



Studio G multimedia program for young adults on the autism spectrum: Examining the impact on social participation, well-being, and post-school transition

FULL REPORT

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The Cooperative Research Centre for Living with Autism (Autism CRC)

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Abstract

Young people on the autism spectrum can experience a range of challenges when transitioning to adult life, including social isolation, reduced participation in employment and tertiary education and training, and high rates of mental health difficulties. The Studio G Post-School Transition Program was developed by Autism Queensland to help young people on the spectrum aged 16-24 years overcome these challenges and successfully transition to adult life. Studio G aims to create a nurturing environment where students are guided by mentors with skills and experience in the creative industries to complete projects in accordance with self-identified goals.

A two-fold evaluation of the Studio G Program funded by the Autism CRC examined the (a) impact of the program on Studio G students' social participation and friendship networks; emotional well-being; project skills; and awareness of and transition to further study, training, and/or employment; and (b) satisfaction of students, their family members, and mentors with the program; and their perspectives on how the program could be improved. A generic method of qualitative inquiry was used. Within one Studio G semester, 11 students (eight male; mean age 19 years) and 12 family members (three male) each participated in two semi-structured interviews, and seven mentors (six male; mean age 24 years) completed fortnightly records of the students' progress and participated in one semi-structured interview.

Qualitative content analysis of interview transcripts revealed the Studio G program had a positive impact on the students' (a) psychosocial outcomes, and (b) learning and development outcomes. Psychosocial outcomes included (a) strong motivation and enjoyment in attending Studio G, (b) enhanced social participation and friendship networks, and (c) improved emotional well-being. Learning and development outcomes included (a) learning and developing new skills; (b) increased awareness of post-school educational and vocational options; and (c) support to access further study, training, and/or employment. Key features of the program contributing to the students' positive outcomes and to the satisfaction of participants with the program were the (a) role of the mentors, (b) nature of Studio G as a learning environment, and (c) inclusion of social activities and vocational outings. Satisfaction with the program was high among students, family members, and mentors. Family members highlighted two key aspects of the program that could be improved: (a) feedback from the program on their child's progress, and (b) the cost of the program. Students expressed concerns about (a) aspects of the venue, and (b) the number of mentors. A key issue for mentors was difficulty motivating some students. The findings are discussed in relation to existing literature and the underpinning principles of the program. Recommendations for the Studio G Program and future research evaluations are provided.

1. Introduction

Recent Australian studies of young people on the autism spectrum with average to above average intelligence suggest that they can experience a range of challenges when transitioning to adult life, including social isolation, reduced participation in employment and tertiary education and training, and high rates of mental health difficulties (Autism Spectrum Australia [Aspect], 2013; Neary, Gilmore, & Ashburner, 2015). This report details the challenges experienced by young people on the spectrum, and outlines the development and evaluation of the Studio G Post-School Transition Program, which was designed to overcome these challenges and support these young people in their transition to adult life during their last years of school or after leaving school.

1.1 CHALLENGES OF YOUNG PEOPLE ON THE SPECTRUM

1.1.1 Reduced social participation

Research has demonstrated that young people on the spectrum have fewer friends and are more isolated than their typically developing peers. For example, a nationwide survey by Aspect (2013), involving 313 adults with Asperger's disorder and high functioning autism aged 18-70 years, found that less than half had a regular group of friends. Friendship is defined in the Autism Diagnostic Interview-Revised (ADI-R) as "a selective, reciprocal relationship between two persons of approximately the same age who seek each other's company and share activities and interests" (Le Couteur, Lord, & Rutter, 2003, p. 60). Using this criteria, several studies have demonstrated that most (64-79%) adolescents and adults on the spectrum have no peer relationships or only "acquaintances" (i.e., peer relationships only within an organised group setting), and those with peer relationships often have friendships limited by restricted interests (Howlin, Goode, Hutton, & Rutter, 2004; Howlin, Mawhood, & Rutter, 2000; Orsmond, Krauss, & Seltzer, 2004; Whitehouse, Watt, Line, & Bishop, 2009). Furthermore, research has demonstrated that, compared to their typically developing peers, young people on the spectrum are lonelier (Bauminger & Kasari, 2000), have fewer friends, fewer meetings with friends (Bauminger & Shulman, 2003), and poorer quality friendships (Whitehouse, Durkin, Jaquet, & Ziatas, 2009). Nearly three quarters of the respondents to Aspect's (2013) survey described negative social experiences at school, college, or university. Research has consistently found that students on the spectrum are bullied to a greater extent than their peers with and without disabilities (Sreckovic, Brunsting, & Able, 2014). Social supports, such as organised social programs, mentoring or befriending programs, and groups focused on shared hobbies and interests, have commonly been reported as an unmet need for adolescents and adults on the spectrum (Aspect, 2013; Eaves & Ho, 2008; Neary, Gilmore, & Ashburner, 2015).

The findings of numerous studies suggest that young people on the spectrum are less likely to engage in unstructured social activities than their typically developing peers and more likely to spend time alone. For example, Jennes-Coussens, Magill-Evans, and Koning (2006) found that young men with Asperger syndrome were more likely to engage in leisure activities that were primarily solitary, whereas typically developing young men were more likely to engage in leisure activities that were primarily social. Rather than having intimate, unstructured friendships, young adults on the spectrum often have social contacts based on their hobby or special interest (Eaves & Ho, 2008; Howlin, 2000). According to a survey of 95 Queensland parents of 15-27 year olds on the spectrum with average to above average intelligence (Neary et al., 2015), these young people spend an average of 9.4 hours per day (66 hours per week) involved in solitary, screen-based media activities, including 5.2 hours playing computer games and 1.7 hours playing console games. Although direct comparisons are limited by the evolving nature of technology, Australian census data revealed that on average

18-24 year olds used a computer or Internet for leisure purposes for less than 1.5 hours per day (Australian Bureau of Statistics [ABS], 2013). Other Australian studies have demonstrated that adolescents in the general population use screen-based media for a total of less than 4 hours per day (Commonwealth Scientific Industrial Research Organisation [CSIRO], 2008; Straker, Smith, Hands, Olds, & Abbott, 2013). Orsmond and Kuo (2011) also found young people on the spectrum spent large amounts of time in solitary screen-based activities, and that the less time they spent in conversation the more their social impairment increased over time. Taken as a whole, it seems likely that after leaving school many young people on the spectrum spend large amounts of time alone in their bedrooms on screen-based activity.

1.1.2 Reduced participation in employment

Accumulating evidence suggests that adults on the spectrum with near-average to above average intelligence frequently experience difficulties obtaining paid employment (Farley et al., 2009; Gray et al., 2014; Howlin et al., 2004; Taylor & Seltzer, 2010). In Australia, Aspect (2013) reported an unemployment rate of 45% among adults on the spectrum with average to above average intelligence (aged 18-70 years), which is substantially greater than the Australian national unemployment rate of 5-6% over the past five years (ABS, 2011-15). In the Queensland survey, Neary et al. (2015) reported data collected in 2011-2012, which indicated that 51% of 15-27 year olds on the spectrum with average to above average intelligence were unemployed, with 57% (of those employed and unemployed) reporting dissatisfaction with their employment status. Again, this contrasts with the Australian national youth unemployment rate, which in 2009 was 17% for 15-19 year olds and 8% for 20-24 year olds (ABS, 2010).

The bulk of evidence suggests that young people on the spectrum are often under-employed (i.e., only able to access part-time or casual employment), and are frequently in jobs that are not commensurate with their skills. Neary et al. (2015) found that of the young people on the spectrum who were employed, only around a third were employed full time and over half had unskilled jobs. In an analysis of a sub-sample of employed young adults on the spectrum from the Aspect (2013) survey, Baldwin, Costley, and Warren (2014) found that these individuals were overrepresented in casual employment and underrepresented in full time employment compared to Australian census data. They also found that 46% of these participants were overeducated for their jobs (i.e., their jobs required less skill than their formal qualifications), and only 26% were employed in jobs that required skills on par with their qualification (Baldwin et al., 2014). Adults with Asperger syndrome have reported that difficulties in obtaining and maintaining employment are related to social, communication, and sensory issues, rather than the skills required to complete the job (Hurlbutt & Chalmers, 2004). Similarly, Neary et al. found that the most common barriers to higher level employment included social difficulties and communication difficulties, such as poor interview skills and difficulty following directions.

1.1.3 Reduced participation in tertiary education and training

People on the spectrum have also been found to have lower rates of completion of postsecondary education and training than typically developing individuals and people with disabilities in general. Australian census data from 2012 demonstrated that 81% of people on the spectrum aged 15 years and over had not completed a post-school qualification, compared with 53% of the total population of Australians with a disability, and 42% of the general population (ABS, 2014). Both Aspect (2013) and Neary et al. (2015) reported that many adults on the spectrum (23% and 28% respectively) had enrolled in a training program but failed to complete it. Barriers to completion of courses included issues related to mental health and unmet learning support needs (Aspect, 2013), organisational difficulties, low motivation, and academic failure (Neary et al., 2015).

1.1.4 Mental health challenges

Mental health conditions have been found to be particularly prevalent among people on the spectrum. In their Queensland survey, Neary et al. (2015) found that 45% of 15-27 year olds on the spectrum had at least one comorbid mental health condition, with depression affecting 37%, generalised anxiety disorder (GAD) affecting 23%, and obsessive compulsive disorder (OCD) affecting 19%. In comparison, 2007 Australian census data revealed that 26% of 16-24 year olds were suffering from a mental health condition, with depression affecting 6% and anxiety (including OCD) affecting 15% (ABS, 2008). Of their sample of adults on the spectrum aged 18-70 years, Aspect (2013) found that 71% had experienced a mental health condition, which is substantially more than 2007 Australian census data suggesting that 45% of 16-85 year olds had suffered from a mental health condition at some point in their life (ABS, 2008). Studies from a number of other countries have also found high rates of depression and anxiety among adults on the spectrum. Lugnegård, Hallerbäck, and Gillberg (2011) found that 70% of a sample of 54 Swedish adults on the spectrum had suffered from at least one episode of major depression and 50% had suffered from recurrent episodes of depression. Similarly, Hofvander et al. (2009) found that mood disorders (e.g., depression and bipolar) affected 53% of 122 French and Swedish adults on the spectrum. Both studies (Lugnegård et al., 2011; Hofvander et al., 2009) found that anxiety disorders affected around half of adults on the spectrum, with GAD being the most common, followed by social anxiety disorder, and panic disorder/agoraphobia. Munesue et al. (2008) reported a slightly lower rate (36%) of mood disorders among their sample of 44 Japanese adults on the spectrum. A UK study by Gillott and Standen (2007) found that adults on the spectrum were almost three times more anxious than age- and gender-matched controls with the same intellectual ability. Furthermore, the nature of anxiety differed between these two groups, with the group of adults on the spectrum having significantly higher scores for OCD, panic disorder/agoraphobia, and GAD (Gillott & Standen, 2007).

It is possible that these high rates of mental health conditions among people on the spectrum are associated with the challenges that they experience with social isolation, unemployment or underemployment and difficulties engaging in tertiary education. Conceivably, this relationship may be bidirectional, in that young people on the spectrum experience a detrimental cycle of social isolation, disengagement from employment and education, and mental health difficulties. Overall, research paints a bleak picture of post-school life for many young people on the spectrum, in that it is not uncommon for them to spend the bulk of their time engaged in solitary home-based activities, with little time spent on employment, education, or socialising.

1.2 DEVELOPMENT OF THE STUDIO G PROGRAM

The Studio G Post-School Transition Program, hereafter referred to as Studio G, was developed to create a nurturing environment in which young people on the spectrum work on self-directed projects, with the aim of facilitating their transition to tertiary education, training or employment. Development of the Studio G Program was underpinned by a number of key considerations: (a) an interest-based approach, (b) strengths-based practice, (c) social role valorisation principles, (d) the support needs of people on the spectrum during key life transitions, (e) the qualities of the mentors, and (e) constructivist teaching principles. These principles are described in the following sections.

1.2.1 Interest-based approach

Autism spectrum disorder (ASD) is characterised by interests that are unusually intense (American Psychiatric Association [APA], 2013). Recent literature suggests that incorporating the interests of people on the spectrum into programs can bring about significant improvements in their social participation, communication, and learning. For example, in their recent review of literature on teaching children on the spectrum with restricted interests, Gunn

and Delafield-Butt (2015) found that incorporation of the intense interests of these children into teaching and learning can produce positive outcomes including improvements in learning, communication, social engagement, and emotional well-being. Similarly, Koegel et al. (2012) found that a naturalistic social intervention that incorporated the special interests of adolescents on the spectrum (aged 11-14 years) was effective in facilitating positive and direct social interaction between the adolescents and their typically developing peers. Improvements in social engagement were also achieved among high school adolescents on the spectrum (aged 14-16 years) through activities based on their special interests (Koegel, Kim, Koegel, & Schwartzman, 2013). A qualitative study of the perspectives of adults on the spectrum revealed a preference for activities based on their shared interests as a means of overcoming their social isolation (Müller, Schuler, & Yates, 2008).

When Anthony et al. (2013) compared the interests of 109 individuals on the spectrum with near-average to above average intelligence to those of 76 typically developing individuals, the participants on the spectrum were significantly more likely to be interested in cartoons and animation, factual information, and playing games alone (e.g., computer games). Recently developed programs that harness some of these common intense interests, particularly gaming and animation, have yielded promising results. For example, a strength-based program focusing on creative three-dimensional (3D) design was found to be effective in facilitating social engagement in naturally occurring environments for adolescents on the spectrum aged 8-17 years (Diener et al., 2015). The Lab Program, in Australia, uses a similar concept. The Lab Program is a technology club for 10-16 year olds on the spectrum, who are paired with skilled mentors with industry experience in multimedia in a self-directed team environment (The Lab, n.d.). An evaluation of The Lab by the Young and Well Cooperative Research Centre found it to be highly effective in enhancing social engagement, development of friendships, overall happiness, motivation levels, and mental health (Donahoo & Steele, 2013). Participants in The Lab Program also made gains in the development of technical skills, with some participants envisaging working in information technology (IT) or computer programming in the future (Donahoo & Steele, 2013). Keys to the success of The Lab included the high level of interest and motivation of the participants, and the focus on skill development rather than remediation of deficits (Donahoo & Steele, 2013). Focusing on interests and strengths has also been suggested as an approach for working with adults on the spectrum to determine career or study options, particularly as special interests are inherently motivating and rewarding (Caldwell-Harris & Jordan, 2014). The Studio G Program applied the concept behind The Lab to an older age cohort (16-24 year olds) with a greater focus on post-school transition. It was envisaged that the focus on the intense interests of the participants in gaming and animation would enhance their motivation to attend. Making the program attractive to young people on the spectrum was considered important as characteristics common to the condition, such as anxiety and resistance to change (APA, 2013), can result in a reluctance to venture beyond the security of home and try new activities. Furthermore, there is evidence to suggest that gathering with like-minded people who have similar interests can enhance feelings of belonging and social participation (Koegel et al., 2012; Koegel et al., 2013).

1.2.2 Strength-based practice

Post-school programs for young adults on the spectrum typically focus on the remediation of deficits. For example, some programs aim to overcome the social and communication impairments that characterise ASD (Barnhill, Cook, Tebbenkamp, & Myles, 2002; Hillier, Fish, Cloppert, & Beversdorf, 2007; Tse, Strulovitch, Tagalakakis, Meng, & Fombonne, 2007), while others address specific vocational skills, such as interview skills, that have been found to be problematic for people on the spectrum (Hillier et al., 2007; Morgan, Leatzow, Clark, & Siller, 2014). In contrast, Studio G focuses on the strengths of the participants and the development of new skills. Strengths-based practice focuses on talents, abilities, and aspirations, which are recognised and developed (Hill, 2008). For this reason the Studio G mentors were selected on the basis of their skills in digital creative arts, which they could use to expand the skills repertoire of the participants. Professionals with backgrounds in special education or therapy

were not considered for the mentor positions, because they may have been more likely to focus on remediation of deficits, and less likely to have the capacity to develop the students' skills in digital creative arts.

1.2.3 Social role valorisation principles

Normalisation principles, although at times misinterpreted as intending to “make people normal,” focus on enabling people with disabilities to lead lives with the same conditions of everyday living as people without disabilities (Cocks, 2001; Working Alongside People with Intellectual and Learning Disabilities [WWILD], n.d.). Wolfensberger (2000, 2011) extended the principles of normalisation by developing social role valorisation theory, which suggests that segregation of groups of people who have often been devalued (e.g., people with disabilities) can reinforce negative societal beliefs about these groups (Cocks, 2001). Thus, social role valorisation supports the “social integration of devalued people in valued participation, with valued people in valued activities, which take place in valued settings” (Cocks, 2001, p. 15). The principles of normalisation and social role valorisation have influenced the development of disability policy and, thus, have impacted disability services in Australia (WWILD, n.d.).

The decision to locate Studio G at The Edge at the State Library of Queensland rather than a segregated, disability-specific setting was based on the principle of ensuring that activities “take place in valued settings” (Cocks, 2001, p. 15). The Edge is an attractive riverside facility that is described as a “visionary space for ‘creating creatives’; a melting pot of ideas and innovation, capacity-building, experimentation and innovation” (The Edge, n.d.). It includes an impressive array of facilities including multimedia equipment for use on site, a recording studio and a fabrication lab. The Edge is also located in close proximity to tertiary education institutions, which facilitates visits to these institutions and the transition of the participants to tertiary education. The selection of mentors with cutting edge skills in the creative industries also fulfilled the criteria of social integration with “valued people” in “valued activities” (Cocks, 2001, p. 15), as creative media activities and expertise tend to be highly valued in contemporary popular culture, particularly youth culture.

1.2.4 Support needs of people on the spectrum during key life transitions

Key life transitions such as leaving school can be challenging for many people, but especially for people on the spectrum, as the core features of the condition include insistence on sameness and resistance to change (APA, 2013). Friedman, Warfield, and Parish (2013) suggest that the post-school period can be a particularly vulnerable period for young adults on the spectrum as they leave the structure, routine and support of the school system and encounter adult systems of care that are often fragmented, under-funded, and difficult to navigate. Given that young people on the spectrum have high levels of social anxiety and agoraphobia (Gillot & Standen, 2007; Hofvander et al., 2009), there is a risk that those who do not find suitable employment, tertiary education, or training may become increasingly apprehensive about leaving the house and/or engaging in community-based activities. The high levels of solitary, screen-based media activities in this population (Neary et al., 2015) suggest this may often be the case. It is therefore important to provide support during this vulnerable period so that sedentary, reclusive lifestyles do not become entrenched and difficult to change.

Accumulating evidence indicates that young people on the spectrum with average to above average intelligence often do not achieve the adult outcomes that might be expected, given their intellectual ability. As they experience lower rates of participation in tertiary education, high drop-out rates, and difficulty finding employment commensurate with their abilities (Aspect, 2013; Neary et al., 2015), it follows that these young people may require higher levels of support during the transition period than their typically developing peers. Lee and Carter (2012) describe a number of promising elements of high-quality transition services for young people on the spectrum with average to above average intelligence, including (a)

individualised strengths-based supports, (b) positive career development and early work experiences, (c) meaningful collaboration and interagency involvement, (d) family supports and expectations, (e) fostering self-determination and independence, and (f) social and employment related skill instruction. With respect to the need to foster self-determination, Lee and Carter note that self-determination may be challenging for these young people, due to difficulties with self-awareness, reduced skills in decision-making and goal setting, and reduced capacity to articulate their goals. It is possible that their difficulties with decision-making and goal setting relate to the executive function difficulties that are common amongst people on the spectrum (Hill, 2004), while difficulties articulating goals may be associated with their social-communication impairment (APA, 2013). Young people on the spectrum may therefore require ongoing scaffolding to help them to develop awareness of future vocational possibilities, and to assist them to formulate and articulate their goals with respect to future training and employment.

Lee and Carter (2012) highlight the importance of career exploration activities, such as tours of professional industries and tertiary education institutions. The aim of these exploration activities is to expand the participants' awareness of career-related strengths and interests, and their understanding of potential training and career options. Accordingly, the Studio G Program incorporates a range of vocational outings to tertiary education institutions and creative industry workplaces in line with the students' interests and transitions goals. Both group and individual outings to cater for students' specific needs were integrated into the program.

In view of the challenges that these young people experience in completing tertiary education courses (Aspect, 2013; Neary et al., 2015), the need for ongoing support was recognised following transition to tertiary education. For this reason, it was considered important to provide students with the option to continue with a part-time enrolment in Studio G when they transitioned to tertiary education or training, so as to continue their access to support and prevent them from abandoning their course should issues arise.

1.2.5 Qualities of the mentors

Based on previous research, Rhodes, Spencer, Keller, Liang, and Noam (2006) proposed a model for the influence of mentoring on youth development, which suggests that positive mentoring relationships promote (a) social and emotional, (b) cognitive, and (c) identity development. More recently, a qualitative study by Eller, Lev, and Furer (2014) identified a number of key components of effective mentoring relationships. Protégés appreciated mentors with passion and inspiration, and the ability to communicate openly and respectfully (Eller et al., 2014). Other mentor qualities that they considered to be important included the capacity to (a) impart knowledge that has a "real world connection," (b) establish a caring personal connection, and (c) act as a role model rather than a teacher or boss (Eller et al., 2014). With these qualities in mind, Studio G mentors were selected on the basis of their skills and passion for the creative industries field, and an interest in working with young people on the spectrum. Real world industry experience was considered desirable. It was also considered to be important for the mentors to be similar to the students in age and interests, so that they could establish a connection with the students and act as role models.

1.2.6 Constructivist teaching principles

Constructivism is a theory of knowledge acquisition postulating that humans construct their own understanding and knowledge through their experiences and reflections on those experiences (Educational Broadcasting Corporation, 2004). Constructivist teaching involves the teacher acting as a facilitator providing guidance to the learner, who is accountable for his or her own learning (Educational Broadcasting Corporation, 2004). Piaget was a key contributor to the development of constructivism and suggested that "disequilibrium," between the learner's existing understanding and what the learner experiences, "forces the subject to go beyond his current state and strike out in new directions" (1985, p. 10, as cited by

Palincsar, 1998). Vygotsky added to this theory through the development of his idea of social constructivism (Palincsar, 1998). Vygotsky (1978) introduced the concept of the “zone of proximal development,” which is “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 85). In other words, Vygotsky argued that learning should be in advance of the learner’s development, but within the level of the learner’s potential development (Palincsar, 1998). Constructivist perspectives have been successfully applied to adult mentoring relationships (Millwater & Yarrow, 1997). These concepts lend themselves well to the Studio G Program, which involves the hands-on development of individual student projects, goals for learning that the students set for themselves, and learning involving an ongoing interaction between the student and the mentor. The mentors work with the student in developing their projects. This requires the mentor to develop an understanding of the student’s current level of skills and interests, and ways to build on these skills that are commensurate with the student’s interests and ability to take in new concepts. The latter process therefore fits with Vygotsky’s concept of the zone of proximal development.

1.3 THE STUDIO G PROGRAM

The Studio G Program was developed by Autism Queensland in 2014 to support young adults on the spectrum aged 16-24 years in the transition to employment, training, or further education, by facilitating the development of social, job, and life skills. Specifically, Studio G aims to

- enhance social participation and build friendship networks with like-minded young people;
- enhance emotional well-being, and prevent the development of anxiety and depression;
- develop project, work, and communication skills;
- develop awareness of future study, training, and/or employment options; and
- facilitate transition to further study, training, and/or employment.

The minimum program requirements for participants are that they have the capacity to (a) independently manage basic self-care, (b) self-regulate emotions and behaviours in group settings, and (c) understand instructions and express needs.

As there is currently limited available funding for adolescents and adults on the spectrum, the Studio G Program is offered on a user-paid basis. However, as affordability of the program for families is a key priority, Autism Queensland is making every effort to secure funding from a variety of sources, such as corporate sponsors, to keep fees as low as possible. There are also a number of Queensland Government funding sources, which Autism Queensland assists participants to access to fund their program fees.

1.3.1 Structure and content

The Studio G Program does not follow a specific curriculum, rather the students are placed at the centre of their curriculum. The constructivist philosophy of the Studio G workshop encourages the participants to grow at their own pace and, with the assistance of their mentors, to develop and complete self-directed projects in accordance with goals they themselves have set. The mentors circulate the room to spend time with each of their participants, taking into consideration equity and participants’ individual needs and preferences. Studio G provides access to a myriad of creative programs and software to assist with the development of the participants’ projects (see Appendix A). Projects cover a variety of multimedia areas, including computer game development, photography, graphic design, animation, music and sound, short film making, and creative writing. Skills in using technology are valued and applicable to a wide variety of careers. Examples include, but are not limited to, graphic and web design, information and communications technology support,

and a range of clerical work. The Australian Government Job Outlook website (<http://joboutlook.gov.au/>) currently rates job prospects in these fields as above average. Consequently, the participants are likely to benefit from the development of these skills in the long-term.

1.3.2 Case management

The Studio G Program Coordinator facilitates the transition process with an individualised case management structure. The transition process involves three major stages:

1. The participant's strengths, skills, interests, and passions are identified through observation during the program and discussion with the participant, their family, and their mentor.
2. Educational, training, or vocational outcomes that match the participant's combination of strengths, skills, and interests are explored; and possibilities are discussed with the participant, their family, and their mentor.
3. Ongoing follow-up with the participant is maintained after they exit the program; or concurrent support is provided as they engage in further study and/or training.

Crucial to the Coordinator's role is establishing and maintaining networks with secondary and tertiary education institutions, training providers, employment service providers, and creative industry workplaces, in order to facilitate pathways in and out of the Studio G Program. Vocational outings for the participants are planned in line with their interests and transition goals, and include visits to tertiary education institutions and creative industry workplaces.

1.3.3 Studio G mentors

Mentors facilitate the Studio G sessions by drawing on their skills and experience in the creative industries to guide participants through individual multimedia projects. The Studio G mentors fulfill two broad selection criteria, in that they are required to (a) be a current student or recent graduate in the creative industries, with some practical experience preferable; and (b) have an interest in working with young people on the spectrum. While it was not a requirement that the mentors have experience working with people on the spectrum, people with disability, or young people, most of the Studio G mentors had this type of experience. There is one mentor for every four Studio G participants, so as to allow time for one-on-one mentoring and for the participants to build trusting relationships with their mentors. Mentors and participants are matched based on their project interests and skills. The mentors are supported with a facilitated debrief and feedback process at the end of each session, and twice each term they attend a group reflection session with the Program Coordinator and a psychologist with expertise in and personal experience of ASD and management of anxiety.

1.3.4 Sessions

Studio G sessions run for three hours on Tuesday and Thursday afternoons for 10 week terms, with four terms running per year. Sessions are based at The Edge at the State Library of Queensland (SLQ) in Brisbane, Australia. The SLQ is in a central location close to various transport nodes, which facilitate independent travel to and from the venue. The Edge offers a creative space and provides access to software, internet, and technology support.

1.3.5 Program evaluation

Autism Queensland received innovation funding from the Cooperative Research Centre for Living with Autism (Autism CRC) to evaluate the Studio G Program. The program evaluation was conducted in 2015, with the data collection phase occurring over one semester, or two terms, of Studio G (February to July). The young people in the Studio G Program are hereafter referred to as "students" rather than "participants" to avoid confusion with their family members and mentors, who also participated in the research evaluation.

2. Method

2.1 RESEARCH AIMS

The aims of this project were two-fold:

1. To evaluate the impact of the program on students
2. To gather feedback on the program to inform its ongoing refinement and improvement

Specifically, the first aim was to evaluate the impact of the program on students'

- social participation and friendship networks;
- emotional well-being;
- project skills; and
- awareness of and transition to further study, training, and/or employment.

The second aim was to gather feedback on the program from the students, their family members, and the mentors, through identifying their

- satisfaction with the program, and
- perspectives on how the program could be improved.

2.2 RESEARCH DESIGN

For this evaluation, generic qualitative inquiry involving analysis of the data from two semi-structured interviews with students, two semi-structured interviews with family members, one semi-structured interview with mentors, and responses to open-ended questions from mentor records was used. Generic qualitative inquiry is considered appropriate when asking participants questions in real world settings with the aim of improving programs and developing policies (Patton, 2015). All semi-structured interviews were conducted by the same research assistant, the second author (NB). Several strategies were implemented to improve the rigour of the evaluation: (a) triangulation, (b) member checking, (c) prolonged engagement in the field, and (d) use of rich, thick descriptions.

Triangulation

Two types of triangulation, as described by Patton (2015), were employed. First, triangulation of qualitative sources was established by using two or more participant groups to gather information on the same research question so that data were obtained from multiple sources. The evaluation explored the impact of the program on the students from the perspectives of the students, their family members, and the mentors. Secondly, analyst triangulation was established by having the Studio G evaluation research assistant and an independent analyst (an Autism Queensland research assistant who had no direct involvement in the Studio G Program or the research evaluation) review the findings.

Member checking

Member checking was implemented to determine the accuracy and validity of qualitative findings (Creswell, 2014). Due to the highly individualised nature of the qualitative data, member checking was not used to confirm emerging themes, but rather to check the accuracy of the research assistant's interpretation of the participants' experiences and perspectives. Family members were emailed after the first interview with a summarised timeline of the information they had provided regarding their child's engagement in education and employment prior to and alongside attending Studio G. They were asked to confirm the

details, make corrections, and provide any relevant additional information. As a result, minor additions were made to some of the timelines. During the second interview with each student and family member, the research assistant verbally confirmed the information provided in the first interview, such as the students' friendship networks, education and employment history, and thoughts on future study and/or employment. Finally, at the conclusion of data collection, two students and two family members were provided with a written summary of the research assistant's interpretation of the information they had provided in the first and second interviews. All four participants agreed that the information they provided had been interpreted accurately.

Prolonged engagement in the field

Prolonged engagement in the field lends support to the credibility of qualitative data, as the researcher develops a comprehensive understanding of the phenomenon under study (Creswell, 2014). By frequently attending Studio G sessions and making repeated observations, the research assistant developed an in-depth understanding of the program and the students' projects, thus enhancing her capacity to conduct semi-structured interviews and interpret participants' responses. Furthermore, the research assistant became embedded in the program and established trust and rapport with the students and mentors. The importance of building rapport and enhancing the comfort of young people on the spectrum during research interviews has been recognised as essential in order to gain rich and meaningful insights into their experiences (Harrington, Foster, Rodger, & Ashburner, 2014).

Rich, thick descriptions

Rich, thick descriptions provide a realistic and detailed account, which lends support to the rigour of the data (Creswell, 2014). Rich, thick descriptions are provided about the Studio G program (see section 1.3 The Studio G Program) and the participants (see section 2.5 Participants). Additionally, multiple perspectives are provided to illustrate the themes and outcomes presented in the findings (see section 3. Findings).

2.3 RECRUITMENT

At the commencement of the research evaluation in Term 1 of 2015, 16 students were enrolled in Studio G, one of whom participated in pilot testing (detailed below). The remaining 15 students and their families were approached about their participation in the research project and provided with a recruitment flyer (see Appendix B). Students interested in participating were provided with participant information sheets. Those under 18 years of age were required to provide written assent and gain written consent from their family members for their participation. Those aged 18 years or older were required to provide written consent, and were additionally given the opportunity to grant permission, or not grant permission, for their family members to participate. All students wishing to participate granted permission for their family members to participate. Students who turned 18 years of age during the data collection phase were asked to complete a consent form for their continued participation and were given the opportunity to grant permission, or not grant permission, for their family members to continue participating. Family members wishing to participate, whose child had consented or assented, were required to provide written consent for their own participation. Mentors were approached by the research assistant and provided with information sheets and consent forms at the commencement of Term 1, or Term 2 if they were newly recruited. All the mentors consented to participate. Participant information sheets and consent/assent forms for students, family members, and mentors can be found in Appendix C.

2.4 MEASURES

Demographic questionnaires

Family members completed a demographic questionnaire that gathered information on the students' gender; age; diagnosis, age at diagnosis, and profession of diagnostician; co-morbidities; current study, training, and employment; and thoughts on future study, training, and employment. Mentors completed a demographic questionnaire that gathered information on their gender; age; and relevant education, training, and experience. Both demographic questionnaires can be found in Appendix D.

Social Responsiveness Scale (Second Edition) (SRS-2)

The SRS-2 (Constantino & Gruber, 2012) is a standardised 65-item instrument that identifies and quantifies the severity of social impairment associated with ASD. Responses are given on a 4-point Likert scale, ranging from 1 (*not true*) to 4 (*almost always true*). The School-Age Form (for students aged 4-18 years) can be completed by a parent or teacher. The Adult Form (for students aged 19+ years) can be completed by a relative or friend, or individuals on the spectrum can complete the Adult Self-Report Form. Family members in the current study completed either the School-Age Form or the Adult Form. Scores were calculated by the research assistant according to SRS-2 manual instructions.

Family members, rather than students, were asked to complete the demographic questionnaire and SRS-2 as these measures focused on autistic symptoms and comorbidities, therefore highlighting the students' impairments. This focus may have impacted negatively on the students' rapport with the research assistant, and their comfort during the research interviews. For this reason, the SRS-2 Adult Form, to be completed by a relative, was used rather than the SRS-2 Adult Self-Report Form.

Semi-structured interviews

Repeated semi-structured interviews with students (face-to-face) and their family members (over the phone, as family members did not attend Studio G sessions) gathered information relevant to the research aims. This included information on the students' interests, goals and achievements in Studio G; social participation and friendship networks; previous and current engagement in study, training, and employment; thoughts on future engagement in study, training, and employment; sources of pride; and emotional well-being. Questions about social participation and friendship networks were devised based on the method of grading friendships used in the ADI-R (Le Couteur et al., 2003). Interviews also gathered the satisfaction of students and family members with the program and their perspectives on how the program could be improved. Face-to-face semi-structured interviews with the mentors gathered information on their perceptions of the program's impact on students' lives, as well as their satisfaction with the program and their perspectives on how the program could be improved. Semi-structured interview schedules can be found in Appendix D.

Mentors' fortnightly record

A questionnaire was developed to collect information from the mentors about their students' progress throughout the semester. Items included open-ended questions and ratings scales, which were developed specifically for the evaluation. Open-ended questions gathered information about the students' project progression, skill development, and friendship networks. Rating scales gathered information on the students' work and communication skills. Three items were included for work skills (e.g., "*This student kept on task and was focused on their work this fortnight*") and three items were included for communications skills (e.g., "*This student was clear and easy to understand when they communicated with others (mentors and students) about their project this fortnight*"). Responses were given on a 7-point Likert-type

scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The questionnaire also allowed mentors to record any additional notable observations, such as a student's mood or absence during a session. Recorded absences were used to estimate the program's attendance rate. The mentors' fortnightly record can be found in Appendix D.

2.5 PARTICIPANTS

The research participants were 11 Studio G students (eight male and three female) aged between 17 and 21 years ($M = 19.00$, $SD = 1.61$), 12 of their family members (eight mothers, two fathers, one stepmother, and one grandfather), and seven Studio G mentors (six male and one female) aged between 21 and 30 years ($M = 23.71$, $SD = 3.20$).

Students and family members

All students had a diagnosis of autism in some form, and most also experienced one or more comorbid condition, which are detailed in Table 1. Of the 11 students participating in the research project, three students had attended the program for two terms in 2014, three students had attended the program for one term in 2014, and five students had never attended the program before. One student was attending Studio G alongside his final year of secondary education. Of the remaining 10, most had experienced a range of challenges with post-school transition (see Table 1). Each student had one participating family member, except one student whose mother and father both participated (see Table 1).

Mentors

Of the seven mentors, two participated for both Term 1 and Term 2 (Gary and Jordan), while the remaining five mentors participated for either Term 1 (Sarah and Paul) or Term 2 (Charlie, Patrick, and Wayne). Sarah and Paul were unable to continue with the program after Term 1, so two new mentors were employed to replace them, plus an additional mentor to manage the increase in student enrolments. As the groups and mentor/student matches did not necessarily remain the same across both terms, some students had two different mentors across the data collection phase. Details of the mentors' relevant educational training and work experience can be found in Table 2.

Table 1: *Student Demographics*

Name ¹	Family Member	Age (years)	SRS-2 Score ²	Diagnosis ³	Age at Diagnosis (years)	Comorbidities ³	Education and Training	Employment
Aaron	Stepmother	17	>90	Autistic Disorder	17	Anxiety disorder	Did not complete senior phase of learning (year 12); attempted and failed to complete VET ⁵ course	Currently unemployed; previous short-term casual employment
Beth	Mother	17	77	Asperger Disorder	6	Anxiety disorder; Auditory processing disorder; Non-verbal learning	Completed senior phase of learning (year 12) with QCE ⁶ ; completed multiple VET courses; attempted and failed to complete VET course	Currently unemployed; previous short-term casual employment; previous volunteer work
Calvin	Father & Mother	19	65	Autistic Disorder	7	Intellectual impairment	Did not complete senior phase of learning (year 12); completed VET course	Currently unemployed; previous short-term casual employment; previous volunteer work
Danielle	Mother	18	78	Autism Spectrum Disorder	Between 3 and 4	Diabetes	Completed senior phase of learning (year 12) with QCE	Currently unemployed; no previous employment
Evan	Father	19	65	Autistic Disorder	Between 2 and 3	None	Completed senior phase of learning (year 12) without QCE	Currently unemployed; no previous employment
Fred	Mother	21	67	Autistic Disorder; Asperger Disorder; PDD-NOS ⁴ ; Autism Spectrum Disorder	7	Attention deficit disorder; Epilepsy; Anxiety disorder; Depression	Did not complete senior phase of learning (year 12); attempted and failed to complete bridging course	Currently unemployed; no previous employment
Georgia	Mother	20	61	Asperger Disorder	4	Cerebral palsy	Completed senior phase of learning (year 12) with QCE; completed multiple VET courses	Currently in casual employment (8 hrs/week)
Harry	Grandfather	17	59	Autistic Disorder	6	None	Currently in senior phase of learning (year 12)	Currently unemployed; no previous employment
Ian	Mother	21	66	Autistic Disorder	6	Dyslexia	Completed senior phase of learning (year 12) without QCE; completed VET course	Currently unemployed; no previous employment
Jeff	Mother	21	79	Asperger Disorder	18	Attention deficit disorder; Anxiety disorder; Depression; Dyslexia; Auditory processing disorder	Completed senior phase of learning (year 12) with QCE through home-schooling	Currently unemployed; no previous employment
Kyle	Mother	19	84	Asperger Disorder	6	Physical impairment	Completed senior phase of learning (year 12) with QCE; completed VET course; attempted and failed to complete VET course	Currently in casual employment (8 hrs/week); currently in volunteer work

¹ All names are pseudonyms

² *Social Responsive Scale (Second Edition)*; (School-Age Form for students aged <19 years; Adult Form for students aged ≥19 years); ≤59 = within normal limits, 60-65 = mild range, 66-75 = moderate range, ≥76 = severe range

³ As reported by family member

⁴ Pervasive Development Disorder-Not Otherwise Specified

⁵ Vocational Education and Training

⁶ Queensland Certificate of Education – Queensland's senior school qualification for completion of secondary schooling with the required number of subjects and literacy and numeracy achievements

Table 2: *Mentor Demographics*

Name ¹ , Age (years)	Educational Training	Industry Experience	Other
Charlie, 23	Bachelor of Animation (Honours)	Graphic design and animation	Swim instructor for children with ASD
Gary, 22	Bachelor of Music Technology (currently studying)	Music and sound engineering	Music tutor for primary school children
Jordan, 22	Bachelor of Animation (currently studying)		Disability support worker
Patrick, 26	Bachelor of Games and Interactive Entertainment	3D modelling and printing, game development, and animation	Animation tutor for primary school children
Paul, 30	Bachelor of Games Design	Game development and web design	Game development tutor for children, adolescents, and young adults
Sarah, 22	Bachelor of Animation	Visual effects	Tutor for primary school child
Wayne, 21	Diploma of Digital and Interactive Games (currently studying)	Sound engineering and game development	Training in disability awareness

¹ All names are pseudonyms

2.6 PROCEDURE

2.6.1 Pilot testing

Prior to the commencement of Term 1, two students who had previously attended Studio G in 2014 were approached about their participation in pilot testing the research evaluation materials. Both students consented to participate and provided feedback on the recruitment flyer and semi-structured interview questions for students. One of the students' family members was also approached and consented to participate in the pilot testing. The family member provided feedback on the recruitment flyer, demographic questionnaire, and semi-structured interview questions for family members. Piloting with the students and family member resulted in the addition of one semi-structured interview question (*"What are you hoping to achieve in Studio G?"*). No other changes were made to the recruitment flyer, demographic questionnaire, or semi-structured interview questions.

The mentors' fortnightly record was originally intended to be completed weekly by mentors, and was piloted in week 2 and week 3 of Term 1 with the four mentors who participated in Term 1. According to feedback provided by mentors, it was more appropriate for the questionnaire to be completed fortnightly, as there were minimal changes in the students' project progression, skill development, and friendship networks within a week. The items on the questionnaire were determined to be appropriate and useful, and hence, were not amended. As the items were not amended, the questionnaires from week 2 and week 3 were included in the data analyses.

2.6.2 Data collection

Participants were recruited during weeks 1-2 of Term 1. Family members completed the demographic questionnaire and SRS-2 at the beginning of the semester and returned them to the research assistant in person at Studio G or to the researchers via post. Mentors completed their demographic questionnaire and returned it to the research assistant in person at the beginning of the semester. Semi-structured interviews with students and their family members were conducted towards the beginning of the semester (within weeks 3-6 of Term 1) and again towards the end of the semester (within weeks 8-10 of Term 2). One student

declined to participate in the second interview. Semi-structured interviews with the mentors were conducted at the end of the semester (within week 10), or at the end of Term 1 (within week 10) for those who were not returning to mentor in Term 2. Interviews with students and mentors were conducted face-to-face in a quiet and private area of the program venue. Interviews with family members were conducted over the phone at a scheduled time, pre-arranged via email between the family member and research assistant. Mentors completed their fortnightly record in week 2 and week 3 of Term 1 and fortnightly thereafter, with the exclusion of week 1 and week 10 of each term. Accordingly, the questionnaires gathered information for weeks 2-9 of each term. A summary of the data collection methods categorised by research aim can be found in Table 3.

2.6.3 Data analysis

All interviews were audio-recorded and transcribed verbatim. Qualitative content analysis was used to analyse the data gathered from semi-structured interviews with students, family members, and mentors, as well as the responses to open-ended questions on the mentors' fortnightly record. Qualitative content analysis is a method of eliciting contextual meaning from text through the development of emergent themes (Patton, 2015). An a priori coding system was used to highlight information relevant to the research aims (i.e., the impact of the program on the students' social participation, friendship networks, emotional well-being, project skills, awareness of and transition to further education or employment; and feedback on satisfaction with the program and areas that could be improved). Analysis involved initially searching for a set of preliminary, descriptive themes, and then later for high-order, pattern themes. Over time, themes were refined, collapsed, and expanded until they adequately captured the full breadth of the data. The rigour of the analysis and credibility of the data was enhanced through the use of multiple coders. Two coders analysed the data independently for descriptive and pattern themes, before comparing identified themes and sub-themes. Any discrepancies were resolved through discussion and, where necessary, theme refinements were made (Patton, 2015). Quantitative data gathered from the mentors' fortnightly record rating scales were not included in the analyses as they were considered unreliable, due to changes in the mentors who were rating the students' work and communication skills during the data collection period (only two of the seven mentors were involved in both Term 1 and Term 2). For example, changes in the mentors appeared to alter the mentor-student relationship, as the students' communication with their mentors temporarily reduced at times when they were required adjust to a new mentor.

2.6.4 Ethical considerations

Ethical clearance for this research evaluation was obtained from The University of Queensland Ethics Review Committee. All participants provided informed consent or assent, as described above. The first two weeks of Term 1 were allocated to recruitment to provide students with sufficient time to understand the research project, and the research assistant ensured that it was clear to students that their participation in the research project was completely voluntary and that, whether they participated or not, it would not impact their experience in the Studio G Program. Participants were reminded throughout data collection that participation was completely voluntary and that they could withdraw at any time without giving a reason and without negative consequence. When recruiting participants the research assistant was mindful of phrasing the invitation to avoid acquiescence. That is, if students seemed unsure about participating, the research assistant would phrase questions with the assumption that the student did not wish to participate (e.g., "You do not wish to participate – is that correct?"). Each participating student and family member was provided with a \$20 gift card for the store of their choice, as a token of gratitude for their assistance with the research evaluation. The gift cards were delivered to participants between the first and second interviews, to eliminate feelings of obligation to participate in the second interview.

Table 3: *Data Collection Summary*

Research Aim	Measure	Time Administered ¹	Participants
(1a) social participation and friendship networks	Semi-structured interview	Beginning and end of semester	Students Family Members
	Mentors' Fortnightly Record	Fortnightly throughout semester	Mentors
(1b) emotional well-being	Semi-structured interview	Beginning and end of semester	Students Family Members
	Semi-structured interview	End of semester	Mentors
(1c) project skills	Semi-structured interview	Beginning and end of semester	Students Family Members
	Mentors' Fortnightly Record	Fortnightly throughout semester	Mentors
(1d) awareness of and transition to further study, training, and/or employment	Semi-structured interview	Beginning and end of semester	Students Family Members
	Semi-structured interview	End of semester	Mentors
(2) satisfaction of participants with the program and their perspectives on how the program could be improved	Semi-structured interview	End of semester	Students Family Members Mentors

¹ Beginning of semester = within weeks 3-6 of Term 1; end of semester = within weeks 8-10 of Term 2; fortnightly throughout semester = weeks 2-3, 4-5, 6-7, and 8-9 of both Term 1 and Term 2

3. Findings

I think it's a fantastic program, and I think that each and every individual that's been through the doors and done a full semester has gotten something out of it, whether it be, you know, skills that you can use in the industry, in like a work environment, or if it's just social skills or some sort of social confidence, I think we've had a wide array of success in each of those areas. – Paul (Studio G mentor)

The themes that emerged from the data in regard to the impact of Studio G on various aspects of the students' lives included two main categories of outcomes: (a) psychosocial outcomes, and (b) learning and development outcomes. Three sub-themes emerged in relation to psychosocial outcomes, which were

- strong motivation and enjoyment in attending Studio G,
- enhanced social participation and friendship networks, and
- improved emotional well-being.

Three sub-themes emerged with respect to learning and development outcomes, which were

- learning and development of skills;
- increased awareness of options for future study, training, and/or employment; and
- support to access further study, training, and/or employment.

Two key themes emerged in regard to the features of the program that appeared to contribute to the students' positive outcomes and to the satisfaction of participants with the program: (a) the role of the mentors, and (b) the nature of Studio G as a learning environment. The program's social activities and vocational outings were also perceived as contributing to positive outcomes. Each of the outcomes will be presented with supporting qualitative data, followed by the contributing features of the program. Finally, the satisfaction of participants and their perspectives on how the program could be improved will be presented. The findings are represented diagrammatically in Figure 1. Because of the substantial overlap between the themes, they are depicted using intersecting circles.

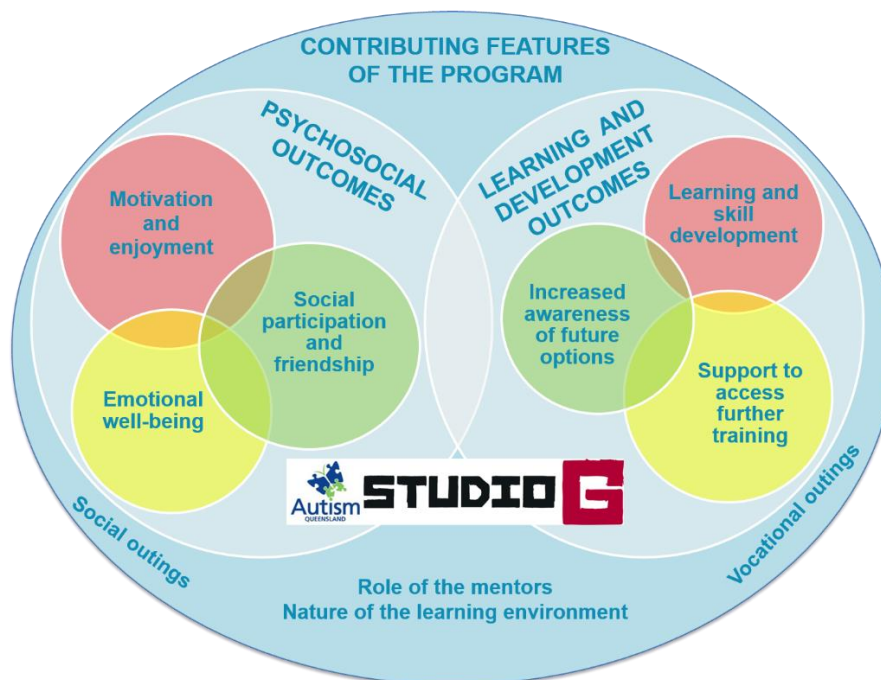


Figure 1. Summary of positive outcomes and contributing features of the program.

3.1 PSYCHOSOCIAL OUTCOMES

Three sub-themes emerged from the data in relation to psychosocial outcomes of the program: (a) strong motivation and enjoyment in attending Studio G, (b) enhanced social participation and friendship networks, and (c) improved emotional well-being.

3.1.1 Motivation and enjoyment

The Studio G Program was found to have a mean attendance rate of 96%, ranging from 82% to 100%. The majority of sessions (21 out of 32 sessions) had a 100% attendance rate. Approximately half of the students had absences, most of whom were absent for only one or two sessions. One student, Fred, was absent for six sessions; however, his absences appeared to be due to illness and struggles with medication. Fred's mentor recorded comments that Fred was *"tired from meds"* and *"not feeling well lately."* These comments were corroborated by Fred's family member in the second interview: *"He's missed quite a few days this term but he's actually been quite unwell on those days ... his medication for his [conditions] is still not right."*

The attendance rate is reflected in comments from students and their family members, which demonstrated the students' motivation and enjoyment in attending the program. Students said they *"can't wait for the next Studio G day,"* that they would *"like to keep going for the rest of the future,"* and that Studio G was *"a good excuse to get up in the mornings and go out, rather than stay at home."* Evan suggested that Studio G was his safe haven:

I love Studio G ... I just like it here, this is my place, cause it's my, like, sanctuary ... I would not be happy if I did not happen to come back here, 'cause I love it here.

Likewise, many family members commented on the students' strong motivation and enjoyment in attending Studio G. For example, Calvin's mother said:

He comes home, [Calvin's father] probably told you, from Tuesday and Thursday on a real high, he just loves going ... He'll even say to us on a Thursday afternoon, "oh no, I've got another three days, you know, I feel like just sleeping until Tuesday" ... this has probably been the one thing [Calvin] is involved in.

Calvin's father subsequently compared Calvin's engagement in Studio G to activities Calvin had previously attended: *"We have found that other things, you know, he can lose interest after a while, but he certainly has never lost interest in going."* Similar comments were made by other family members, demonstrating the students' heightened motivation in attending Studio G compared to other activities, particularly as many of the students' school experiences were described as negative, with bullying as a common occurrence (e.g., *"bullying ... he hated school ... he couldn't wait to get out of there"* – Evan's father). Beth's mother explained the contrast between Beth's enthusiasm to attend Studio G and her previous reluctance to attend school:

The fact that she's happy to get herself up, get herself organised and get in there twice a week, compared to dragging her arse out of bed every school morning, you know, under protest and duress and all the rest of it, I think speaks solely and within itself.

Beth's mother also expressed that without Studio G, Beth would *"just be sitting at home in her room on her computer day in and day out."* It was common for family members to comment on the incentive that Studio G provided the students to leave the house, when they would otherwise spend the majority of their time at home. Jeff, who was 21 years old at the time of the evaluation, had been home-schooled from year 8 to year 12. Since finishing school, Jeff had not enrolled in a tertiary education or training program, had never been employed, and

never left the house to meet friends. His engagement with the outside world was therefore very restricted. Jeff's mother commented:

It's the first kind of contact thing that he's done in years, and that he's been willing to leave the house for ... before he'd never shown enthusiasm for anything, and being able to get himself ready without anybody pushing him to go, yeah, whatever [Program Coordinator] and those are doing, it's just great.

3.1.2 Social participation and friendship

Comments from the students, family members, and mentors were consistent in suggesting that the program had a positive impact on the students' social participation and friendship development. When asked if they had become friendly with other people in Studio G, 10 of the 11 students referred specifically to at least one other Studio G student as their friend. The eleventh student said he had *"become friendly with most of them"* in the program. Wayne, one of the mentors, made the following observation:

There's certainly a lot more noise and a lot more interaction between the groups ... not only are they talking to each other in their groups but they're talking to other mentors, they're actively seeking out other people to come and show opinions on their project, you know, walking around the room and stuff, so I think that's the sociable side of things and that's exploded.

Numerous comments from students and family members suggest the program naturally facilitated social participation and friendships by creating an *"an opportunity to mix with like-minded people"* who *"have the same interests,"* as described by Georgia's mother. Georgia's mother further noted that since attending Studio G *"[Georgia] doesn't feel she's the only one in the world that thinks the way she does, acts the way she does."* Georgia confirmed her mother's view by commenting that she enjoys *"catching up with friends"* at Studio G, as well as *"Minecraft, Yu-Gi-Oh, card games in general, talking about, you know, anime and things like that and people understand exactly what you're saying."* Fred, a student, shared a similar view to Georgia and her mother, commenting on Studio being a place to socialise with people of similar interests: *"I find coming to Studio G helps to fill my need for social interaction ... just seeing and being around a bunch of people ... a lot of them have, share similar interests to me."* Fred's mother made the same observation: *"Having somewhere to go where there's people to hang out with and where he feels part of a group, I think's made a huge difference."* Patrick, a mentor, described how the program had facilitated friendships by creating a safe environment where the students could interact with other like-minded people:

One of the best things is just being in an environment with lots of other people who are interested in the same things and, sort of, behave all the same way or similarly anyway, and just, like, [student] admitted to me that he was bullied in high school and that's why he had a lot of trouble in high school, but here he feels a lot more comfortable with other people, like, it's definitely, like, a safe, it feels safer to a lot of them, I think, and yeah, a lot of them, you can see them all having conversations and playing games with each other and just having fun and that's definitely been positive for all of them, I think.

Another mentor, Charlie, also observed this aspect of the program, commenting that *"just generally people, like, 'nerding out' downstairs and being comfortable with what their interests are is something that I've really liked to see."* Charlie additionally observed that the program had provided an opportunity for students to form friendships in person, rather than online:

There's a lot of friendships that are made downstairs that probably wouldn't have been made otherwise, because a lot of them are very digitally orientated and it's easy to make a friend online but it's sometimes a lot different to making a friend in, like, in the outside world and it's always nice having that close physical relationship with

someone where you can actually see them and hear them talk in real time, rather than through a speaker, so I think that's definitely a benefit.

Two students in particular, Harry and Jeff, became markedly more sociable within the program. These students were particularly withdrawn to begin with. Jeff's mentor, Gary, commented:

When [Jeff] first came to Studio G he was really, you know, found it hard to get out of the house and like, sort of, he found it hard to, like, share his music ... Jeff is one of our most social participants now ... it's not uncommon to see him wandering around at different tables and being able to pick up a conversation with pretty much everyone, anyone ... it's really impressive ... he seems to have overcome a lot of social anxiety and really enjoys, you can see that he really enjoys, like, interacting and, with other people and that's one of his great strengths, I find.

Similarly, Harry's mentor, Patrick, commented:

When I started here, [Harry] wasn't very good at talking to people, he was very quiet and all that, but he's gotten a lot better, so, you know, he's having conversations with everyone and he's kind of a chatterbox actually now ... he's definitely improved all round, he just seems happier and talkative and even louder ... he's actually gotten loud enough for me to hear him clearly when I, when he's talking.

Harry's grandfather also observed his enhanced sociability, suggesting that his improvements extended to outside of the program (English is Harry's grandfather's second language):

He is more confident, he can talk more, you know, he, before he didn't want to go into it in a conversation, you know, now, we have half an hour, one conversation and I'm happy that he sticks to it and he explains his views, whatever it is, you know, this comes all out of Studio G, you know.

Since attending Studio G, several students were reported to have begun to take the initiative to organise plans with peers outside of a pre-arranged group setting. Aaron and Georgia started to spend time on weekends with one another and another Studio G student who did not participate in the research evaluation (hereafter described as "non-research student"). Georgia's mother commented on the new-found friendship, saying it was the "*first time in our whole life she's actually invited some friends to our home to play the PS3 ... a couple of friends from Studio G that she's met and feels comfortable with.*" The development of this friendship was recorded throughout the semester by the students' mentors. For example, Georgia's mentor recorded that she "*has developed a friendship with [non-research student] and [Aaron],*" and "*is good friends with [non-research student] and [Aaron].*" Likewise, Aaron's mentor recorded that he "*has maintained his friendship with [Georgia] and [non-research student] and clearly enjoys conversing with them.*" Aaron and Georgia also spoke of their new friendship. Aaron said: "*[Non-research student] and [Georgia] ... I've met up with them on weekends.*" Georgia corroborated the information provided by her mother, explaining:

I'll occasionally invite them round to my house ... pretty much every second Saturday, or pretty much whenever ... we mainly play Minecraft, Call of Duty, All Stars Racing at one point ... it's mainly in my room ... I normally ask mum and dad if it's alright for them to come round.

Other students also started to make arrangements with peers outside of a pre-arranged group setting. Beth had attended a social group with other young people, which was arranged by her psychologist. Beth began to take the initiative to organise to spend time with the other young people herself, as described by her mother:

This big group of them got together, went to a community, like, connection group that was run by her psychologist. This year they haven't actually had any formal, like, meetings with the psychologist ... so, I think with obviously not having that there, [Beth] then said, "oh okay, well mum, maybe I'll organise lunch at Sizzler's and see if everybody wants to come," so she's organised that and they're all going to get together.

Beth's improved ability to make arrangements with peers may not be attributable to Studio G. However, her mother commented that *"it's interesting because none of the other kids ever organise it,"* suggesting that Beth had gained some social confidence when her peers had not. Danielle also started to spend time with peers outside of a pre-arranged group setting. Although the arrangements were predominantly organised by her peers, Danielle had previously only spent time with peers outside of pre-arranged group settings when it was arranged by her community support worker.

3.1.3 Emotional well-being

Studio G was reported to add value and meaning to the students' lives and provide a support network, which subsequently had a positive impact on their emotional well-being. Ian's mother explained that *"what Studio G has done is just a little, you know, icing on the cake ... value adds to [Ian's] life that he's set himself up with ... it's given him things that he needs in his life."* Beth's mother described how Studio G had *"given [Beth] a focus, it's given her a, you know, something to do ... getting her out of the house I think has been, you know, really, really good in that way."* Similarly, Fred, a student, commented that Studio G was *"keeping my life filled with stuff."* A mentor, Gary, spoke about how *"some participants before joining were, sort of, were quite housebound or found it hard to perhaps after school, you know, be productive,"* and that Studio G had *"given people, some people, structure in that way."* Attending the program and interacting with like-minded people helped students to feel less isolated. For example, Georgia's mother described that Studio G had *"opened [Georgia] into an area that she doesn't feel isolated being different from other people,"* and that it had *"been good for her emotionally and mentally to know there are other people out there who are in this society just like her."*

Friendships that students developed within the program created a peer support network. For example, Aaron's mentor, Patrick, recorded that Aaron's *"friendship with [non-research student] and [Georgia] has helped him a lot."* Additionally, Fred commented that *"just being here (at Studio G) has allowed, just, me to not go insane from loneliness and boredom."* Some of the mentors commented on how they were able to provide support for the students as well. For example, Wayne said:

They know now that they have, like, a network to talk to, they can come in and just let us know what happened on the weekend ... in the sense that they talk to us about any problems they have, that's probably healthy.

Similarly, Jordan suggested that *"if something's happened at home then, I guess, this has been a place to talk about it for a bit, for small issues at least ... it's kind of somewhere for them to go away from all that stuff."* One of the students, Georgia, reiterated the mentors' comments by expressing that she *"can pretty much talk to them (the mentors) about anything."*

Family members and mentors also observed improvements in the students' happiness as a result of attending Studio G. Ian's mother said that *"[Ian] goes off and comes home happy,"* and Danielle's mother commented that *"[Danielle] feels so happy when she [goes] in there."* Sarah, a mentor, commented that she thought *"all the students are happier,"* and Jordan, another mentor, made the following observation: *"Judging from the atmosphere in the room from the start of the program to now, lot more chatty, a lot more friendly and a lot more smiles"*

and jokes and stuff like that." Similarly, Aaron's stepmother described the improvements she had observed in Aaron's emotional well-being since he started attending Studio G:

He's been the happiest I've seen him in a long time ... I think because he's in an environment that he feels comfortable in, and he's doing something that he enjoys ... I see such a difference in [Aaron] since he's been going there, so that's awesome.

As well as improving their happiness, the program was reported to enhance the students' confidence. Jeff's mother described the impact of Studio G on Jeff's confidence:

He's not a very social kid, he doesn't have social skills usually, so I think this is a big step for him, to be able to step out of his comfort zone and actually give something a go ... it's just bringing him out of himself and it's giving him some confidence that we could never, yeah, no matter how much we, you know, tried to boost him and things like that, it just wasn't working.

Gary, a mentor, made similar observations of the students becoming less withdrawn and seeming to overcome social anxiety within the program:

There's some people who since joining Studio G I think have really, we've been able to see the progress, the development of them, just coming out of their shells and, you know, not be so scared anymore to approach or be approached by someone and that comes with, you know, getting to know the other people in Studio G.

Some family members commented on the students' travel to and from Studio G as a source of improved independence and confidence. For example, Beth's mother said that *"the confidence of actually getting herself there and getting herself home and so forth has been, you know, a huge step for her with doing that."* Similarly, Evan's father said Studio G had improved Evan's confidence by *"building up on his coping strategies and his defense strategies, especially like walking to and from the station and where other people, interacting with strangers, so it's improved it quite a bit."* Likewise, Danielle's mother described how Danielle had gained confidence since attending Studio G, when she had previously lacked the confidence to go out by herself (English is Danielle's mother's second language):

She get more confident because some, sometimes I try let her go by herself, catch the bus to the Studio G by herself, and she did, she did this very well ... since she go over there she more confident and then, you know, she got something to learn and she really confident to going out herself, which not before, you know, before she really worry about going out without, you know, someone go with her, but now she really confident.

In contrast, Fred's mother explained that travelling to and from Studio G was a source of anxiety for him, although the program had improved his emotional well-being in other ways:

I don't think it's helped his anxiety, I think if anything it's ramped up anxiety but it's certainly helped with depression, if you know what I mean, like, he does get anxious about going there and catching public transport, cause that's one of the things we try to make him do to get there and back independently, and some days he simply cannot manage that.

Students were asked if there was something they were currently proud of at the beginning and end of the semester. At the beginning of the semester, most students could not think of anything or gave examples of something they had achieved some time in the past. By the end of the semester this question prompted most students to talk about their interests and projects (e.g., *"my stories,"* and *"learning how to animate, create my own 3D stuff"*). Two students expressed pride in being a part of Studio G (e.g., *"mainly getting in to Studio G"*).

3.2 LEARNING AND DEVELOPMENT OUTCOMES

Three sub-themes emerged from the data in relation to learning and development outcomes of the program: (a) learning and development of skills; (b) increased awareness of options for future study, training, and/or employment; and (c) support to access further study, training, and/or employment.

3.2.1 Learning and skill development

It was reported that the students learned and developed skills in a wide range of projects, often in the area of their special interest. Many of the students were developing games. For example, in response to a question about his project, Fred replied: *“I’m developing my own game. It’s going to be a turn-based, tactical RPG (role-playing game) sort of thing ... with influences of the X-COM series and a few other games.”* Other project areas included creative writing, animation, music production, short film making, video editing, photography, and graphic design. Some students were working on projects in unique areas, related to their special interests. For example, one student who had had an enduring interest in Pokémon was developing a Pokémon game application with the aim of marketing it for use on smart phones. Another student who designs and makes jewellery was using Studio G to develop a website for his jewellery business (*“I’ve learnt heaps, particularly in the way of animation and configuring software, and particularly making websites as well”*). Another student who aspires to be a fashioner designer was working on design illustrations and his mentor helped him *“to learn all the different, kind of, styles, different shapes, different colours, different techniques”* of clothes. Some students were working on multiple projects or on a single project that covered multiple areas of multimedia. For example, as well as learning about fashion, Evan was creating 3D designs using animation software.

Jordan, a mentor, said the students were *“slowly gaining skills,”* and Sarah, another mentor, commented that she thought the students had *“all learnt something new, they’ve learnt something new or a different way of looking at things.”* Almost all of the students and family members referred to Studio G as providing opportunities for learning, mental stimulation, and development of skills. For example, Evan expressed that he had *“learnt to make animations myself, make my own models by myself”* and his father commented: *“Since [Evan]’s going to Studio G he’s got more involved with, I suppose, graphic design, really ... and he’s quite, getting quite good at it.”* Similarly, Kyle commented that he had been *“learning more about 3D modelling, graphics, and the design side.”* Ian’s mother described how Studio G had challenged Ian to learn and develop his knowledge:

Since he’s been at Studio G the knowledge that he’s got and the understanding of both organising himself in a business mode has richly developed ... I think it’s challenged him a little bit to learn, how can I put it, the, he, he’s had to move up in his understanding and knowledge of things, and it’s challenged him to be able to get out there and do it.

Family members appreciated that Studio G provided an opportunity for learning as well as socialising. For example, Kyle’s mother expressed that she was happy with *“the fact that [Kyle] is learning, he’s mentally stimulated, and he’s socialising.”* Georgia’s mother similarly expressed that Studio G is *“not only just a social outlet, it also gives her mind something to do as well.”* Likewise, the students seemed to enjoy being able to socialise and learn at the same time. For example, Aaron commented: *“It’s fun coming here, you get to interact with people, I, the, I learn at the same time as well.”*

Having access to technical equipment (e.g., cameras and music mixing desks) and software assisted the students with learning more about their interests and progressing with their projects. For example, Ian commented that Studio G *“helped me get my hands on animation software, which I’ve been able to animate stuff with and helped me learn the basics of*

animation.” Likewise, Beth’s mother expressed that Beth had “been exposed to different and new types of technology that she may not have otherwise have had the opportunity to access.” Beth also described this aspect of her learning at Studio G:

So far I have gotten a fair bit done ... learning more about the programs ... it’s definitely helped with the video editing, in particular the programs I use and getting more familiar with the more advanced programs and techniques.

It was reported that, for some students, Studio G facilitated a more comprehensive learning experience that they might not otherwise have had. For example, Harry’s grandfather spoke about Harry’s experience of learning about game development in Studio G compared to a workshop he had previously attended:

He says he learns more than somewhere else ... he said Studio G is much better ... in [other workshop], they made only shapes, you know, but here, at Studio G, they come to life, you know, they make moving things.

Similarly, Georgia commented that she had “been learning a whole lot of stuff” and talked about how Studio G had helped her develop skills that she had previously struggled to develop: “My scriptwriting’s definitely gotten better. I mean, I tried doing scriptwriting before, like even before Studio G, and that didn’t work out too well.” Georgia explained that Studio G had assisted her in developing skills in scriptwriting by providing her with more appropriate software: “The first script that I ever did was on Word, and now we’re using Celtx, which is a scriptwriting program.”

3.2.2 Increased awareness of future options

Studio G raised the awareness of some students’ options for further study or employment in their areas of interest. For example, Jeff described how he became more aware of his study options through his mentor:

[Gary] introduced me to a TAFE (technical and further education) course that they do in music ... Just everything that involves, like, setting up a sound system to, yeah, all that, sort of, behind the scenes stuff ... like when you think of TAFE, you think of ... those, like, building and nursing and like public service sort of stuff.

Many family members reported that they were unable to comment on whether the students’ awareness of future options had improved. Similarly, some students were found it difficult to articulate what their transition goals or plans were. For example, when asked if he knew what type work he would like to do, Calvin said: “Not exactly, no ... author, director, something like that, I don’t know what else there is, I can’t remember ... TV shows and stuff.” The mentors’ comments suggested that while progress was slow, at the least students were developing their interests and passions. The mentors believed this was an important step, as expressed by Sarah:

I feel like they are all kind of picking up at least passions, and for me that’s pretty important ... I think they’re the step before actually seeking jobs ... which I think is fine, I think that needs to come in time, like, it’s a bit hard to kind of heap them on, heap that on them all at once.

Gary, another mentor, expressed a similar view, and drew attention to the fact that, for some students, no progress had been made prior to Studio G:

For most people it’s quite a long, slow journey, but the important thing is that progress is being made, which for some people, you know, it wasn’t happening before ... a lot of it is about, yeah, finding out, you know, what they might be interested in ... definitely not everyone is, you know, locked into a uni course or

something like that that they want to do, like not everyone's compass is fixed yet, sort of thing, but there's definitely still a lot of wandering and experimenting and whatnot ... that's equally as important, I think.

Most of the mentors reported that they drew on their own experience in postsecondary education or the creative industries to assist them with educating students about their future options. For example, Paul described his efforts to inform the students of work expectations in the industry:

I think that it's really difficult to know what, what's expected of you and I think that's something that I've tried to inform them of ... if you work as a 3D modeller, for example, this will probably be expected of you, and so I think they have a better understanding of what it would be like to work in an industry.

Likewise, Charlie described that he and the other mentors were able to help the students improve their awareness of their future options because *"a lot of us have already gone through it ourselves, and all of the stuff that you have to go through isn't written down in textbooks and trying to figure it out yourself is a nightmare sometimes."* Jordan described how taking the students on visits had also given them insight into further study or working in the industry: *"We did have those excursions to uni and we did have those excursions to post-production lab and all that kind of stuff, so they have seen, they have literally seen what it's like."* Finally, Wayne said he thought the students were *"definitely aware of their options now ... they all have a bit of a head start now in terms of putting in applications and stuff, especially 'cause we can help them do that."* Wayne also described that some students were at the stage of pursuing their transition goals:

There's a few students actively now seeking to try and get into courses and stuff, which is really exciting ... they're finding a bunch of different options and then working with us to try and select the best one that's fitted for them, they ask us what skills that we've given them can they apply to their studies ... they're deciding what they want to work on and we're trying to encourage them.

Although family members had less insight into the students' awareness of future options, they were supportive of the program and the mentors' ability to educate the students. For example, Harry's grandfather described how the mentors shared their experiences of working in the industry:

I was there myself at Studio G and there are boys there, they, he fits in there, you know, I was very glad that he talked to them and you know, he is one of them, you know, and they have work to do outside of Studio G and they talk about this.

Similarly, Ian's mother expressed that she was *"really comfortable and really confident with Studio G that it will actually give [Ian] the knowledge to make his decisions about where he's going and what he's doing."* Furthermore, Beth expressed that, although Studio G didn't specifically focus on providing strategies for obtaining employment in the industry, she felt that the program staff would have this knowledge should she need it:

It's not like it's been a big point of, "okay, here's how you get a job in this industry" but I do feel that I could ask, if I was going to go for a job, I could definitely ask the mentors or [Program Coordinator] and they would know the answer to those sorts of questions.

3.2.3 Support to access further training

Studio G actively supported some students to access further training. For example, Georgia expressed an interest in working in a library (*"Librarian is something that I've always wanted to do from quite an early age"*), which her mother confirmed, commenting that Georgia *"is a*

bookworm. She wants to be in the Library ... it's what she's wanted to do since year 10." At the beginning of the semester, Georgia was planning to commence a Diploma in Library and Information Services. Georgia's mother explained that the Studio G Program Coordinator was supporting Georgia to access a library traineeship that she could undertake alongside her study:

We were sort of hoping to get her into a traineeship with the library, there is such a thing, but the lady that [Program Coordinator] was in touch with became very sick, and she's had quite a lot of time off, and she hasn't been able to look further into the for [Georgia] ... [Program Coordinator], he's done what he can do, he's given all the information to this lady who is part of the library.

Although at the time of the interviews with Georgia and her mother the outcome of the library traineeship was unknown, the Studio G Program Coordinator subsequently confirmed that Georgia commenced the library traineeship.

Ian, who enrolled in a Jewellery and Silversmithing Workshop on the advice of his mentor, is another example of how Studio G helped the students to access further training. At the end of the semester, Charlie, Ian's mentor, said: *"[Ian] just today mentioned that he's looking at going into a TAFE degree for jewellery-smithing, which is something I mentioned to him last week, so, I'll talk to him a bit more about that today."* Again, the Studio G Program Coordinator subsequently confirmed that Ian commenced the course. Both Georgia and Ian chose to continue attending Studio G part-time alongside their studies and training.

Evan, who was interested in becoming a fashion designer, was supported by the Program Coordinator in arranging a work experience placement in the costume department of a performing arts company. At the time of data collection, the placement was set to commence later in the year, and Evan's father spoke of how Evan was feeling about the upcoming placement:

It hasn't really hit him yet ... he's aware of it, but he hasn't really talked about it much ... once he gets into it and sees what goes on he'll, then he'll be really excited, he'll be telling us a bit about it and that type of thing, once he starts doing it.

An opportunity that arose for all the students was an internship program for young people on the spectrum with an IT company. Some students at Studio G chose to apply for the program and, as Gary, a mentor, commented, *"it would've been much more difficult for them to (a) find out about the project, the program, and (b) apply for it, had they not attended Studio G."* Two students were shortlisted for the program, as another mentor, Wayne, described: *"Two of the [students] have started their training program for the [company] job ... that doesn't mean they have the job, it just means they're getting the training where all the shortlisted people get, but that's something anyway."* Prior to commencing the training, one of the shortlisted students said she was *"looking forward to it ... should be fun."* According to the Studio G Program Coordinator, neither of the shortlisted students were successful in commencing further in the application process, but as one of the mentors, Patrick, expressed, it was *"a great opportunity for them to, like, see what it's like to put together application forms and all that, like, resumes and references and all that sort of information and then submit it."*

While most students expressed a desire to gain employment or commence further study at some point, one student, Fred, expressed no desire to transition into further study or employment in the near future: *"I don't want to get a job 'cause I live off a disability pension and while it, things look a wee bit better if I'm unemployed ... I can't get a job 'cause my medical conditions."* Fred's mother corroborated his thoughts on employment, commenting: *"In all honesty, I don't think he wants a job at all ... I'd say it's a confidence thing, and ... financially, there is actually no need for him to work."* Comments from Fred, such as *"I just don't have the organisational skills ... I don't think I'm particularly employable,"* and *"I'm not ready for a job,"* reflected his mother's suggestion that he lacked confidence about gaining

employment. Fred's mother further described that Fred's health conditions were a barrier to his transition, explaining that further study or employment were *"not even on the radar until his epilepsy is more stable."* Fred's mother suggested that he would eventually make progress on a transition plan, but there were no specific transition goals as yet:

He's bright and I think sooner or later he'll go back to some form of education, but it's not really our goal at this point in time ... And if not, well, I guess he'll just have a nice life drifting along ... our goal primarily is to keep him happy and stable ... And the other stuff will flow when the time comes, or he'll just remain happy and stable.

3.3 CONTRIBUTING FEATURES OF THE PROGRAM

Two key themes emerged in relation to the features of the program that were found to contribute to the students' positive outcomes and to the satisfaction of participants with the program: (a) the role of the mentors, and (b) the nature of Studio G as a learning environment. The program's social activities and vocational outings were also perceived as contributing to positive outcomes.

3.3.1 The mentors

Positive comments about the mentors were made by all of the students and almost all of their family members. Some students regarded the mentors as one of their favourite aspects of Studio G. The mentors were referred to as *"encouraging," "friendly," "helpful," "knowledgeable,"* and *"supportive."* The general satisfaction with the mentors is illustrated by Beth's comment:

I think the mentors are probably the best thing about Studio G ... they're all very friendly and welcoming and helpful and whenever they don't know a particular thing they can always pass it on to someone who does know, you know, they know each other well and everything ... they're much more supportive than the average teacher.

As indicated by Beth's comment, some students found the mentors particularly helpful in comparison to staff in other programs. For example, Aaron explained that *"the trouble I had at [institution] is that the mentors, they were like teachers, but here it's just like peers ... they interact on my level, instead of being like a higher authority."* Likewise, Kyle said of the mentors: *"They're easy to learn from, they're not aggressive ... and you know that they can relate to you 'cause they're not, like, forty-year-old men, God damn patriarchy."*

As well as developing positive relationships with the students, the mentors were able to utilise their skills and experience in the creative industries to assist students with developing skills and to provide insight into what it might be like to study or work in their areas of interest. One of the mentors, Gary, summarised this by saying:

It comes back to mentors having a diverse variety of backgrounds, sort of thing, that we can give people a little glimpse as to what it's like in our chosen fields of expertise, and a little bit of the realities.

Jeff commented that his mentor was helpful and he had learnt *"loads more than I expected"* in Studio G, adding that *"it helps that he's (Jeff's mentor) actually a musician."* Danielle also commented on her mentor's expertise: *"Patrick, who is my mentor at the moment ... you know, he's a technical expert."*

3.3.2 Learning environment

Numerous positive comments were made about the self-directed, flexible, and pressure-free nature of Studio G as a learning environment. For example, Jeff enjoyed *"the openness"* of

being able to choose his own project, commenting: *“I don’t have to necessarily work on music. I can work on sound effects, like, not even sound in general, like if I wanted to next year I could make a game ... you can do what you want.”* Beth commented that *“this was the main reason why I chose Studio G – it provided a supportive environment aimed at those with disabilities.”* Beth’s mother elaborated on her daughter’s comment by comparing Studio G to other learning environments that Beth had previously attended:

I think what she’s enjoyed with Studio G, as an environment to be learning things, it’s been a lot more relaxing than a more formal environment like school or TAFE or anything like that ... things that she’s been taught or new skills that she’s acquired have been done in an environment that she feels more comfortable with ... so she’s not feeling pressured or under any sort of stress with it.

Other comments from students and family members also suggested the students had encountered a lack of learning supports in school (e.g., *“He failed ‘cause he needed a lot more support”* – Fred’s mother) and postsecondary education (e.g., *“It wasn’t really giving the support ... I fell behind a bit, actually got a bit stuck ... then I, well, stopped going ... just got too hard”* – Aaron). In comparison, Fred’s mother described Studio G as *“a nice atmosphere and it’s happy,”* explaining that Fred *“goes because he doesn’t feel pressured or threatened.”* By creating this nurturing environment, Studio G provided a stepping stone for students, as Patrick, one of the mentors, described:

Studio G isn’t, like, the same as, like, a TAFE course or anything, it’s not to give them a certificate and say, “you’ve completed this,” it’s to show them what it’s like to, sort of, work on something and to just get the project skills and the social skills that will help them in other things.

Although the nature of Studio G as a learning environment was a source of satisfaction with the program among students and family members, one of the mentors, Paul, was concerned that by creating a nurturing and supportive environment, Studio G was misrepresenting the experiences that students would have later in life:

At Studio G, we’re trying to prepare them for university and maybe a career or work environment, and Studio G’s unfortunately nothing like, quote, real life, unfortunately, because we’re very supportive, try to be very supportive for everyone, there’s no guarantee that will be an option in the future ... some work environments are maybe not, you know, really appropriate for some of the participants to go to ... I would hate for them to get in to a situation where they’re just miserable because they were expecting something like Studio G, for example, so I guess it’s real life expectations, I don’t think we really cover that.

3.3.3 Activities and outings

As well as creating an ideal environment for learning and socialising, the Studio G Program incorporated social and vocational outings. For example, the students and program staff spent part of the last session of each term at a chocolate café, a short walk from the program venue. During the semester, one session was dedicated to “Games Day” with no electronics, so as to facilitate social interaction and encourage the students to take a break from their projects. The students and mentors played board games, card games, and other non-electronic games with each other for the session.

Vocational outings were planned in line with the students’ interests and goals to provide insight into working in the industry or commencing further study. For example, many students were interested in working in the game development industry so a visit to a nearby game development studio was arranged. Patrick, a mentor, described how the visit stimulated a conversation about future employment options with one of his students:

I know [Harry] loved that and I used that, sort of, as a leaping off point to talk to him about game development and the different sorts of areas that he could, you know, work in there, because prior to that I think he just, sort of, in his head it was just all one thing, and like, he didn't know that there were such a variety of different jobs in game development, and so we talked about, you know, managerial positions and programming, art, design, animation, all the different spots, so, yeah, I talked to him about that and we've just still, sort of, you know, just been doing bits of different things for him, so that he can get an understanding of what each area in game development is like, so I think that's been good for him.

Furthermore, the outing appeared to help some students formulate their career aspirations. For example, when asked what job he would like to have in the future, Aaron, a student, referred to the visit to describe his career aspirations:

In the future, just working, like how we went to that game ... indie (independent) development, it was an indie company in Brisbane ... we went to that, and just, working in a team like that 'cause, it's similar to, like, how I'm working here (at Studio G) with the, on the Minecraft levels.

The Studio G students also visited an animation and video post-production studio at a nearby company, and attended an animation lecture and tutorial at a nearby tertiary education institution. Patrick, a mentor, described the benefit of the students being able to attend this animation lecture and tutorial:

It was like a, an opportunity for [the students] to see what it's like in a lecture hall, and I think most of them responded pretty positively to that, and learnt a lot about, you know, just what the next level of education is like if they choose to study.

3.4 FEEDBACK ON THE PROGRAM

3.4.1 Satisfaction of students and family members

Overall, students and family members expressed satisfaction with the program. Comments similar to “*I am satisfied with Studio G,*” and “*we're happy with the program,*” were common. Family members tended to refer to the students' happiness as a source of their satisfaction with Studio G. For example, Ian's mother said: “*I'm happy with the program if [Ian] is happy.*” Similarly, Harry's grandfather said: “*I find it excellent, you know ... he is happy with the program, and I have to go with this, you know ... the success and the improvement speaks for it.*” Georgia's mother explained her satisfaction with the program by describing how she had visited Studio G to ensure it was an appropriate environment for her daughter:

I actually went to Studio G to make sure the environment was good and it was, and I wanted to talk to [Program Coordinator] to see, you know, if you get a feeling about what sort of person he was like, and I found him very good, so it, that makes it comfortable for parents ... they're safe, they're in a good environment, they've got someone who is really keen and willing to help them and it's not just a money-gaining, you know, lark sort of thing, it is actually something that they're trying to do, which is a good thing, get these young people into the workforce, and into society.

Both students and family members reported on their satisfaction with the venue, with many commenting on the ideal location. For example, Ian said: “*I like The Edge, it's nice, it's air-conditioned, it's on the water, it's in an ideal location, it's close to everything I need.*” Likewise, Beth commented: “*I think they probably couldn't host it anywhere better if they tried.*” Calvin's father similarly commented that “*the location's, you know, perfect ... it's an ideal location there.*” Some family members commented on how the location provided an opportunity for their child to develop independence by getting public transport to the program, as described

by Danielle's mother: *"I think it's a good location because she can catch the bus straight from our house to go there ... it's close to [the] city actually and she likes [to] walk herself around there as well."* Similarly, Harry's grandfather said:

He has to use train, change trains, go over the road, and then go to the museum ... and get himself lunch and he told me that he finds out different lunch places ... it's a very healthy situation for him.

Most family members conveyed satisfaction with the frequency and duration of the sessions. Several family members, although satisfied with the current frequency of sessions, commented on their desire for more sessions. For example, Calvin's father commented: *"Even if it was over three days we would be happy ... but two is good."* Similarly, Fred's mother said she *"would like to see more sessions."* Interestingly, two family members referred to the time of day that sessions ran with disparate views. Beth's mother said she thought *"it works well being afternoons as well ... [Beth] struggles to get up early ... so that's worked quite well for her."* In comparison, Fred's mother commented:

I'd like to see some morning sessions ... if [Fred] gets out of bed and he's got somewhere to go he'll go to it, if he has to sit round the house all morning he will often work himself up to not going.

3.4.2 Feedback from students and family members

There were aspects of Studio G that students and family members felt were in need of improvement. For family members, two key issues emerged: (a) insufficient feedback from the program, and (b) the cost of the program. For students, two key issues emerged: (a) aspects of the venue, and (b) the number of mentors.

Feedback to families from the program

The most common issue with the program was that family members felt they did not receive sufficient feedback from program staff in regard to what the sessions involved and what the students were achieving. Almost all family members commented on this issue. For example, Beth's mother said:

I'm not actually getting feedback from Studio G ... it would be good to actually get some feedback on where the skills have started to emerge or where her interests have started to peak, like where they think that she has started to show some direction on a certain area ... what they think she's getting out of it and if they think she's finding it useful ... what is it that she's actually doing, what is she actually achieving from it, you know ... because I just don't think that we can rely solely on our children's versions of events and what's happening ... it's very hard for me to give feedback on something I'm not 100% sure of what they're doing.

Jeff's mother acknowledged that her son is an adult, but felt that considering his disability she needed more information:

Just some feedback to the, you know, either the parents or the carers, on how they're doing, I know [Jeff]'s an adult but being who he is and, you know, with his disability and everything, we'd just like to know how he is going and whether he is mixing with other people and all that sort of stuff.

Some family members also suggested that there needed to be more emphasis on goal-setting and monitoring achievements in the program. For example, Kyle's mother felt that the students needed to *"have goals at the beginning of the term and tell me whether they achieve it ... I don't know what they're doing ... they have to have goals."*

Cost of the program

A small number of family members, and one student who paid his own program fee, referred to the cost of the program as a disadvantage. Although the family members thought the program was worthwhile, the cost was a factor that made continuing for another term difficult, especially when receiving insufficient feedback as to what the program was achieving. Beth's mother highlighted these points:

It's a very expensive program, I'm not saying that it's not justified the cost for it, I understand where the money goes to, but it is a lot of money for me to try and come up with ... it's something I have to seriously look at and certainly with knowing what's actually going on would help to justify where to from here for next term, I guess.

Aspects of the venue

The most common issue raised by students was in relation to minor aspects of the venue. Several students commented on the chairs being uncomfortable and made suggestions such as "buy new chairs." For example, Aaron said: *"The chairs are not good at all. They're not comfortable to sit on ... it's just metal chairs and just, sitting on it is just sitting on cold, hard ground."* The chairs that students were referring to were in the room where sessions were located in Term 2. In Term 1 sessions were predominantly based in a room on the upper level, which had large windows and a view of the river. Sessions were relocated due to an increase in participants in Term 2, and were predominantly based in a room on the basement level, which had no windows. A few students and one family member drew attention to the relocation. Some students had a strong preference for one particular room, while others expressed positive and negative aspects of each room. Jeff preferred the upper level room *"cause of the view, and yeah, it's just more open ... better internet signal too."* Likewise, Evan liked *"when there was a view,"* and also mentioned that the internet signal was poor in the basement level room. Fred said he would prefer *"not being in the basement ... it gets stuffy ... bit stuffy and uncomfortable down there."* Similarly, Harry said:

I kind of preferred the upstairs room ... it kind of had, like, windows to look at the landscape ... downstairs it's also kind of, like, mostly covered with walls so it kind of feels like a bit of a jail wall ... it can get pretty noisy sometimes.

In contrast to other students, Beth preferred the basement level room. Interestingly, she described similar aspects of the upper level room as the other students, but viewed them as disadvantages rather than advantages of the room: *"I think downstairs was a bit better, it was quieter and a bit more private, I guess, whereas here (interview was located in the upper level room) we've got, you know, windows everywhere and it's pretty open."* Beth also found the room changes quite disruptive, particularly as there were a couple of occasions throughout the semester when a session was relocated to a different room just for the day:

I think the one other thing is to make sure that we have, you know, like, you know, make sure that we're in the same area each time, because it tends to be a bit, a little bit confusing and, for me, you know, I come in and I'm like, "oh where's that, where's that, where are we now?" when I see that there's a sign saying we've moved and at the same time I feel like, "oh, are we getting in anyone's way by being here?"

Number of mentors

Despite reporting satisfaction with the mentors, a small number of students felt their mentor was sometimes too busy to attend to them or provide them with one-on-one support. Harry commented that *"sometimes my mentor's just way too busy to help,"* and Beth similarly described that *"the mentors are sometimes a bit busy, they can't really sit down one-on-one and really knuckle down."* Ian made this suggestion:

I'd possibly, maybe put in, maybe another mentor, maybe. Just to, sort of, put in more of a collaboration or network of ideas and stuff, so that you got more people with more mentors, more people with access to mentors.

3.4.3 Feedback from mentors

Overall, the mentors reported that they enjoyed their role as employees of the program. For example, Charlie expressed that *"it's probably one of the best jobs I've had for, you know, feeling like you've actually contributed something and yeah, it's a really positive place to work."* Similarly, Wayne commented: *"I like it, it's a good environment to work in ... everyone who works with the team or, like, in the team is really friendly."* Furthermore, Jordan commented: *"I like the job, it makes me happy ... I enjoy coming here."*

The mentors described the rewards in observing the students' progress and development, as Patrick described: *"The whole thing is pretty rewarding, like, it feels good to help them and to see them progress ... the best part is when they, you know, when they say something more about themselves."* Charlie expressed that *"when they finish something, even if it's like step one of ten, just getting to that little milestone, it's always really rewarding to see that they're making progress, and especially in social stuff as well."* Likewise, Sarah commented: *"All of them progressed in different ways, which is really cool, I think that's pretty rewarding when you see some kind of progression."* Gary expressed that there had *"been some really rewarding moments in terms of people's personal, mental, mental attitude and mental state."* Similarly, Paul described how seeing the students develop a sense of pride in their work was something he found very rewarding:

If they are really proud of what they do or you can feel a sense of pride when they show you their work, when, or when they start kind of working on their own, and kind of trying to figure things out for themselves and keep, you know, even if it's challenging, they keep on working on their projects, that's really rewarding.

Challenges and effective strategies

The most common challenges mentors encountered were the students' lack of motivation to work on their projects, and finding a balance between pushing the students too much and not enough. Paul commented that *"the whole motivation thing ... is very challenging. [Some students] are really difficult to motivate, others clearly not."* Likewise, Gary explained that *"sometimes you will just hit a brick wall with some people ... sometimes it's just not going to happen and pushing it is going to be more destructive than having an off day."* Jordan elaborated on this challenge:

Especially with participants who can get overwhelmed very easily, if like all your numbers line up and you end up pushing a little bit too hard when they're already having a crappy day then they can just shut down.

Gary described these challenges as *"a push and pull sort of tug-of-war"* between pushing the students too much and not enough, and Jordan felt that it was *"hard to find a balance, if there even is one."* Gary commented that it was *"in the pursuit of that (balance) that progress is being made."* Charlie described encountering motivation challenges with the students and his efforts to tackle them:

I've definitely had the motivation challenges ... as an artist that's something you encounter a lot, and that's actually one of the things I bring up with them ... that happens with people who are creative, you just lose motivation every now and then ... it's not something to, you know, freak out about ... I try and employ the same kind of tips that I use, which is, like, you know, doing something, even if it's not creative, for fifteen minutes ... just like writing down a list of ideas or just stupid things, just off the top of your head and sometimes that'll spur some creativity, just little activities like

that that I've employed, and mostly just being really excited about the projects that they've worked on ... just so that they're kind of thinking in their creative head space.

Similarly, Gary described his efforts to inspire and motivate his students:

I find the best, it's not easy, but the best way to, I think, motivate them is try to inspire them in a different way ... approach the problem from perhaps a different angle, or show them something about it that they might not have noticed before, because to feel that new stimulus is always the most exciting and if you can reveal to them another dimension of something that they're already doing, well, it really helps with motivation.

Jordan explained that for him the best approach was *"just waiting for the motivation ... it's probably not effective if you don't have time to wait, but I think I've had time and my participants have had time, and it's rewarding when it does come."* Similarly, Wayne expressed that *"in terms of what works well for them, I guess being patient,"* but added that *"being patient kind of does and doesn't work so well ... let them have time and let them feel comfortable and then it kind of works well to just push them a little."* Wayne further explained how finding the right balance with one of his students proved to be very rewarding:

I have a student who will just sit there all day if you kind of let him, but once you give him a little bit of a push he'll kind of do what you have asked him to work on ... I know he has a project he wants to do, but there's a difference between wanting to complete a project and wanting to work on all the little steps inside the project, which aren't very interesting, so every now and again I'll give him a bit of a push and see where it goes ... couple of weeks ago I asked him to come and build the demo game ... he didn't want to do it at all but I pushed him and pushed him and then eventually he finished it at the end of that lesson and then he was really excited about coming back and doing it next week.

Furthermore, Paul felt it was important to *"try to keep a balance between, you know, the different roles that you kind of have to be in,"* explaining that sometimes the students *"need a friend, they don't need someone to tell them that they've not really done good work or this doesn't work or whatever it is."* The mentors emphasised that the best approach was to evaluate the energy and mood of the students before tackling project work. For example, Jordan expressed that *"the way I've prioritised it was that if you get that kind of good vibe down first then after that you can worry about motivation and stuff."* Sarah explained that she would *"just kind of ask them how they are and if their energy's kind of low, like, whatever you do, you know you're not going to get them to be able to work on their project today."* Likewise, Gary described his approach:

First find out where they're at, you know, don't come straight in with, "how has your project gone this week?" or you know, "did you do that homework that I set for you?" ... depending on what other things have happened in someone's week or in someone's day or whatever has big effects ... on their mental state and how much work they have gotten done and how productive their feeling and stuff like that, so I will always open with, you know, "how has, how has your day been?" or "how has, how has your week been?"

Professional development and support

One issue to which some mentors drew attention was that they had not received any autism-specific training at the beginning of the program, as Gary expressed:

When I first started the program, I suppose I was a little worried at the lack of instructions and sort of formal education about autism that we were given ... we

weren't just thrown in immediately sort of thing, but ... I was expecting some sort of, you know, some sort of training course or something like that.

However, Gary felt that getting to know the students as individuals without having any specific knowledge of autism was ideal:

A lot of what I know I've learned about autism and the people I'm working with ... has just been learned through interacting with them in a very natural way, which I'm not sure would've happened if I'd been pre-planned, pre-disposed to it ... if I had all the information about, you know, sort of basic traits of people on the spectrum then I think there would've been in me an expectation to see that, and would've projected that expectation on people, even if those traits weren't particularly prominent or weren't, you know, weren't the most important things that were happening.

Most of the mentors seemed to share Gary's view. For example, Charlie said one of the strategies he used was *"to forget that they're even on the spectrum ... I think that helped me a lot ... I found that just ignoring those rules, kind of, actually helped a bit."* Charlie further explained that, although there were situations that he was not prepared for, he did not believe that autism-specific training was necessary:

We've been told how we should approach things and what kind of strategies we should employ and stuff like that, but there's always stuff that kind of pops up with people on the spectrum that you're not prepared for ... it's probably the stuff you can't really prepare for that just, yeah, and it's always on an individual basis ... so I'd probably say that it probably won't help having a workshop.

Rather than autism-specific training, most of the mentors felt they could have benefited from clearer boundaries in their role. For example, Paul described how certain situations were challenging when students divulged sensitive information about their home lives:

Sometimes the participants have problems at home and it's not your place to tell them what you think or, you know, maybe they're complaining about something that their parents have done, and I may agree with them, but I would never be able to tell them that, you know, I could basically just, you know, tell them that, "yeah, you know, that kind of stuff happens," or whatever it is, and that's really difficult sometimes.

Similarly, Wayne expressed that *"one thing we don't have much guidance around is what, what's our official relationship with, you know, the students ... what are things we shouldn't touch on because maybe it can be looked at as a replacement for actual help."* Jordan felt that *"it would probably help if there was some kind of professional protocol, but even then the professional doesn't always feel right,"* and gave an example of a situation where he felt conflicted:

It's kind of conflicting, like today when [student] comes in upset, I don't know if I can, like, comfort her with a hand on her back or not, so I'm just kind of, like, I felt like I treated her a bit coldly because of that.

Jordan further expressed that *"in terms of, like, emotions being involved and someone being upset, it would help to know, kind of, what I'm allowed to do or what not allowed to do ... what's acceptable."*

4. Discussion

The findings are discussed in terms of the two research aims: (a) to evaluate the impact of the Studio G Program on students, and (b) to gather feedback on the program to inform its ongoing refinement and improvement. With respect to the impact of the program on the students, this evaluation provided convincing evidence to suggest that the students were highly motivated to attend the program and that they enjoyed it. Both the students and their family members described high levels of enthusiasm for the program, as evidenced by the students' positive comments and expressed desire to continue their attendance. Additionally, some of the family members observed that their children were noticeably happier following Studio G attendance. The mean attendance rate was surprisingly high, particularly in view of the reported reluctance of some students to leave the house. The latter issue was likely to be related to the high prevalence of social anxiety and agoraphobia among people on the spectrum (Gillot & Standen, 2007; Hofvander et al., 2009). Some family members remarked on their child's willingness to get ready for and travel to the program, in stark contrast with their disinclination to getting ready for school and other previous programs. Although Fred's mother indicated that Fred continued to experience anxiety about travelling to Studio G, on most occasions his desire to attend Studio G was sufficient to motivate him to overcome this hurdle. By encouraging regular twice weekly attendance, Studio G may help to prevent the development of sedentary and reclusive habits, and thus assist with the navigation of the potentially problematic post-school period (Friedman et al., 2013).

As demonstrated by comments from students and their family members, the program naturally facilitated social participation and friendships. Young people on the spectrum often have a history of victimisation and difficulties "fitting in" at school (Aspect, 2013; Sreckovic et al., 2014). Studio G was described as a place of "sanctuary," "safety," and "comfort" for the students, in contrast to their previous school experiences, which were largely depicted in negative terms. There were several references to the way that Studio G enabled the students to meet "like-minded people" and "feel part of a group," which suggests the program played a role in supporting them to "find their tribe." This evaluation therefore concurred with the findings of Denier et al. (2015) and Donahoo and Steel (2013), who also found programs with a focus on common interests of young people on the spectrum, such as gaming and animation (Anthony et al., 2013), to be effective in facilitating social participation. In some cases, friendships that developed within the Studio G Program extended to social arrangements outside of the program (e.g., at the students' homes on weekends). The program therefore has the potential for a broader and more enduring impact on the students' social lives. For some students, the social benefits included an increased capacity to take initiative in organising social events, indicating greater maturity according to the ADI-R definition of friendship skills (Le Couteur et al., 2003). Other students, who were extremely withdrawn at the commencement of Studio G, became noticeably more sociable. Although Studio G did not aim to address specific social deficits by teaching social skills, the program nevertheless appeared to directly impact social participation.

The students' enthusiasm to attend Studio G and enhanced social participation appeared to translate into gains in emotional well-being, including (a) enhanced confidence and general happiness, and (b) reduced loneliness, boredom and depression. Some students expressed pride in their achievements with respect to their project work, which suggests enhanced feelings of self-efficacy. For others, participation in the Studio program was in itself a source of pride, which suggests that they perceived it to be a socially valued activity. This is consistent with the social valorisation principles on which the program was based (Cocks, 2001). Gains in confidence in their capacity to independently access the community via public transport were reported. Additionally, one of the students remarked that she felt comfortable sharing her thoughts and feelings with the mentors, which suggested that the mentors were a source of social and emotional support. This supports previous research suggesting it is important for mentors to "establish a caring personal connection" (Eller et al., 2014) and

promote social and emotional development (Rhodes et al., 2006). The mentors also commented on the supportive role that Studio G plays in the students' lives, in that it was a place where students could share their concerns about issues happening at home. In view of the high prevalence of mental health challenges experienced by people on the spectrum (Aspect, 2013; Lugnégård et al., 2011; Neary et al., 2015), gains in emotional well-being are important. As the use of inpatient psychiatric services have been found to be at least four times higher for people on the spectrum without an intellect impairment than for the general population (Järbrink & Knapp, 2001), there is a strong health economic argument for programs that maintain and improve their emotional well-being.

Both the students' and mentors' comments provided clear evidence that the students were learning new skills at Studio G. The process of building skills based on pre-existing interests (e.g., jewellery website, Pokémon game, and fashion design), and working on goals that the students had set for themselves, appeared to boost their motivation. In some cases, the projects had the potential to yield financial benefits to the students (e.g., marketing of a game application for smart phones and building a website for the student's jewellery business). These findings reinforce the value of using a constructivist approach to learning, where learning involves an ongoing student-mentor collaboration to achieve goals set by the student (Educational Broadcasting Corporation, 2004; Palincsar, 1998; Millwater & Yarrow, 1997; Vygotsky, 1978). This finding also lends support to previous research demonstrating that interest- and strength-based approaches can promote the development of technical skills (Donahoo & Steele, 2013). Some of the students' and family members' comments indicated that the students appreciated the opportunity for social interaction while learning. The Studio G experience was, therefore, similar to other programs that have successfully integrated social interaction and learning (Diener et al., 2015; Donahoo & Steele, 2013). The access to the wide range of equipment and software available at The Edge was also valued by some students and family members, as it provided new opportunities for the students to expand their skill repertoire. Some students highlighted their appreciation of the technical expertise of their mentors, thus supporting the role of mentors in supporting cognitive development (Rhodes et al., 2006).

When asked about their study or career plans during the interviews, some of the students gave brief or incomplete answers, thus corresponding with the observations of Lee and Carter (2012) that young adults on the spectrum commonly experience difficulties in formulating and/or articulating their aspirations. Studio G provided transition support that incorporated outings to tertiary education institutions and "real world" workplaces with the aim of overcoming the students' difficulties in conceptualising career possibilities. These opportunities allowed the students to experience first-hand the actualities of postsecondary education or workplaces. The mentors perceived these outings as helpful in educating the students about their options. These excursions also appeared to expand the students' concepts of particular career pathways. For example, when asked about his career aspirations, Aaron referred to the visit to a game development studio. His observations of the workplace and employees in action, therefore, appeared to assist him in developing a career goal. These findings accord with Lee and Carter's comment about the important role that career exploration activities can play in expanding awareness of employment options.

The mentors were also perceived by the students as a source of real world information and advice. For example, some students asked the mentors about courses and the skills that they would need for these courses. Consistent with the findings of Eller et al. (2014), some of the mentors described their capacity to impart knowledge that has a real world connection as desirable, in that they provided the students with a "*glimpse as to what it's like in our chosen fields.*" The mentors were a core component of the program's success and a common source of satisfaction among the students. The students described the mentors as relatable and perceived them as peers rather than a "*higher authority.*" The quality of the student-mentor relationships may have been enhanced by the fact that the mentors had similar attributes to the students (e.g., being close in age and having shared interests). This corresponds with the findings of Eller et al. with respect to the capacity to act as a role model, rather than a teacher

or boss, to be a desirable quality in a mentor. Conceivably, being able to relate to the mentors and hear about their experiences (e.g., *“a lot of us (mentors) have already gone through it ourselves”*) may make it easier for the students to envision themselves taking similar educational and vocational pathways. This is consistent with the mentoring model proposed by Rhodes et al. (2006), which suggested that identity development is a core function of positive mentoring.

The students' progress in the transition process was described by some of the mentors as slow but “real.” Some mentors perceived that the students needed time to develop their interests (*“picking up ... passions”*) before considering their future and developing transition goals. Other comments suggested that the development of foundational psychosocial skills may be an important first step in the transition process. This was particularly the case for students such as Jeff, who was initially withdrawn with very limited experience of the outside world (having been home-schooled since year 8 and having had no work or tertiary education experience in his three post-school years). His willingness to attend Studio G on a regular basis (*“first kind of contact thing that he’s done in years”*) could therefore be viewed as substantial progress along the transition pathway. Given that research has indicated that social and communication difficulties may be a greater barrier to finding and maintaining employment than developing job skills (Hurlbutt & Chalmers, 2004; Neary et al., 2015), the psychosocial gains of the students should not be underestimated.

During the evaluation period, two of the eleven students commenced further study and/or training with support from Studio G (one transitioned to a library traineeship and one transitioned to a jewellery and silver-smithing course). The fact that these transition outcomes are so different suggests that Studio G has the capacity to prepare students for a diverse range of study or training outcomes. Both students chose to continue attending Studio G part-time alongside their vocational and tertiary training. This supports the notion that there is an ongoing need for support after entering further study or training, particularly in view of the high postsecondary education drop-out rates among the students at Studio G (four had dropped out of vocational education programs) and among young people on the spectrum in general (Aspect, 2013; Neary et al., 2015). Another student was set to commence work experience targeted specifically at his interest area (fashion design), while a further two students had engaged in short training programs at a specialised IT company. It is possible that more students may have progressed to tertiary education or training if the evaluation had spanned a longer period than one semester. Nevertheless, some family members indicated that they would like a greater emphasis on goal-setting and monitoring achievements. It is possible that the informal ongoing conversational style of the transition process used in Studio G could be augmented by the use of a formal goal setting procedure to document goals and monitor progress.

One student, Fred, expressed little or no desire to engage in further study or obtain employment. His participation in Studio G was primarily for social purposes, rather than to assist with transition to further education, training, or employment. He did, however, have valid reasons for being resistant to employment (e.g., health issues). Fred and his mother described substantial benefits in terms of quality of life through his attendance at Studio G (e.g., preventing loneliness and boredom, and helping overcome depression). This suggests that, although Studio G effectively supports social participation and emotional wellbeing, transition to further study, training, or employment may not eventuate for all students. This creates an important ethical dilemma for the program, in regard to the need to find places for young people on the waiting list who are more motivated to transition to tertiary education, training, or employment.

With respect to the second aim of the evaluation, which was to gather feedback on the program to inform its ongoing refinement and improvement, the students, family members, and mentors expressed high levels of satisfaction with Studio G overall. In particular, the students and family members were highly appreciative of the flexible and low-pressure nature of the program, with many commenting that it provided levels of support that had been lacking

in school or other postsecondary environments. One of the mentors expressed concern, however, that the nurturing and supportive qualities of Studio G were not representative of real world work and educational environments, and consequently may be creating unrealistic expectations. On the other hand, these features appeared to be pivotal to the program's success in motivating students to attend. A gradual transition to real world environments may, therefore, be required, with Studio G acting as a stepping stone before entering formal education, training, or employment. In general, the family members expressed satisfaction with the frequency and duration of the program, with some divergent opinions on the timing (morning versus afternoon).

In terms of areas for improvement, the majority of family members expressed concern about receiving insufficient feedback from the program on their child's progress. Although acknowledging that her son is an adult, one mother expressed the opinion that feedback would have been helpful because of the nature of his disability. In view of the fact that parent work-related expectations have been shown to be a significant predictor of success in finding employment for young adults with disabilities (Carter, Austin, & Trainor, 2012), it is important to recognise the potentially valuable contribution that families can make to the transition process. For this reason, Lee and Carter (2012) identify meaningful collaboration between families and services as an essential component of effective transition programs for young people on the spectrum with average to above average intelligence. Nevertheless, given that most of the Studio G participants are adults, it is important to seek their permission before sharing their progress reports with family members.

In general, the mentors expressed high levels of satisfaction with the program and highlighted the rewards associated with observing the students' progress. When asked about their challenges, the majority of mentors described difficulties in motivating some of the students at times. This was particularly the case on days when the students were feeling overwhelmed or experiencing less-than-optimal emotional well-being. The mentors described strategies that they had developed themselves to manage these motivation challenges, such as finding alternative ways to inspire the students, or striking a balance between pushing them and waiting patiently.

Most of the mentors did not feel the need for autism-specific training. They expressed the view that autism-specific training may have prejudiced their perceptions of the students by creating expectations that the students would have certain autistic characteristics. They did, however, advocate the introduction of a professional protocol at the beginning of the program, to provide clearer boundaries and expectations of their roles as mentors. For example, they felt they needed more explicit boundaries around discussions of sensitive information on the students' home lives. Although they did not feel that they needed more information on ASD, it is possible that the mentors may have benefitted from further information on evidence-informed strategies that have been developed over many decades to assist people on the spectrum with learning and independent task completion. For example, it may be useful for the mentors to understand that young people on the spectrum with average to above average intelligence have been found to have significantly more difficulty comprehending verbal instructions than their typically developing peers who have been matched for IQ (Saalasti et al., 2008). Consequently, they may take longer to process verbal instructions (Gepner & Féron, 2009) and may misunderstand them. The students may, therefore, benefit by having instructions relayed in a clear visual format (Ganz, 2007), or by being given more time to process verbal instructions (Jordan, 2005). People on the spectrum have also been found to have a tendency to focus on details at the expense of the "bigger picture" (known as the "weak central coherence" account of autism; Happé & Frith, 2006). They may, therefore, experience difficulty grasping the connections between concepts. Strategies such as concept mapping have been shown to be effective in overcoming this difficulty (Roberts & Joiner, 2007). People on the spectrum also commonly experience executive function deficits (Hill, 2004), which can create challenges with the planning, organising, and working memory required to work towards a goal (Geurts, Corbett, & Solomon, 2009; Ozonoff, Pennington, & Rogers, 1991). In the case of Studio G, these challenges may interfere with the students'

capacity to progress their projects towards completion. “Structured teaching” is a collection of strategies that have been designed to enable individuals on the spectrum across the lifespan to function with less stress and greater independence (Hume, 2011). Originating in 1972, structured teaching has been progressively refined (Mesibov & Shea, 2010) and applied to a wide range of settings including classrooms and workplaces. The approach aims to create a structured and predictable environment in which tasks and expectations are clearly defined, with key features including visual schedules and work systems designed to break tasks down into smaller steps to facilitate independent task completion (Mesibov & Howley, 2003). If the students in Studio G find learning new skills and project management easier and less overwhelming through the use of these strategies, they are more likely to be motivated to complete their projects.

When asked about aspects of the program that could be improved, the students focused on issues in regard to (a) aspects of the venue, and (b) the number of mentors. Issues with the venue were in relation to the comfort of the chairs, the lack of windows in one of the rooms, and the internet signal. Two students mentioned issues with noise, although they had divergent views about which room was noisier. The core diagnostic criteria of ASD also include unusual responses to sensory input (APA, 2013). Previous research has indicated that the auditory filtering difficulties of children on the spectrum can impact on their performance in the classroom (Ashburner, Ziviani, & Rodger, 2008). Furthermore, a number of qualitative studies that explored the mainstream classroom experiences of students on the spectrum have indicated that they were bothered by classroom noise (Hay & Winn, 2005; Humphrey & Lewis, 2008; Saggars, Hwang, & Mercer, 2011). Accommodations to circumvent issues with noise sensitivity should therefore be considered. One of the students described a preference for staying in the same room, as she experienced confusion when confronted with unexpected room changes. It is possible that this related to the lack of flexibility that is an inherent feature of ASD (APA, 2013). Pre-warning about upcoming changes can help to accommodate difficulties coping with change (Myles & Simpson, 1998). Where unanticipated room changes beyond the control of the Program Coordinator occurred, assigning a mentor to redirect the students may have helped to allay the students’ anxieties. With regard to the number of mentors, three students commented on the need for more mentors, as they were often too busy to help. However, several family members and one of the students also identified the cost of the program as a concern. Given that staffing costs accounted for the greater part of the program fees, an increase in the number of mentors might not be a realistic option.

5. Recommendations

Based on the findings of this evaluation, a number of recommendations for the Studio G Program can be made:

- A gradual transition process to ensure that students are prepared for the experiences and issues they will encounter in post-school education programs. That is, students should be encouraged to continue to attend Studio G with a part-time enrolment alongside tertiary education or training, to maximise support and prevent drop-outs.
- The trial of a formalised transition planning tool to augment the current informal transition process by assisting the students to develop and articulate their goals and aspirations. For example, the *Successful Transition to Employment – Autism Spectrum Disorders* (STEP-A™, currently being developed and trialed through the Autism CRC by PhD candidate, Megan Hatfield), would be a suitable tool as it includes many aspects that encourage student self-determination (e.g., having the capacity to choose their own transition support team and select ways to participate in transition meetings that suit them). This type of tool could be used to capture the evolution of goals and document progress over time (e.g., while attending Studio G, when co-enrolled in Studio G and tertiary education, and after exiting the Studio G Program).
- The trial of professional development for the mentors on autism-specific evidence-informed strategies to facilitate learning and overcome the motivation challenges of the students. Strategies such as visual instruction methods, concept mapping, and structured teaching are considered “conventional wisdom” when teaching and guiding young people on the spectrum through project development and task completion (Ganz, 2007; Hume, 2011; Mesibov & Shea, 2010; Roberts & Joiner, 2007).
- The establishment of a professional protocol, including the boundaries and expectations of the role of the mentors and their relationship with the young people on the spectrum. This may include the documentation of encountered scenarios and actions taken so as to establish key policies and procedures for future scenarios.
- As family members play an important role in the planning and execution of their child’s transition (Lee & Carter, 2012), it may be worthwhile exploring ways to facilitate collaborative communication with the family members and to encourage their involvement in each stage of the young person’s transition process. On the proviso that the students give their permission for Studio G to share information with family members, regular feedback on the young person’s progress and achievements within the program should be provided to family members.
- Adjustments to accommodate the students’ concerns with the venue. Noise-cancelling headphones could be used for students who are bothered by noise while working at Studio G. Where possible, students should be pre-warned of upcoming room changes, or alternatively a mentor should be assigned to redirect students. The students’ other feedback on the venue (e.g., the comfort of the chairs) could be provided to the coordinators of The Edge.

6. Limitations and Future Research Directions

While the current research evaluation provided valuable insight into the impact of Studio G on the students, and aspects of the program that could be improved, the results should be viewed with a number of limitations in mind. These limitations and potential future research directions are discussed below.

At the commencement of the research evaluation, the program was still in its infancy and consequently had a relatively small number of students (initial enrolment of 16 students). It was therefore not possible to recruit a larger sample size. As a result, quantitative research designs were not feasible, due to the lack of statistical power. If the program expands to include a larger number of participants, it may be possible for future research to incorporate quantitative measures.

Second, due to insufficient numbers of enrolments for a wait-list, it was not feasible to compare the outcomes of students in the program to a wait-list control group. Should the program expand sufficiently to include a wait-list group, future research could employ a quasi-experimental design involving a wait-list control group. Alternatively, information gathered from participants while on a wait-list could be used as baseline measures to make comparisons with their outcomes after entering the program, using either a pre-test post-test design or a multiple baseline design.

Third, the lack of reports provided to family members limited their capacity to provide their perspectives on the students' progress and feedback on the program. This impacted the research evaluation by limiting the information that could be gathered from family members.

Fourth, the short-time frame available for data collection in this study restricted the researchers' capacity to fully capture the students' transition progress. Furthermore, as it was not possible to interview students and their family members prior to their enrolment in Studio G, their initial progress in the program was not captured and comparisons between their life before and after attending Studio G could not be made. Future research should, therefore, ideally involve gathering data from the students and family members prior to and following Studio G attendance, and an extended time-frame for data collection. The use of a formalised transition tool may also enhance the capacity of researchers to track the students' progress over time.

7. Conclusion

Overall, the findings suggest that the students made substantial psychosocial gains that were attributed to their attendance at Studio G. These included high levels of motivation to attend the program, enjoyment of the program, increases in social participation and friendship, and improved emotional wellbeing. The students were also reported to have acquired many new skills. While some students continued to have difficulty articulating their study and career goals, others appeared to have developed an increased awareness of potential future options. The students' progress in the transition process was described as slow but real, with two of the eleven students having made the transition to further study or training during the six months of data collection in the study.

In general, the students, family members, and mentors were highly satisfied with the program, with the main sources of satisfaction being the flexible, pressure-free atmosphere, the contribution of the mentors, and the high quality of the student-mentor relationships. With regard to aspects of the program that could be improved, the majority of family members indicated a desire for more feedback on their child's progress. Although the students were highly enthusiastic about the program, they expressed minor concerns about features of the venue including the comfort of the chairs, the lack of windows in one of the rooms, the internet signal, and the noise levels. Some also expressed a desire for more mentors, although this may be difficult to address given that there were also concerns about the cost of the program.

The mentors spoke of their high levels of job satisfaction, particularly with respect to the rewards of observing the students' progress. The key issue for mentors was encountering motivation challenges among the students. They also advocated for the establishment of a professional protocol, including the boundaries and expectations of their role as mentors. Taken as a whole, Studio G appears to fulfil a critical need for a nurturing post-school transition program for young people on the spectrum. Continuation of the program with revisions based on the evaluation is, therefore, highly recommended.

8. References

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Appendix A

CREATIVE PROGRAMS AVAILABLE IN STUDIO G

MULTIMEDIA AREA	CREATIVE PROGRAMS
Computer Game Development	<ul style="list-style-type: none"> • Storyboarding • Programming • Game design (design documents) • Concept development • Problem solving/testing • Unity • RPG Maker • Blender (3D modelling) • Photoshop (Character design/artwork)
Photography & Graphic Design	<ul style="list-style-type: none"> • Image capturing • Data management/transfer • Digital Darkroom • Photoshop • Illustrator
Animation	<ul style="list-style-type: none"> • Reading Images • Conveying meaning in static images • Story development • Cutout/tween • Toon Boom • Flash • Maya
Music & Sound	<ul style="list-style-type: none"> • Audio production • Sound for moving image and interactive media (Foley; Score) • Digital Audio Workstation (DAW) (Protools; Logic; Cubase) • Virtual Instruments (Kontakt; Virtual drummer; Play)
Short Film Making	<ul style="list-style-type: none"> • Narrative development • Storyboarding • Editing • Cinematography • Sound • Mise-en-scène (Arrangement for camera) • Adobe • Premier • iMovie
Creative Writing	<ul style="list-style-type: none"> • Storyboarding • Character Development • Narrative Development • Writing Styles • Genres

Appendix B

RECRUITMENT FLYER



studio G

Participants wanted for research on Studio G!

We would like to invite you to take part in a research project that will help us to evaluate the Studio G Program. We are interested in learning about how the program helps participants to learn new skills, make new friends, learn about future study and employment options, and improve their overall happiness and wellbeing.

What's involved?

For you:

Our research assistant, Tash, will ask you some questions when you start Studio G and again later in the year. The questions will be about your interests, social life, future study or work you might like to do, your wellbeing, and what you think of the Studio G program. Tash will also visit Studio G regularly to watch what goes on and take some notes.

For your parent or family member:

As long as it's okay with you, Tash will ask your family member some questions when you start Studio G and again later in the year. They will be similar to the questions she asks you, but will get your family member's perspective. Your family member will also be asked to fill out two forms with general information about you.

What are the benefits?

By participating in this research you will be helping us improve the Studio G program, so that you and your fellow students can gain as much from it as possible. Your participation will also help us to show others the benefits of attending Studio G, so that it can be made available to more people with ASD.

How will my privacy be protected?

The answers you and your family member give to the questions that Tash asks will be audio-recorded. However, once Tash has typed up the answers, the recordings will be destroyed. All of your information will be kept confidential and secure. We will not identify you in any way. You will be given a code name on all of your documents so that no one can tell which answers were yours.

As a token of our appreciation, we will provide all research participants with a \$20 voucher for a store of their choice.

For more information, please contact one of the following members of the research team:

Dr Jill Ashburner
Research & Dev., Autism Queensland
Phone: (07) 3273 0075
Email: jill.ashburner@autismqld.com.au

Dr Kate van Dooren
QCIDD, University of Queensland
Phone: (07) 3163 1983
Email: k.vandooren@uq.edu.au



Appendix C

PARTICIPANT INFORMATION SHEETS AND CONSENT FORMS

PARTICIPANT INFORMATION SHEET FOR STUDENTS

CONSENT FORM FOR STUDENTS AGED 18 AND OVER

ASSENT FORM FOR STUDENTS AGED UNDER 18

PARTICIPANT INFORMATION SHEET FOR FAMILY MEMBERS

PARTICIPANT INFORMATION SHEET FOR MENTORS

CONSENT FORM FOR FAMILY MEMBERS AND MENTORS

APPENDIX C: PARTICIPANT INFORMATION SHEET FOR STUDENTS



Studio G Program: Research Evaluation Information Sheet for Students

Researchers from Autism Queensland and The Queensland Centre for Intellectual and Developmental Disability (called QCIDD) at The University of Queensland are working together to understand how to improve employment outcomes among young people with Autism Spectrum Disorder (ASD) after they have left school. One way to improve people's employment prospects may be through participation in Studio G, by bringing together young people with mentors who are experts in their field.

About the study:

We would like to invite you to take part in a research project that will help us to evaluate the Studio G Program. We are interested in learning about how the program helps young people to learn new skills, make new friends, learn about future study and employment options, and improve their overall happiness and wellbeing.

Your rights:

You can decide if you want to take part in the study or not; it is up to you. It won't make any difference to the way you participate in Studio G. You can stop being part of this study at any time if you want to. Changing your mind won't change the way you are treated at Studio G. You can let the researchers know if you don't want to participate by phone, fax, or mail.

What will happen:

If you participate in this study you will be asked some questions about your interests, social life, future study or work you might like to do, your wellbeing, and what you think about Studio G. An interviewer will come to talk to you at a place where you feel comfortable, such as The Edge. There will be one interview at the start of the program and another one later in the year. Each interview should take no longer than one hour. The interviewer will also visit Studio G throughout the year, to watch what happens and take some notes. If you agree, the interviewer will also ask parent or family member some questions at the start of the program and again later in the year. These questions will be similar to the ones the interviewer asks you, but will instead get your family member's perspective.

As a token of our appreciation, we will provide all research participants with a \$20 voucher for a store of their choice.

Your privacy:

Interviews will be audio-recorded. However, after the interviews have been transcribed, the recordings will be destroyed. Data collected from this project may be used for ongoing research conducted on programs similar to Studio G. However, all participant information will be kept confidential and secure, and will be de-identified – we will not identify you in any way in any papers arising out of this research, and all findings will be reported using group data.

APPENDIX C: PARTICIPANT INFORMATION SHEET FOR STUDENTS (cont.)

Follow-up:

We will give you information about the study findings once we have spoken to all participants and put together the results.

About the researchers:

The names of the researchers of this study are Dr Jill Ashburner, who is the Manager of Research and Development at Autism Queensland, and Dr Kate van Dooren, who is a postdoctoral fellow at QCIDD. Prof Nick Lennox, who is the Director of QCIDD, is also a researcher of this study. If you would like further information about this study, please contact Jill on (07) 3273 0075 or at jill.ashburner@autismqld.com.au, or Kate on (07) 3163 1983 or at k.vandooren@uq.edu.au.

This study has been cleared by one of the human ethics committees of The University of Queensland in accordance with the National Health and Medical Research Council's guidelines. You are of course, free to discuss your participation in this study with project staff (Dr Michael Whelan, any of the researchers listed above, or your mentor). If you would like to speak to an officer of the University not involved in the study, you may contact the Ethics Officer on (07) 3365 3924.

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APPENDIX C: CONSENT FORM FOR STUDENTS AGED 18 AND OVER



Studio G Program: Research Evaluation Consent Form

Signing this consent form means that you understand your part in the study. Doing the study, or deciding not to do the study, will not change the way you participate in Studio G.

Signing this consent form indicates that you:

1. have had the study explained to you, and want to take part.
2. have had the possible effects of the study explained to you.
3. know that you are free to take part in the study, and may leave the project at any time.
4. know that the project is for research, as well as trying to improve health.
5. know that interviews will be audio-recorded, and the recordings will be destroyed after the study.
6. know that the information provided to the researchers will be safeguarded as confidential.
7. know that you can contact Dr Jill Ashburner on (07) 3273 0075 or Kate van Dooren on (07) 3163 1983 if you have any questions about the project, between 9am and 5pm Monday to Friday.

PLEASE FILL IN ALL THE SPACES. "WHITE-OUT" IS ILLEGAL ON CONSENT FORMS.

I understand all of the points listed above.

Signature (Participant aged over 18 years):

Date:

Name of participant (Print):

Please note: the consent form must be witnessed by someone other than the person who signed above.

Signature (Witness to consent):

Date:

APPENDIX C: CONSENT FORM FOR STUDENTS AGED 18 AND OVER (cont.)

If you do NOT want your parent/family member to provide information about you, please do NOT fill out the section below.

I
(Please write name here)

agree to let my parent/family member answer some questions about my life and my experiences of Studio G. My parent's/family member's answers will be audio-recorded. The recordings of the interviews will be destroyed after the study.

PLEASE FILL IN ALL THE SPACES. "WHITE-OUT" IS ILLEGAL ON CONSENT FORMS.

Signature (Participant aged over 18 years):

Date:

Name of participant (Print):

Please note: the consent form must be witnessed by someone other than the person who signed above.

Signature (Witness to consent):

Date:

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APPENDIX C: ASSENT FORM FOR STUDENTS AGED UNDER 18



**Studio G Program: Research Evaluation
Student's Assent Form**

I

(Please write name here)

agree to answer some questions about my life and my experiences of Studio G. My answers will be audio-recorded. The recordings of the interviews will be destroyed after the study.

- I understand that a research assistant will be watching what happens at Studio G, including what I do, and will be taking notes.
- I understand that I am allowed to stop being in the study at any time if I want to.

Signed: Date:
(Student)

Signed: Date:
(Witness)

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APPENDIX C: PARTICIPANT INFORMATION SHEET FOR FAMILY MEMBERS



Studio G Program: Research Evaluation Information Sheet for Parents/Family Members

Researchers from Autism Queensland and The Queensland Centre for Intellectual and Developmental Disability (called QCIDD) at The University of Queensland are working together to understand how to improve employment outcomes among young people with Autism Spectrum Disorder (ASD) after they have left school. One way to improve people's employment prospects may be through participation in Studio G, by bringing together young people with mentors who are experts in their field.

About the study:

We would like to invite you to take part in a research project that will help us to evaluate the Studio G Program. We are interested in learning about how the program helps young people to learn new skills, make new friends, learn about future study and employment options, and improve their overall happiness and wellbeing.

Your rights:

You can decide if you want to take part in the study or not; it is up to you. It won't make any difference to the way your child participates in Studio G. You can stop being part of this study at any time if you want to. Changing your mind won't change the way your child is treated at Studio G. You can let the researchers know if you don't want to participate by phone, fax, or mail.

What will happen:

If you participate in this study you will be asked to complete a couple of short surveys on your child's background, such as their diagnosis of ASD and current employment or study. An interviewer will also ask you some questions at the start of the program and again later in the year. The questions will be about your child's interests, social life, future study or work they might like to do, their wellbeing, and what you think about Studio G. The interviewer will ask you these questions over the phone and each interview should take no longer than one hour.

As a token of our appreciation, we will provide all research participants with a \$20 voucher for a store of their choice.

Your privacy:

Interviews will be audio-recorded. However, after the interviews have been transcribed, the recordings will be destroyed. Data collected from this project may be used for ongoing research conducted on programs similar to Studio G. However, all participant information will be kept confidential and secure, and will be de-identified – we will not identify you in any way in any papers arising out of this research, and all findings will be reported using group data.

Follow-up:

We will give you information about the study findings once we have spoken to all participants and put together the results.

APPENDIX C: PARTICIPANT INFORMATION SHEET FOR FAMILY MEMBERS (cont.)

About the researchers:

The names of the researchers of this study are Dr Jill Ashburner, who is the Manager of Research and Development at Autism Queensland, and Dr Kate van Dooren, who is a postdoctoral fellow at QCIDD. Prof Nick Lennox, who is the Director of QCIDD, is also a researcher of this study. If you would like further information about this study, please contact Jill on (07) 3273 0075 or at jill.ashburner@autismqld.com.au, or Kate on (07) 3163 1983 or at k.vandooren@uq.edu.au.

This study has been cleared by one of the human ethics committees of The University of Queensland in accordance with the National Health and Medical Research Council's guidelines. You are of course, free to discuss your participation in this study with project staff (Dr Michael Whelan, any of the researchers listed above, or your child's mentor). If you would like to speak to an officer of the University not involved in the study, you may contact the Ethics Officer on (07) 3365 3924.

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APPENDIX C: PARTICIPANT INFORMATION SHEET FOR MENTORS



Studio G Program: Research Evaluation Information Sheet for Mentors

Researchers from Autism Queensland and The Queensland Centre for Intellectual and Developmental Disability (called QCIDD) at The University of Queensland are working together to understand how to improve employment outcomes among young people with Autism Spectrum Disorder (ASD) after they have left school. One way to improve people's employment prospects may be through participation in Studio G, by bringing together young people with mentors who are experts in their field.

About the study:

We would like to invite you to take part in a research project that will help us to evaluate the Studio G Program. We are interested in learning about how the program helps young people to learn new skills, make new friends, learn about future study and employment options, and improve their overall happiness and wellbeing.

Your rights:

You can decide if you want to take part in the study or not; it is up to you. It won't make any difference to the way you participate in Studio G. You can stop being part of this study at any time if you want to. Changing your mind won't change the way you are treated at Studio G. You can let the researchers know if you don't want to participate by phone, fax, or mail.

What will happen:

If you participate in this study you will be asked to keep a weekly record of your students' progress during the Studio G program. An interviewer will also ask you some questions about your feedback on the Studio G program at several time points throughout the year. The interviews will take place at The Edge and should take no longer than 20 minutes each time. The interviewer will also visit Studio G throughout the year, to watch what happens and take some notes.

Your privacy:

Interviews will be audio-recorded. However, after the interviews have been transcribed, the recordings will be destroyed. Data collected from this project may be used for ongoing research conducted on programs similar to Studio G. However, all participant information will be kept confidential and secure, and will be de-identified – we will not identify you in any way in any papers arising out of this research, and all findings will be reported using group data.

Follow-up:

We will give you information about the study findings once we have spoken to all participants and put together the results.

APPENDIX C: PARTICIPANT INFORMATION SHEET FOR MENTORS (cont.)

About the researchers:

The names of the researchers of this study are Dr Jill Ashburner, who is the Manager of Research and Development at Autism Queensland, and Dr Kate van Dooren, who is a postdoctoral fellow at QCIDD. Prof Nick Lennox, who is the Director of QCIDD, is also a researcher of this study. If you would like further information about this study, please contact Jill on (07) 3273 0075 or at jill.ashburner@autismqld.com.au, or Kate on (07) 3163 1983 or at k.vandooren@uq.edu.au.

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APPENDIX C: CONSENT FORM FOR FAMILY MEMBERS AND MENTORS



Studio G Program: Research Evaluation Consent Form

Signing this consent form means that you understand your part in the study. Doing the study, or deciding not to do the study, will not change the way you participate in Studio G.

Signing this consent form indicates that you:

1. have had the study explained to you, and want to take part.
2. have had the possible effects of the study explained to you.
3. know that you are free to take part in the study, and may leave the project at any time.
4. know that the project is for research, as well as trying to improve health.
5. know that interviews will be audio-recorded, and the recordings will be destroyed after the study.
6. know that the information provided to the researchers will be safeguarded as confidential.
7. know that you can contact Dr Jill Ashburner on (07) 3273 0075 or Kate van Dooren on (07) 3163 1983 if you have any questions about the project, between 9am and 5pm Monday to Friday.

PLEASE FILL IN ALL THE SPACES. "WHITE-OUT" IS ILLEGAL ON CONSENT FORMS.

I understand all of the points listed above.

Signature (Participant aged over 18 years):

Date:

Name of participant (Print):

Please note: the consent form must be witnessed by someone other than the person who signed above.

Signature (Witness to consent):

Date:

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Appendix D

RESEARCH MATERIALS

DEMOGRAPHIC QUESTIONNAIRE FOR FAMILY MEMBERS

DEMOGRAPHIC QUESTIONNAIRE FOR MENTORS

FIRST SEMI-STRUCTURED INTERVIEW WITH STUDENTS

FIRST SEMI-STRUCTURED INTERVIEW WITH FAMILY MEMBERS

SECOND SEMI-STRUCTURED INTERVIEW WITH STUDENTS

SECOND SEMI-STRUCTURED INTERVIEW WITH FAMILY MEMBERS

SEMI-STRUCTURED INTERVIEW WITH MENTORS

MENTOR'S FORTNIGHTLY RECORD

APPENDIX D: DEMOGRAPHIC QUESTIONNAIRE FOR FAMILY MEMBERS



Studio G Program: Research Evaluation Background information about you and your child

Thank you for completing this questionnaire. All information is held in the strictest confidence and will be de-identified.

1. **Child's name:** _____
2. **Who is completing this questionnaire?** Mother / Father / Other (please specify) _____
3. **Please indicate the type of Autism Spectrum diagnosis that your child has been given:**
 - ☐ Autistic Disorder
 - ☐ Asperger Disorder
 - ☐ Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS)
 - ☐ Autism Spectrum Disorder
 - ☐ None of the above
4. **Please indicate the profession of the person who gave the diagnosis:**
 - ☐ Paediatrician
 - ☐ Psychologist
 - ☐ Psychiatrist
 - ☐ Neurologist
 - ☐ Other (please specify) _____
5. **How old was your child when he/she was diagnosed with an Autism Spectrum disorder?**

6. **Does your child have any other diagnoses?**
 - ☐ Attention deficit disorder (ADHD or ADD)
 - ☐ Epilepsy
 - ☐ Intellectual impairment
 - ☐ Anxiety disorder
 - ☐ Depression
 - ☐ Other (please specify) _____
7. **Mother's Age:** _____ years
8. **Father's Age:** _____ years
9. **Highest level of education achieved by the child's mother:**
 - ☐ High school level with up to 10 years of education
 - ☐ High school level with 11-12 years of education
 - ☐ Tertiary education level (13 years or more of education)

APPENDIX D: DEMOGRAPHIC QUESTIONNAIRE FOR FAMILY MEMBERS (cont.)

10. **Highest level of education achieved by the child's father:**

- ☐ High school level with up to 10 years of education
- ☐ High school level with 11-12 years of education
- ☐ Tertiary education level (13 years or more of education)

11. **Is your child currently attending an educational program (e.g., school, TAFE course, apprenticeship, or university)?**

- ☐ Yes
- ☐ No

• **If yes, please describe school or educational facility, subjects or title of course, and year level:**

12. **Please describe your child's current thoughts about further education that he/she would like to do in the future:**

13. **Is your child currently in paid employment?**

- ☐ Yes
- ☐ No

• **If yes, please describe the type of work, number of hours, and employment status (e.g., casual, part-time):**

14. **Is your child currently participating in a work experience program or working as a volunteer?**

- ☐ Yes
- ☐ No

• **If yes, please describe the type of work and number of hours:**

15. **Please describe your child's current thoughts about what sort of work he/she would like to do in the future:**

Thank you for your time.

APPENDIX D: DEMOGRAPHIC QUESTIONNAIRE FOR MENTORS



Studio G Program: Research Evaluation Background Information Form for Mentors

Thank you for completing this questionnaire. All information is held in the strictest confidence and will be de-identified.

1. **Name:** _____

2. **Age:** _____

3. **Please describe your highest level of education and/or qualifications:**

4. **Please describe your work experience relevant to Studio G:**

Thank you for your time.

APPENDIX D: FIRST SEMI-STRUCTURED INTERVIEW WITH STUDENTS

First Semi-Structured Interview with Students

1. **Can you tell me about the types of things you are interested in, that you might like to work on in Studio G?**
 - Tell me more about your interest – what do you like about it? How much time do you spend on it?
 - Some examples of things you could work on in Studio G are computer games, game development, animation, film-making, photography, graphic design, music and creative writing. Do any of these things interest you?
 - Are you interested in learning more about any of these areas?
 - Can you tell me more about what you would like to learn?
2. **What are you hoping to achieve in Studio G?**
 - What are your goals?
 - What would you like to accomplish?
 - What would you like Studio G to help you with?
3. **Do you have a friend or any friends with whom you regularly spend time, who shares your interests (e.g., computer game interests)?**
 - How many?
 - What about friends you talk to/play games with online?
4. **Do you have any friends with whom you regularly spend time, who don't share your interests?**
 - How many?
 - What about friends you talk to online?
5. **Where do you see your friend or friends?**
 - For example – online, at school, college, a social club or another organised group activity, your home, or their home?
 - Other – can you tell me more about it?
6. **Who normally arranges for you to see your friend/friends?**
 - For example – you, your friend/s, your parents, or you meet at school, college, social club or another organised group activity
 - Other – can you tell me more about it?
7. **What activities do you usually do with your friend/s?**
 - For example – play games, watch movies, chat?
 - Other – can you tell me more about it?
8. **Do you have an idea of what job you would like to do in the future?**
 - Can you tell me more about why this interests you?
 - What do you think might help you to get this type of work?
 - How confident do you feel about taking the next steps to help you get this type of work?
 - Are you hoping Studio G will help with this?
 - Do you currently have a job? What work have you had previously?

APPENDIX D: FIRST SEMI-STRUCTURED INTERVIEW WITH STUDENTS (cont.)

9. **Do you have any idea of further study or training (e.g., university, TAFE, apprenticeships) that you would like to do in the future?**
- Can you tell me more about why this interests you?
 - What do you think might help you to get into this course or training program?
 - How confident do you feel about taking the next steps to help you get into this type of course or training program?
 - Are you hoping Studio G will help with this?
 - Are you currently studying? What study have you done in the past?
10. **Is there anything in your life at the moment that you feel particularly proud of?**
- Is there anything that makes you feel confident?
 - Is there anything that makes you feel good about yourself?

APPENDIX D: FIRST SEMI-STRUCTURED INTERVIEW WITH FAMILY MEMBERS

First Semi-Structured Interview with Family Members

1. **Can you tell me about the types of things your son/daughter is interested in?**
 - For example – computer games and game development, animation, film-making, photography, graphic design, music, creative writing
 - Tell me more about their interest – what do they like about it? How much time do they spend on it?
 - Are they interested in learning more about any of these areas?
 - Can you tell me more about what they would like to learn?
2. **What are you hoping for your son/daughter to achieve in Studio G?**
 - What are your goals?
 - What would you like him/her to accomplish?
 - What would you like Studio G to help your son/daughter with?
3. **Does your son/daughter have a friend or any friends with whom they regularly spend time and who shares their interests (e.g., computer game interests)?**
 - How many?
 - What about friends they talk to/play games with online?
4. **Does your son/daughter have any friends with whom they regularly spend time, who doesn't share their interests?**
 - How many?
 - What about friends they talk to online?
5. **Where does your son/daughter see their friend or friends?**
 - For example – online, at school, college, a social club or another organised group activity, your home, or their home?
 - Other – can you tell me more about it?
6. **Who normally arranges for your son/daughter to see their friend/friends?**
 - For example – your son/daughter, their friend/s, you, or they meet at school, college, social club or another organised group activity
 - Other – can you tell me more about it?
7. **What activities does your son/daughter usually do with their friend/s?**
 - For example – play games, watch movies, chat?
 - Other – can you tell me more about it?
8. **Does your son/daughter have an idea of what job they would like to do in the future?**
 - Can you tell me more about why this interests them?
 - What do you think might help them to get this type of work?
 - How confident do you think they feel about taking the next steps to help them get this type of work?
 - Are you hoping Studio G will help with this?
 - Does your son/daughter currently have a job? What work have they had previously?

APPENDIX D: FIRST SEMI-STRUCTURED INTERVIEW WITH FAMILY MEMBERS (cont.)

9. **Does your son/daughter have any idea of further study or training (e.g., university, TAFE, apprenticeships) that they would like to do in the future?**
 - Can you tell me more about why this interests them?
 - What do you think might help them to get into this course or training program?
 - How confident do you think they feel about taking the next steps to help them get into this type of course or training program?
 - Are you hoping Studio G will help with this?
 - Is your son/daughter currently studying? What study have they done in the past?
10. **Is there anything in your son's/daughter's life at the moment that they seem to feel particularly proud of?**
 - Is there anything that makes them feel confident?
 - Is there anything that makes him/her feel good about himself/herself?

APPENDIX D: SECOND SEMI-STRUCTURED INTERVIEW WITH STUDENTS

Second Interview with Students

1. **Can you tell me about the types of things you are interested in, since being in the Studio G program?**
 - Tell me more about your interest – what do you like about it? How much time do you spend on it?
 - Has the Studio G program helped you learn more about your interest area?
 - Have you learned as much as you expected to from Studio G?
 - Have the mentors been helpful in teaching you about this area?
2. **Have you achieved what you wanted to achieve so far in Studio G?**
 - Have you reached any of your goals?
 - What have you accomplished so far?
 - Do you wish you had achieved more by now?
3. **Have you got to know the other people at Studio G? Are there some people from Studio G who you enjoy spending time with?**
 - Do you spend time with any of the people from Studio G outside of Studio G?
 - How many? Where do you spend time with them?
 - Are there some people from Studio G with whom you would like to spend time with outside of Studio G in the future?
4. **Since being in Studio G, do you have a friend or any friends with whom you regularly spend time, who shares your interests (e.g., computer game interests)?**
 - How many?
 - What about friends you talk to/play games with online?
5. **Since being in Studio G, do you have any friends with whom you regularly spend time, who don't share your interests?**
 - How many?
 - What about friends you talk to online?
6. **Where do you see your friend or friends?**
 - For example – online, at school, college, a social club or another organised group activity, your home, or their home?
 - Other – can you tell me more about it?
7. **Who normally arranges for you to see your friend/friends?**
 - For example – you, your friend/s, your parents, or you meet at school, college, social club or another organised group activity
 - Other – can you tell me more about it?
8. **What activities do you usually do with your friend/s?**
 - For example – play games, watch movies, chat?
 - Other – can you tell me more about it?
9. **Has Studio G helped you learn about jobs, further study or training that you might be able to do in the future?**
 - Can you tell me more about how Studio G helped you learn about these opportunities?

APPENDIX D: SECOND SEMI-STRUCTURED INTERVIEW WITH STUDENTS (cont.)

10. **Do you have an idea of what job you would like to do in the future?**
 - Can you tell me more about why this interests you?
 - What do you think might help you to get this type of work?
 - How confident do you feel about taking the next steps to help you get this type of work?
11. **Do you have any idea of further study or training (e.g., university, TAFE, apprenticeships) that you would like to do in the future?**
 - Can you tell me more about why this interests you?
 - What do you think might help you to get into this course or training program?
 - How confident do you feel about taking the next steps to help you get into this type of course or training program?
12. **Is there anything in your life at the moment that you feel particularly proud of?**
 - For example, are you proud of the work you have done so far in Studio G?
 - Does your project make you feel confident?
 - Does your project make you feel good about yourself?
 - What else makes you feel good about yourself, or makes you feel proud of yourself?
13. **How satisfied are you with Studio G so far?**
 - How enjoyable do you find the activities?
 - Have you found it helpful having access to technology and time set aside to work on your project?
 - How much do you like the location, duration, and environment of Studio G?
 - How helpful and friendly do you find the people (e.g., mentors, program staff, The Edge staff) at Studio G?
 - What keeps you coming back to Studio G?
14. **What could be improved about Studio G?**
 - What are your favourite and least favourite things?
 - What changes would you make to Studio G?

APPENDIX D: SECOND SEMI-STRUCTURED INTERVIEW WITH FAMILY MEMBERS

Second Interview with Family Members

1. **Can you tell me about the types of things your son/daughter is interested in, since being in the Studio G program?**
 - Tell me more about their interest – what do they like about it? How much time do they spend on it?
 - Has the Studio G program helped them learn more about their interest area?
 - Have they learned as much as you expected them to from Studio G?
2. **Has your son/daughter achieved what he/she wanted to achieve in Studio G so far?**
 - Has he/she reached any of his/her goals?
 - What has he/she accomplished so far?
 - Do you wish he/she had achieved more by now?
3. **Has your son/daughter got to know the other people at Studio G? Are there some people from Studio G who they seem to enjoy spending time with?**
 - Do they spend time with any of the people from Studio G outside of Studio G?
 - How many? Where do they spend time with them?
 - Are there some people from Studio G with whom they would like to spend time with outside of Studio G in the future?
4. **Since being in Studio G, does your son/daughter have a friend or any friends with whom they regularly spend time, who shares their interests (e.g., computer game interests)?**
 - How many?
 - What about friends they talk to/play games with online?
5. **Since being in Studio G, does your son/daughter have any friends with whom they regularly spend time, who don't share their interests?**
 - How many?
 - What about friends they talk to online?
6. **Where does your son/daughter see their friend or friends?**
 - For example – online, at school, college, a social club or another organised group activity, your home, or their home?
 - Other – can you tell me more about it?
7. **Who normally arranges for your son/daughter to see their friend/friends?**
 - For example – your son/daughter, their friend/s, you, or they meet at school, college, social club or another organised group activity
 - Other – can you tell me more about it?
8. **What activities does your son/daughter usually do with their friend/s?**
 - For example – play games, watch movies, chat?
 - Other – can you tell me more about it?

APPENDIX D: SECOND SEMI-STRUCTURED INTERVIEW WITH FAMILY MEMBERS
(cont.)

9. **Has Studio G helped your son/daughter learn about jobs, further study or training that they might be able to do in the future?**
 - Can you tell me more about how Studio G helped them learn about these opportunities?
 - Has your son/daughter been able to start further study/training or found new employment as a result of the skills or confidence they have acquired from Studio G?
10. **Does your son/daughter have an idea of what job they would like to do in the future?**
 - Can you tell me more about why this interests them?
 - What do you think might help them to get this type of work?
 - How confident do you think they feel about taking the next steps to help them get this type of work?
11. **Does your son/daughter have any idea of further study or training (e.g., university, TAFE, apprenticeships) that they would like to do in the future?**
 - Can you tell me more about why this interests them?
 - What do you think might help them to get into this course or training program?
 - How confident do you think they feel about taking the next steps to help them get into this type of course or training program?
12. **Is there anything in your son's/daughter's life at the moment that they seem to feel particularly proud of?**
 - For example, are they proud of the work they have done so far in Studio G?
 - Does their project make them feel confident?
 - Does his/her project make him/her feel good about him/herself?
 - What else makes them feel confident, or makes him/her feel good about him/herself?

APPENDIX D: SEMI-STRUCTURED INTERVIEW WITH MENTORS

Interview with Mentors

1. **How satisfied are you with Studio G, as its employee?**
 - Were you given adequate instructions and guidance throughout the program?
 - Did you feel that your skills and expertise were utilised as well as they could have been?
 - What tips or advice would you give someone starting as a mentor?
2. **What has worked well and what could be improved in Studio G?**
 - What activities/approaches did you find most effective/helpful when working with the participants?
 - What activities/approaches were less successful/helpful when working with the participants? How would you change these activities to make them more effective?
 - Were there any situations you found particularly challenging or rewarding within the program?
3. ***In your opinion*, has Studio G had any impact on the participants' mental health and wellbeing? If so, in what way?**
 - For example – do you think the participants seem happier, more confident, more proud of themselves, etc.?
4. ***In your opinion*, has Studio G helped with the participants' study/career aspirations or outcomes? If so, please explain.**
 - Do the participants seem more aware of their options for further study/training or opportunities for work?
 - Have any of the participants been able to start further study/training or found new employment as a result of the skills or confidence they have acquired from Studio G?
5. ***In your opinion*, has Studio G had any other positive impacts on the participants? If so, please explain.**
 - What do you think it was about Studio G that had this positive impact?
6. ***In your opinion*, has Studio G had any negative impacts on the participants? If so, please explain.**
 - What do you think it was about Studio G that had this negative impact?

APPENDIX D: MENTOR'S FORTNIGHTLY RECORD

Mentors' Fortnightly Record

Student name:

Fortnight:

Project:

General vibe this fortnight: 😊 😐 😞

Project skills						
Please record any progress this student has made on their project this fortnight, including any new technology they used.						
Please record any other project skills this student demonstrated that you found impressive this fortnight.						
Work skills						
This student kept on task and was focused on their work this fortnight.						
1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree
This student exhibited responsible behaviours (e.g., punctuality, politeness) this fortnight.						
1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree
This student was easily distracted and did not achieve much on their project this fortnight.						
1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

APPENDIX D: MENTORS' FORTNIGHTLY RECORD (cont.)

Communicational skills						
<i>This student was confident when they communicated with others (mentors and students) about their project this fortnight.</i>						
1 <i>strongly disagree</i>	2	3	4 <i>neither agree nor disagree</i>	5	6	7 <i>strongly agree</i>
<i>This student was clear and easy to understand when they communicated with others (mentors and students) about their project this fortnight.</i>						
1 <i>strongly disagree</i>	2	3	4 <i>neither agree nor disagree</i>	5	6	7 <i>strongly agree</i>
<i>This student seemed comfortable with social interactions (e.g., being approached by mentors, talking to other students) this fortnight.</i>						
1 <i>strongly disagree</i>	2	3	4 <i>neither agree nor disagree</i>	5	6	7 <i>strongly agree</i>
Friendship networks						
<i>Please describe any friendships this student has developed and/or maintained this fortnight during Studio G.</i>						
Other comments						
<i>Please record anything else you feel is notable from this fortnight, including if this student was absent for either or both sessions.</i>						



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