-Davies, Faculty of Education and Social Work, The University of Auckland.

## **Address**

**Pam Millward;**

Private Bag 92019, Auckland 1150. New Zealand

**e-Mail:** p.millward@auckland.ac.nz