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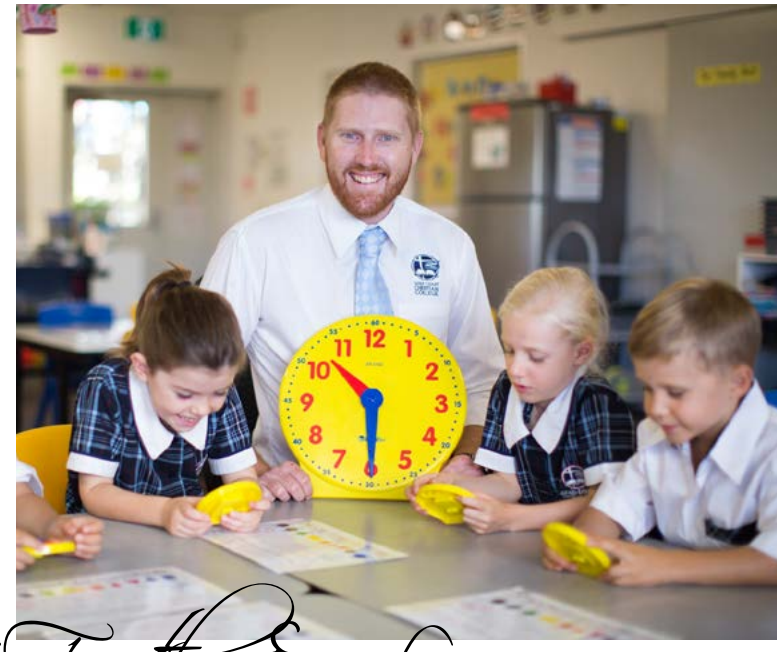

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Sydney Adventist School Auburn Year 4 student Rainne, reading to Year 1 student Sabrina

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Ministry Of Teaching

EDITORIAL

Graeme Perry

Twenge, in authoring *iGen: Why today's super-connected kids are growing up less rebellious, more tolerant, less happy--and completely unprepared for adulthood--and what that means for the rest of us* (2018) adds to the literature asserting concern for the current wellbeing of children and adolescents. Specifically, other work has linked increased screen time with insufficient sleep and potentially significant health risks (Twenge, Krizan, & Hisler, 2017), including lower psychological wellbeing for adolescents (Twenge, Martin, & Campbell, 2018).

Recognising these concerns at the Australian Government level Hon Dan Tehan (Minister for Education) launched (19th October, 2018) the Australian Student Wellbeing Framework which is supported by resources at the Student Wellbeing Hub (https://www.studentwellbeinghub.edu.au).

The wellbeing of all participants within a school is diagnostic of its ethos. Ainley, Withers Underwood and Frigo (2006) in a National Survey of Health and Wellbeing noted 20% of the schools surveyed mentioned religion, pastoral care by 31% and counselling processes by 16%. Less than 6% mentioned a general health policy (p. 31). Christian schools have an extensive but varied commitment to the kingdom value Jesus asserted as "My purpose is to give them a rich and satisfying life" John 10:10 NLT. The integration of all participants within this purpose optimises effectiveness (Littlecott, Moore, & Murphy, 2018).

TEACH introduces *Wellbeing Notes* as a new feature of each issue, replacing *Transforming Classrooms*, now inviting teachers to contribute from events and experiences at their school (contact Beverley Christian). The initial 'note' in brevity questions "Wellbeing: New idea or old?" Two articles included in this issue describe environmental influences on student wellbeing. Firstly, Weslake's description of flexible learning spaces which allows student adjustment to best learning places and postures. Secondly, comment on relationships impacting family modelling influencing the adoption of healthy opinions and positive lifestyles (Nicholas et al.). Beech subtly 'stories' spiritual perspectives by investigating identity formation, prompting self-evaluation "What story are we living in?" further asserting

> human[s] … have decided we do not like His story and want to live in one of our own creation. We have disagreed about His story's beginning, and its end, but it has been the here and now that has been particularly painful for us because we want that to be *ours*.

Does our humanity in education result in observers (pre-service teachers) wondering (with Christian and Beamish) "Are Christian schools really Christian?" Are the intentions of 'special character' actually visible in sampled schools, and directed to student wellbeing? Hinze with co-authors reviewed College distance education students' experiences, claiming positive outcomes, but observing that more intentional assessment of course impact on spiritual development needs to be developed. Rieger recommends Pietsch's *Character Reborn* as a source supporting re-visioning of an applied philosophy of Christian education.

Addressing learning well, Ryan and Beamish confirm academic achievement (supporting wellbeing perception) is enhanced by a stronger 'growth mindset' and higher levels of 'grit', both of which can be taught. Pitchford's review of *Developing Tenacity* informs this teaching and supports Judge's assertion of *Creativity vs Copying* in the practice of equity and equality as justice applied to the classroom. Just "Watch out for Jack" and Jacquelines. TEACH

> *work has linked increased screen time with insufficient sleep and significant health risks …,[and] lower psychological wellbeing*

References

Ainley, J., Withers, G., Underwood, C. & Frigo, T. (2006). *National survey of health and well-being promotion policies and practices in secondary schools*. (Report to the Australian Principals' Associations Professional Development Council.) Camberwell, Victoria:ACER.

Littlecott, H. J., Moore, G. F., & Murphy, S. M. (2018). Student health and well-being in secondary schools: The role of school support staff alongside teaching staff. *Pastoral Care in Education: An International Journal of Personal, Social and Emotional Development, 36*(4) 297-312. doi.org/10.1080/02643944.2018.152862

Twenge, J. M. (2018). *iGen: Why today's super-connected kids are growing up less rebellious, more tolerant, less happy--and completely unprepared for adulthood--and what that means for the rest of us*. NewYork, NY: Atria

Twenge, J. M., Krizan, Z., & Hisler, G. (2017). Decreases in self-reported sleep duration among U.S. adolescents 2009–2015 and association with new media screen time. *Sleep Medicine, 39*, 47-53. https://doi.org/10.1016/j.sleep.2017.08.013

Twenge J. M., Martin, G. N., & Campbell, W. K. (2018). Decreases in psychological well-being among American adolescents after 2012 and links to screen time during the rise of smartphone technology. *Emotion, 18*(6) 765-780. doi: 10.1037/emo0000403.

[Photography: Glenys Perry]

Caption: Mrs Medbury guiding Prince-Henele (Year 3) with her reading at Sydney Adventist School Auburn. Photography: Greater Sydney Adventist Schools

Watch out for 'Jack', he's a real challenge!

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Abstract

Foetal Alcohol Syndrome Disorder (FASD) is a cluster of conditions that are the result of pre-natal exposure to alcohol. Children with FASD may have noticeable facial features as well as intellectual, social, emotional and behavioural difficulties. Providing a loving, structured and supervised learning environment has significant positive impacts on the development of a child with FASD. A teacher can assist a student with special needs in reaching their full potential, through establishing an effective individualized learning plan and building strong relationships with the child and guardian.

FASD is a leading cause of developmental disabilities worldwide and is also the most preventable cause of learning and behavioural disabilities

Introduction

As Sharon walked into the Year Three class that day she quickly scanned the room for 'Jack'. Called in as the relief teacher that morning, she had been warned by another teacher that he might be 'quite challenging'. Sure enough, as the day progressed, Jack displayed an inability to follow directions and remember what he had been told, impulsively leaving his seat, a sensory overload reaction to loud noises and then a meltdown when he had to finish a game he was enjoying.

Later that day, Sharon reflected on this attractive little boy with ginger curly hair and a ready smile. What was it about Jack that caused these characteristics? Before she went home, Sharon checked in at the school office and asked to read his file – and there she found the answer. With a history of cognitive and behavioural issues he had recently been diagnosed with Foetal Alcohol Spectrum Disorder, and specifically, ARND (Alcohol-related neurodevelopmental disorder).

Little boys like Jack, and little girls too, face a lifetime fraught with difficulties because their mothers consumed alcohol during pregnancy. This disorder is permanent and totally avoidable; however, research has found that 40 per cent of Australian mothers drink while pregnant. Further, ten per cent of Australian women reported binge drinking at least once during their pregnancy (O'Keeffe, et al., 2015).

Foetal Alcohol Syndrome Disorder (FASD) is a group of permanent disabilities caused by pre-natal exposure to alcohol (Horecka-Lewitowicz, Lewitowicz, Adamczyk-Gruszka, Skawiriski, & Szpringer, 2013). FASD is a leading cause of developmental disabilities worldwide (Miller et al., 2017) and is also the most preventable cause of learning and behavioural disabilities (Judd, 2012).

History

In 1973, Jones and Smith, two physicians at Washington University, who specialised in birth defects, detected a group of children who all had similar defects: small heads, distinctive facial features and cognitive delays. The common link was that their mothers all drank alcohol during their pregnancies. Jones and Smith suspected that alcohol was the teratogen that had damaged these children in utero, despite other medical opinion to the contrary. The two doctors continued to gather data and in 1973 published their first article, naming this condition 'Foetal Alcohol Syndrome' (Jones & Streissguth, 2010). A similar study had been published by Lemoine and his colleagues in France, five years earlier, but it had received little attention. However, by 1988, cautionary warnings for pregnant women became a legal standard on alcoholic beverages.

Over a period of some years following review by various organisations, a number of sub-categories have been identified within Foetal Alcohol Syndrome Disorder (FASD). These, together with their characteristics are displayed in Table1.

As can be seen from Table 1, confirmed maternal consumption of alcohol is present in each

Table 1: Classification of varying levels of Foetal Alcohol Syndrome Disorder (FASD)

Sub-Categories of FASD	Characteristics
Foetal Alcohol Syndrome (FAS)	Confirmed maternal alcohol exposure. At least two of the characteristic facial abnormalities, growth deficiency and Central Nervous System abnormalities such as cognitive or behavioural neurodevelopmental abnormalities.
Partial Foetal Alcohol Syndrome pFAS	Confirmed maternal alcohol exposure. At least two of the facial abnormalities and either growth deficiency or CNS/neurodevelopmental abnormalities.
Alcohol-related Birth Defects (ARBD)	Confirmed maternal alcohol exposure. At least two of the facial abnormalities and one or more congenital organ system abnormalities.
Alcohol-related neurodevelopmental disorder (ARND)	Confirmed maternal alcohol exposure. Normal growth and typical facial features. Some CNS/neurodevelopmental abnormalities.

Source: The National Center for Biotechnology Information, 2018.

of the different sub-categories, with additional characteristics ranging from facial, cognitive and growth abnormalities (FAS) through to normal growth and facial features, but with underling neurodevelopmental abnormalities (ARND).

Causes

Alcohol is a 'Teratogen' , terminology for any substance that causes the malfunction of an embryo (Beauchamp, 2013). Foetal Alcohol Syndrome Disorder is caused by a mother consuming alcohol while pregnant. The alcohol transfers through the placenta to the child; and due to the baby's underdeveloped liver, the blood alcohol is unable to be filtered and is stored in the foetus for extensive amounts of time (Preece & Riley, 2011). The alcohol damages the foetus' nervous system, tissues, and prenatal development by restricting pure blood supply. When alcohol exposure occurs in the early stages of development, it results in permanent brain damage in the child. There is no known "safe" dosage or time to drink alcohol during pregnancy (Beauchamp, 2013) and it is a myth that the placenta filters out harmful substances in order to protect the foetus. A recent study (Creeley, Dikranian, Johnson, Farber, & Olney, 2013, p. 1) found that exposure of a foetal brain to alcohol, on a single occasion, resulted in the acute and widespread apoptotic—genetically directed (programmed) cell self-destruction—death of both grey and white matter brain cells.

Unfortunately, some populations have a higher than average incidence of FASD, such as those children in care, with estimates of up to 50%; and further 23% of those admitted for psychiatric treatment in British Columbia had FASD (Millar et al., p.6).

Management

Identification

FASD is a completely preventable condition but still accounts for the majority of intellectual disabilities. Though approximately 9 in 1000 live births are children born with FASD, current research suggests that 1 in 20 school children in the United States of America (5% of the total population) have undiagnosed FASD (Judd, 2012). Early diagnosis is key to the management of FASD. However, the average diagnosis age is 6 years old. Early diagnosis is uncommon for FASD as high rates of cases of adoption amongst children with FASD means that parental history is lost (Millar et al., 2017). Often known as the hidden disability, as facial characteristics frequently develop later in childhood, FASD is often mistaken for Autism Spectrum Disorder and misdiagnosed as other behavioural and intellectual conditions (Mukherjee, Layton, Yacoub & Turk,2011). Children with FASD who are diagnosed early have a higher chance of learning social norms, developing their strengths, and making a contribution to their community.

The widespread damage to the brain caused by alcohol poisoning in utero is illustrated in Table 2 where the injury can be seen to affect many areas of the child's cognitive potential as well as most other aspects of life.

The paradigm shift adaptation

Perhaps the most important aspect of meeting the needs of a child with FASD is what Miller et al., (2017, 14) call a 'paradigm shift'. This means that rather than trying to get the child to fit in with the rules and regulations designed for typical children, the teacher identifies the child's specific needs, ensures that the Individual Education Plan

"some populations have a higher than average incidence of FASD, such as those children in care, with estimates of up to 50% with FASD"

> *Children with FASD have many behavioural problems including fussiness, jiittering, trouble sleeping and trouble with the law … Many of these stem from a struggle to understand social and behavioural norms*

Table 2: Brain domains affected by prenatal alcohol exposure- Adapted from Millar et al., 2017, p. 4

Domain	Descriptors
Physical motor skills	Children may have poor coordination (hand/eye and total body) and sensory input (regarding needed force/pressure) and abnormal muscle tone that affects balance. They may also have an immature grasp and manipulation patterns when using pencils and scissors.
Sensory processing skills	Children may be oversensitive and feel 'bombarded' by sensory information or they may seek out intense sensory information. The sense of overstimulation affects the inner sense of calm resulting in anxiety, aggressive or defiant behaviour and inability to learn/perform.
Cognition	Problems include learning difficulties, deficits in school performance, poor impulse control, problems in social perception, deficits in higher level receptive and expressive language, poor capacity for abstract thinking; deficits in mathematical skills, and problems with memory, attention, judgment or organisation. (Children may seem above average in one area and well below average in another.)
Communication	Expressive language skills may develop at a slower rate than normal. Problems using complex language structures and problems retrieving words from memory. Receptive communication deficits may include problems with following instructions, comprehension, discrimination, generalisation, abstraction and sequencing.
Academic achievement	Deficits in comprehension, abstract thinking, comprehension and communication that can impact academic achievement in multiple areas (e.g., math, science, vocabulary, direction/temporal concepts and arts.
Memory	Children may have problems with each of these processes. They may have remembered or done something many times before and be unable to remember or do it on a given day.
Executive functioning Abstract reasoning	Children may have decreased common sense and repeat the same mistakes. They often do not recognise consequences, learn from past experiences or generalise possible outcomes from one behaviour to another.
Attention deficit/ hyperactivity	Children may be easily distracted by visual and auditory stimulation that may not even be noticed by the other students. They may have problems self-regulating when they are overstimulated or tired.
Adaptive behaviour	Children have decreased capacity to develop/acquire new social, practical and conceptual skills to help them better respond to daily demands.

(IEP) goals and strategies align with the domains (Table 2) that need support and adapts the learning environment as needed.

Learning strategies

Table 3 outlines some of the learning strategies that are relevant for children with FASD.

Physical implications

FASD is sometimes termed a "silent disability" (Brown & Mather, 2014) as not all affected children will display "noticeable" symptoms. Additionally, children often outgrow the significant facial characteristics of their disability. Delayed development resulting in an individual being shorter than their peers; heart, bone and kidney problems; vision and hearing problems; potential seizures and poor balance and coordination due to underdeveloped fine motor skills are also issues that these children face (Horecka-Lewitowicz et al., 2014). A child born with FASD often suffers a double-burden due to these health effects which impinge on all other aspects of their lives and may trigger other health complications as they grow older.

Social implications and strategies

Children born with FASD are often put up for adoption (Brown, 2015). In many cases, adoptive parents may struggle to understand why their child has many behavioural problems. It can take years before parents discover the underlying cause of their child's behaviour. Children with FASD have many behavioural problems including fussiness, jittering, trouble sleeping and trouble with the law (McLean, McDougall & Russell, 2014). Many of these stem from a struggle to understand social and behavioural norms. Brown (2015) notes that these behaviours are not non-compliance, they are in fact an aspect of the disability. Due to this social unawareness, which is often diagnosed as Autism Spectrum Disorder,

Table 3: Basic classroom strategies to support learning for students with FASD

Learning Strategy	Explanation
Create an Individual Education Plan (IEP) / Universal Design for Living (UDL).	Plan and Implement a collaboratively designed IEP, incorporating Universal Design for Learning principles, aligned with the individual child's specific needs.
Provide a logical, structured, consistent routine with close supervision	Hyperactivity coupled with decreased common sense and distractibility, will benefit from a closely supervised routine which will aid in the development of self-regulation.
Ensure a calm, organised, tidy classroom	A peaceful classroom environment will reduce the problem of over stimulation and may provide an antidote to anxiety.
Teach in small, segmented chunks, using scaffolding	Teaching in small steps, together with scaffolding, helps address the issue of memory impairment
Engage through multisensory teaching, including demonstrating	Using a variety of approaches: visual, tactile, auditory and kinaesthetic. Using pictures, stories and role-play. Use of assistive technology to support memory, writing, reading, and numeracy.
Provide personal space/refuge	Placing a tent at the back of the room, a bean bag, a reading nook, all can provide a place of calm for the child to re-focus and relax in. Use headphones at times to reduce distractions.
Schedule several 'brain breaks' of physical activity through the day	Breaks including physical activity will help the child to relax, improve mood and then re-focus.
Positive, affirming communication	Positive communication will encourage improved self-esteem. Teaching listening skills will ensure effective transmission of affirmation.
Visual and tactile materials	Timetables, timers, desk reminders, charts, colour coding … all support memory and organisation.
Clear, concise instructions	Teachers should: give direct, clear and concise instructions; engage in a lot of carefully selected small group work, so as to include students with FASD into the class in a supportive relational environment.

Source: McLean, McDougall & Russell, 2014

"Mental health issues can stem from their guilt from feeling continually dependent on others to integrate into society and perform everyday tasks. … they may also have to deal with … being adopted and not knowing their biological parents"

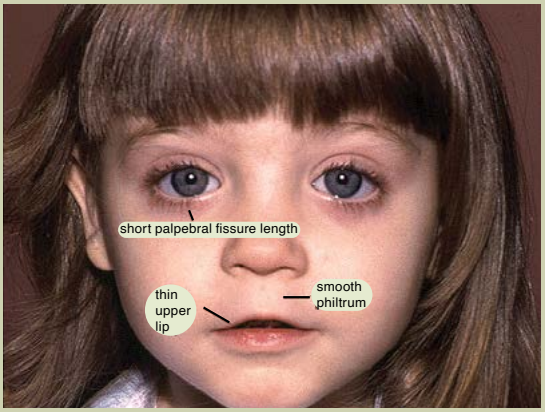
people with FASD often have inappropriate sexual behaviour, drug and alcohol problems, problems with employment and may require dependent living as they grow older (Kellerman,2003). "Individuals with FASD are significantly overrepresented but undertreated in psychiatric populations, the child welfare system, and juvenile detention and correctional settings" (Paley & Auerbach, 2010, p. 508). For individuals from rural, indigenous or low socio-economic communities, inability to access the services and support required to care for a child with FASD can place the child at an even deeper disadvantage.

Early diagnosis is crucial to a child with FASD receiving the proper social support during important early development. Organising access and eligibility for services plays a role in providing a supportive, safe and stable classroom. Setting clear, firm boundaries and repeatedly reinforcing them is crucial in the learning of social norms. Further, it is essential that consequences are logical, known and consistently applied. Setting up a buddy system can help reduce bullying and provide positive support and social interactions. Promoting problem solving strategies and careful decision-making for these students, will help them in developing appropriate behaviour. Much repetition will be needed as those with FASD find it hard to remember and to generalise across different settings.

It is essential that the teacher understands FASD. Brown (2015) states "The children suffer from sensory processing and integration disorders culminating in sensory overload that manifests as tantrums or emotional eruptions" (p. 251).

Individuals with FASD recorded high rates of mental health problems (Kellerman, 2003). Mental health issues can stem from their guilt from feeling continually dependent on others to integrate into society and perform everyday tasks. For many children with FASD, they may also have to deal with

Figure 1: Main FASD facial characteristics (Horecka-Lewitowicz et al., 2014)



Noticeable physical features that are visible on a person with FASD include:

- an underdeveloped jaw,
- thin upper lip,
- smooth philtrum (upperlip midline goove),
- small eye openings,
- a low nasal bridge,
- epicanthal folds (corner of the upper eyelid),
- a flat midface and
- a short nose

Other physical implications associated with FASD include

- low birth weight and
- later struggles to gain weight.

Parents who have a child with FASD are often suffering from feelings of guilt, including the perceived loss of their child. … Ensuring that empathy and inclusion are shown at all times is essential and a great way to build the relationship.

the struggles that come with being adopted and not knowing their biological parents. Students with FASD also struggle with change. Order and consistency in their routine are critical for their emotional well-being and stability.

Teacher responses

When a student with FASD is made known to a teacher, he/she should follow a set of initial educational strategies to ensure the child is provided with the understanding and support needed. Firstly, the teacher must read the student's file. If the school does not have a file, contacting a previous educational institution should be an early response. Following this, the teacher should organise a transdisciplinary meeting with parents, doctor, specialist teacher, teacher aide and any others that can assist in establishing an IEP for this student (State Government of Victoria, 2017). Making sure the school has the correct access to facilities and support for this student is important in sustaining a safe learning environment. Finally, the teacher should take time to talk to this student and develop a relationship with them. Through getting to know the student, the teacher can better understand the students' needs and strengths.

Parental perspectives

Parents who have a child with FASD are often suffering from feelings of guilt, including the perceived loss of their child (Rosenbaum, 2017). A teacher of a student with FASD will need to have effective communication with the parents/carers of the child. Ensuring that empathy and inclusion are shown at all times is essential and a great way to build the relationship. Parents can provide innumerable insights into the student's behaviour. It is necessary that the teacher listens to these parents and while being an advocate for the student, is also a supportive resource for the parents (Rosenbaum, 2017). As the student is a minor, the teacher should always make decisions with the parents, as this is specifically crucial in gaining the parents' support and trust.

Back to Jack

The tragedy is that so many children with ARND, look perfectly normal but perform well below their potential because of their disability. Teachers may not realise that the learning and behaviours displayed by the child, such as described in Table 2, directly result from the alcohol-caused damage to the immature brain of the foetus, rather than any deliberate action by the child.

Conclusion

Taking the time to support a child with special needs, in this case, FASD, can be the difference between that child reaching a full potential or ending up in prison. Through a multifaceted approach, the wellbeing of this child can develop and improve as he/she acquires the skills to cope with physical, intellectual and socio-emotional impairments.

Resources and support

Better Health Channel. (2016). Fetal alcohol spectrum disorder (FASD). Retrieved 1 May 2018 from https://www.betterhealth.vic.gov.au/health/ConditionsAndTreatments/fetal-alcohol-spectrum-disorder-fasd

Center for Disabilities (2009). Fetal Alcohol Spectrum Disorders Education Strategies: Working with Students with a Fetal Alcohol Spectrum Disorder in the Education System.

Sanford School of Medicine of The University of South Dakota. Retrieved from: https://www.oregon.gov/ode/educatorresources/2016fallconference/fasd.pdf
(A large number of strategies and excellent appendices with samples)
Centers for Disease Control and Prevention. (2018). Data and statistics. In Fetal alcohol spectrum disorders. Retrieved from: https://www.cdc.gov/ncbddd/fasd/data.html
The National Organisation for Fetal Alcohol Spectrum Disorders Australia (NOFASD Australia). (2018). The essential bridge. Retrieved from https://www.nofasd.org.au/ TEACH

References

Beauchamp, G. (2013). Teratogen. In C. R. Reynolds, K. J. Vannest, & E. Fletcher-Janzen (Eds.), *Encyclopedia of special education: A reference for the education of children, adolescents and adults with disabilities and other exceptional individuals* (4th ed.). Hoboken, NJ: Wiley.
Brown, J. (2015). The challenges of caring for a child with FASD. *Adoption and Fostering, 39*(3), 247-255.
Brown, J., & Mather, M. (2014). *Foetal alcohol spectrum disorder: Parenting a child with an invisible disability*. Oxford: FASD Trust.
Creeley, C., Dikranian, K., Johnson, S., Farber, M., & Olney, J. (2013). Alcohol-induced apoptosis of oligodendrocytes in the fetal macaque brain. ACTA *Neuropathologica Communications, 1*(23), 3-11.
Hall, B. (2015, July 8). 40 per cent of Australian mothers drink while pregnant: Study. The Sydney Morning Herald. Retrieved from https://www.smh.com.au/healthcare/40-per-cent-of-australian-mothers-drink-while-pregnant-study-20150708-gi7ehw.html
Horecka-Lewitowicz. A., Lewitowicz. P., Adamczyk-Gruszka, 0., Skawinski, D., & Szpringer, M. (2014). Fetal alcohol syndrome - causes, diagnostic criteria and prevalence. *Medical Studies, 1*, 48-50.
Jones, K., & Streissguth, A. (2010). Fetal alcohol syndrome and fetal alcohol spectrum disorders: A brief history. *Journal of Psychiatry & Law, 38*(4), 373-382, 371-372. https://doi.org/10.1177/009318531003800402
Judd, S. (Ed.). (2012). *Learning disabilities sourcebook*. Detroit, MI: Omnigraphics Inc.
Kellerman, T. (2003). Secondary disabilities in FASD. Based on the *Final Report from Research on Secondary Disabilities* by Ann Streissguth, presented to the FAS Conference in Seattle in September of 1996
McLean, S., McDougall, S., & Russell, V. (2014). Supporting children living with fetal alcohol spectrum disorders: Practice principles. *Child Family Community Australia*. Retrieved from https://aifs.gov.au/cfca/publications/supporting-children-living-fetal-alcohol-spectrum-disorders-practice-principles
Millar, J., Thompson, J., Schwab, D., Hanlon-Dearman, A., Goodman, D., Koren, G., Masotti, P. (2017). Educating students with FASD: linking policy, research and practice. *Journal of Research in Special Educational Needs, 17*(1), 3–17.doi: 10.1111/1471-3802.12090
Mukherjee, R., Layton, M., Yacoub, E., & Turk, J. (2011). Autism and autistic traits in people exposed to heavy prenatal alcohol: Data from a clinical series of 21 individuals and nested case control study. *Advances in Mental Health and Intellectual Disabilities, 5*(1), 42-49.
National Center for Biotechnology Information (2018) https://www.ncbi.nlm.nih.gov/
O'Keeffe L. M., Kearney, P. M., McCarthy, F. P., Khashan, A. S., Greene, R. A., North, R. A., … Kenny, L. C. (2015). Prevalence and predictors of alcohol use during pregnancy: findings from international multicentre cohort studies. *BMJ Open,* 2015;5:e006323. doi:10.1136/bmjopen-2014-006323
Paley, B., & Auerbach, B. (2010). Children with Fetal Alcohol Spectrum Disorders in the dependency court system: Challenges and recommendations. *Journal of Psychiatry & Law 38*(Winter), 507-558
Preece. P., & Riley, E. (Eds.). (2011). *Alcohol, drugs and medication in pregnancy: The long term outcome for the child*. London, UK: MacKeith Press
Rosenbaum, L. (2017). *Fetal alcohol syndrome disorder: Parents' perspective - Portico*. Retrieved from https://www.porticonetwork.ca/treatments/disorders-qr/fasd/fetal-alcohol-syndrome-disorder-parents-perspective
State Government of Victoria. (2017). *Individual Education Plans*. Retrieved from http://www.education.vic.gov.au/school/teachers/health

"Taking the time to support a child with special needs, in this case, FASD, can be the difference between that child reaching a full potential or ending up in prison."

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In what story are we living?

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Key words: God's story, metanarrative, drama, Scripture

Around ANZAC Day this year, some suggested that we, as Australians, probably should not try to date our identity from the Gallipoli campaign. No doubt these comments were treated as heresy by many celebrating on the day but they do raise an interesting argument surrounding the "Who am I?" question. One of the points being made is that we could hardly call ourselves fully *Australian* because of Gallipoli, when the original inhabitants have called the continent home for tens of thousands of years.

*One of the points being made is that we could hardly call ourselves fully **Australian** because of Gallipoli, when the original inhabitants have called the continent home for tens of thousands of years.*

Do we define ourselves as Australians because we live in a history that dates from the Constitution change in 1967, or from Gallipoli in 1914, or from Federation in 1901, or should we feel that we are a part of a history that dates back tens of millennia? Each of these has a different "feel" to it in terms of our self-definition. All of the inhabitants of this country have arrived from elsewhere at one time or another and have been adopted by it, as it were. But there is a qualitatively different "feel" of the identity that we can experience if we consider ourselves proudly to be part of what we are told of the oldest continuous culture on earth, compared with one's own relatively brief lifetime.

We live in the stories of our memories, but in a post-Guttenberg age we have so many more recorded memories that at times can be traced back several centuries. Personally, does the story I inhabit begin more than half a century ago with my birth, or when my ancestors arrived on the First and Third Fleets, or perhaps with the Norman invasion of Britain? Our mental or emotional placement into our particular story, in this sense, may be defined genetically, by traditional arrangements such as a marriage covenant, or legally, as by adoption (either into a family as a child or into a culture as a migrant).

Stories are profoundly important to us, as evidenced in the Bible by the importance of story for the oral cultures of ancient times. Today we continue to be "story people" surrounded by stories in novels, films, television programs and so on. These may be recognised, or not, as being non-fiction, fiction, or fake news designed to deceive. Stories, by their very nature, follow a path through time and, as we see ourselves doing just that, it is not surprising that they captivate and fascinate us as we make links from some other story to our own. So, encapsulated in this delight in story, is the feeling we have of being a part of a story that is our life but also part of stories that are much larger than we are. The interest of sectors of the population in this has led to the development of television series such as "Who do you think you are?" and online applications such as Ancestry.com. And if we feel dissatisfied with our story, then the media is happy to supply us with a range of stories in which, for a short time, we may fantasise that we are a part.

The comments above regarding historical placement, however, are by no means universally applicable in practice. It appears that many in self-obsessed, individualistic societies prefer to live in our own small, somewhat isolated, story. Many in recent generations have little interest in generational stories or history, or even in current events around the world—people whom Mellman (2015) refers to as "the young and the newsless". As Adrian Gill (2013) reflected: "We don't go in for ancestors in my family, we're not hereditary folk. It's not that we don't have them, it's just that we don't think they're what's interesting about us. You are what you achieve" (p. 1). Rather than drawing on the essence of who we are, there emerges a preference for a qualitative personal identity (Splitter, 2016) that is often drawn from connections made with those whose qualities (appearance, beliefs, dispositions, behaviours, doctrines, and so on) we believe indicate adherence to a similar story to our own—even though the match will never correspond exactly.

Whatever our recognized attitude might be to the origins, structure, and end point of our stories, it seems that there is a universal underlying assumption regarding the importance of a narrative of our being:

> Heritage is distilled story, just as honey is distilled sunlight. And like honey, heritage feeds us, enriching our lives with vividness and purpose, giving meaning and identity. At a very real level,

> heritage is who we are. Our grasp of time, of story, lets us make space meaningful. It lets us create the sacred, self-medicating to quench the deep thirst for reverence. (Farrelly, 2018, paragraph 17)

The thirst for reverence, and relevance, manifests in many forms. While individuals in individualistic cultures see themselves mostly living in a range of individual stories, and those living in collectivist cultures see themselves living mostly in the family story, we must be compelled to consider the bigger stories of history and, most importantly, the biggest story of all. We live in God's story—the God-defined metanarrative that underpins our lives.

Because God is the Creator and Sustainer of all things, whether we recognize it or not, we are all inextricably embedded in His story. (This is the case even if we do not believe it or even deny His existence.) As a number of authors have written, His story may be seen as a drama in which we have roles to play. Craig Bartholomew and Mike Goheen (2014) like to say that we live in Acts 29, but we could also say we live in Revelation 3:23. Neither of these references exist in the biblical text but they are the *space where we live* as part of God's story—in the era of the post-New Testament Church in Acts 29, and between the letters to the churches and the end times in Revelation 3:23. That is where we live and have our being in God's grand narrative of His Creation, the Fall, Redemption and the Fulfilment.

Two days before ANZAC Day in 2012, my first wife was informed that she had an untreatable, terminal cancer and had only months to live. She passed away at home six months later. Caring for her through that time and then losing a soul mate of thirty-seven years was, naturally, difficult. The things that sustained me through those months and the months that followed, were her testimony of God's grace and the deep belief that, while painful, it was still all right. We were living, and both now continue to live, in God's great story. The comfort that knowledge gave was, and still is, of enormous personal significance.

As with our inclusion in other stories, we can see ourselves in God's story first "genetically" as he created us in His image. Despite this, human beings, since time immemorial, have decided we do not like His story and want to live in one of our own creation. We have disagreed about His story's beginning, and its end, but it has been the here and now that has been particularly painful for us because we want that to be *ours*. God, however, made a way for us join His story: by marriage covenant as part of His Church, the Bride of Christ, or by being adopted into His family—migrating from our own story, or a story set by others, into His story.

Based on "Biblical Theology", inhabiting God's story is a foundational principle in the postgraduate courses I have taught at the National Institute for Christian Education for some years. In research, I have conducted with graduates I have repeatedly seen the transformation that has taken place in their lives and teaching as a result of the recognition that they are living in God's story. Knowing the beginning and end of the story, and the purpose and direction of life under God's direction, changes our notion of who we are. All living, including classroom teaching, therefore becomes qualitatively different.

The education authorities may set a compulsory curriculum based on a secularist or consumerist story but teaching it out of a different story, God's story, provides students with an alternative story framework they would not otherwise have had. While we may "live" the story before our students, how might we talk meaningfully to them about what such living means?

This is a particular problem when young people seem to live only in the present—however at an assumption, or unconscious, level they will all still inevitably be well embedded in one story or another. In this context, the search for an appropriate apologetic for today brings to mind God's question to Moses, "What is that in your hand?" (Exodus 4:2). What do we have at hand? Although God connects constantly with us, there should be times that we can specifically identify as His work in our lives, making us aware that we are not living primarily in our own story or one invented by others. If we have a genuine allegiance to the Lord of the universe, then we have a story to tell of living in His grand Story, as well as a series of small stories of Him living alongside us. TEACH

"authorities may set a compulsory curriculum based on a secularist or consumerist story but teaching it out of a different story, God's story, provides students with an alternative story framework they would not otherwise have had."

References

Bartholomew, C., & Goheen, M. W. (2014). *The drama of Scripture: Finding our place in the biblical story*. London: SPCK.

Farrelly, E. (2018, April 28). Developers and government are destroying our sacred stories. *The Sydney Morning Herald* (Digital edition).

Gill, A. A. (2013). *The golden door: Letters to America*. London: Weidenfeld & Nicolson.

Mellman, M. (2015). The young and the newsless. Retrieved from http://thehill.com/opinion/mark-mellman/230946-mark-mellman-the-young-and-the-newsless

Splitter, L. J. (2016). *Identity and personhood: Confusions and clarifications across disciplines*. Singapore: Springer.

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Wellbeing: New idea or old wisdom?

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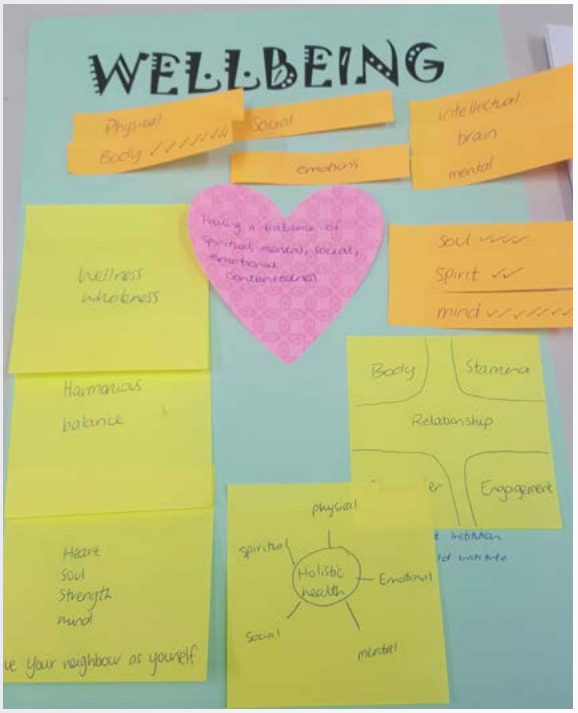
In a series of introductory classes on wellbeing in schools this year, my primary pre-service students and I looked at wellbeing from four different perspectives. Instead of taking notes in the usual way, I provided each of my students with sticky notes of different sizes and colours and a base sheet with the heading Wellbeing at the top. Their task was to listen and search for key words, organise their thoughts on wellbeing as we explored different perspectives and come up with a visual synthesis of how education may best support the wellbeing of students. They were to include a personal definition of wellbeing. (See figures 1 and 2).

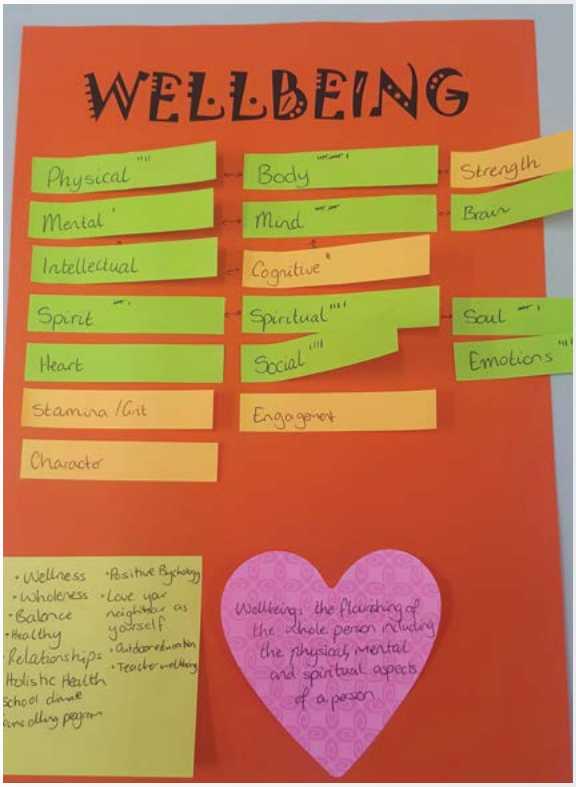
We began with popular perceptions of wellbeing derived from a google image search and spent some time analysing the visuals and key words that surfaced. Having established the key ideas contributing to wellbeing from a popular twenty-first century cultural perspective, and identifying mind, body and soul/spirit as the most often used words associated with wellbeing, we moved back a couple of decades to Martin Seligman, whose ideas have gained resonance with today's culture and are widely practised today.

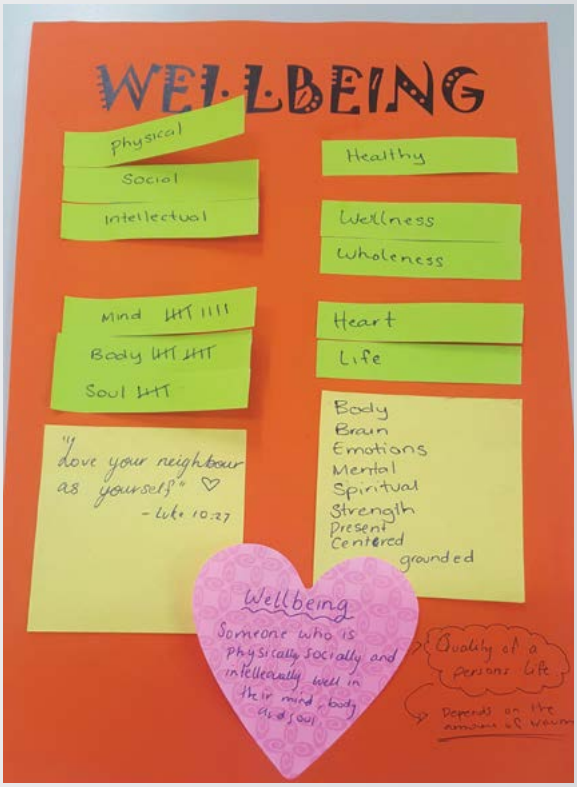
Seligman has been called the guru of positive psychology. He is an expert on topics ranging from resilience and optimism to learned helplessness, pessimism and depression. After years of seeing the minimal impact of traditional psychology on people's happiness, Seligman (2011) began taking a different route which has resulted in the popular positive psychology movement today. His premise is that there is a strong connection between the body, the brain and the emotions and therefore all should be considered in the learning process. His books include intriguing titles such as 'Flourish', 'Authentic Happiness', and 'The Optimistic Child'. Seligman was a good starting place for my students to explore more academic notions of wellbeing. We evaluated Seligman's (2011) PERMA (Positive Emotion, Engagement, Relationships, Meaning and Achievement) model and began to extend and cluster key ideas and words.

I then challenged my students with the question, "Is wellbeing a new idea, or is it old wisdom" To further explore this thought, my students and I spend some time reflecting on what Ellen White, a co-founder of Avondale College of Higher Education had to say in relation to wellbeing and education. White did most of her writing in the late nineteenth century when the term wellbeing did not exist, and the prevailing view of education involved concepts of fixed intelligence, with a liberal arts and science-based curriculum. In contrast, White advocated for education that was "the harmonious development of the physical, the mental, and the spiritual power" (White, 1903, p.17). This education, White (1903) maintained,

His premise is that there is a strong connection between the body, the brain and the emotions and therefore all should be considered in the learning process.







Figures: Musings as tagged mind-maps of wellbeing

was to prepare students to serve others, an idea also promoted by Seligman to bring meaning to life, although White introduced a spiritual element, not so overt in Seligman's model.

Stepping back even further in time, we lastly reflected on Jesus, the Master Teacher: the one who healed hearts, soothed souls and restored ravaged minds and bodies back to full health. When asked the ultimate wellbeing question, "What shall I do to inherit eternal life?' Jesus answered, "Love the Lord your God with all heart and with all your soul and with all your strength and with all your mind, and your neighbour as yourself" (Luke 10:27). As students extrapolated the common elements of wellbeing; a holistic education that fosters opportunities for service emerged as a common theme. We discovered that what is sometimes presented as a new educational idea may in fact be old wisdom, and something for Christian educators to acknowledge and embrace, as they heal, soothe and restore young lives as Jesus did.

There are many other facets of wellbeing that were not explored in this class session. Many of you who read this are exploring and implementing wellbeing ideas in your schools. We hope that this Wellbeing Notebook page becomes a place where you can share your reflections and ideas with other Christian educators. (To share your ideas contact Beverley Christian using the email address above.) TEACH

References

Seligman, M. E. P. (2011). *Flourish*. New York, NY: Free Press.
White, E. G. (1903). *Education*. Mountain View, CA: Pacific Press.

As students extrapolated the common elements of wellbeing; a holistic education that fosters opportunities for service emerged as a common theme.

TEACH[R]

A health check of Avondale's distance education program: Where have we been? Where are we going next?

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"the study provide[s] insight into the extent to which the distance education program … provides a space in which learning relationships can develop in online communities."

Key words: distance education; online learning; evaluation; Avondale; higher education; ethos; values

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Abstract

Avondale College of Higher Education has been offering tertiary courses for over 120 years. In the past two decades, this institution has extended its programs to include distance courses for students who opt to study online or are not able to attend on-campus courses at Avondale's Lake Macquarie and Sydney campuses. While all of the institutions courses are evaluated on a regular basis, no formal evaluation had ever been undertaken of the distance education program as a whole. During 2017, a mixed methods research project was conducted to gather evaluative data from recent and current distance students using questionnaires and focus groups. The results of the study provide insight into the extent to which the distance education program at the College provides a space in which learning relationships can develop in online communities. Also, suggestions for future improvement and further research recommendations are provided. Findings of this study may be of interest to educators and administrators who incorporate online components in their curricula.

Introduction

Avondale was established in 1897 as a faith-based institution with a spiritually focused vision, mission, and motto. By the middle of the twentieth century the College had begun to diversify and offer degrees through external and affiliation programs, offering

its own NSW government accredited degrees from 1974 (Avondale College of Higher Education, 2018). Distance education was introduced in the mid-1990s with external affiliation, to upgrade education graduates from diploma to degree status. This was followed in 2000 by a blended Master's program in three disciplines, and gradually, as the capacity for online learning was developed, more courses were offered in blended or totally distance mode. Since 2008, the number of courses offered online has steadily increased. While early versions of distance education courses at the College involved students enrolling either by on-campus or distance (online) mode, more recent years have seen a lessening of this divide; instead, distance and on-campus students are currently enrolled in the same units and often self-select which aspects of their studies they attend in on-campus or distance mode. This more flexible approach has enabled students to tailor their pattern of attendance to meet the demands of their complex lives. Currently the College offers five undergraduate courses, and eight post graduate courses by distance education using an online mode, and an increasing number of individual units are also offered online.

Although Avondale has been offering distance education courses to undergraduate and postgraduate students for almost two decades, a comprehensive review of these students' experiences had not been undertaken before the study reported in this paper was conducted. Like many other schools and universities, Avondale regularly administers end-of-semester surveys to gather feedback about the quality of the learning experiences of all students who complete on-campus and distance courses, and this feedback has become a valuable source of data in assisting the continual improvement of each course's curriculum design and teaching methods. However, the distance cohort of students had not yet been specifically targeted to elicit information about their unique experiences of studying via distance. Since 25% of the institutions students choose to complete their entire course by distance and 40% of the College students currently choose to complete some of their studies in a distance mode, this large proportion of the student population at the institution needed to be consulted to ensure the quality assurance system of the institution was representative of all groups of students and to ensure the experiences of distance learners will become more integral to the institution's direction.

Background

Because of the convenience of learning online, distance education programs and online learning technologies have become increasingly popular in primary, secondary and tertiary education over the last twenty years. The number of tertiary education students taking at least one online class in the USA in 2006 was approximately 3.5 million (Allen & Seaman, 2007). This number almost doubled to 6.7 million in 2011 (Allen & Seaman, 2013). In 2012, 62.4% of college and universities reported offering distance programs (Allen & Seaman, 2017). In addition to more tertiary students enrolling in online classes, Rovai and Downey (2010) report an increase in the number of distance education programs offered by higher education providers, including for-profit institutions. Indeed, institutions of higher learning are increasingly making distance education an integral part of their long term planning (Simonson, Smaldino, Albright, & Zvacek, 2014). The adoption of digital technologies has also increased within the school sector. Schools have been reported as integrating varied degrees of online technologies into their curricula (Neyland, 2011) and groups of educators meet regularly to share ideas about how to use learning technologies in primary and secondary education (Voogt et al., 2017). These trends mean that the issue of program quality is important, as colleges and universities are challenged to provide quality education to a growing number of online students.

Many suggestions, guidelines and exemplars of online learning practices have been published previously in various formats such as Herrington and her associates' (2007) guidelines for authentic course design, Mbati and Minnaar's (2015) guidelines for facilitating interactive online learning programs and Salmon's (2013) suggestions about how to design and moderate online learning courses. These guidelines are useful tools for those responsible for designing and teaching online courses which are frequently taken by students studying by distance and/or using online learning technologies. Over the last decade, many of these published guidelines have been consulted and used to guide the design and implementation of online courses for distance students at Avondale. For example, the institution's Online Learning Policy [policy no. A.35] was modified during recent years to ensure student-centred concepts of learning that focus on engagement and authentic activities were integrated throughout the policy, replacing the use of teacher-centred terms such as "delivery" and "lecturing". Furthermore, a set of benchmarks have been established, for professional development purposes, reflecting many of the principles and recommended practices from renowned online educators, to guide academic staff in their design of interactive activities in online, blended and on-campus courses. Known as the "Minimum Moodle Expectations", these benchmarks provide detailed instructions about how to design

"the distance cohort of students had not yet been specifically targeted to elicit information about their unique experiences of studying via distance"

learning resources, activities and assessment tasks that engage students in authentic learning across all modes of study.

Throughout the history of distance education, various successes and problems have been reported. For example, Allen and Seaman (2013) report that in 2003 only 57.2% of educators "rated the learning outcomes in online education as the same or superior to those in face-to-face" (p. 5). Nine years later, that figure increased to 77 percent (Allen & Seaman, 2013). So, while things have improved, these two studies by Allen and Seaman suggest that there is still a significant proportion (23%), who are less than impressed with distance education programs. And this negative perception of distance education programs has been bolstered by a higher dropout rate among some distance education programs when compared with face-to-face programs (Bell & Federman, 2013; Patterson & McFadden, 2009; Tyler-Smith, 2006). Academic leaders report that this higher dropout rate will impede the growth of distance education programs (Allen & Seaman, 2013).

this negative perception of distance education programs has been bolstered by a higher dropout rate among some distance education programs when compared with face-to-face programs

The lack of direct interaction with the lecturer may be a contributing factor in the higher dropout rates of online students. Lack of direct interaction between students and instructors, may allow problems which naturally occur in the course of any instruction to fester, and, if not addressed, these problems may undermine a distance education program (Simonson et al., 2014). Besides leaving the learner frustrated, not addressing the problems can further the perception of distance education programs as being impersonal (Perreault, Waldman, Alexander, & Zhao, 2002; Sunal, Sunal, Odell, & Sundberg, 2003). Addressing problems and assuring that instructors are providing clear channels of communication with their students is critical if the programs are to be successful.

In general, distance education programs need to focus upon quality if they are going to continue to attract and retain students (Moore, Lockee, & Burton, 2002). The issue of quality is also important for schools offering some curricula components through use of online technologies, such as wikis in primary schools (Woo, Chu, Ho, & Li, 2011) and online collaborative modules in secondary schools (DeWitt, Siraj, & Alias, 2014). Whether full programs or program components are offered via online technologies, their quality requires monitoring, as do on-campus learning programs and activities. Data collection to assure quality must be "carried out on a regular basis to monitor and improve online program outcomes so that the educational services satisfy program goals and meet student needs" (Rovai & Downey, 2010, p. 144). Surveys of students have been a frequently used method of assessing the quality of distance education programs. Focus groups have been less used (Cochran, Baker, Benson, & Rhea, 2016). The data collection methods we used to determine the quality of our online courses are now outlined.

Research methodology

All participants reported in this paper were college students at Avondale who had recently completed or were currently enrolled in at least one distance unit as part of their degree studies, regardless of whether or not they were completing their entire course in a distance mode. The research approach utilised in this study adopted a mixed methods approach which guided the collection of qualitative and quantitative data (Creswell & Plano Clark, 2011). Using two research methods enabled data to be gathered from the student-stakeholders of the institution's distance education program. These data could then be evaluated in a way that provided feedback to the institution about the perceived quality of the courses that comprise the distance program. For example, because the institution's approach to online and blended learning is intentionally focused on the development of interactive and engaging courses in which students were active learners (as evidenced in the Online Learning Policy [policy no. A.35] and Moodle Minimum Expectations mentioned earlier), many items in the questionnaire and specific questions used in the focus groups were designed to elicit student feedback about the extent to which the courses they were enrolled in engaged them in active learning tasks. Furthermore, this methodology ensured that the voices of the distance student population contributed to the direction of the College. This methodology has been designed in a way that could be replicated in other educational institutions such as universities, colleges and schools.

Data collection methodology

Quantitative methods of data collection were used initially in this study to identify the strengths and weaknesses of the distance education programs at the College. The cohort of eligible participants in this study were invited to complete an online questionnaire. This online questionnaire was based upon data collection instruments used in two previous studies. The first draft of the questionnaire was generated from an instrument developed by Muilenburg and Berge (2005), that identified aspects of a distance program which might become barriers to online learning for students. The statements of this questionnaire were modified at times to better address the institution's specific approach to distance education. For example, rather than focusing on administrative and academic needs in general, the

specific titles of the administrative and academic support services at the institution were specifically addressed in the questionnaire. A second draft of the questionnaire included program quality indicators, as derived from Smidt, Li, Bunk, Kochem and Mc Andrew (2017). Participants were asked to rate the extent to which the distance program addressed these quality indicators. A five-point rating scale was used for each statement made in the final questionnaire. In addition, students were given the option to make comments explaining their answers for each aspect. If replicated by other education institutions, the questionnaire used in this study could be modified to appropriately reflect the specific nature of the institution's context.

Once the questionnaires had been administered and analysed using the Statistical Package for the Social Sciences (SPSS), descriptive statistics (i.e., means and standard deviations), were used to identify areas of strength and weakness. In addition, the students' written responses to the questionnaire's open-ended questions were identified and analysed to identify themes evident in the qualitative data. These themes largely revealed students' perceptions about the strengths and weaknesses of the institution's online, distance learning program. Also evident in the students' comments were suggestions for future improvement of the program. After identifying areas of strength and weakness, and areas of possible improvement, focus group interviews were conducted with randomly selected groups of participants. To ensure the background of any one researcher did not influence the collection or analysis of the data from the focus groups, multiple focus group facilitators conducted these focus groups. To further address reflexivity in this stage of the research study, the processes associated with designing, facilitating and analysing the data from the focus groups were coordinated by the chief investigator of the project but also incorporated input from at least three of the researchers engaged with the project. Lastly, in case any of the participants wanted to comment on issues that were not reflected in the focus group questions, each participant was provided with opportunities to comment on issues that were important to them but were not necessarily reflected in any of the research questions.

These focus groups were conducted in person and through video conferencing, depending on the availability and location of the students being interviewed. Specifically, participants were given the opportunity 1) to discuss whether they perceived the identified strengths or weaknesses to be valid and to explain why; 2) to provide examples of incidents which could illustrate these strengths or weaknesses; 3) to help identify ways of addressing each weakness; and 4) to make recommendations to maintain what they had confirmed to be the institution's areas of strength. The discussions that took place in relation to these questions were recorded and transcribed.

Once the quantitative and qualitative data from the questionnaires were analysed, followed by the qualitative data from the focus group interviews, both sets of analysis were triangulated to establish the key findings from the students' responses and comments. The end product of this analysis was a set of recommendations to be implemented throughout distance units and courses at Avondale.

> *Once the quantitative and qualitative data from the questionnaires were analysed, followed by the qualitative data from the focus group interviews, both sets of analysis were triangulated to establish*

Findings

Population and sampling

Out of a possible 288 students, 92 responded to the questionnaire. However, 18 respondents were eliminated as they did not confirm they had taken a distance unit, and a further 15 respondents were eliminated because they responded to less than 50% of the questionnaire items. A total of 59 respondents remained, which equates to a return rate of approximately 22% 1. The larger majority, about 92% (n = 54), of those respondents indicated that they were currently enrolled in a distance course at Avondale and the majority, 53% (n = 31), had completed or almost completed six or more distance units at the College, while 41% (n = 24) had completed or almost completed two to five units. Overall, the students were deemed as being qualified to evaluate the program, thus rendering the data gathered as valid.

Emergent themes

A summary of the main themes that emerged from the data analysis processes and the alignment of the quantitative and qualitative data can be found in Table 1.

The themes that were revealed in the focus group interviews in most cases aligned with the information being sought in the questionnaire. This resulted in the categories of isolation, lecturer feedback, organisation of unit materials, the support of the lecturer, the experience of online forums, the flexibility of learning online, the catering for different learning styles, and the quality of the instructional materials to be identified as key areas of attention in online learning experiences. Table 1 is presented as a matrix making it possible for the reader to triangulate the quantitative and qualitative results without needing to carefully read paragraphs while visualising the connections. For example, the row that reports on different learning styles shows that comments were made in focus groups about the need for more attention to be given to different

Table 1: A triangulation of questionnaire and focus group data

Theme	Positive qualitative comments	Negative qualitative comments	Quantitative Results
Isolation		Some feelings of isolation from lecturers and other students.	56% (n=33) said collaboration with other students was excellent or good but only 50% (n=30) reported this happening in a formal way organised by the lecturer.
Feedback		Would like more feedback	83% (n=49) of students found lecturer feedback excellent or good.
Organisation		Some coursework could be more organised online.	71.4% (n=42) of students found online course materials well organised.
Lecturer Support	Lecturer support and accessibility.		88% (n=52) of students found lecturer support excellent or good.
Online Forums	Online Forums have been a good experience		
Flexibility	Studying by distance makes life do-able.		
Different learning styles		Would like different learning styles to be catered for.	49% (n=29) reported that different learning styles were catered for.
Quality of instructional materials			79% (n=47) of students reported excellent or good quality instructional materials.

> *The quantitative results showed that in the majority of areas, most students were quite satisfied with their online experiences … Nevertheless, [minority] comments needed to be heard and are areas for improvement.*

learning styles. This is supported by the quantitative result that less than half of students reported that different learning styles were catered for.

The table also shows a conflicting result in that for the category of *feedback*, 83% (n = 49) of participants reported that they felt lecturer feedback was excellent, but focus group comments did not always back this up.

Additional majority outcomes were identified in the quantitative data. Most students (74%, n = 44) agreed that objectives of the units they had enrolled in actually measured instructional objectives. Slightly fewer (70%, n = 41) believed that the College's level of academic rigour in distance units was the same or higher than the rigour they had experienced or expected of units taught in a face–to-face format, and a similar number agreed their distance units had helped them think critically. Close to two thirds (64%, n = 38) assessed their distance units had helped them apply knowledge to the real world, while 63% (n = 37) considered their distance units actively engaged them with the subject matter. It appears that the technology and supporting Learning Management System (LMS) used to facilitate the units were found to be dependable by 81% (n = 48) of students and 86% (n = 51) of students found the lecturers to be personable.

The quantitative results showed that in the majority of areas, most students were quite satisfied with their online experiences. Therefore, any negative comments in these domains are limited to a minority of the student cohort. Nevertheless, their comments needed to be heard and are areas for improvement.

Valuable insights gleaned from these students showed that it is possible for there to be: *a sense of feeling like a second class student (even though the lecturer didn't intend this). Example, distance students had to watch the internal students' videos but not the distance students' videos. Made us feel we weren't as good as them (the internal students).*

Further, about a third of the respondents, after reflecting on their distance education units were critical of the academic rigour compared to face-to-face interaction, did not recognize active engagement with the subject matter, and believed that the distance units did not help them apply knowledge to the real world or foster critical thinking. These issues must be addressed through curriculum review and improved online pedagogy. It may require general, or even individual specific, professional development

and mentoring for program providers/lecturers.

Other students commented in the focus groups that they would rather have had more regular access to other distance students and would have preferred to have more scope to learn using their own preferred learning styles. Another useful comment from the focus groups was that students find it easy to miss new material when it is placed on the learning management system. They commented that sometimes adjustments may have been made to assessments from the originally published editions that they overlooked.

Despite these comments that are suggesting places of improvement in the online experience, the overwhelming bulk of responses were positive with many very helpful recommendations and affirmations for the lecturers involved. Some examples follow.

It's important to make the distance students feel part of the Avondale community ... In general, I feel that I have been included ... that you're on equal terms, that you're considered a student just as much as the internals [on-campus students] as well.

Overall, a very positive experience. I've just found everyone in all the subjects are all great. I feel like I'm making good progress and getting there.

Synchronous interaction with tutor and other students is very helpful.

Ability to choose your own topic to research was very relevant and inspiring. Got me quite excited actually.

Lecturers have been very good at replying to questions and inquiries.

You've also got to think of the lecturer's time. It would be so difficult to be a lecturer and accommodate everyone's needs

It would be nice to see a bit more consistency in the look of the different Moodle sites for each subject. I've noticed, it seems like you are aiming towards more consistency. Some of the sites that I've accessed this semester have got a little tool bar at the top … there's different links that you can click on to access different material.

Specific areas for improvement to focus on from the forum interviews surrounded the idea of isolation. The students reported this isolation in relation to feeling distant to the action they perceived happened on campus. This included isolation from other students and isolation from the content because, in some cases, lectures were either not recorded and uploaded or uploaded too late to synchronise with the course materials for the current week.

While 83% (n = 49) of students found lecturer feedback to be excellent, there was a small proportion of students who were looking for more:

Generally, I have to talk to the lecturer to get proper feedback on my assignment.

More constructive criticism would be greatly appreciated as this would show me what areas of research or writing I need to improve on.

The quantitative data revealed that 71% (n = 42) of students found that course materials were well-organised, but some of the students' comments expressed opinions that they would like to see them organised in a different way. For example, one student preferred to have all of the materials available at the beginning of the semester:

I know that this would not work for all students but I would have liked to have all the course materials available at the beginning so that I could plan my time.

Discussion and recommendations

As identified in the literature (Celic, Christian, & Matthes, 2016), relationships are the conduit through which the ethos and values of an institution are transmitted to students. The centrality of relationships as an indicator of high quality online learning contexts has been a consistent theme in literature related to distance, blended and online learning over the last few decades. Over a decade ago, Keough (2005) suggested, in the title of his paper, that "Relationships not technology are key to online learning". More recently, the recognition of the role of human relationships, online presence and communication still dominate online learning research (Bowers & Kumar, 2017; Kear, Chetwynd, & Jefferis, 2014; Stenbom, Jansson, & Hulkko, 2016).

In this study, a positive attitude towards lecturers (86%, n = 51) and lecturer feedback (83%, n = 49) emerged from an analysis of the quantitative data. This was strengthened by the findings from the qualitative data which revealed positive comments relating to lecturer accessibility, although it appears there is room for improvement in this area as not all students found their online experience inclusive.

In terms of the quality of the unit materials, 79% (n = 47) of students reported excellent or good quality instructional materials, and a majority (71.4%, n = 42) of students expressed satisfaction with the

"the recognition of the role of human relationships, online presence and communication still dominate online learning research. In this study, a positive attitude towards lecturers and lecturer feedback emerged"

organisation of course materials.

Based on the qualitative findings that highlighted the importance of social learning, academic staff at the institution clearly require professional development activities and resources that will enable them to extend their skills in designing online courses that promote community building. These skills clearly depend on the lecturer's ability to perform a *facilitator* role, as explained by Ouyang and Scharber (2017), or a *moderator* role, as described by Salmon (2013). Skills in the facilitation of interactive activities such as online discussions are often found to be at the centre of an online learning community, as indicated by multiple educational researchers (Ball & Leppington, 2013; Buchenroth-Martin, DiMartino, & Martin, 2017; McDonald, 2014). Since students reported on valuing the interactive and personalised aspects of their learning, the professional development offered to lecturers needs to be focused on how to facilitate interactive distance units of study that incorporate relevant communication tools.

> *the professional development offered to lecturers needs to be focused on how to facilitate interactive distance units of study that incorporate relevant communication tools … the construction of a Community of Practice*

Furthermore, the development of authentic and personalised relationships, developed in online learning contexts, is frequently linked to the construction of a Community of Practice or a Community of Inquiry in which teachers and students work together to pursue activities that facilitate high quality learning (Dawson, 2006; Herbers, Antelo, Ettling, & Buck, 2011; Kiggins & Cambourne, 2007; Swan, Garrison, & Richardson, 2009). The isolation reported by some of the students in this study indicated that institution's distance courses need to be designed in a way that included, rather than excluded, distance students from interacting with their lecturers and other groups of students. Thus, by focusing on the development of lecturers' skills in both course design (in activities that often occur before the semester begins) and course facilitation (activities that happen during the semester), it is anticipated that the College's online course offerings will come to feature a strong community and, consequently, an environment in which learning relationships (teacher-student and student-student relationships) are central to the course's character.

While the professional development staff and academic teaching staff of the institution hold a unified view of the value of the institution's Christian ethos, the fact that this element was not highlighted in any of the questionnaires or focus groups suggests that the College still needs to develop a practical strategy for making sure that the Christian ethos is transparent for all students that study in a distance mode. To help guide this institution in developing these strategies, future data collection methods should incorporate questions about students' perceptions of the institutions ethos as reflected in the distance education course.

The findings from the current study have been shared with the academic staff who teach the distance units. These findings have also been integrated into the institution's professional development program, which offers strategies to address the issues identified in this research. A major emphasis of this training focuses upon using strategies to develop relationships between lecturers and learners. The findings from this research indicates that the establishment of these relationships sets the foundation for ensuring the success of a distance unit, the lack of which may weaken an otherwise well-designed course. Furthermore, the Christian ethos may be more likely to become manifest through the development of personalised professional relationships between students and teachers in distance courses.

Lastly, the institution has committed to ongoing research into the students' experiences (especially that of the distance students) of learning in courses that comprise online components within the Avondale context. While the academic staff at the institution remains vigilant about the publication of new research pertinent to online learning, they intend to continue researching their own scholarly practice. This research will definitely investigate the experience of online education from students' and teachers' perspectives, but it will also be characterised by exploratory strategies that focus on how the Christian ethos and embedded values of the College are incorporated into the online learning platform.

Conclusion

The purpose of this study was to evaluate the distance education program of Avondale College of Higher Education. The methodology used was student focused in that it asked students to provide their perceptions of the distance program through questionnaires and focus groups. The research particularly focused on eliciting views from students about their learning experiences with the program.

While relational teaching and learning are important in both face-to-face and distance units (Bowers & Kumar, 2017; Chen, deNoyelles, Patton, & Zydney, 2017; Martin, Wang, & Sadaf, 2018), establishing professional relationships between students and lecturers in distance units requires more work on the part of the lecturers to overcome the technological barriers. Finding ways to create opportunities for meaningful student-to-student interactions is important for high quality distance units (Miner-Romanoff, McCombs, & Chongwony, 2017; Ragusa & Crampton, 2014; Smidt et al., 2017). These opportunities should satisfy the need

for human contact, yet also provide support for learning. Developing learning communities could be a powerful way to broaden the focus from providing learning support to fellow students to providing meaningful relationships which enhance learning at a deeper level (McDonald, 2014; Tarmizi, de Vreede, & Zigurs, 2006). Helping instructors to create learning communities is becoming a major focus of the professional development instructors receive.

This study represents the beginning of a plan to research the distance education students' experiences at Avondale in a longitudinal manner; it is only the beginning of a longer process. Creating a continuous evaluation program is an important part of any distance education program. In the future, the institution will continue to use the results of this study to develop professional training opportunities, and to evaluate the impact of that training. Eventually, this study needs to be repeated to assure that the College maintains a quality distance education program. While this study was conducted within a higher education institution, the data collection instruments could be easily modified and applied to other educational contexts, such as primary and secondary schools, to evaluate the efficacy of online courses and online course components from the perspective of students. Subsequently, findings of such studies have the potential to provide the foundation of a research-informed set of practical recommendations that could guide future course design and identify the requirements for evidence-based professional development of teaching staff. TEACH

References

Allen, I. E., & Seaman, J. (2007). *Online nation: Five years of growth*. Needham, MA: The Sloan Consortium.

Allen, I. E., & Seaman, J. (2013). *Changing course: Ten years of tracking online education in the United States*. Needham, MA: Sloan-C.

Allen, I. E., & Seaman, J. (2017). *Digital learning compass: Distance education enrollment report 2017*. Babson Park, MA: Babson Survey Research Group, e-Literate, and WCET.

Avondale College of Higher Education. (2018). Avondale College of Higher Education. Retrieved 22 June, 2018, from http://www.avondale.edu.au/

Ball, T. C., & Leppington, R. (2013). Community-building learning groups in an online course: A study of functional moves. *The Northwest Journal of Communication, 41*(1), 109-132.

Bell, B. S., & Federman, J. E. (2013). E-learning in postsecondary education. *The Future of Children, 23*(1), 165-185.

Bowers, J., & Kumar, P. (2017). Students' perceptions of teaching and social presence: A comparative analysis of face-to-face and online learning environments. In M. Khosrow-Pour, S. Clarke, M.E. Jennex, A. Becker, & A. Anttiroiko, (Eds.). *Blended learning: Concepts, methodologies, tools, and applications* (Volume III, pp. 1532-1550). Hershey, PA: IGI Global.

Buchenroth-Martin, C., DiMartino, T., & Martin, A. P. (2017). Measuring student interactions using networks: Insights into the learning community of a large active learning course. *Journal of College Science Teaching, 46*(3), 90.

Celic, E., Christian, B., & Matthes, A. (2016). Christian higher education and students with diverse beliefs: Impacts and challenges. *International Christian Community of Teacher Educators Journal, 11*(1), 1-11.

Chen, B., deNoyelles, A., Patton, K., & Zydney, J. (2017). Creating a community of inquiry in large-enrollment online courses: An exploratory study on the effect of protocols within online discussions. *Online Learning, 21*(1), 165-188.

Cochran, J. D., Baker, H. M., Benson, D., & Rhea, W. (2016). Business student perceptions of online learning: Using focus groups for richer understanding of student perspectives. *Organization Management Journal, 13*(3), 149-166.

Creswell, J. W., & Plano Clark, V. L. (2011). Choosing a mixed methods design. *Designing and conducting mixed methods research* (2nd ed., pp. 53-106). Thousand Oaks, CA: Sage.

Dawson, S. (2006). A study of the relationship between student communication interaction and sense of community. *The Internet and Higher Education, 9*(3), 153-162. doi: 10.1016/j.iheduc.2006.06.007

DeWitt, D., Siraj, S., & Alias, N. (2014). Collaborative mLearning: A module for learning secondary school science. *Journal of Educational Technology & Society, 17*(1), 89-101.

Herbers, S., M, Antelo, A., Ettling, D., & Buck, M. A. (2011). Improving teaching through a community of practice. *Journal of Transformative Education, 9*(2), 89-108.

Herrington, J., Oliver, R., & Herrington, T. (2007). Authentic learning on the web: Guidelines for course design. Faculty of Education Papers: University of Wollongong.

Kear, K., Chetwynd, F., & Jefferis, H. (2014). Social presence in online learning communities: The role of personal profiles. *The Journal of the Association for Learning Technology, 22*, 1-15.

Keough, M. (2005). *Relationships not technology are the keys to online learning*. Paper presented at the 17th Biennial Conference of the Open and Distance Learning Association of Australia, Charles Sturt University, Adelaide, South Australia.

Kiggins, J., & Cambourne, B. L. (2007). The knowledge building community program: A partnership for progress. In T. Townsend & R. Bates (Eds.), *Handbook of teacher education: Globalization, standards and professionalism in times of change* (pp. 365-380). The Netherlands: Springer.

Martin, F., Wang, C., & Sadaf, A. (2018). Student perception of helpfulness of facilitation strategies that enhance instructor presence, connectedness, engagement and learning in online courses. *The Internet and Higher Education, 37*(April), 52-65. doi: https://doi.org/10.1016/j.iheduc.2018.01.003

Mbati, L., & Minnaar, A. (2015). Guidelines towards the facilitation of interactive online learning programmes in higher education. *The International Review of Research in Open and Distributed Learning, 16*(2). doi: http://dx.doi.org/10.19173/irrodl.v16i2.2019

McDonald, J. (2014). *Community, domain, practice: Facilitator catch cry for revitalising learning and teaching through communities of practice. ALTC Teaching Fellowship Final Report 2014*. Sydney: Australian Government Office for Learning and Teaching.

Miner-Romanoff, K., McCombs, J., & Chongwony, L. (2017). Interactive and authentic e-learning tools for criminal justice education. *American Journal of Distance Education, 31*(4), 242-257. doi: https://doi.org/10.1080/08923647.2017.1306771

Moore, M., Lockee, B., & Burton, J. (2002). Measuring success: Evaluation strategies for distance education. *Educause Quarterly, 25*(1), 20-26.

Muilenburg, L. Y., & Berge, Z. L. (2005). Student barriers to online learning: A factor analytic study. *Distance Education, 26*(1), 29-48.

Neyland, E. (2011). Integrating online learning in NSW secondary schools: Three schools' perspectives on ICT adoption. *Australasian Journal of Educational Technology, 27*(1), 152-173.

Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: What can be done? *Assessment & Evaluation in Higher Education 33*(3), 301–314. Retrieved from https://www.uaf.edu/files/uafgov/fsadmin-nulty5-19-10.pdf

Ouyang, F., & Scharber, C. (2017). The influences of an experienced instructor's discussion design and facilitation on an online learning community development: A social network analysis study. *The Internet and Higher Education, 35*(October), 34-47. doi: https://doi.org/10.1016/j.iheduc.2017.07.002

Patterson, B., & McFadden, C. (2009). Attrition in online and campus degree programs. *Online Journal of Distance Learning*

> *the data collection instruments could be easily modified and applied to other … contexts, such as primary and secondary schools, to evaluate the efficacy of online courses and online course components*

Administration, 12(2), n2.
Perreault, H., Waldman, L., Alexander, M., & Zhao, J. (2002). Overcoming barriers to successful delivery of distance-learning courses. *Journal of Education for Business, 77*(6), 313-318.
Ragusa, A. T., & Crampton, A. (2014). Any voice will do: Distance students' perceptions of audio lectures In B. Hegarty, J. McDonald, & S. K. Loke (Eds.), *Rhetoric and Reality: Critical perspectives on educational technology. Proceedings ASCILITE Dunedin 2014* (pp. 273-278). Dunedin, New Zealand: Australasian Society for Computers in Learning in Tertiary Education (ASCILITE).
Rovai, A. P., & Downey, J. R. (2010). Why some distance education programs fail while others succeed in a global environment. *The Internet and Higher Education, 13*(3), 141-147.
Salmon, G. (2013). *E-tivities: The key to active online learning* (2nd ed.). London and New York: Routledge.
Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2014). *Teaching and learning at a distance*. Charlotte, NC: Information Age Publications.
Smidt, E., Li, R., Bunk, J., Kochem, T., & McAndrew, A. (2017). The meaning of quality in an online course to administrators, faculty, and students. *Journal of Interactive Learning Research, 28*(1), 65-86.
Stenbom, S., Jansson, M., & Hulkko, A. (2016). Revising the community of inquiry framework for the analysis of one-to-one online learning relationships. *The International Review of Research in Open and Distributed Learning, 17*(3). doi: 10.19173/irrodl.v17i3.2068
Sunal, D. W., Sunal, C. S., Odell, M. R., & Sundberg, C. A. (2003). Research-supported best practices for developing online learning. *The Journal of Interactive Online Learning, 2*(1), 1-40.
Swan, K., Garrison, D. R., & Richardson, J. C. (2009). A constructivist approach to online learning: the Community of Inquiry framework. In C. R. Payne (Ed.), *Information technology and constructivism in higher education: Progressive learning frameworks* (pp. 43-57). Hershey, PA: IGI Global.
Tarmizi, H., de Vreede, G.-J., & Zigurs, I. (2006). Identifying challenges for facilitation in communities of practice *Proceedings of the 39th Hawaii International Conference on Systems Sciences* (pp. 1-10).
Tyler-Smith, K. (2006). Early attrition among first time eLearners: A review of factors that contribute to drop-out, withdrawal and non-completion rates of adult learners undertaking eLearning programmes. *Journal of Online Learning and Teaching, 2*(2), 73-85.
Voogt, J., Knezek, G., Christensen, R., Lai, K. W., Pratt, K., Albion, P., . . . Gibson, D. G. (2017). *The International Handbook of Information Technology in Primary and Secondary Education: Part 2*. Paper presented at the Society for Information Technology & Teacher Education International Conference, Austin, TX, United States.
Woo, M., Chu, S., Ho, A., & Li, X. (2011). Using a wiki to scaffold primary-school students' collaborative writing. *Journal of Educational Technologwy & Society, 14*(1), 43-54.

> *Developing learning communities could be a powerful way to broaden the focus from providing learning support to fellow students to providing meaningful relationships which enhance learning at a deeper level*

[1] The researchers would like to acknowledge some contextual issues associated with this response rate. Firstly, while the researchers would have preferred a higher response rate to this questionnaire, it should be noted that the questionnaire was administered online and, as noted by Nulty (2008), "online surveys are much less likely to achieve response rates as high as surveys administered on paper" (p. 302). When considering what Nulty refers to as "liberal conditions" (p. 310) to an acceptable level of required responses rates by class size, the minimum required number of participants in a total course with enrolments from 200 to 1000 is 23-24 respondents (or between 8-12% of the total population enrolled). While this response rate does not take into account Nulty's corresponding set of higher response rates recommended in his "stringent conditions", the 22% response rate represented in the study reported in this article is closely in line with Nulty's liberal conditions of response rates. Secondly, it is acknowledged that the 22% response rate may represent some sample bias; that is, students less satisfied with the distance learning program at Avondale may have been more likely to respond to the questionnaire which may have, in turn, resulted in the findings being negatively skewed.

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Are Christian schools really Christian? Perceptions of final year pre-service teachers in Australia

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Key words: Christian education, Special character, Christian worldview, faith and learning, pre-service teacher education

Abstract

Final year pre-service teachers at a private provider of Christian higher education were surveyed to discover their perceptions of the special character of a wide spectrum of Australian Christian faith-based schools. They each completed an eight week placement, spread over two sessions, in a Christian school. Qualitative and quantitative data were collected through open-ended written responses and a questionnaire. The results indicated that a special Christian character was visible to the pre-service teachers, with evidence that Christian worldview alignments in the areas of school culture, relationships, service and discipleship in Christian schools is easier to identify than in the learning and teaching aspects of schools' operations.

Introduction, aim and purpose

Stephen Covey (1989, p. 28) reminds us that, 'We see the world not as it is, but as we are…' This study sought to investigate the visibility of the special Christian character of schools from the perspective of final year pre-service teachers who are about to enter the workforce. In particular, the study looked at the alignment of the practices of the school with a Christian worldview and uses the phrase 'Christian worldview alignment' to describe aspects of a school's operation that reflect beliefs rising out of a Christian worldview and hence give it a special character that reflects Christian characteristics. The study aimed to identify those areas in the sampled schools where Christian Worldview was overtly visible, and those areas where it was less noticeable to pre-service teachers. In doing so, this investigation is relevant to key stakeholders in Christian education; firstly to Christian teachers and administrators as it identifies how special character through a Christian worldview alignment is perceived from the perspective of preservice teachers who may bring a fresh set of eyes and new perspective; secondly, to providers of Christian higher education as they develop frameworks to discuss and explain the concept of Christian worldview alignment and its implications for teachers, and thirdly; to pre-service teachers as they prepare for employment in Christian schools.

Background and context

The number of students in independent schools in Australia has grown from 4.1% of total enrolments in Australian schools in 1970 to a market share of 20.3% in 2016, with 85% of independent schools having religious affiliation (Independent Schools Council in Australia, 2017). This growth has been accompanied by robust discussion pertaining to the philosophy, purpose and practice of Christian education (Cairney, Cowling & Jensen, 2011; Edlin, 2014; Ellis & Ireland, 2006; Fennema, 2006; Goodlet and Collier, 2014; Knight, 2016; Murison, 2018; Roy, 2008). These conversations are crucial given the increasingly diverse belief systems from which students are attracted as more parents seek a values-based and academically strong education, rather than a specifically 'Christian' education for their children (Beamish & Morey, 2014, p.32). Even in those schools that draw from a predominantly Christian base, ongoing examination of how a Christian worldview is enacted within a school remains important in order for schools to fulfil their mission, preserve their special character and the operational distinctiveness of Christian education.

> *ongoing examination of how a Christian worldview is enacted within a school remains important in order for schools to fulfil their mission, preserve their special character and … operational distinctive-ness*

Worldview and Christian education

Worldview can be defined as the assumptions that guide our understanding of the big questions in life. These big questions (in everyday language) include: Where did I come from? Why am I here? What is wrong with the world? Is there a solution? (Fisher, 2010; Olthuis, 1985; Sire, 2015). The answers to these and related questions provide a worldview structure through which we understand the world and our purpose for existence (Fisher, 2010; Goheen & Bartholomew, 2008; Henderson, Henderson & Thompson, 2006; Nash, 2013; Naugle, 2002; Sire, 2004). Christian educators agree that Christian education needs to have underlying beliefs and philosophical assumptions that are Christian (Cairney, et al., 2011; Dowson, 2014; Edlin, 2014; Knight, 2016; Roy, 2008). In fact, most Christian schools and school systems have been set up to foster a Christian worldview. These schools, and the associated expense of operating them, can only be justified if they are faithful to the philosophical foundation upon which they were established (Knight, 2016).

> *for Christian teachers to be overt in living their worldview … poses a challenge because an institutional worldview enactment relies on individuals whose … worldviews may be at various stages of development.*

The formation of the Christian worldview is a priority because Christian education seeks to help 'students to live life before God as God designed it to be' (Fennema, 2006, p.30). A worldview construct becomes the framework through which students view the world and gives them a way to structure, interpret and implement the various components of their life in a way that gives their life meaning. Developing a robust Christian worldview equips students with an important tool to negotiate and make sense of life using a Christian lens and is central to the purpose of Christian education. Despite this belief, Murison (2018, p. 90) posits that Christian worldview alignment in schools "has been undertaken as a largely intellectual and theoretical task". This can be attributed, at least in part, to the understanding that an individual's worldview exists partially in the sub-conscious rather than the conscious (Olthuis, 1985; Sire, 2004). As Walsh and Middleton (1984) posit, worldview needs to become visible if it is to provide a paradigm to guide and fashion the thoughts and actions of its adherents. Without this visibility, there may be a disconnect between the actuality of belief and the reality of life (Thompson, 2004). This calls for Christian teachers to be overt in living their worldview, and poses a challenge because an institutional worldview enactment relies on individuals whose personal worldviews may be at various stages of development. While it is anticipated that teachers in Christian schools will adopt and model a Christian worldview, Rasmussen and Rasmussen (2006, p.3) have identified seven distinct teaching levels that range from 'non-use' of Christian worldview through 'superficial' and 'routine' to 'dynamic integration' of Christian worldview. These labels reflect the anomalies found in Christian classrooms and suggest that Christian scholarship needs to further investigate how faith shapes pedagogical practice, an idea supported by Smith and Smith (2011).

Alignment of school practices with a Christian worldview models the way that Christian principles are actioned and integrates faith, learning and life. This process is important and should underlie all the educational activity in a Christian school. It is a mixture of corporate and individual influence that is the result of intentional activity that aims to holistically develop students.

Christian education

A review of relevant literature reveals that schools' alignment with Christian worldview, that is this aspect of their Christian special character, is often evidenced in the areas of: school culture, relationships, belief enactment, and transformation. School culture includes the daily program of the school and the impact of the physical environment (Roy, 2008). The relationships within the school are important and Christian worldview alignment is often exemplified by relationships within the school community (Francis, Casson, & McKenna, 2018; Scouller, 2012). Based in the belief that a triune God is a God of community (Cairney et al., 2011), Christian schools operate as communities of faith and learning where committed teachers foster safe and authentic relationships as part of their ethos. Wilhoit and Rozema (2005, p. 248) make a strong case for teachers whose words and actions transform the school "into a loving, just, compassionate, and worshipping community that invites openness and dialogue". This results in an environment where "committed partnerships, mutually supportive relationships and a relationally supportive environment are reflected in every aspect of the school" (Burggraaf, 2014, p. 79).

The special character of the school is also influenced by the beliefs adhered to within the school. This involves more than intellectually subscribing to the theological beliefs on which the school philosophy is based. Rather, school special character focuses on how those beliefs are evidenced in every aspect of school life (Edlin, 2006, Jackson, 2009). It goes beyond knowing what one believes, or transmitting these beliefs to students in religious education classes. While Wilhoit and Rozema's (2005) position on the relational role of Christian teachers is salient, one must also assert the foundational premise that the curriculum should also be aligned with a Christian worldview, so

that the school's learning and teaching programs support Christian faith and biblical beliefs rather than contradicting them (Anderson, 2013; Edlin, 2014; Thompson, 2004). Even more challenging for Christian teachers is the act of aligning pedagogical practice with Christian frameworks, so both what is taught and how it is taught aligns with a Christian worldview, an area where reality often falls short of expectations (Cairney et al., 2011; Edlin, 2014; Scouller, 2012; Smith & Smith, 2014). Murison (2018) offers a cautionary note on this issue, positing that attempts to integrate faith and learning may actually result in dualism unless teachers are teaching from a strong faith basis.

The final area where Christian worldview alignment is often evident is in the transforming process at work in the lives of the students and teachers. How this redemptive and restorative purpose (Cairney et al., 2011; Knight, 2016; Roy, 2008) of Christian education is achieved in practical terms may be unique to each school but a common denominator of discipleship runs through the literature. Discipleship is the enactment of worldview in individual lives through a personal commitment to follow Jesus Christ, and Christian education is united in the purpose of making disciples and disciple makers (Murison, 2018). Jackson (2009) posits that how a school upholds its faithfulness to the content of the Bible is through discipleship of, and service to, its community. Both of these activities are an enactment of belief. Smith (2013) emphasises the importance of discipleship within with the development of Christian character. He is supported in this view by Winter (2014) who likewise supports the development of character as a distinguishing factor of Christian education. Service activities are also a great way to enact belief and act as a mediator between spirituality and life satisfaction (Pashak and Laughter, 2012). Opportunities for discipleship and service can be found within the curriculum and in the extra-curricular activities Christian schools offer. Other Christian authors (Francis et al., 2018; Garber, 1996; Lindsay, 2014; Scott, 2013) reason that active participation in a school faith community is the prime evidence that a school is truly Christian.

The literature generally concurs on the purpose of Christian education and the role of worldview in determining practice. With respect to Christian worldview alignment, four attributes of practice are identified in the literature; fostering a Christian culture, the presence of authentic relationships fostered by Christian teachers, biblical beliefs that undergird the school's operations, including curriculum and pedagogical practice, and the transforming power of a Christian worldview in members of the school community through an emphasis on opportunities for discipleship and service.

While the literature addresses where and how Christian worldview alignment should be visible in a Christian school, fewer studies focus on pre-service teachers and their role in observing, understanding and supporting this alignment in schools. One study found that pre-service teachers' perceptions 'focused on the more external aspects of demonstrating personal faith such as prayer in class and teacher modelling of Christian behaviour' (Matthias & Wrobbel, 2013). Van Dyke (2013) supports this finding, noting that graduates from Christian teacher education programs often admit their ignorance of what it means to teach Christianly. Rasmussen and Rasmussen (2006) have developed a model of Faith-Learning-Living Integration in an attempt to address this issue in Christian teacher education courses, and Christian (2009) found a social science/worldview nexus increased pre-service teachers' awareness and understanding of how to use a Christian worldview as a reference point when teaching social sciences. This "faith-learning integration requires no small effort and dedication" (Shotsburger, 2018, p.1). Although scholarship in this area is increasing (Smith, Um, & Beversluis, 2014), limited evidence from the literature regarding pre-service teachers' perceptions of Christian worldview alignment in a school setting prompted this investigation to gain insights into how Christian schools are viewed by pre-service teachers.

> *"graduates from Christian teacher education programs often admit their ignorance of what it means to teach Christianly."*

This literature-based discussion has led to two important questions that have formed the basis for this study.

1. How visible is the special character, founded on a Christian worldview alignment in Christian schools, from the perception of Australian pre-service teachers?
2. What do Australian pre-service teachers perceive as the best way to align a Christian Worldview with their teaching role?

Research methodology

This investigation sought to answer the two research questions and was conducted with final year pre-service teachers enrolled at Avondale College of Higher Education in Australia. All participants were enrolled in the subject 'Philosophy of Christian Education'. Data were collected only from those pre-service teachers who completed their final professional experience placement in a Christian school. The schools represented five Christian denominations; Anglican, Baptist, Lutheran, Pentecostal and Seventh-day Adventist.

A mixed method approach was used to investigate pre-service teachers' perceptions of the Christian worldview alignment in schools. A total of 94 final year pre-service teachers volunteered to complete a questionnaire generated from the literature. They responded to thirty-one items using a four-point Likert scale ranging from 'not evident at all', to 'very evident', being specifically – 1. Not evident at all, 2. Scarcely evident, 3. Fairly evident, and 4. Very evident.

Questionnaire items related to the four broad attributes of practice identified in the literature: Christian ethos, including daily culture and the school's physical environment, safe and authentic relationships, curriculum and pedagogical practice, and how evident Christian worldview is in discipleship and service, particularly in extracurricular activities.

Participants were asked to circle responses that most closely matched each item's contribution to the Christian worldview alignment of their placement school. Descriptive analysis, factor analysis and reliability testing were used to investigate and develop the scales and variables used in the study. All scales had appropriate item loadings, and reliabilities as measured by Cronbach's alpha were above 0.75. The questionnaire also contained two open-ended responses. The first asked for additional areas within schools where Christian worldview alignment was evident. The second asked for participants' opinions of the best way to demonstrate Christian worldview alignment in a school.

Pre-service teachers were also asked while on placement and prior to completing the questionnaire, to write a reflection on their placement school's Christian worldview alignment. Line by line coding was employed with the open-ended responses from the questionnaire and written reflections. Individual observations were clustered and themed (Basit, 2010; Cresswell, 2011). Themes were then cross-referenced with the various sections of the survey, facilitating triangulation of the data (Cresswell & Plano Clark, 2011). This resulted in a deeper and richer view of the pre-service teachers' perceptions of Christian worldview alignment in Christian schools.

> *"pre-service teachers rated special character in the physical environment as being "Fairly evident ' … being more evident than the other variables included in the study, except for Relationships"*

Results

The quantitative and qualitative results have been combined in this section to provide an integrated discussion of the data within the questionnaire categories as listed below.

School plant

Contributing to the special character of Christian schools were elements of the physical plant observed by pre-service teachers including, posters and displays observed as they entered schools, mission or vision statements on walls, school signs, foyer and office displays, classroom posters, slogans, bulletin boards, school prospectus, school website and handbook. When asked how visible special character was in the school plant preservice teachers responded with an average school plant response of 3.29 (SD = 0.63, possible range 1 - 4). In reporting this, pre-service teachers rated special character in the physical environment as being 'Fairly evident' and significantly different ($p < 0.05$), being more evident than the other variables included in the study, except for Relationships. This aspect of the school was mentioned in the open-ended responses a total of 67 times. The names of many of the schools were overtly Christian, as were the school mottos. Examples of mottos were Christ our Light, Growing through Christ, Do all for God's Glory, Grow up into Christ and All knowledge in Christ. Seven pre-service teachers (10%) connected Christian worldview alignment to the mission and vision statements which were displayed in prominent places in the reception area of the schools, an example of which was 'To acknowledge God as the source of life and wisdom.' A number of schools hung Christian posters in noticeable places, and one school had a sign above every door exiting their staffroom, reminding the staff, 'You are now entering your mission field.' These were visible reminders of the Christian worldview alignment and special character of the school.

Relationships

Pre-service teachers perceived that relationships within the school made a very important contribution to the Christian worldview alignment of the school. Students were asked to reflect on aspects of relationships that included attitudes of staff and students towards each other, and staff collegiality. They reported an average response of 3.20 (SD = 0.58, possible range 1 - 4) on the Relationships scale which was above 2.5 (the midpoint of the scale). This indicated that preservice teachers see the visibility of Christian worldview through relationships formed in the school as being between 'Fairly evident' and 'Very evident' and this visibility is significantly higher ($p < 0.05$) than the other variables included in the study except for School Plant.

From the written reflections, relationships emerged as the second most frequently commented on evidence of Christian worldview alignment, with a total of 83 individual comments in this category. The nature of these relationships and examples are identified in Table 1.

A total of 28 individual comments (34%) highlighted the important way that teacher/student relationships contributed to the special character of the school and its visible Christian worldview alignment. One pre-service teacher stated that "*Staff members' relationships with the students and God, along with the simple presence of the Holy Spirit... gives this school its special character.*" This was further supported by a pre-service teacher who wrote, "*The teachers care about their students in a way that is only possible through a loving relationship with Jesus.*" Also, "*They [the teachers] make every effort to encourage [in students] development of character and an attitude of service to each other rather than self-service,*" while another noted that the teachers were "*dedicated to revealing God's love to the students and families.*"

Also focused on relationships, thirty comments (38%) from pre-service teachers related to how the school fostered a sense of wellbeing in its students, with some crossover in this area to school ethos and culture. In one case, this was evident in a school motto 'Caring for their tomorrow, today', which the pre-service teacher perceived as being "*very evident through the efforts teachers put into their classes and also into the wellbeing of the students in their day to day lives.*" Positive comments about relationships also related to chaplains, student welfare programs and peer support programs.

Overall, the responses to the questionnaire and the open-ended comments indicate that relationships were a persistently evident indicator of Christian worldview alignment for pre-service teachers.

Table 1: Types and examples of positive relationships identified in Christian schools.

TYPE OF RELATIONSHIP	QUOTED EXAMPLES FROM OPEN-ENDED RESPONSES
Teacher/teacher	'staff…work as a collective team, ensuring that everyone in the community is heading in the same direction.'
Teacher/student	'The school promotes a spirit of community where teachers and students work alongside each other to create an environment of quality learning/personal values and school unity.' 'Teachers are able to build a positive Christian relationship with these students supporting them and encouraging them in their walk with God and their schoolwork.
Teacher/parent	'very community minded… close relationships to parents… encourages feedback and strives to keep parents informed.'
Student/student	'…the school supports students to fill out affirmation cards that are delivered to their peers as forms of encouragement and support.' 'where everyone from every grade can be friends with each other, where there is respect for the teachers and other students, and where God is the cornerstone.'

Daily culture

Pre-service teachers were asked to reflect on the daily culture of the school by considering the impact of: assemblies, roll call groups/home groups/circle time/morning worship, closure of the school day, other school gatherings (e.g. chapel, incursions) and playground rules. Students reported that in the daily culture of the school, the Christian worldview alignment of the school was visible with participants reporting a mean of 3.00 (SD = 0.60, possible range 1 – 4). The average response was above the midpoint of the scale (2.5) and indicated that on average pre-service teachers readily observed the schools special Christian character in action in the daily culture of the school. This result was reinforced by qualitative data. A total of 163 separate comments were made that identified the contribution of the daily culture toward the Christian worldview alignment of the school. This was the largest response category, with thirty-three respondents commenting on the practice of holding a daily staff devotional or worship before the commencement of the school day. A feature of these devotionals was prayer; for the school, staff, families and students, often by name. One pre-service teacher commented, "*In these morning worships the teachers are valuing and thanking God for these beautiful little ones in their classrooms.*" Regular chapels and religious celebrations were also very visible with nearly all respondents identifying this aspect of the school's operation, and many also commenting on class devotions either at the start of the day or in roll call groups, with one respondent stating, "*You just knew that God was moving in this school.*"

> *163 separate comments [the largest response category] … identified the contribution of the daily culture toward the Christian worldview alignment of the school*

Belief enactment through discipleship and service

Discipleship and service was mostly evident to pre-service teachers within the range of extra-curricular activities that schools offered their students. These

activities included; school camps or excursions, service projects, music groups, performing arts such as drama, and community engagement opportunities. Overall, pre-service teachers rated that worldview alignment was 'Fairly evident' in these extracurricular activities as participants reported a mean of 3.01 (SD = 0.68, possible range 1 - 4). This was supported by 46 individual comments. School based activities fostering discipleship included consecration services at the commencement of the school year and fellowship dinners for school families. Many of the extra-curricular activities were associated with mission, discipleship and service. Church based activities included choir and band performances 'during chapel and at church events'. Community based activities that involved a service component received the most comments and ranged from fundraising for charities to overseas mission trips such as a 'Schoolies mission trip to Fiji', 'serving a little school in a village in Vanuatu', and STORMCo (Service to Others Matters Company) trips during term breaks.

"With an average response of 2.82 on the Planning, Teaching and Assessment scale … perservice teachers reported that Christian Worldview was approaching but less than 'Fairly evident'. … [and] the lowest average response of all the scales"

Planning, teaching and assessment practice

Pre-service teachers were asked to indicate if the Christian worldview alignment of the school was evident in the learning and teaching environment of schools. They reflected on lesson planning, teaching illustrations and examples, learning resources, incidental teaching and assessment tasks (operational) by responding to the Planning, Teaching and Assessment scale and responding to open ended questions. With an average response of 2.82 on the Planning, Teaching and Assessment scale asserting visibility (SD = 0.54, possible range 1 - 4) which is just above the scale midpoint of 2.5 perservice teachers reported that Christian Worldview was approaching but less than 'Fairly evident'. It was however the lowest average response of all the scales measured and was significantly different ($p < 0.05$) and lower than the other variables included in the study. Of the 19 individual comments made in this area, six comments (32%) related to religious education classes, a further six (32%) to the alignment of faith and learning, and the remaining (36%) were generic statements about a Christian approach to teaching. Compared to the other categories where pre-service teachers could cite multiple examples of worldview alignment, only one specific example relating to worldview alignment was cited in any of the respondents' open ended responses: the 'teacher would incorporate Bible teachings wherever it was relevant in the curriculum'.

While the learning and teaching context was the lowest visibility response reported, the companion area of curriculum planning scored only a little higher as pre-service teachers reported that in this area Christian worldview alignment was 'Fairly evident', an average response of 3.01 (SD=0.68, possible range 1 - 4). This was significantly lower ($p<0.05$) than the other variables included in the study except for Planning, Teaching and Assessment Practice. Within this area students were asked to reflect on unit plans (e.g. Christian focus, biblical perspective, values), yearly programs of work, assessment tasks (planning), and other special learning and teaching programs (e.g. values, personal development, resilience and health programs). Although there were markedly fewer comments (13) demonstrating evidence of a Christian worldview alignment in the area of planning documents than other areas, a pre-service teacher noted that the 'curriculum has been altered to accommodate Christian values into the classroom.' Some pre-service teachers noted practices such as the renaming of units (This is Me to God made Me), integration of values into units, and a pre-service teacher noted that units had Christian worldview alignment 'infused in each lesson' and identified specific examples observed.

Within each school, the way that values were emphasised, was particularly noticed by pre-service teachers. The qualitative data contained a total of 54 comments relating specifically to values. Pre-service teachers noted that school values were displayed in classrooms, highlighted in devotionals and chapels, promoted in school newsletters and importantly, modelled in the lives of the teachers. A pre-service teacher noted that the school 'promotes its values through signage, the newsletter, and introducing each week's focus value during Monday morning assemblies,' while other pre-service teachers observed that schools had a definite set of values based on the Bible.

What would pre-service teachers do?

After their school placement, pre-service teachers were asked to comment on what they believed were the best ways to make evident the Christian worldview alignment of the Christian school. A total of 43 pre-service teachers commented, and of these comments, 23 (53%) focused on teachers. Four (1%) were general statements like 'Starts with the teacher!' Twelve (28%) indicated teacher modelling of Christian lifestyle, 'by living what you preach,' and a further seven (4%) dealt with teacher and student relationships. Thirteen comments (30%) related to daily culture, 'the little things that are part of the school,' three (7%) specifically to aligning all aspects of the school with 'not just words but works that give action to beliefs such as service'. Just four

comments (9%) indicated a connection between learning and teaching and Christian worldview alignment. The comments were, 'being intentional in teaching', 'class content', 'incidental teaching' and 'incorporate God in every lesson.'

Discussion

The findings from this investigation help us to understand what aspects of the special character of schools, based on a Christian worldview alignment, are most visible to pre-service teachers during an extended school placement. Pre-service teachers were able to identify some of the evidence that Christian authors (for example Cairney, Cowling & Jensen, 2011; Edlin, 2014; Jackson, 2009; Roy, 2008.) cite as indicative of a school that is Christian in practice as well as name.

For most schools, the physical environment immediately evidences the Christian worldview alignment of the school. Although this could be interpreted as a somewhat shallow indicator of Christian worldview alignment, the physical aspects of a school may help make the worldview that the school espouses visible. The daily culture of the school also contributed to the visibility of the Christian worldview alignment of the school.

> *Pre-service teachers were able to identify some of the evidence that Christian authors cite as indicative of a school that is Christian in practice as well as name.*

Table 2: Summary of quantitative and qualitative responses (1)

Quantitative			Qualitative	
Scale	Mean*	Standard Deviation	Number of Comments	% of scale comments
School Plant	3.29	0.63	67	7 (10%) note mission and vision statements
Relationships	3.20	0.58	83	34% student/teacher, 38% student wellbeing
Daily Culture	3.00	0.60	163	Most note chapels, and services. Many classroom devotions am/pm. 33 (20%) refer to daily staff worship.
Belief Enactment through Discipleship and Service	3.01	0.68	46	School, church, and community
Curriculum Planning	3.01	0.68	13	-
Planning, Teaching and Assessment	2.82	0.54	19	32% RE classes, 32% in learning activities
Values	-	-	54	-

* scale scores: 1 Not evident at all, 2 Scarcely evident, 3 Fairly evident, 4 Very evident.

Table 3: Best way to make evident Christian Worldview alignment (qualitative 2)

Best ways (n = 43)	Number of Comments	Topic of Comment and	Frequency
Focus on teacher performance	25 (53%)	Teacher modelling	12 (28%)
		General comments – 'starts with teacher '	4 (1%)
		Teacher / student relationship	7 (4%)
Daily culture	13 (30%)	Learning and teaching aligned to Christian worldview	4 (9%)
		All aspects aligned to Christian worldview	3 (7%)

Staff devotions, chapel programs and prayer were widespread in schools, and a values focus was a strong component of the daily culture, supporting an orientation towards building Christian character, as discussed by Smith (2013) and Winter (2014).

For pre-service teachers, the relational aspects of Christian schools were also fairly evident and indicative of Christian worldview alignment. These identifiable relationships support the position of Wilhoit and Rozema (2005) who place high importance on the authentic Christianity of teachers and the relationships they build. Burggraaf (2014) and Scott (2013) also highlight the importance of relationships. Relationships were also perceived to contribute to students' wellbeing. While Christian schools do not have a monopoly on positive relationships, the pre-service teachers in the schools observed that the Christian schools that they were in provided a good environment for positive relationships to form.

Additionally, pre-service teachers perceived that, in the extra-curricular activities of their placement schools, the Christian worldview alignment of the schools was fairly evident. Extra-curricular activities cited in the qualitative data nearly always included either a service or mission component which Jackson (2009) links to discipleship, and Garber (1996) associates with active participation in a faith community.

> *It is of some concern that learning and teaching, while supporting Christian worldview alignment, only does this with marginal visibility*

While the areas just discussed are a real strength for schools in displaying their special character through Christian worldview alignment, within the teaching and learning area in schools, the Christian worldview alignment was not perceived to be as evident. This finding is supported by the literature (Matthias & Wrobbel, 2014; Van Dyke, 2013; Christian, 2009). Therefore, it would be expedient for both Christian schools and Christian higher education providers to further explore authentic ways that evidence a Christian worldview in the classroom learning and teaching, especially in the areas of planning, including choice of pedagogical approaches, resources, content and assessment. It is also important to note that the lower ratings in this area may indicate any of three things: firstly, that classroom practitioners are not necessarily experienced in teaching from a biblical Christian perspective, and/or that pre-service teachers could not see a Christian worldview alignment because they either were not looking for it, or not actually perceiving it perhaps due the subtlety of the approach, for clearly they were unaware of it. This might be opportunity to question the effectiveness of pre-service teachers as sensitive and perceptive assessors of the presence of perspectives of alignment. It may also be reflective of disparate worldviews held by individuals in a school. This presents a challenge for Christian schools to engage in open dialogue about worldviews, to communicate expectations and therefore to minimise misalignment between schools' stated Christian mission and values, and the beliefs of individual teachers. It also highlights the responsibility for creating opportunities in Christian schools and universities to engage pre-service teachers in professional conversations about the alignment of faith and learning, and modelling this in the classroom, but even more specifically what this 'actually' looks like in practice.

When pre-service teachers offered opinions about the best way to demonstrate Christian worldview alignment in schools, the results concurred with Matthias and Wrobbel (2013). Pre-service teachers perceived that Christian worldview alignment could be demonstrated through modelling Christian behaviour and school culture activities such as prayer and chapel programs. A focus on teachers building relationships emerged as an important contributor to Christian worldview alignment, a position that concurs with Scott (2013), and is also indicative of the relational approach that young adults have towards life in general. The low number of unprompted comments relating to planning, facilitating and evaluating learning; and the generic nature of the comments, support the quantitative findings that Christian worldview alignment could be strengthened in the learning and teaching environment. It is of some concern that learning and teaching, while supporting Christian worldview alignment, only does this with marginal visibility, a finding consistent with Matthias and Wrobbel (2013), Van Dyke (2013) and Christian (2009) in the context of teacher education courses, and Anderson (2013) and Edlin (2014) in the broader context of Christian education. This finding offers a challenge to reinforce the links between teaching and learning and Christian worldview alignment without it becoming dualistic, a caution offered by Murison (2018).

Christian pre-service teachers are often keen to make a contribution to the special character of their placement school, and eventually their employing school, through aligning their practice with a Christian worldview. The knowledge and skills to make this contribution do not happen by chance but are the result of intentional activity on the part of a trilogy of key players; placement schools, Christian higher education institutions, and pre-service teachers aiming to teach in Christian schools.

Recommendations

The implications rising out of the research questions in this investigation target the three groups of

stakeholders mentioned above, and further recommends the following.

1. That Christian schools examine the visibility of their Christian worldview across the various dimensions of their school, specifically within their program evaluation audits. In areas which the Christian worldview is less visible, potentially learning and teaching, the school should implement professional development processes to track enhancement of the visibility of its Christian worldview. Furthermore, that classroom practitioners who mentor pre-service teachers be intentional in instigating professional conversations about Christian worldview alignment in the classroom, and deliberately model how this appears in practice—to increase its visibility to pre-service teachers.

2. That providers of Christian higher education examine their teacher education courses to further facilitate understanding of what Christian worldview alignment means by linking Christian education philosophy with practice in the area of teaching and learning, consequently optimising pre-service teachers sensitivity and capacity to perceive a spectrum of aligned strategies.

3. That pre-service teachers intending to teach in Christian schools be encouraged/required to be more intentional in understanding the way that a Christian worldview can be aligned with their educational practice in the schools in which they do their placements, and that they actively find ways they can contribute to the special character of schools through this alignment, then implement and report on their performance throughout the duration of their school placement.

Conclusion

The pre-service teachers' perceptions in this investigation reflected both the placement schools and their own understandings of special character and Christian worldview alignment. Consequently, the school culture, the relationships between the members of the school community and associated wellbeing, and the extra-curricular activities of the school were readily identified as making an important contribution to the special character of the school. The alignment of the learning and teaching environment of the school, while positive, did not score as highly with pre-service teachers as other areas. While this does not necessarily indicate that the schools performed poorly in these areas, it reminds us of the importance of being intentional in this space and engaging pre-service teachers in substantive conversations about this very important issue, at both the school and tertiary level. This is an area that deserves further consideration as pre-service teachers need the knowledge, skills and commitment to support the Christian worldview alignment of Christian schools as they themselves make the transition from being students to Christian teachers. TEACH

References

Anderson, W. P. (2013). How to keep a Christian college Christian. In: P. C. Kemeny (Ed.), *Faith, freedom and higher education: Historical analysis and contemporary reflections* (pp.180-199). Eugene, OR: Wipf and Stock.

Basit, T. N. (2010). *Conducting research in educational contexts*. London, England: Continuum International.

Beamish, P., & Morey, P. (2013). School choice: What parents choose. *Teach Journal of Christian Education, 7*(1), 26-33.

Burggraaf, H. (2014). *Transformational education: A framework for Christian teaching*. Mount Evelyn, Australia: Mount Evelyn Christian School and the Brooks-Hall Foundation.

Cairney, T., Cowling, B., & Jensen, M. (2011). *New perspectives on Anglican education: Reconsidering purpose and plotting a future direction*. Sydney, Australia: Anglican Education Commission.

Christian, B. (2009). Developing a nexus between Christian worldview and the social sciences in pre-service teachers. *Journal of Christian Education, 52*(2), 66-77.

Covey, S. (1989). *The seven habits of highly effective people: Restoring the character ethic*. New York, NY: Simon and Schuster.

Cresswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

Cresswell, J. W. (2011). Controversies in mixed method research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp.269-284). Los Angeles, CA: Sage.

Dowson, M. (2014). A biblical philosophy of education. In K. Goodlet and J. Collier (Eds.), *Teaching well: Insights for educators in Christian schools* (pp.39-51). Canberra, Australia: Barton Books.

Edlin, R. J. (2014). *The cause of Christian education*, (4th ed.). Sioux Center, IA: Dordt College Press.

Edlin, R. & Ireland, J. (Eds). (2006). *Engaging the culture: Christians at work in education*. Blacktown, Australia: National Institute for Christian Education.

Francis, L. J., Casson, A., & McKenna, U. (2018). Christian ethos secondary schools in England and Wales: A common voice or wide diversity? *Journal of Beliefs & Values, 39*(4), 445-462. DOI: 10.1080/13617672.2018.1491262

Fennema, J. (2006). Transforming education: Teachers. In Edlin, R. & Ireland, J. (Eds), *Engaging the culture: Christians at work in education*. (pp. 21-36). Blacktown, Australia: National Institute for Christian Education

Fisher, B. J. (2010). *Developing a faith-based education: A teacher's manual*. Terrigal, Australia: David Barlow Publishing.

Garber, S. (1996). *The fabric of faithfulness: Weaving together belief and behaviour during the university years*. Downers Grove, IL: InterVarsity Press.

Goheen, M. W., & Bartholomew, C. G. (2008). *Living at the crossroads: An introduction to Christian worldview*. Grand Rapids, MI: Baker Academics.

Goodlet, K., & Collier, J. (Eds.). (2014). *Teaching well : Insights for educators in Christian schools*. Barton, Australia: Barton Books.

Henderson, M., Henderson, S., & Thomson, D. (2006). *Leading through values*. Auckland, New Zealand: Harper Collins.

Independent Schools Council of Australia. (2017) *Independent schooling in Australia snapshot 2017*. Deakin, Australia:

> *that classroom practitioners who mentor pre-service teachers be intentional in instigating professional conversations about Christian worldview alignment in the classroom, and deliberately model how this appears in practice*

Independent Schools Council of Australia. Retrieved from http://isca.edu.au/wp-content/uploads/2017/05/17140-ISCA-2017-Snapshot-2pp-web.pdf
Jackson, D. R. (2009). The evangelical Christian school: Some critical issues. *Journal of Christian Education, 52*(2), 19-29.
Knight, G. R. (2016). *Educating for eternity: A Seventh-day Adventist philosophy of education*. Berrien Springs, MI: Andrews University Press.
Lindsay, D. (2014). Service. In K. Goodlet & J. Collier (Eds.), *Teaching well: Insights for educators in Christian schools*. (pp. 207-219). Canberra, Australia: Barton Books.
Matthias, L. R., & Wrobbel, K. (2013). Teacher candidates' perceptions of the integration of faith and learning as Christian vocation. *A Journal of the International Christian Community for Teacher Education, 8*(1): Article 4.
Murison, C. (2018). Revelatory classrooms: A new discourse for the journey. In A. Gibson and C. Chihota (Eds.), *Modelling Christ's love and hope within professional practice* (pp. 90-105). Tauranga, New Zealand: BTI.
Nash, R. (2013). *Life's ultimate question: An introduction to philosophy* (2nd ed.). Grand Rapids, MI: Zondervan.
Naugle, D. K. (2002). *Worldview: The history of a concep*t. Grand Rapids, MI: Wm. B. Eerdmans.
Olthuis, J. (1985). On worldviews. *Christian Scholars Review, 14*, 153-156.
Pashak, T., Laughter, T. (2012) Measuring Service-Mindedness and Its Relationship With Spirituality And Life Satisfaction. *College Student Journal, 46*(1), 183-192.
Rasmussen, J. B., & Rasmussen, R. H. (2006). The challenge of integrating faith-learning-living in teacher education. *Journal of the International Christian Community for Teacher Education, 1*(1), 1-10.
Roy, D. (2008). Christian schools: A world of difference. Teach *Journal of Christian Education, 2*(1), 38-45.
Scott, B. (2012/2013). What is the measure of a Christian school? *Journal of Christian Education, 55*(1), 37-50.
Scouller, D. L. (2012). From philosophy to practice: An investigation of the impact of a school's philosophy on policy and classroom practice. *Journal of Education and Christian Belief, 16*(1), 61-80.
Shotsburger, P. (2018). Faith integration: What does it really look like? *Journal of the International Christian Community for Teacher Education, 12*(2), 1-4.
Sire, J. W. (2004). *The universe next door* (4th ed.). Leicester, England: InterVarsity Press.
Sire, J. W. (2015). *Naming the elephant: Worldview as a concept*. Downers Grove, IL: InterVarsity Press.
Smith, D. I., & Smith, J. K. A. (2011). *Teaching and Christian practices: Reshaping faith and learning*. Grand Rapids, MI: Wm. B. Eerdmans.
Smith, D. I., Um, J., & Beversluis, C. D. (2014). The scholarship of teaching and learning in a Christian context. *Christian Higher Education, 13*(1), 74-87.
Smith, G. S. (2013). The mission of Christian colleges today. In P.C. Kemeny (Ed.), *Faith, freedom and higher education: Historical analysis and contemporary reflections* (pp. 90-112). Eugene, OR: Wipf and Stock.
Thompson, R. (2004). Genesis and Jesus…and Christian worldview. In J. Ireland, R. Edlin & K. Dickens (Eds.), *Pointing the way: Directions for Christian education in a new millennium*. (pp. 155-174). Blacktown, Australia: National institute for Christian Education.
Van Dyke, J. (2013). Teaching our education students to teach Christianly. *A Journal of the International Christian Community for Teacher Education, 8*(1): Article 1.
Walsh, B., & Middleton, J. (1984). *The transforming vision: Shaping a Christian worldview*. Downers Grove: Inter-Varsity Press.
Wilhoit, J. C. & Rozema, L. (2005). Annointed teaching. *Christian Education Journal, 2*(2), 239-255.
Winter, B. (2014). Learning for living in the first & twenty-first centuries. In K. Goodlet, & J. Collier (Eds.), *Teaching well: Insights for educators in Christian schools.* (pp. 26-52) Canberra, Australia: Barton Books.

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Relationships effecting college students' perception of family influence impacting their health and lifestyle

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Key words: College students, ethnicity, family influence, family type, gender, independence, health, lifestyle, religion.

Abstract

The purpose of this cross-sectional, non-experimental descriptive design study was to determine college students' perception of family influence impacting their health and lifestyle. The sample included 120 college students in a faith-based institution and each student completed a Likert-type survey (4-point agreement scale) that investigated their perception of health, and the degree of influence peers and family had on their health. This second data analysis reports correlations between variables and group differences related to health perceptions and behaviours. The strongest correlation is between 'family demonstration of positive health habits' and 'personal health practices being like my families' ($r = 0.671$, $p < 0.01$), a moderate relationship supported by other weaker positive correlations to specific health outcomes. Negative correlations between 'my friends display more positive health habits than family' and both 'family has influenced my idea of health' and 'my health practices are similar to my family' indicate the potential for other contextual factors to effect family impact. While differences relating to health influence and outcomes between groups formed by age, gender, ethnicity, family structure and religion were found, the variable related to most healthy lifestyle transmission elements was 'My family demonstrates positive health habits'. Recommendations supporting improved societal health are offered, together with suggestions for further research. Group classifications that are fixed but might inform interactions with elements of cohorts are identified, together with group memberships which might be changed to enhance health options. Caution in the

> *This … data analysis reports correlations between variables and group differences related to [College students'] health perceptions and behaviours.*

generalisation of these findings is advised due to the explained limitations of this study.

Background

This research study is contextualised within a general concern about the rising occurrence of obesity and unhealthy behaviours among young adults, and the link these problems may have to family influence. The problem addressed in this research is: A persisting uncertainty about the impact of family influence on the health behaviours of young adults. Consequently, the purpose of this study was: To determine college students' perception of family influence impacting their health and lifestyle. The research question was: Do college students perceive a family influence impacting their health and lifestyle?

> *My family demonstrates positive health habits is prominent being most related … to … My health practices are similar to those of my family,*

The research question prompted a literature search, that gathered eight focus research studies and a consideration of social learning (Bandura, 1971) that were presented and discussed together in the first paper reporting this research (Nicholas, Soptich, Tyson, Abraham, Perry, & Gillum, 2018). That report also provided information about the specifics of the survey tool, the survey processes and data gathering.

The prior report (Nicholas et al, 2018) considered an analysis of the descriptive statistics for the single responses and subsequently inferential statistics, in particular factorial analysis that established three factors Family Influence (FI), Positive Family Impacts (PFI) and Negative Impacts (NI). Both analytical processes asserted that most college students perceive their families influence their health attitudes and consequently their practices. Consideration of correlations between the factors – implied by the oblique rotation method required for factor formation—indicated a weak to moderate positive association between Family Influence (FI) and Positive Family Impact (PFI) ($r = 0.334$) that is consistent with, but not confirmatory of a causal relationship. Further, a moderate but negative correlation between FI and Negative Impacts (NI) ($r = -0.429$), and a very weak negative correlation between PFI and NI ($r = -0.242$) consistent with a perception of family influence having a predominantly positive impact, being inversely associated with negative impacts, and potentially preventative of them.

A subsidiary research question emerged and becomes the focus of this second report: Are there relationships between the variables investigated that indicate ways in which families may have influenced college students? This report considers significant correlations to identify relationships and One Way Analysis of Variance (ANOVA) to establish differences between groups, formed on the basis of demographic data and also specific item response groups, for each of the single item responses.

Results and analysis

Methodological considerations

If the responses of students to the items are considered to be measures of the level of agreement, measured from low agreement (1) to high agreement (4), and can be considered interval data, parametric statistics may be applied. Tests of normality, including visual revision of the histograms, P-P and Q-Q plots, plus review of the statistics for skewness (>-2 but <2) and kurtosis (>-7 and <7) for the survey items 1 to 20, indicate the approximate fulfillment of the requirement of normality, a pre-requisite for the application of many parametric statistics. Kolmogorov-Smirnov and Shapiro-Wilk normality test statistics for the distributions of the items however, do not suggest normality. Pearson's correlation and One-way Analysis of Variance (ANOVA) are however robust tests, tolerating violations of normality well.

Between item relationships

Relationships as correlations

A comparison of the correlation tables indicates both the Spearman (non-parametric) and Pearson's (parametric) correlations give similar statistics, seeming to affirm the assumptions of interval data and normality required for application of parametric statistics. Pearson's correlations are consequently used in the following report of associations.

In considering associations, Item 3 *My family demonstrates positive health habits* is prominent being most related (highest correlation coefficient) to Item 2 *My health practices are similar to those of my family*, being moderately positively correlated ($r = 0.671$, $p < 0.01$), but Item 3 is also the most negatively related to Item 18 *Unlike my family members, my friends display more positive health habits* ($r = -0.514$). The second strongest relationship is between Item 3 and Item 8; *My family members eat well-balanced meals regularly* ($r = 0.663$, $p < 0.01$). Item 3—a demonstration of family health, Item 1—claiming the influence of family, and Item 2—an outcome being similar respondent student health practice—are all moderately positively inter-correlated ($0.5 < r > 0.6$), consistent with the postulation that family health ideas do influence these respondents' practices. A positive though low correlation between Item 2—*My health practices are similar to those of my family* and the following items Item 5—*My family's eating habits have shaped my own eating habits* ($r = 0.382$, $p < 0.01$); Item 8—*My family members eat well-balanced meals regularly* ($r = 0.518$, $p < 0.01$); Item 9—*I eat well-balanced meals regularly* ($r = 0.423$, $p < 0.01$); Item 13—*The way I handle stress is similar to the way my family deals with stress* ($r = 0.379$, $p < 0.01$); Item 14—*My family members have effective ways to positively handle stress* ($r = 0.421$, $p < 0.01$); further affirm this assertion.

Negative correlations, the strongest between Item 18—*Unlike my family members, my friends display more positive health habits* and Item 3 *My family demonstrates positive health habits* at moderate level ($r = -0.514$, $p < 0.01$), and lower level negative correlations with Item 1—*My family has influenced my idea of health* ($r = -0.409$, $p < 0.01$) and Item 2—*My health practices are similar to those of my family* ($r = -0.397$, $p < 0.01$), are consistent with agreeing to the influence of family display of poor habits and the adoption of 'better' alternative health practices. Negative correlations of Item 18 with beneficial family health practices Item 8—*My family members eat well-balanced meals regularly* ($r = -0.404$, $p < 0.01$), Item 11—*My family members exercise 30 minutes or more, 5 days a week* ($r = -0.389$, $p < 0.01$) and Item 14—*My family members have effective ways to positively handle stress* ($r = -0.404$, $p < 0.01$), suggests that respondents agreeing with Item 18 do disagree with their family having a number of beneficial positive health habits. Do these poor family habits influence their health ideas and habits in any particular way? Specifically, Item 18 moderately and positively correlates with Item 17—*My peers impact my idea of health more than my family members* ($r = 0.488$, $p < 0.01$), as might be expected, further, moderate to low negative correlations for Item 17 with Items 1, 2, 3 and 8 are similar to these items relationships to Item 18.

About 40% of the sample agree they have developed some bad health habits from their family (Item 4). This Item 4 has low to moderate negative correlations with Item 3—*My family demonstrates positive health habits* ($r = -0.361$, $p < 0.01$), Item 8—*My family members eat well-balanced meals regularly* ($r = -0.457$, $p < 0.01$), and Item 14—*My family members have effective ways to positively handle stress* ($r = -0.304$, $p < 0.01$). This asserts families with poorer health habits (including food consumption and stress) are associated with students who have developed bad health habits too – implying a negative family influence on health. The relationship between specific pairs of variables suggests family influences on health can be either positive or negative, depending on perceptions of family health practices. Can these potential group differences be confirmed? The following analyses of differences between groups develops awareness of potential influences.

Relationships as group differences

Statistically significant variable differences for the means of groups based on the demographic variables age, gender, ethnicity, religion, and family type were investigated by One-way ANOVA. Additional analyses, perhaps more significant for this discussion, investigated responses by groups formed on the basis of respondent perceptions of independent and dependent choice, positive or negative family health habits, and shared family spirituality.

Differences by age

Since for Item 1—*My family has influenced my idea of health*, the distribution of responses for age groups fails the Levine's (equality of variances) Test, consequently Robust Tests of Equality of Means (Brown-Forsyth and Welch Tests) must be applied. A statistically significant difference between the means for age groups 18-20 years of age ($n = 78$), being $M = 3.42$ ($SD = 0.593$) and 24-26 years of age ($n = 3$) with $M = 3.00$ ($SD = 0.615$), was confirmed by post hoc tests (Dunnett T3 and Games-Howell, both $p < 0.001$). This indicates that the older group's agreement with the statement *My family has influenced my idea of health* is clear but slightly less than the youngest group's more convicted agreement.

While ANOVA indicates a statistically significant difference in the mean for *My family members exercise 30 minute or more, 5 days week* between age groups [$F(2, 117) = 3.446$, $p > 0.034$], post hoc tests cannot confirm specific differences between groups. This is possibly due to the small sample size of one of the groups ($n = 3$ for age 24-26 years). It is clear however, that with increasing age of the group, agreement transitions from uncertainty ($M_{18\text{-}20} = 2.46$, $SD_{18\text{-}20} = 0.949$) to disagreement ($M_{21\text{-}23} = 2.36$, $SD_{21\text{-}23} = 0.894$) to strong disagreement ($M_{24\text{-}26} = 1.33$, $SD_{24\text{-}26} = 0.945$).

> *About 40% of the sample agree they have developed some bad health habits from their family*

Differences by gender

One way ANOVA indicates a statistically significant difference [$F(1,118) = 14.585$, $p < 0.001$] for females being in agreement ($M_f = 2.83$, $SD_f = 0.722$), but in lower agreement than males ($M_m = 3.03$, $SD_m = 0.704$), that *I have effective ways to positively handle stress* (Item 15). Two non-parametric tests (Mann-Witney U and Kruskall-Wallis tests) affirm this difference.

The Brown-Forsyth and Welch Tests (robust tests of the equality of means for distribution of unequal variance) indicate gender differences in response perspectives on exercise. While females tend to agree *My family exercise habits have shaped my own exercise habits* (Item 10, $M_f = 2.79$, $SD_f = 0.778$, $p = 0.046$), males are uncertain that this is correct ($M_m = 2.44$, $SD_m = 1.013$). Males however agree overall that *I exercise 30 minutes or more, 5 days a week* (Item 12, $M_m = 3.28$, $SD_m = 0.784$, $p < 0.001$) while females are uncertain they do ($M_f = 2.64$, $SDf = 0.993$), a difference affirmed by non-parametric tests for group difference (Mann-Witney U, Kolomogov-Smirnov, and Kruskall-Wallis tests).

Differences by ethnicity

ANOVA indicates ethnic differences for Item 17 [$F(4,115) = 3.941$, $p = 0.005$] and Item 18 [$F(4, 115) =$

2.606, $p = 0.039$), both of which relate to perspectives about peers, differences also indicated by the non-parametric Kruskall-Wallis Test.

Due to some groups being only composed of one respondent, no post hoc tests indicating specific group differences were available. While the Caucasian group was uncertain whether peers impacted their ideas of health more than their family ($n_c = 105$, $M_c = 2.42$, $SD_c = 0.704$), the Asian respondent disagreed ($M_a = 2.00$), while the African-Americans and Hispanic groups equally and most strongly disagreed ($n_{aa} = 6$, $M_{aa} = 1.50$, $SD_{aa} = 0.548$ and $n_h = 2$, $M_h = 1.50$, $SD_h = 0.707$ respectively). Those of "Other" ethnicity tended to offer uncertain agreement that peers displayed more positive views of health than family.

Differences by religion (Christian and Non-Christian)
Unequal variance is detected in religion groups for Items 4 and 15, but subsequent robust tests for equality do not indicate statistically significant differences. One way ANOVA indicates a moderate to large effect (Cohen's *d*) from Religion over seven items (see Table 1).

The Christian group ($n_c = 109$) agrees with two propositions that Non-Christians ($n_{nc} = 11$) disagree with: [Item 2] *My health practices are similar to those of my family* and [Item 19] *My family has consistent spiritual practices that I follow* (see Table 1). Further, while Christians agree with three statements, Non-Christians are uncertain about [Item 3] *My family demonstrates positive health habits*, [Item 8] *My family members eat well-balanced meals regularly*, and [Item 14] *My family members have effective ways to positively handle stress*. Christians are uncertain about agreeing with [Item 13] *The way I handle stress is similar to the way my family deals with stress*, but the Non-Christian group indicates disagreement. In a reversal of the direction of agreement, Non-Christians are in higher agreement that [Item 20] *I make my own choices and don't depend on family to influence me* while the Christian group indicated they were uncertain of this. The non-parametric Kruskal-Wallis tests indicate the same results but added a difference for Item 15 *I have effective ways to positively handle stress*, Non-Christians being less certain in this assertion.

Differences by family type
Within an ANOVA, Items 2, 13 and 20 fail Levine's Test for equal variances, and consequently robust tests of equality indicate statistically significant differences between the means for the Traditional Family group and the Non-traditional Family group for Items 2 and 13 (See Table 2). Specifically, those in the Traditional Family group agree that [Item 2] *My health practices are similar to those of my family* however Non-Traditional Family group members are overall uncertain this is so for them. Further, while overall the Traditional Family group were uncertain [Item13] *The way I handle stress is similar to the way my family deals with stress*, the Non-Traditional group disagreed that this was true for them.

One-way ANOVA by family type—Traditional and Non-traditional—had a statistically significant impact on seven items (1, 3, 8, 9, 14, 15, 19 see Table 2). Members of the Traditional Family group ($n_t = 100$), are in stronger (but not strong) agreement with [Item1] *My family has influenced my idea of health* than members of Non-traditional Families ($n_{nt} = 20$). The Traditional Family group agrees, whereas the Non-traditional Family group are uncertain, that [Item 3] *My family demonstrates positive health habits*, [Item 8] *My family members eat well-balanced meals regularly*, [Item 9] *I eat well-balanced meals regularly*, [Item 14] *My family members have effective ways to positively handle stress*, [Item 15] *I have effective ways to positively handle stress* and [Item19] *My family has consistent spiritual practices that I follow*.

All of these differences are medium to very large effects as derived from Cohen's *d*. Non-parametric

> *Non-Christians are in higher agreement that … I make my own choices and don't depend on family to influence me while the Christian group indicated they were uncertain of this.*

Figure 1: Ethnicity and friends display more positive health habits

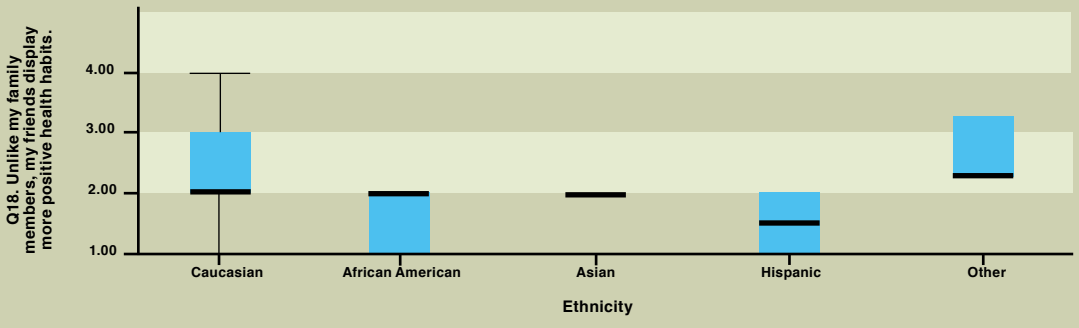

Table 1: Differences by religion grouping

Item		ANOVA statistic	Christian (*n*=109)			Non–Christian (*n*=11)			Cohen's *d*
			M	SD	A/U/D	*M*	SD	A/U/D	
2	*My health practices are similar to those of my family*	F(1, 118) = 22.277, p = 0.000)	3.09	0.071	A	2.00	1.00	D	1.54
3	*My family demonstrates positive health habits*	F(1, 118) = 7.539, p = 0.007)	3.06	0.692	A	2.45	0.688	U	0.88
8	*My family members eat well-balanced meals regularly*	F(1, 118) = 5,875, p = 0.0017)	2.99	0.700	A	2.45	0.688	U	0.78
13	*The way I handle stress is similar to the way my family deals with stress*	F(1, 118) = 5.229, p = 0.024)	2.58	0.671	U	2.09	0.701	D	0.71
14	*My family members have effective ways to positively handle stress*	F(1, 118) = 3.968, p = 0.049)	2.80	0.691	A	2.36	0.674	U	0.64
19	*My family has consistent spiritual practices that I follow*	F(1, 118) = 27.514, p = 0.000)	3.33	0.795	A	2.00	0.632	D	1.85
20	*I make my own choices and don't depend on family to influence me*	F(1, 118) = 10.355, p = 0.002)	2.45	0.811	U	3.27	0.786	A	1.03

Key: A = Agree, U = Uncertain, D = Disagree

tests affirm these statistically significant differences.

The Traditional family appears to support the transmission of positive health practices to children more effectively than Non-traditional families. Respondents from Non-traditional families recognise their family impacts their personal health practice [Item 1] but not necessarily positively. They are uncertain their families model positive health practices and personally choose to treat stress more positively, and religion differently to their families.

Differences by independent and dependent choice

Appropriately applying an unequal variance test to Item 1 and ANOVA to five items (2, 3, 13, 18, and 19), indicates statistically significant differences between Independent decision-makers ($n_i = 60$) and family Dependent decision-makers ($n_d = 60$) (See Table 3). While respondents dependent on family influence in decision-making agree [Item 1] *My family has influenced my idea of health*, [Item 3], *My family demonstrates positive health habits* [Item 18] *more than my friends*, [Item 2] *My health practices are similar to those of my family*, and [Item 19] *My family has consistent spiritual practices that I follow*.

Independents overall are uncertain their family demonstrates positive health habits but claim peers do; disagree their health practices are like their families, and claim their ideas of health are not being influenced by family, nor do they follow any *consistent* spiritual practices of the family. There are difficulties in interpreting this last item since at least two possibilities apply, either the family does not have consistent spiritual practices or respondents do not follow practices assumed to exist. Responses may have indicated either circumstance. Finally, while Dependent decision makers are uncertain they deal with stress like their family [Item 13], Independent choice makers deny similarity with family in coping with stress, yet there is no difference in both groups agreed dealing with stress effectively.

The group making their own choices are uncertain their family members have effective ways to positively handle stress [Item 14] and have consequently chosen to handle stress differently (see the previous sentence). Those including family influence in their decisions agree their family does have ways to positively handle stress, a statistically significantly different perception, and this may explain their willingness to choose a similar set of health practices to their family reflecting social learning theory (Bandura, 1971).

While the subsample of Independent choice makers assert their families have not affected them directly, possibly due to being unconvinced family health is a useful modeling of lifestyle, the family effect has influenced them to choose what they perceive to be better practices through social learning from others outside their family, perhaps explaining why significant

> *"The Traditional family appears to support the transmission of positive health practices to children more effectively than Non-traditional families."*

Table 2: Differences by family type – Traditional and Non-traditional

Item		ANOVA statistic	Traditional (*n*=100)			Non–Traditional (*n*=20)			Cohen's *d*
			M	SD	A/U/D	*M*	SD	A/U/D	
2	*My health practices are similar to those of my family*	*Welch's* F(1, 22.915) = 7.707, p=0.011	3.10	0.704	A	2.45	0.999	U	0.75
13	*The way I handle stress is similar to the way my family deals with stress*	Welch's F(1, 39.874) =18.265, p=0.001	2.62	0. 693	U	2.10	0.447	D	0.89
1	*My family has influenced my idea of health*	F(1, 118) = 7.836, p = 0.006)	3.41	0. 552	A	3.00	0.795	A	0.60
3	*My family demonstrates positive health habits*	F(1, 118) = 13.111, p = 0.000)	3.10	0.674	A	2.50	0.688	U	0.88
8	*My family members eat well-balanced meals regularly*	F(1, 118) = 9.881, p = 0.002)	3.03	0.717	A	2.50	0.513	U	0.85
9	*I eat well-balanced meals regularly*	F(1, 118) = 17.034, p = 0.024)	2.94	0. 600	A	2.35	0.489	U	1.08
14	*My family members have effective ways to positively handle stress*	F(1, 118) = 14.130, p = 0.000	2.86	0. 622	A	2.25	0.716	U	0.91
15	*I have effective ways to positively handle stress*	F(1, 118) = 5.305, p = 0.023)	3.09	0.668	A	2.70	0.801	U	0.53
19	*My family has consistent spiritual practices that I follow*	F(1, 118) = 33.618, p = 0.000	3.25	0.687	A	2.25	0.786	U/D	1.35

Key: A = Agree, U = Uncertain, D = Disagree

> *Independent choice makers …assert the family effect has influenced them to choose what they perceive to be better practices through social learning from others outside their family*

Table 3: Differences by dependent and independent choice

Item		ANOVA statistic	Dependent (*n* = 113)			Independent (*n* = 7)			Cohen's *d*
			M	SD	A/U/D	*M*	SD	A/U/D	
1	*My family has influenced my idea of health*	*Welch's* F(1, 7.354) = 109.965, p=0.000	3.43	0.498	A	2.45	0.999	D	3.55
2	*My health practices are similar to those of my family*	F (1, 118) = 22.768 p = 0.000	3.07	0.728	A	1.71	0.756	D	1.83
3	*My family demonstrates positive health habits*	F(1, 118) = 7.962, p = 0.006)	3.04	0.699	A	2.29	0.488	U	1.24
13	*The way I handle stress is similar to the way my family deals with stress*	F(1, 118) = 11.565, p = 0.001)	2.58	0.664	U	1.71	0.488	D	1.49
18	*Unlike my family members, my friends display more positive health habits.*	F(1, 118) = 5.249, p = 0.024)	2.35	0.719	A	3.00	0.816	U	0.19
19	*My family has consistent spiritual practices that I follow.*	F(1, 118) = 7.923, p = 0.006)	3.13	0.773	A	2.29	0.756	U	1.10

Key: A = Agree, U = Uncertain, D = Disagree

differences between these two groups in personal health habits are not ultimately indicated.

Differences by family demonstrating positive [PH] or negative health [NH] habits

A quarter of the respondents (30) do not agree their families demonstrate positive health habits. The distribution of responses for two items (14, 15) show unequal variance within these groups, but when subjected to robust tests for statistically significant group differences, the null hypothesis that the means are the same, is rejected. Those perceiving their families to demonstrate positive health habits (n_{ph} = 90) agree [Item 14] *My family members have effective ways to positively handle stress* (see Table 4), those with negative perceptions of family health are uncertain their families have this attribute. While both groups assert they personally have effective ways to positively handle stress, those with positive views of family health agree with this more strongly. All of these differences are moderate to large effects.

Both respondent groups, those who consider their families do not demonstrate positive health habits [NH] and those who consider families demonstrate positive health [PH], agree that their families influenced personal ideas of health, but the PH group asserts stronger agreement (see Table 4). The NH group agree they have developed bad practices from their family [Item 4] in contrast to the uncertainty of PH members that they have. The NH group asserts peers demonstrate positive health [Item 18] and impact their health concepts more than their families [Item 17], leading to an uncertainty their health practices are like their family's [Item 2]. The PH group disagrees with peers demonstrating more healthy habits than family, tend to disagree peers have effected ideas of health,

> *While both groups assert they personally have effective ways to positively handle stress, those with positive views of family health agree with this more strongly.*

Table 4: Differences by groups based on family demonstrating positive or negative health habits

Item		ANOVA statistic	Traditional (n=100)			Non–Traditional (n=20)			Cohen's d
			M	SD	A/U/D	*M*	SD	A/U/D	
1	*My family has influenced my idea of health*	F (1, 118) = 13.665 p = 0.000	3.46	0.544	A+	3.00	0.369	A	0.75
2	*My health practices are similar to those of my family*	F (1, 118) = 40.427, p = 0.000	3.22	0.667	A	2.30	0.750	U	0.99
4	*I have developed some bad health habits from my family*	F(1, 118) = 7.335, p = 0.008)	2.34	0.796	U	2.80	0.805	A	-0.57
6	*My family members go out to eat more often than eating homemade meals*	F(1, 118) = 6.319, p = 0.013)	1.77	0.808	D	2.20	0.847	D	-0.52
8	*My family members eat well-balanced meals regularly*	F(1, 118) = 38.147 p = 0.000)	3.14	0.646	A	2.33	0.847	U	1.08
9	*I eat well-balanced meals regularly*	F(1, 118) = 10.636, p = 0.001)	2.94	0.625	A	2.53	0.507	U	0.72
11	*My family members exercise 30 minutes or more, 5 days a week*	F(1,118) = 15.677, p = 0.000	2.51	0.927	U	1.77	0.774	D	0.87
14	*My family members have effective ways to positively handle stress*	Welch's F(1,40.4850 = 10.572, p = 0.002	2.89	0.604	A	2.37	0.809	U	0.73
15	*I have effective ways to positively handle stress*	Welch's F(1,39.584) = 8.185, p = 0.007	3.14	0.610	A	2.67	0.844	U	0.64
17	*My peers impact my idea of health more than my family members*	F(1,118) = 8.323, p = 0.005	2.27	0.700	U/D	2.70	0.750	U/A	0.59
18	*Unlike my family members, my friends display more positive health habits*	F(1,118) = 19.165 p = 0.000	2.23	0.688	D	2.87	0.621	A	0.98
19	*My family has consistent spiritual practices that I follow*	F(1,118) = 19.538, p = 0.000	3.26	0.696	A	2.57	0.858	U	0.88

Key: A = Agree, U = Uncertain, D = Disagree

claim their health practices are similar to their families and are uncertain they have learned any bad health habits from them. Though the NH and PH groups are both in disagreement that families eat out rather than eating a home cooked meal the PH group disagreed most. On the remaining items relating to family or personal health, the NH group score lower—usually expressing uncertainty, while the PH group express agreement with positive health.

Discussion

The participants can be summarised as mostly white, young, female students who were brought up in the Christian faith, studying at a Christian college having grown up in a traditional two-parent home. Based on the earlier results, participating students indicated their family influenced their idea of health, but consideration of the overall mean alone hides these statistically significant, and important to theory building differences existing between group subsamples. This subsequent analysis asserts that family influence was differentiated by experience including whether the respondents perceived their family demonstrated positive health habits or poor health habits.

Single item correlations indicate important concepts not apparent from the descriptive statistics. Experiencing a family demonstration of health habits is positively associated with recognition of family influence, adopting similar health practices, including eating regular well-balanced meals and dealing positively and effectively with stress. When peers demonstrate more positive health habits than family, negative associations indicate family are not demonstrating positive health habits, family influence on health is less, and personal health practices are less similar to those of family. Peers impact the health of these respondents more than family. Those asserting they have developed bad habits from family are negatively associated with good family health practice.

Group membership differentiates some outcomes. While some demographic variables are fixed, and in these cases group membership cannot be changed to improve health outcomes, they do enable the formation of expectations that might guide responsive interaction. These differences are discussed first.

> *Increasing age probably reflects an increasing critical frankness, … greater distancing and independence, evidenced in a lower recognition of family influence or healthy family habits.*

Fixed grouping impacts

Age and gender

Increasing age probably reflects an increasing critical frankness, associated with achieving greater distancing and independence, evidenced in a lower recognition of family influence or healthy family habits. Alternatively, a change of exercise patterns within families may have occurred as children become independent and leave home, with parents transitioning into more relaxed, 'empty nest' lifestyles.

Males are more certain of dealing with stress positively as in other research (APA, 2011; Anbumalar, Dorathy, Jaswanti, Priya, & Reniangelin, 2017; Hogan, Carlson, & Dua, 2002), assert their exercise is rigorous, but are unsure this is 'shaped' by family. Females are influenced by family exercise, but are uncertain their program matches that of males.

Ethnicity

Ethnicity in this sample only effected attitudes to peers. African Americans, Asians and Hispanics tended to deny peers displayed better health than family, seemingly demonstrating a strong family attachment. Caucasians and others entertained the idea that peers might. Phoenix and Husain (2007) claim, "parenting style has become one of the most robust approaches used in developmental psychology to study how parents influence" (p. 11). In addition, "to have an ecologically valid understanding of parenting and ethnicity, it is important … to understand the context in which parenting of children or adolescents occurs" (p. 21). Strong connections "a 'no-nonsense' style of supportive, involved parenting with monitoring of children's activities and consistent discipline was related to positive emotional, behavioural, educational and social outcomes" (p. 12) within rural African American families. Even more 'authoritarian' parenting is apparently beneficial in Asian American families (p. 13). Ayón, Williams, Marsiglia, Ayers, and Kiehne (2015) explain "cultural features influence socialization practices, making Latino parents distinct from other parents … *familismo*, the cultural orientation and sense of obligation to family … leads to socialization practices that foster interdependence and sociocentrism in Latino children." This may account for the inward family focus about health opinions in Hispanic ethnicities. Cultural influences are consistent with findings in this work though the sampling is small.

Family structure

A traditional family structure can provide more continuous, potentially unified and consolidated modeling, demonstrating positive health habits and in this sample it does so in a number of specific areas, with adoption of family practices in both health and spirituality. Members of non-traditional families acknowledge the influence of family, but experience more disconnected, potentially diffuse and different opinion driven parenting, a poorer family demonstration of health (particularly in dealing with stress), less family influence, a lower similarity to family in health practices, dealing with stress differently – presumably better, and tending to independent and different spirituality. This is consistent with an Australian Institute of Family

Studies (2003) report and a more recent study (Slade, Beller, & Powers, 2017) both of which claim adverse health outcomes for the effect of non-traditional family structures, but also caution about complex contexts and comparative effect sizes.

Grouping variables open to choice

While some of the demographic variables considered are fixed, the following variables are open to choices.

Religion and religious attachment

The Christian group's agreement with more positive outcomes within both the family and individual health practice concur with an earlier review (Regenerus, 2003) and research findings (Chiswick & Mirtcheva, 2010) addressing the association of religious practice with positive health outcomes. King, Ledwell and Pearce-Morris (2013) assert that adult children who continue connection to church through frequent attendance, reported significantly higher quality relationships and more frequent contact with parents, independent of gender or age. Consequently, "It appears that the influence of religion in fostering early parent–child ties noted in prior research extends throughout the life course, influencing ties between adult children and their parents" (p. 834).

An assertion of individualism in choice-making by the Non-Christian group, links with their claim of being different to their family in health practices [Item 2], perhaps implying a reaction based on recognition of their personal uncertainty that their family demonstrates positive health habits [item 3]. This includes eating well-balanced meals regularly [nutrition, Item 8], or that the family can handle stress effectively and positively [mental health, Item 14], possibly leading them to choose to react to mental health issues differently themselves [Item 13]. Expressed individualism may explain why they do not follow family spiritual practices [Item 19].

Barton, Snider, Vazsonyi, and Cox (2014) have claimed that the religious attachment of adolescents influences the impact of parental religiosity on adolescent's health. Further, in seeking to explain parental influence they suggest

> in addition to the possible contributions of simple parent-to-child transmission and other family dynamics (e.g., marriage strength, parenting style), religious development includes transformational processes (Flor and Knapp, 2001), wherein values are formed as a result of active and constructive processing (Lawrence and Valsiner, 1993). p. 91

However, King, Ledwell and Pearce-Morris (2013) warn religion's association with children's connections to parents needs to be placed in a proper perspective "being modest … [further] … Religion is only one of many factors associated with children's ties with parents, but it is an important factor that should be given greater attention in future research" (p. 834).

Independent and dependent choice

Uncertainty that family demonstrates positive health habits seems to engage independent thinkers cognitively, enabling disengagement from family influence and emotive ties, and the initiation of practices not modeled by family, yet not necessarily imitating friends. In this small sub-sample, broader information sources and influencers are impacting health practices. Influences outside the family and peer group can have an effective role, for there are no significantly different health outcomes for these two groups. Most young adults however recognise their choices include shared family perspectives.

Family demonstration of health habits

When families demonstrated health habits, family members assert stronger family influence and interactively agree to positive health attitudes and outcomes. Where families have not demonstrated positive health habits, bad health habits have been learned, and these students are ultimately uncertain they are practicing good health, even though they claim to be different to their family. Family influence either positive or negative, appears to be persistent.

This work claims age, gender, ethnicity, and family structure are associated with specific aspects of health influence and can help health educators/facilitators to understand likely attitudes and practices of individuals within cohorts. Awareness of the apparent impact of religious attachment, independent or dependent decision-making and the impact of family demonstration, provides opportunity to develop and implement suitable strategies to modify health outcomes for aspiring students and caring families.

> *"the religious attachment of adolescents influences the impact of parental religiosity on adolescent's health."*

Limitations and implications

The limitations of this study have been previously discussed (Nicholas et al., 2018). Of specific importance to the analyses in this report are the following. A small sample resulted in even smaller sub-groups which challenged establishing statistically significant differences for small groups. Assumptions were made about the interval nature of the data and the normality required for parametric statistics, yet checking interpretations by applying non-parametric statistics, result in no disparate results, reducing this objection. Generalisation of the results is cautioned because of the limitations.

These analyses further inform health care professionals in the understanding of the importance of family-centered health care and health education by suggesting specific variables differentiating outcomes.

Fixed variables may provide understanding of potential attitudes and practices of particular demographic groupings allowing more appropriate targeting of health improvement interactions. Identification of membership within disadvantageous groups, but open to change to improve health outcomes, stimulates health educators to implement proactive change processes to encourage transformative adaptation.

Recommendations

It is recommended that pre-parent education establish awareness of the importance of the family interactions that mutually model and modify acceptance of positive health practices and attitudes. From a young age through to adolescence, schools and other social groups (sporting clubs, churches, media) should accept and commit to a collective societal responsibility—the nurture of well-being in all members of family groups—establishing healthy life styles, supporting positive social outcomes.

Further, research needs to be undertaken into the mechanisms establishing and transferring the health beliefs and behaviours of a family to its children. This would encourage more positive and sustainable health outcomes for entire family units and continuity of positive health behaviours that may endure for generations to come, creating a healthier future, resulting in positive social and economic outcomes.

> *From a young age to adolescence schools and other social groups (sporting clubs, churches, media) should accept and commit to a collective societal responsibility— the nurture of wellbeing … [with]in family groups*

Conclusion

Investigating the extent of family influence on college students' perception of health and lifestyle was the focus of this research. Students felt their family influenced their idea of health and for most this was a positive influence with fulfilling health practice outcomes. Older students express more independence of family influence. Males are more confident of independent rigorous exercise and effective stress management. Ethnicity has little impact on the influence of the family on children's health, yet does effect perceptions of peer influence. Traditionally structured and Christian families have more positive health and health transfer outcomes. Students experiencing negative modeling of health, learn bad health habits and are uncertain they practice good health. Those able to think independently can overcome less positive family modeling of health. Families that positively demonstrate health practices are more likely to have their children agree they have adopted a healthy lifestyle and ratify family influence.

Health education can implement strategies informed by these groups' differences to change the lifestyle outcomes for young adults, improving their personal context and collective wellbeing. TEACH

References

American Psychological Association. (2011). Stress and gender. *Stress and America*. Retrieved from https://www.apa.org/news/press/releases/stress/2011/gender.pdf

Anbumalar, C., Dorathy, A. P., Jaswanti, V. P., Priya, D., & Reniangelin, D. (2017). Gender differences in perceived stress levels and coping strategies among college students. *The International Journal of Indian Psychology, 4*(4), 22-33. doi: 10.25215/0404.103

Australian Institute of Family Studies. (2003). Family structure, child outcomes and environmental mediators: An overview of the Development in Diverse Families Study. Research Paper No. 30. Australian Government. Retrieved from https://aifs.gov.au/publications/family-structure-child-outcomes-and-environmental-mediators/implications-family-diversity-children

Ayón, C., Williams, L. R., Marsiglia, F. F., Ayers, S., & Kiehne, E. (2015). A latent profile analysis of Latino parenting: The infusion of cultural values on family conflict. Families in society: *The Journal of Contemporary Human Services, 96*(3), 203-210. doi: 10.1606/1044-3894.2015.96.25

Bandura, A. (1971). *Social learning theory*. http://www.esludwig.com/uploads/2/6/1/0/26105457/bandura_sociallearningtheory.pdf

Barton, A. L., Snider, J. B., Vazsonyi, A. T., & Cox, J. L. (2014). Adolescent religiosity as a mediator of the relationship between parental religiosity and adolescent health outcomes. *Journal of Religion and Health, 53*(1) 86-94. doi:10.1007/s10943-012-9596-7

Chiswick, B. R., & Mirtcheva, D. M. (2010). *Religion and child health.* IZA Discussion Paper No. 5215, pp. 1-33. Retrieved from http://ftp.iza.org/dp5215.pdf

Hogan, J. M., Carlson, J. G., & Dua, J. (2002). Stressors and stress reactions among university personnel. *International Journal of Stress Management, 9*(4) 289–310. https://doi.org/10.1023/A:1019982316327

King, V., Ledwell, M. & Pearce-Morris, J. (2013). Religion and ties between adult children and their parents. *Journal of Gerontology: Series B Psychological Science and Social Sciences, 68*(5) 825–836. doi: 10.1093/geronb/gbt070

Nicholas, K. J., Soptich, K. M., Tyson, A., Abraham, S. P., Perry, G., & Gillum, D. R. (2018). College students' perception of family influence impacting their health and lifestyle, *TEACH Journal of Christian Education, 12*(1), 45-56. Retrieved from https://research.avondale.edu.au/teach/vol12/iss1/10

Phoenix, A., & Husain, F. (2007). What we know from existing research on ethnicity and parenting. In *Parenting and ethnicity* (pp.11-34). York, UK: Joseph Rowntree Foundation.

Regnerus, M. D. (2003). Religion and positive adolescent outcomes: A review of research and theory. *Review of Religious Research, 44*(4) 394-413. doi.org/10.2307/3512217

Slade, N, Beller, A. H., & Powers, E. T. (2017). Family structure and young adult health outcomes. *Review of Economics of the Household, 15*(1), 175–197. doi: 10.1007/s11150-015-9313-x

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Mindset, perseverance and learning

TEACH[R]

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Abstract

209 junior school students, ranging from year four to year six, and their nine teachers participated in this study that explored how the psychological factors of growth mindset: the belief in one's ability to learn and succeed, self-control: the ability to resist temptation and remain focused on a goal, and grit: applying passion and perseverance for long term goals, impact junior school students' academic achievement. This study found that growth mindset, self-control and grit can all play a part in helping students to achieve academically in primary schools. The two factors, grit and growth mindset were found to have a direct, significant influence on academic achievement. Grittier students were more likely to outperform their peers in academic achievement. Students with a higher growth mindset were also more likely to outperform their peers. Growth mindset had a significant positive relationship with grit. Although the present study did not find a significant difference in grit based on gender, the structured equation model indicated that boys had a significant direct link to grit, but girls compensated through the significant indirect link to grit via self-control. The present study found a highly positive correlation between self-control and grit. Students with higher levels of self-control were more likely to exhibit higher levels of grit.

Introduction

To thrive in today's rapidly changing, technology driven world, individuals may require a different skill set than in the past. Manual labour and low skilled jobs are gradually being replaced by technology. Many jobs now require analytical and interpersonal skills and the ability to solve unstructured problems (World Economic Forum, 2015, p. 1). The fast-changing nature of the world has caused many students to become anxious and levels of student wellbeing have declined (Oster, Pearson, De Iure, McDonald & Wu, 2017). Addressing these changes are placing greater demands on education and require us, as educators, to re-evaluate current approaches in education.

Many educational stakeholders recognise the need to better prepare students for the future, improve their wellbeing, and improve students' 21st century skills, but achieving this in practice can be challenging (Barry, Clarke and Dowling, 2017). Current curriculum delivery, assessment and reporting models focus on all students receiving the same prescribed year level knowledge and skills (Department of Education and Training, 2018, p. 28) and often the focus is on academic achievement (Gonski, 2018).

What may be required is a shift in focus. What if we could work to improve student wellbeing and in doing so increase students' academic achievement. A growing body of research has examined how psychological factors, that are key to student wellbeing, influence student's academic achievement. These factors include the way students view themselves, their feelings towards school and their self-regulating behaviours. These attributes have the potential to impact students' experience and achievement in school and improve core academic outcomes such as GPA and test scores (Dweck, Walton & Cohen, 2011). While the inclusion of General Capabilities within the Australian Curriculum has been positive, it is recognised that teachers need more support and training to effectively embed psychological skills in the classroom (Department of Education and Training, 2018, p.27).

> *"research indicates that student's … beliefs about intelligence, … belief in their ability to change, can have a powerful effect on … academic achievement"*

Identifying the factors

What are the psychological factors that can influence learning and achievement in the classroom? Current research indicates that student's core beliefs about intelligence, and their belief in their ability to change, can have a powerful effect on motivation, learning and academic achievement (Dweck, 2017, p. 7). These beliefs are called mindsets (Farrington, Roderick, Allensworth, Nagaoka, Keyes, Johnson, & Beechum 2012, p.28) and two distinct mindsets have been identified.

> *"create a "growth-mindset-friendly environment' where students are safe from judgement and encouraged to take risks in their learning"*

Growth or fixed mindset

A growth mindset is founded on the belief that one's abilities can be developed through effort, training and experience. This mindset can motivate individuals to stretch beyond their current abilities, to learn and overcome challenges along the way (Dweck, 2017, p. 15). On the other hand, individuals with a *fixed mindset* perceive ability and intelligence as unchangeable and a reflection on their self-worth. For them success is more than appearing smart or talented. Sucess focuses on perfect performance (Dweck, 2017, p. 31). While students with a fixed mindset may avoid challenges and potential failure, those with a growth mindset are more likely to take risks and overcome setbacks. It is a child's mindset that defines the way children perceive themselves which often determines the direction of their learning (Haimovitz & Dweck, 2017, p. 1849). Dweck encourages teachers to create a "growth-mindset-friendly environment' (p. 217) where students are safe from judgement and encouraged to take risks in their learning knowing teachers are committed to their success.

Self-control

Self-control is another important psychological factor that can influence learning. Self-control can be defined as the ability to regulate attention, emotion and behaviour in order to resist temptation and achieve an enduring, valued goal (Duckworth & Gross, 2014, p. 319). Longitudinal studies indicate that higher levels of self-control earlier in life are linked with desirable life outcomes including higher academic success (Duckworth & Carlson, 2013; Mischel, 2014), prosocial behaviour (Eisenberg et al., 2009), employment, earnings, savings, and physical health (Moffitt, et al, 2011).

School-age children regularly encounter situations, which call upon self-control. For example, the increased use of technology and internet can mean that young people may become easily distracted whilst failing to maintain sustained focus and concentration (Webster & Ryan, 2014). In this instance, the ability to self-control, and prioritise attention to task, may be the difference between success and failure (Duckworth & Seligman, 2017).

Grit

Whilst self-control is about short-term behaviours and goals, 'Grit' can be defined as "perseverance and passion for long-term goals" (Duckworth, Peterson, Matthews, & Kelly, 2007, p. 1087). Grit requires continuous hard work, persistence in overcoming setbacks and single-minded focus over many years. Gritty individuals persist in their quest to succeed despite setbacks, absence of positive rewards, boredom and slow progress.

Whilst self-control and grit are highly correlated (Duckworth et al., 2007) they differ significantly in nature and achievement outcomes. This means individuals with high levels of self-control may resist daily temptation to achieve a valued goal but may lack passion and long-term perseverance for a single superordinated goal. It is not surprising that self-control is more strongly linked with everyday success while grit is more strongly connected with outstanding achievement that may take many years or even a lifetime to achieve (Duckworth & Gross, 2014, pp. 322-323).

Self-control and grit have been shown to positively influence academic performance (Tangney, Baumeister, & Boone, 2004; Farrington et al., 2012, p.22). Duckworth and colleagues conducted a longitudinal study on a group of military cadets to test the relationship between self-control and grit on grades. The results indicated a stronger relationship between grades and self-control than grades and grit (Duckworth, Peterson, Matthews, & Kelly, 2007).

Can we teach these factors in the classroom?

Growth mindset, self-control and grit can positively influence learning in the classroom, but, are these factors malleable and can teachers grow these factors in students? A growth mindset can be taught through face-to-face workshops (Blackwell, Trzesniewski, & Dweck, 2007) and online programs (Yeager, Romero, et al., 2016). Research indicates that intervention programs have led to significant improvements in academic outcomes, particularly for students facing challenging situations or learning difficulties (Paunesku et al., 2015; Yeager Romero, et al., 2016; Yeager Walton, et al., 2016). Despite the domain specific nature of self-control, research suggests several general teachable strategies to improve self-control in school-aged children (Duckworth, Gendler & Gross, 2014, p. 201). While students possess different innate tendencies to persevere, the degree to which they apply effort in a task varies over time and in different situations (Farrington et al., 2012, p. 23-24). This application is largely dependent upon classroom context, students use of strategies to complete a task, as well as their cognitive skills (Dweck, Walton & Cohen, 2011). Teachers can help students develop academic perseverant behaviours including: persisting in learning activities, completing large projects and overcoming challenges when schoolwork becomes difficult (Farrington et al., 2012, p. 25). Teachers do this by setting high standards and creating learning tasks that require students to stretch beyond their current capacity (Dweck et al., 2011, p. 22).

Duckworth and fellow researchers (2007) suggest that grit is largely a stable personality trait that remains constant throughout time and context. It's

important to note that even though one's inherent tendency to persevere in tasks may be largely unmodifiable; there is sufficient evidence that people can change the "intensity, direction, and duration of their behaviours despite their personalities." (Farrington et al., 2012, p. 24). In particular, research shows that students persevere in academic tasks in various degrees within different contexts. This indicates that academic perseverance, as a set of behaviours can be highly modifiable within a specific context.

In summary, the literature reveals a variety of personal qualities that can enhance learning outcomes in the classroom. In particular, a growth mindset: the belief in one's ability to learn and succeed is an essential quality for academic success and future wellbeing. Secondly, self-control: the ability to resist temptation and remain focused on a goal is shown to be a vital quality for learning and achievement. Thirdly, grit: applying passion and perseverance for long term goals. These qualities have the potential to enhance student learning and are the focus in this study.

Methodology

The aim of this study is to explore how the psychological factors of growth mindset, self-control and grit impact junior school students' academic achievement. A secondary objective is to examine the strategies teachers use to develop these qualities in students. A mixed methods approach using both quantitative and qualitative methods was implemented using a specific sampling.

Sampling

Junior school students from a school in NSW were invited to participate in the study. The sample included 209 students, ranging from year four to year six, and their nine teachers. The school was selected due to its close proximity to the research team.

Data collection

Quantitative data was collected using an online questionnaire in which students responded to items that asked them to reflect on their levels of growth mindset, self-control, and grit. Academic performance was derived from school assessment data.

The Mindset Scale

Growth mindset is defined as the beliefs, attitudes or perception of one's ability to learn which directly impact academic performance (Farrington, et al., 2012, p. 28). The Mindset Scale was adapted from Dweck's Intelligence Mindset Questionnaire (Dvorak, 2014). The scale was designed to measure students' beliefs and attitudes towards their capacity to learn. Twenty items were included and students responded using a four-point Likert scale.

The Self-Control Scale

Self-control is the ability to actively resist short-term distractions and delay gratification in the pursuit of academic goals (Farrington et al., 2012, p. 21). Essentially self-control is about choosing one activity over another in everyday situations. The Self-Control Scale used in this study was adapted from the 13-item Brief Self Control Scale (Tangney, Baumeister, & Boone, 2004) and students responded using a four-point Likert scale.

The Grit Scale

Grit is defined as "perseverance and passion for long-term goals" (Duckworth et al., 2007, p. 1087). Grit requires continuous hard work, perseverance in overcoming setbacks and sustained focus. The ten item Grit Scale used in this study was adapted from Duckworth and Quinn (2009) Short Grit Scale (GritS) and students responded using a four-point Likert scale.

Academic achievement

Student's academic achievement was measured in three key learning areas: English, Mathematics and Creative Arts. Students' academic results were ranked on a scale from 1 (Limited achievement), 2 (Basic achievement), 3 (Sound achievement), 4 (High achievement) and 5 (Outstanding achievement).

A secondary aim of this study was to investigate the ways in which teachers are working with students to develop growth mindset, self-control and grit. To collect this qualitative data, teachers were asked to respond to questions that explored their knowledge of growth mindset, self-control and grit, and ways in which they were trying to develop these attributes in their students.

Data analysis

Once the quantitative data was collected, and entered into SPSS, a descriptive analysis was performed on the individual items and a correlation matrix used to analyse bivariate relationships. Factor analysis and a reliability test were used to develop the scales. Structured equation modelling was applied to the independent variables using AMOS (Arbuckle, 2014). Qualitative data from teacher questionnaires were analysed to develop themes and depth of understanding.

The findings

So, what did we find? Of the 209 students who participated in the study, 46% were female ($n_f = 97$) and 54% were male ($n_m = 112$) and they were evenly spread across years 4 to 6.

> *academic perseverance, as a set of behaviours can be highly modifiable within a specific context*

> *There was no significant difference in student mindset [self control, grit or achievement] across year levels, but … Girls reported a higher growth mindset, self control [and] achievement*

Growth mindset

The Growth Mindset Scale was generated to measure student's beliefs and attitudes towards their ability to learn. Principal component factor analysis revealed a single factor with satisfactory reliability (Cronbach's Alpha = 0. 73). These items were averaged to form the construct for Mindset and after analysis produced a mean of 3.08 (SD = 0.31) with a possible range between 1 (fixed mindset) and 4 (growth mindset). This result indicates that, on average, these students report a positive growth mindset.

There was no significant difference in student mindset across year levels ($F(2, 208) = 1.531$, $p = 0.22$) but student mindset was significantly influenced by gender ($F(1, 209) = 5.569$, $p = 0.019$). Girls reported a higher growth mindset ($M_g = 3.13$) than boys ($M_b = 3.03$).

Self-control

The Self-Control Scale was designed to measure student's ability to regulate emotion and behaviour, resist short-term distractions and remain focused on school work. Responses were collected using a four-point Likert scale that ranged from 1 (strongly disagree) to 4 (strongly agree). Principal component factor analysis revealed a single factor with a satisfactory reliability (Cronbach's Alpha = 0.86).

Applying the data to the Self-Control Scale produced an average response of 2.65 (SD = 0.47). On a scale that ranged from 1 (minimal self-control) to 4 (high self-control), this result suggests that students agree that they have some level of self-control, marginally higher than the midpoint of 2.5.

Student's self-control measures were not significantly different between year levels ($F(2, 208) = 1.174$, $p = 0.311$), but self-control measures were influenced significantly by gender ($F(1, 209) = 6.489$, $p = 0.012$). Girls' levels of self-control were significantly higher ($M_g = 2.74$) than boys ($M_b = 2.57$).

Grit

The Grit Scale was used to measure students' level of academic grit. Similar to Mindset, responses ranged on a four-point Likert scale from 1 (strongly disagree) to 4 (strongly agree). Principal component factor analysis revealed a single factor with a satisfactory reliability (Cronbach's Alpha = 0.78).

Applying the data to the Grit Scale produced an average response of 2.73 (SD = 0.42). On a scale that ranged from 1 (low level grit) to 4 (High level grit), this result suggests that students report an average level of grit that is just above the midpoint (2.5) of the scale.

Students level of grit was not significantly different between year levels ($F(2, 208) = 1.034$, $p = 0.357$) and was not found to be significantly different between genders ($F(1, 209) = 0.056$, $p = 0.813$).

Academic achievement

Student's academic achievement in three key learning areas: English, Mathematics and Creative Arts were included in the study and ranked on a scale from 1 (limited achievement), to 5 (outstanding achievement). Principal component factor analysis of the three areas revealed that they formed a single factor with a satisfactory reliability (Cronbach's Alpha = 0.72).

Applying the data to this Academic Outcomes Scale produced an average result of 3.47 (SD SD = 0.65). Possible outcomes ranged from 1 (limited achievement) to 5 (outstanding achievement). This result suggests that students are achieving good academic results, with the average above the midpoint (3) of the scale. Academic achievement was not significantly influenced by year level ($F(2, 206) = 0.447$, $p = 0.640$), but was significantly influenced by gender ($F(1, 207) = 8.198$, $p = 0.005$). Girls' academic achievement was significantly higher ($M_g = 3.61$) than that of boys ($M_b = 3.35$).

The model

Having reported on the individual variables, it is interesting to consider the relationships between the variables in the study. The results of the structured equation model, with Academic Achievement as the outcome variable, are shown in Figure 1. The final structural model fitted the data very well, as indicated by the goodness-of-fit indices (CMIN = 1.471, p = 0.225, CMIN/DF = 1.471; NFI = 0.993, RFI = 0.933, IFI = 0.998, TLI = 0.977, CFI = 0.998 and RMSEA = 0.047). A CMIN/DF statistic below 3 is considered indicative of good model fit, as are other fit indices above 0.9 (NFI, RFI, IFI, TLI, & CFI). The RMSEA value was less than 0.05, which indicated a close fit between the data and the model (Hooper, Coughlan, and Mullen, 2008). Standardized path coefficients are presented in the final model and all paths shown are statistically significant. The squared multiple correlation calculated for Academic Achievement of 0.13 indicates that the model explained 13% of the variance for Academic Achievement.

While Academic Achievement was significantly influenced by a variety of factors, the structured equation model shows three direct positive paths leading to it, indicating that students with higher levels of the associated variable, experience higher levels of achievement in school. Of these positive paths, the largest contribution was from *Grit* (0.19), *Growth Mindset* also had a direct positive path to *Academic Achievement*, but the associated impact is lower (0.18). A direct positive path was also found from the background variable *Gender* to *Academic Achievement*, indicating that girls are more likely to achieve at a higher level academically, than boys, but being of lower associated influence (0.16).

An indirect positively linked pathway was found from the background variable *Gender* to *Mindset* (0.16), through to *Academic Achievement*. From the present structured equation model, it appears that girls are more likely to have a positive growth mindset and as a result more likely to achieve higher academic outcomes.

Interestingly, a positive pathway was found linking *Growth Mindset and Grit*. This meant that students with a greater *Growth Mindset* score were more likely to experience higher levels of *Grit* which has a positive link to *Academic Achievement*. Students more strongly claiming a *Growth Mindset* are more likely to be grittier and experience greater academic success in junior school.

The only negative pathway in the model was from *Gender* to *Grit*. This finding indicates that by a direct path (-0.12) boys are more likely to have higher levels of grit than girls. This direct pathway assists boys to academically achieve even though other mechanisms mean that girls are still likely to achieve at a higher level than boys.

The positive path (0.17) between the background variable *Gender* and *Self-Control* means that girls were more likely to exhibit greater *Self-Control* than boys. *Self-Control* in turn was found to influence *Grit* (0.67) which in turn positively influences *Academic Achievement*. So, while there is a direct negative link between *Gender* and *Grit* there is a positive indirect link between *Gender* and *Grit* through *Self-Control* and the size of the standardised regression coefficients indicate that this may be the dominant pathway for girls and potentially compensates for the negative direct link discussed earlier, explaining the lack of gender difference observed in the Grit Scale.

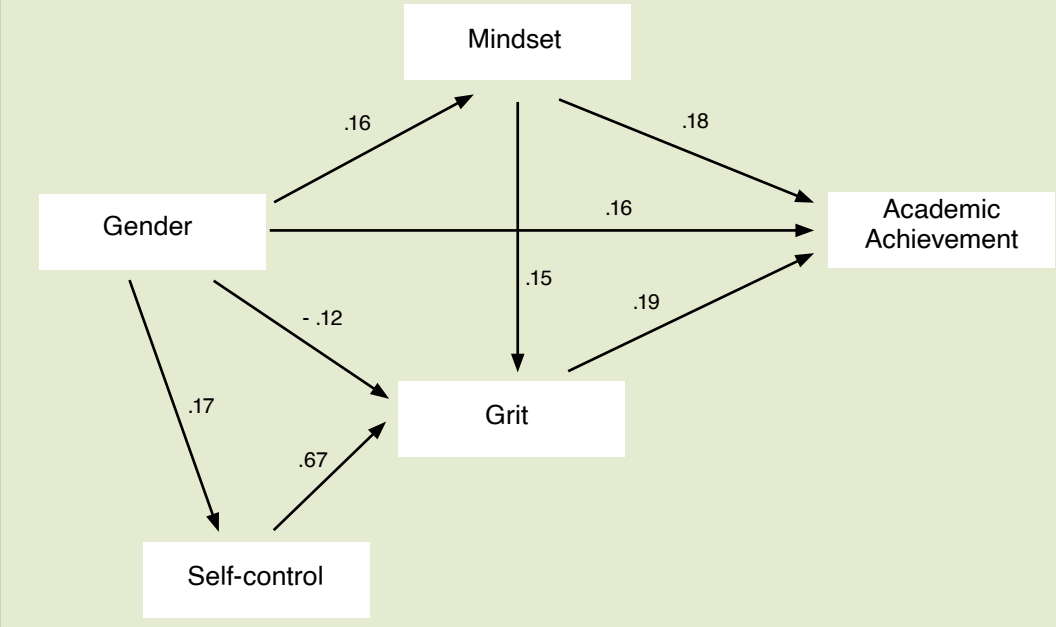
Teacher effects

A secondary aim of this study was to investigate the ways in which teachers are working with students to develop Growth Mindset, Grit and Self Control. Junior school teachers from the participating classes were asked to provide a written response to a set of questions. Teachers were firstly asked to define the term, Growth Mindset. While responses varied, two key themes emerged; Firstly, growth mindset involves a positive attitude to mistakes and challenges with an openness to change. As one teacher states, a growth mindset requires a "willingness to make an effort to pivot or change direction or edit and fix a problem to affect change." Secondly, a growth mindset involves self-efficacy and a belief that success is possible when combined with sustained effort.

Teachers then agreed that they play an important role in building students' growth mindset. In particular, teacher responses highlighted the need for teachers to model a growth mindset and encourage

> *"Students more strongly claiming a Growth Mindset are more likely to be grittier and experience greater academic success in junior school."*

Figure 1: A modelling of variable influence on academic achievement



students to persevere through challenges, try new tasks and to see mistakes as an opportunity to learn and grow. Teachers also suggested that a growth mindset be nurtured through adaptable lesson content, differentiated outcomes, discussion and equipping students with the skills needed to persevere in learning tasks. One response also suggested that teachers can build students' self-confidence through appropriate teacher-student relationships.

When teachers reflected on growth mindset on students' academic achievement, they agreed that a growth mindset has a significant impact on student's current and future academic success. Teachers described the impact of growth mindset on academic achievement as "great", "huge" and "vital to future success". In addition to academic achievement, teachers indicated that a growth mindset enables students to "explore at a deeper level than they were before" and empowers them to become "lifelong learners."

> *Teachers reported … learning strategies they use to develop these attributes … They should be encouraged [by] evidence to support the idea … growth mindset, grit and self-control can be developed in the classroom*

Teacher responses identified the importance of self-control and grit in enabling students to overcome setbacks, reach their full potential and experience success in life. In reflecting on the impact of self-control and grit on students' academic achievement, teachers agreed that perseverance has an important and even "vital" part to play in student's learning and achievement in school. Teacher responses supported the key idea that perseverance is the ability to apply sustained effort to a task despite setbacks, to achieve a set goal. One teacher defined perseverance as the ability to "push forward even when an opposing force which is sometimes stronger is pushing backwards." Perseverance was also defined as the "willingness to keep trying new ideas to find solutions."

In exploring the role that teachers play, all of them agreed that they have a valuable part in building perseverance in their students. Most responses identified the need for teachers to model perseverance through their words and actions. As one teacher states "affirming, encouraging and believing in their students" helps students to persevere while another teacher identified the need to provide adequate time during class for students to "see something to completion." Interestingly, one teacher states that although "inspirational teachers can model and build tools in children", perseverance is also "heavily" influenced by parents and other factors.

Discussion

The present study investigated the impact of mindset, self-control and grit on the academic achievement of junior school students in the classroom and found that all three factors influence academic achievement. Teachers indicated that they value growth mindset, self-control and grit in their students and perceive their role as important in developing these attributes in students. Teachers reported a variety of teaching and learning strategies they use to develop these attributes in students. They should be encouraged in this aspiration as there is a growing body of evidence to support the idea that growth mindset, grit and self-control can be developed within the classroom (Blackwell et al., 2007; Yeager, Romero et al., 2016; Yeager, Walton, et al., 2016; Paunesku et al., 2015; Farrington et al., 2012).

While overall academic achievement was positive, the present study discovered a significant achievement gap between genders with girls more likely to achieve higher academic outcomes. This finding partially reflects national performance data that reveals females' academic performance is significantly higher than males, a difference equivalent to one year of schooling (Thomson, DeBortoli & Underwood, 2017, p. 141). Increasing boys' positive self-belief or growth mindset has been identified as a way to reduce the gender gap in literacy (Cole, Jane, Suggett, & Wardlaw, 2016, p. 4).

The present study found no significant difference in academic achievement across year levels. This finding indicates that academic outcomes do not change significantly over time. This result reflects the research of Masters (2013, p. 2) who warns that variations in development and achievement are evident during early education, a gap that often remains unchanged throughout schooling. This finding is particularly pertinent considering the gender-based achievement gap found in the present study.

Apart from gender, the current study found two factors, grit and mindset had a direct, significant influence on academic achievement. Grittier students were more likely to outperform their peers in academic achievement. This finding reflects studies, which found a positive correlation between students' level of grit and their grade point average scores (Duckworth et al., 2007, p. 1093). Students with a higher growth mindset were also more likely to outperform their peers. This finding reflects a growing body of research indicating a growth mindset increases student's capacity to earn higher academic outcomes over time (Yeager & Dweck, 2012; Blackwell et al., 2007; Paunesku et al., 2015; Yeager, Romero, et al., 2016; Yeager, Walton, et al., 2016)

Interestingly, the study found that girls were more likely to exhibit a positive growth mindset and greater self-control than boys. This result may not be surprising as girls often begin emotional maturation earlier than boys which can be a catalyst for a growth mindset and self-regulation.

The present study results found growth mindset had a significant positive relationship with grit. This finding asserts students with a stronger growth

mindset were also more likely to be grittier than peers with a more fixed mindset. This result echoes the findings of Yeager & Dweck (2012) and Blackwell et al., (2007) which found that students' mindset can promote academic resilience and achievement. Although the present study did not find a significant difference in grit based on gender, the structured equation model indicated that boys had a significant direct link to grit, but girls compensated through the significant indirect link to grit via self-control. Like the findings of Duckworth et al. (2007), the present study found a highly positive correlation between self-control and grit. Students with higher levels of self-control were more likely to exhibit higher levels of grit.

Findings from the present study found no significant difference in mindset, grit and self-control across year levels indicating that they do not change significantly over a short period of time. In part, these results conflict with the findings of Duckworth, Gendler and Gross (2014) who suggest that self-control is determined by a child's capacity for metacognition which generally increases with age and maturation. Also, while there was not a direct relationship from self-control to academic achievement, there was an indirect pathway through grit found in this study. This result suggests that students with greater self-control were more likely to be grittier than their peers, which in turn was positively linked to higher academic outcomes. This finding does provide partial support for studies indicating higher levels of self-control are significantly correlated to higher academic success (Duckworth & Carlson, 2013; Michel, 2014; Duckworth et al., 2007; Tangney et al., 2004; Duckworth & Seligman, 2005).

Although research into the way growth mindset is transmitted to children remains inconclusive, recent studies have shown that teacher responses to success and failure, linked with a focus on student learning progress rather than personal abilities, are significant in shaping mindset (Haimovitz & Dweck, 2017; Sun, 2015). Teachers in the present study reported a variety of teaching practices including growth mindset principles. Key strategies included encouraging and equipping students with the necessary skills to persevere, trying new tasks and helping students to see mistakes as an opportunity to learn and grow.

Implications for education

It is important that schools equip students with the skills, not only for academic achievement, but for living in a complex and fast changing world. The present study provides evidence that growth mindset, self-control and grit are attributes that have a significant, positive influence on learning outcomes and may prepare students for success and wellbeing in a rapidly changing world.

This study yields evidence that growth mindset, self-control and grit have a significant, positive influence on learning outcomes and may prepare students for success and wellbeing in a rapidly changing world.

Educators should take note that a variety of teaching strategies foster a growth mindset. Firstly, direct intervention programs that teach students how their intelligence and abilities can be improved through consistent effort can engage students with a sense of purpose and motivation for learning (Blackwell et al., 2007). Research also shows that praising students for effort and hard work, rather than intelligence, fosters resilience, determination and a growth mindset (Mueller & Dweck, 1998). Studies also indicate that teachers who promote a growth mindset focus on student's learning progress rather than their personal abilities, sought understanding, deeper thinking and allowed students to reflect and revise their work. Teachers readily acknowledged the value of mistakes and challenges within the learning process (Sun, 2015). In particular, teacher responses to success and failure, as well as learning practices in the classroom, play a significant role in shaping students' mindset (Haimovitz & Dweck, 2017).

> *Apart from gender, the current study found two factors, grit and mindset had a direct, significant influence on academic achievement*

The present study found a strong, positive correlation between self-control and grit. It would seem that helping students resist short term distractions and stay focused on short term academic tasks will help build resilience and the skills students need to persevere in more difficult tasks over the long term. Educators have the opportunity to facilitate academic perseverance through a variety of teaching and learning strategies. Practices include: teaching students metacognitive and self-discipline strategies and promoting a growth mindset (Dweck et al., 2011). Research also indicates that empowering students with strategies to improve learning and understanding of course work can grow perseverance and ultimately lead to improved academic outcomes (Farrington et al., 2012, p.6). Educators can facilitate grit in their students by setting high standards and creating learning tasks that require students to stretch beyond their current capacity within a supportive environment (Dweck et al., 2011, p. 22). It is important to note that students must not only see the standards as high but also believe in their ability to achieve the outcomes. This may be particularly important for low achieving students to ensure they feel supported rather than discouraged to the point of giving up (Dweck et al., 2011, p.24).

The present study has found that growth mindset, self-control and grit can all play a part in helping students to achieve academically in primary schools. The more educators understand the way wellbeing and psychological factors impact student learning and

achievement, the better prepared they will be to help students succeed at school and in their future lives.

TEACH

> *Educators can facilitate grit in their students by setting high standards and creating learning tasks that require students to stretch beyond their current capacity within a supportive environment*

References

Arbuckle, J. L. (2014). Amos (Version 23.0) [Computer Program]. Chicago: IBM SPSS.

Bandura, A. (1994) Self-Efficacy. In Ramachaudran, V.S., Ed., *Encyclopedia of Human Behavior*, Vol. 4, Academic Press, New York, 71-81.

Barry, M., Clarke, A., & Dowling, K. (2017). Promoting social and emotional well-being in schools. *Health Education, 117*(5), 434-451.

Blackwell, L., Trzesniewski, K., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78*, 246–263.

Cole, P., Jane, G., Suggett, D., & Wardlaw, C. (2016). *Performance and past research. Gender differences in years 6-7 literacy and numeracy transition outcomes*. PTR Consulting. Retrieved from https://www.education.vic.gov.au/Documents/school/principals/transition/GenderPerformance.pdf

Department of Education and Training. (2018). *Through growth to achievement: The report of the review to achieve educational excellence in Australian Schools*. Canberra, Australia: Australian Government

Duckworth, A. L., & Carlson, S. M. (2013). Self-regulation and school success. In F. M. E. Gouzet, U. Muller, & B. W. Sokol (Eds.), *Self-regulation and autonomy: Social developmental dimensions of human conduct* (pp.208-230). New York, NY: Cambridge University Press.

Duckworth, A. L., Gendler, T. S., & Gross, J. J. (2014). Self-Control in school-age children. *Educational Psychologist, 49*(3), 199-217.

Duckworth, A., & Gross, J. J. (2014). Self-control and grit: Related but separable determinants of success. *Current Directions in Psychological Science, 23*(5), 319-325.

Duckworth, A. L., Peterson, C., Matthew, M. D., & Kelly, D.R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology, 92*, 1087-1101.

Duckworth, A. L., & Seligman, M. E. P. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science, 16*, 939-944.

Duckworth, A. L., and Seligman, M. E. P. (2017). The science and practice of self-control. *Perspectives on Psychological Science, 12*(5), 715–718

Dvorak, A. E. (2014). *Student mindset compared to performance on the Nebraska State Accountability Test*. Theses, Dissertations, & Student Scholarship: Agricultural Leadership, Education & Communication Department. 101. http://digitalcommons.unl.edu/aglecdiss/101/

Dweck, C. S. (2017). *Mindset changing the way you think to fulfil your potential*. London, UK: Little Brown Book Group.

Dweck, C. S., Walton, G. M., & Cohen, G. L. (2011). *Academic tenacity: Mindsets and skills that promote long term learning*. Seattle, WA: Bill and Melinda Gates Foundation

Eisenberg. N., Valiente, C., Spinrad, T.L., Liew, J., Zhou, Q., Losoya, S.H., … Cumberland A. (2009). Longitudinal relations of children's effortful control, impulsivity, and negative emotionality to their externalizing and internalizing and co-occurring behaviour problems. *Developmental Psychology, 45*, 988-1009.

Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N.O. (2012). *Teaching adolescents to become learners. The role of noncognitive factors in shaping school performance: A critical literature review*. Chicago: University of Chicago Consortium on Chicago School Research.

Gonski, D. (2018). *Through growth to achievement: Report of the review to achieve educational excellence in Australian schools*. Department of Education and Training, Government of Australia. Retrieved from https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf

Haimovitz, K., & Dweck, C. S. (2017). The origins of children's growth and fixed mindsets: New research and a new proposal. *Child Development, 88*(6), 1849-1859.

Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modelling: Guidelines for determining model fit. *The Electronic Journal of Business Research Methods, 6*(1), 53 – 60.

Masters, G. N. (2013). Towards a growth mindset in assessment. ACER occasional essays. Melbourne: Australian Council for Educational Research (ACER). Retrieved on 21 Feb 2018 from https://research.acer.edu.au/cgi/viewcontent.cgi?article=1017&context=ar_misc.

Mischel, W. (2014). *The Marshmallow Test: Mastering self-control*. New York, NY: Little Brown.

Moffitt, T. E., Arseneault L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., … Caspia, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of the Sciences of the United States of America, 108*, 2693-2698.

Mueller, C. M., & Dweck, C. S. (1998). Intelligence praise can undermine motivation and performance. *Journal of Personality and Social Psychology, 75*, 33-52.

Oster, A., Pearson, D., De Iure, R., McDonald, B., & Wu, S. (2017). *The NAB Student Survey 2017: Australia's future is in good hands Part 1: Our children's wellbeing*. Retrieved from: https://business.nab.com.au/wp-content/uploads/2017/08/nab-schools-survey-australias-future-good-hands-part-1.pdf

Paunesku, D., Walton, G. M., Romero, C. L., Smith, E. N., Yeager, D. S., & Dweck, C. S. (2015). Mindset interventions are a scalable treatment for academic underachievement. *Psychological Science, 26*, 784-93. Retrieved from: https://web.stanford.edu/~paunesku/articles/paunesku_2015.pdf

Sun, K. L. (2015). *There's no limit: Mathematics teaching for a growth mindset*. Doctoral dissertation, Stanford University, Stanford, CA

Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality, 72*, 271-322.

Thomson, S., DeBortoli, L., & Underwood, C. (2017). PISA 2015: Reporting Australia's results, ACER: Melbourne. Retrieved from: https://research.acer.edu.au/ozpisa/22/

Webster, S., & Ryan, A. (2014). *Understanding curriculum: The Australian context*. Port Melbourne, Victoria: Cambridge University Press.

World Economic Forum (2015). New vision for education. Unlocking the potential of technology. Cologny/Geneva Switzerland. Retrieved from: http://www3.weforum.org/docs/WEFUSA_NewVisionforEducation_Report2015.pdf

Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist, 47*(4), 302-314.

Yeager, D., Romero, C., Paunesku, D., Hulleman, C. S., Schneider, B., Hinojosa, C. Dweck, C. (2016). Using design thinking to improve psychological interventions: The case of the growth mindset during the transition to high school. *Journal of Educational Psychology, 108*(3), 374–391. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4981081/

Yeager, D. S., Walton, G. M., Brady, S. T., Akcinar, E. N., Paunesku, D., Keane, L., … Dweck, C. S. (2016). Teaching a lay theory before college narrows achievement gaps at scale. Proceedings of the National Academy of Sciences (PNAS) of the United States of America, (May 31, 2016), E3341–E3348. Retrieved from: http://www.pnas.org/content/pnas/113/24/E3341.full.pdf

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Creative vs. copy

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A book[1] becomes more meaningful when you get to hear the author speak and especially when he signs his name in your copy of his book with the message "*May we sing a better song, Ken*".

In November 2016 I was blessed to attend the Justice Conference in Melbourne, Australia. A friend had alerted me to the conference but initially I did not feel convicted to attend. However having been very impressed by Ken's first book '*Pursuing Justice*', I suddenly realised that the author was the key co-ordinator of the *Justice Conference*. I felt impressed to attend and to invite my friend to come along too. Having previously ordered *Create vs Copy* (2016), I was determined to finish reading it before the conference and come prepared to meet the author who was the main keynote speaker.

As I held the book *Create vs Copy* in my hands I became curious - curious about the cover. It was a white cover with large red and black print. Why so white when the theme of creativity might suggest a more colourful cover? It almost appeared as if the book wasn't finished. It made me feel like I wanted to add colour to it. But here is the point Ken wants to make clear for each of his readers. We are all creative. We are co-creators designed by our Creator God to develop our individual creative identities. Our imaginations need open spaces to provide room for the flow of our own creative expression in a variety of forms. We need space for new creations. Hence the blank white cover. Just like the artist's canvas waiting for the artist to fill the space. The book itself is not intended to be a finished creation but the starting place for each reader to develop their own ideas, creative initiatives and projects. The bold red words announce the intention of the book. The readers are challenged to ***Create* not *Copy***. This is a small book with a bold message. A message each reader must respond to in their own unique way if we desire to become creative justice advocates.

The layout suggests an artist's journal or diary that captures the creative process while developing an excellent product. Ken embeds an array of visual language images such as simple black and white sketches, mosaics of words and images, information graphics and photographs to provide readers with another creative dimension provoking readers to engage with his ideas in deeper ways. The pages are like design concept boards; a mosaic of ideas in preparation for the reader's creative work. Like the image introducing chapter six; 'Innovation and Imagination', we see a simple black and white sketch of a young childlike Leonardo DaVinci in the process of carving the famous statue of David from a discarded block of marble.

Those who recommend Ken's work (Amazon, 2016) describe him as,

> a leader, innovator, and social entrepreneur. … He is the founder of the Justice Conference, an annual international conference that introduces people to a wide range of organisations and conversations related to biblical justice. He is … the founding pastor of Antioch Church, [and] … president of Kilns College … Ken is the author of Pursuing Justice and The Grand Paradox. He lives in Bend, Oregon with his wife Tamara and their four daughters. (p. 187)

Ken's blog can be found at kenwystma.com. He writes on themes and explores issues "*relating to practical theology, creativity, and culture*" (p. 187). Social enterprise has become the current focus for his leadership.

The Amazon website provides an excellent introductory review for potential readers describing Ken's involvement in numerous global projects.

> Having travelled to dozens of countries, founded the leading international conference on justice and theology, and collaborated with scores of nonprofits, Wytsma is uniquely fit to help us be culture-shapers in a world of global change. He blends theology, history, and cultural observation to show us what being God's creative image-bearers might look like today. (para. 3)

> In Create vs. Copy Ken brings his unique integrationist approach straight to the heart of leadership and influence in a way that is sure to reform leadership toolkits across many platforms and excite a generation of would-be-leaders to lean heavy into their imagination and creativity as they breathe life into the world.
>
> (Leroy Barber, Co-founder of the VOICES Project and author of Everyday Missions cited in Amazon, 2016).

> *We are co-creators designed by our Creator God to develop our individual creative identities. Our imaginations need open spaces to provide room for the flow of our own creative expression*

[1]"*Create vs. copy: embrace change, ignite creativity, breakthrough with imagination*. By Ken Wytsma. Chicago: Moody Publishers, 2016: LCCN 2015037981 | ISBN 9780802413499.

Ken analyses and develops an important integration of 'God as love' and Love as justice – and justice expressed through creativity in Christian leadership. I understand Ken to be proposing that we as human beings and Christ's followers are most loving when we turn our creative pursuits and expression towards matters that bring about a more just society for all mankind. In 'Create versus copy' Wytsma applies the concepts of creativity to leadership which he believes is undergoing a revolution. It is moving from static to more dynamic forms. He also states that creativity, like leadership and influence, is for all of us (Wytsma, K. 2016, p.12). He 'believes there are two kinds of people in the world: those who create and those who copy. … The distinction between those who would create and those who copy is no small thing. In fact it is the 'backbone of this book' (pp.14-15).

I was reminded of one of the pivotal quotes of Ellen White in the book Education where she wrote,

> Every human being, created in the image of God, is endowed with power akin to that of the Creator – individuality, power to think and to do. The men and women in whom this power is developed are those who bear responsibilities, who are leaders in enterprise, and who influence character. It is the work of true education to develop this power, to train young people to be thinkers, and not mere reflectors of other peoples thought.
>
> (White, E. G. 2007. p. 12)

"We have the ability to shape culture instead of merely reacting to it. … we are being asked to reject copying in order to create, extend, and breathe life into what is meant to flourish"

Part One of 'Create versus Copy':

Part One is dedicated to 'exploring the theology behind creativity. Ken states, "We'll look at how God created us to be creative, how that creativity is ongoing, and how that creativity is redemptive" (Wytsma, 2016 p. 16). There is also a global project about Africa describing the change and innovation that is influencing the opportunities for growth through the application of creativity in many African countries and communities. Ken makes a bold statement, "We have the ability to shape culture instead of merely reacting to it. … I am passionate about the success that comes from submitting these ideas to God's direction, refining them with a theology of creativity, and infusing them with imagination. That's what this book is about" (p. 16).

Ken's development of the theology of creativity starts in the first chapter—"To Create is Divine". Quoting Genesis 1:27 "So God created mankind in His own image, in the image of God he created them; male and female he created them", Ken shares that, God's identity is that of Creator and the first part of the theology of creativity is simply—God creates (p. 24) and "is immensely creative" (p. 25). Being that we are created in the image of God we as His human children are 'created to create'.

> When we study creativity or act creatively, we learn about God. ... Creativity is one way we manifest and exercise the image of God. ... More than just having the capacity to be creative, we also have a responsibility to be creative. ... creative capacity is something all of us are born with. (p.26)

> Creativity opens up new horizons in our relationship with God, with our families and communities, and even with the world. (p. 31)

In relation to the concept of copying, Ken states that, "we are being asked to reject copying in order to create, extend, and breathe life into what is meant to flourish" (p. 32). Creativity is about responding to God's image and call – and through that response, "exerting a creative influence and leadership the world is desperate to follow" (p. 33). At the end of the chapter there are three reflective questions for readers encouraging each reader to internalise the concepts by starting with our perceptions as 'image bearers' of our creative God. Links to books on creativity and podcasts are provided as ongoing resources for small groups or a support textbook for students studying in creative subjects or practical service ministries.

The second concept in Ken's theology of creativity (Ch. 2.) discusses the continuous nature of creativity. Ken starts with a science illustration in relation to the Second Law of Thermodynamics. He states that in this law, "All closed systems tend to move toward a state of greater disorder and dissipated energy, … also known as the Law of Increased Entropy, … all activity will eventually decay as entropy increases, ... Closed systems are doomed to dissipate" (p. 37, 38). Change, deterioration and decay are a natural part of the world we live in.

Ken claims that 'Creativity is our way to crack the system open'. "If systems are decaying but open, then creative change can mean renewal. *Innovationem* is the Latin word for 'restoration or renewal'. Restoration and renewal are ways for fighting entropy, injecting life into dying systems" (p.39).

One of my favourite quotes from this chapter links God's work of salvation with His continuous acts of creativity.

> We can find hope and confidence that God is present in our struggle to overcome the things in front of us. Just as God has saved us, is saving us, and will ultimately perfect our salvation, He has created the world, is still actively creating it through and with us, and will ultimately perfect His creation in eternity. … Creativity is a way we can speak to the present and engage the future (p.47)

Ken's five points for encouraging his readers to become more creative in our homes and jobs are simple and relatable for everyone. They are ways we can all start responding to our world with the spirit of creativity. The first; *change your patterns*; secondly, *draw more*; thirdly, *rediscover the mission of your job and ask others what motivates them, creativity feeds on passion*; fourth, *create a history log to reflect on your successes*; finally the fifth point, *speed up interactions with others through connection points, affirmation, fun*, change the scenery – become inspired (Wytsma, pp. 47-51). Another statement that resonated strongly with my role as a teacher was to think about my responsibility as part of my job role. "Our job is not to constantly achieve brand-new results that are unsustainable, but rather to maintain the steady mindset of a creator. …. This is how we are 'giving life to the image of God within us'" (p. 52). Again the questions at the end of the chapter provide ways to be accountable for our learning and to inspire this in others. "What are three things you could do now to plan for greater creativity this year?" Gardener is one source of educational inspiration for creativity worth recalling and referencing (Gardner 1993a, 1993b, 2011)

The final chapter of part one is 'Redemptive Creativity'. Ken proposes that as Christian leaders 'we are called to do this for the sake of the world'. In answering the 'Why create question?' Ken's words once again have stayed in my mind. The work of creativity is "to make space for life. … God is passionate about making space for people to know His life giving presence, God makes space for life, space in which we can engage Him" (Wytsma, 2016 p. 56). Ken describes God's primary creative act as being like "an artist preparing a canvas"—He separated light and dark and the heavens and the earth – all before bringing life into being. … the telos, or goal of creativity: 'Make space for life to flourish' (p. 56).

Relating the work of redemptive creativity to issues of creative justice, Ken identifies the work of advocating for the Aboriginal people of Australia in relation to their land rights as a way of creative justice, making space for life. "Land for security and the ability to flourish, or make space to live, is essential for a full understanding of justice" (p. 57). This is part of my role as an early childhood educational leader in Australia: to find ways to help create spaces where our indigenous families feel a sense of belonging and well-being. Ken challenges us to "recapture a biblical perspective on the aim of creative energy" (p. 59).

Making space for life – physical space, mental space, emotional space – gives a picture of how creativity is connected to the positive kinds of change in the world – flourishing goodness and justice. … We need redemptive creativity – creativity that aims not just for success, but freedom; and not just for ourselves, but for others and for the good of creation as a whole (p.61).

In part 2 we see the practical side of creativity in relation to Ken's three main points. Ken's theology of creativity is first introduced in a simple graphic sketch where he illustrates the link between the theological ideas and the practical contexts or skills. These can operate through employing creative leadership strategies in our everyday lives. The three parts to practical creativity are: *imagination* (our ability to dream, envision, and hope for better realities); *intentional creativity* (the discipline of creating and putting legs to imagination); and *innovation* (a successful redemptive paradigm shift or culture change resulting from applied creativity) (Wytsma, 2016 p. 63).

I understand 'love' as being strongly linked to risk-taking. If we truly love others, unconditionally, we are willing to take the risk of not having this love appreciated, or reciprocated. Creativity also embraces risk-taking. We risk demonstrating our uniqueness and our differences as we creative new objects and relationships or ways of being with others who are different from ourselves. Witnessing the public presentation of this book at the 2016 *Justice Conference* in Melbourne Australia gave me important insight and first hand experience of how Ken's ideas of creative justice were influencing a wide range of social justice causes from a variety of perspectives. Ken's book was themed in the colours of black, white and red as was the promotional materials and website for the Justice Conference. Perhaps the colours also suggest a non-verbal but powerful message about right and wrong; black and white; and red, which I see as a link to the blood of martyrs or the torture and killing of people who stand between black and white or right and wrong and taking a stand for justice.

The *Justice Conference* promoted the ministry of creative artists, environmental justice advocates, service orientated non-for-profit organisations and Christian educational programmes both nationally and internationally. I appreciate and applaud Ken's research and stance on embedding creative approaches and strategies to meeting the needs of disenfranchised people and in the restoration of equity and equality wherever that is needed. Working with young children and (mainly) women I am continually alerted to the many ways that women are treated as second class citizens and where children are often taken advantage of, or dismissed entirely, in relation to decision making that affects their lives. Promoting equity for children, women and

"Creativity also embraces risk-taking. We risk demonstrating our uniqueness and our differences as we creative new objects and relationships"

families, and disenfranchised people is a key focus of my work as a lecturer in early childhood education. Concern for early childhood educators and young families across Australia is a current concern of the national government. Stop work marches are being organised in every state to alert the government to pay inequality compared to other educational sectors in our society. The Apostle Paul stated in Acts 20.24 that as Christians we are "to testify to the Gospel of the grace of God".

The theme of the integration of faith and learning along with creativity, innovation, embracing change has been on many of the Avondale lecturers minds as we have brain-stormed to develop a mission statement and set of values for the education faculty earlier at the start to our year. I will certainly be sharing this small and powerful book with others.

"I appreciate and applaud … embedding creative approaches and strategies to meeting the needs of disen-franchised people and in the restoration of equity and equality wherever it is needed."

As an optimist who likes to think positively I find it difficult to come up with negatives when there is overwhelming support for truth, motivation and direction for growing communities in Christ's mission of reconciling the world to Himself. However I did find it interesting that Ken quoted a favourite piece of literature that was all about copying and repetition. It is also a recent favourite of mine – another alignment of minds! G.K. Chesterton (1959) wrote;

> A child kicks his legs rhythmically through excess, not absence, of life. Because children have abounding vitality, because they are in spirit fierce and free, therefore they want things repeated and unchanged. They always say, "Do it again"; and the grown-up person does it again until he is nearly dead. For grown-up people are not strong enough to exult in monotony. But perhaps God is strong enough to exult in monotony. It is possible that God says every morning, "Do it again" to the sun; and every evening, "Do it again" to the moon. It may not be automatic necessity that makes all daisies alike; it may be that God makes every daisy separately, but has never got tired of making them. It may be that He has the eternal appetite of infancy; for we have sinned and grown old, and our Father is younger than we. (p. 60)

I wondered about the repetitious nature of some of God's acts, where each daisy is a copy of another in a visual sense. Just the act of making beautiful things is something that one likes to do over and over again. It may be that daisies were God's practice flowers. He started with daisies and then developed all kinds of other flowers. As I was praying about this idea of creativity I wondered about the ways Christ continued His creative ministry as He constantly gave credit to His Father, 'of my own self I can do nothing' (John 5:30). Then Paul in 1 Corinthians 11:1 encouraged the believers to "Be imitators of me, just as I also am of Christ". While I don't see this insight as discovering a weakness or inconsistency in relation to Ken's perspectives on creativity, the quotes caused me to contemplate the perspective of Christ in terms of honouring the source of our abilities to create or imitate. In Exodus we read about the gifts that were given to the people who were given the tasks of creating beautiful objects and materials for the temple. Again the source of the gift was the Spirit of God. "And He has filled him with the Spirit of God, in wisdom, in understanding and in knowledge and in all craftsmanship" (Exodus 35:31).

Rather than weaknesses, Ken's book has raised questions that have required me to contemplate our roles of 'imitating Christ' and creativity. I believe the references to imitating Christ are in relation to Christ's focus on spirituality and unselfishness. Imitating Christ brings us into union and unity with His purposes and plans for our own lives and for this world. Imitating reminds us to look for excellent role models and examples as we commit our plans, purposes and 'creativity' to the restoration of justice for others. In this way we are imitators as beloved children of God for the purpose of restoration and justice.

Concluding thoughts:

As a lecturer in early childhood education, Ken's reference in the last chapter to creativity being linked to the faith of a child resonated strongly with my passion for children and my spirit of playful creativity. He makes these concluding 'wondering', statements;

> What I've hoped to do with this book is to open our eyes, not only to our God-given creative gifts, but to the possibilities that exist when we both see the magic in the world and that we are willing to harness our imaginations as creative thinkers to bring forth all possible beauty. … I wonder if Jesus espoused the faith of a child because in their minds good is still possible and endings can be happy. Or maybe it's because the childlike posture is closest in nature to our ever-creating and imaginative God. … May we all engage more joyfully in the redemptive human creativity that is our privilege and our call – namely, the hopeful movement toward restoration and renewal (p. 176, 177).

I found a wonderful quote to support Ken's book and his work with the international Justice Conference. J. I. Packer (1985) wrote;

> Cross-bearing is the long lesson of our mortal life, … It is part of God's salvation, called sanctification. It is a lesson set before us every moment of every day. If life were an art lesson, we could describe it as a process of finding how to turn this mud into that porcelain, this discord into that sonata, this ugly stone block into that statue, this tangle of threads into that tapestry. In fact, however, the stakes are higher than in any art lesson. It is in the school of sainthood that we find ourselves enrolled and the artefact that is being made is ourselves. (p. 153)

Ken would appreciate this statement as it provides an excellent word picture for the work of artist and craftsman as being called to imitate Christ. How poignant is the understanding that as 'we make and create' for Christ's Kingdom we also are being made as 'God's artefacts' – His workmanship. "Don't be misled—you cannot mock the justice of God. You will always harvest what you plant," Paul urged the Galatian believers. "So let's not get tired of doing what is good. At just the right time we will reap a harvest of blessing if we don't give up" (Galations 6:7, 9, NLT).

A final recommendation:

In Create vs. Copy, Ken Wytsma has accomplished something significant. He provides principles for thinking theologically about creativity and practical insights for leveraging imagination and innovation in all of life. This book will help you think and dream in whole new ways (Stephan Bauman, president and CEO, World Relief, author, Possible; A Blueprint for Change How We Change the World, reviewer cited in Amazon). TEACH

References

Amabile, T. & Kramer, S. (2011). *The progress principle: Using small wins to ignite joy, engagement, and creativity at work*. Boston, MA: Harvard Business Review Press.

Carayannis, Elias G. (2013). *Encyclopedia of creativity, invention, innovation and entrepreneurship*. Springer New York. ISBN 978-1-4614-3857-1

Chesterton, G. K. (1908). Ethics of Elfland. *In orthodoxy* (pp. 42-63). Doubleday, NY: Doubleday Image Books. Also retrieved from https://www.pagebypagebooks.com/Gilbert_K_Chesterton/Orthodoxy/The_Ethics_of_Elfland_p10.html

Gardner, H. (1993a). *Creating minds: An anatomy of creativity seen through the lives of Freud, Einstein, Picasso, Stavinsky, Eliot, Graham, and Gandhi*. New York, NY: Basic Books.

Gardner, H. (1993b). *Multiple intelligences: The theory in practice*. New York, NY: Basic Books.

Gardner, H. (2011). *Frames of mind: The theory of multiple intelligences* (3rd ed.). New York, NY: Basic Books

Packer, J. I. (1985). *Christianity: The true humanism*. Vancouver, BC: Regent College Publishing.

Wytsma, K. (2013) *Pursuing justice: The call to live and die for bigger things*. Nashville, TN: W Publishing, Thomas Nelson.

Wytsma, K. (2016). *Create vs. copy: Embrace change, ignite creativity, breakthrough with imagination*. Chicago, IL: Moody Publishers, 2015: LCCN 2015037981 | ISBN 9780802413499.

White, E. G. (2007) *True Education: An Adaption of Education By E.G. White*. Nampa, ID: Pacific Press, Publishing Association.

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Kaye Judge is a lecturer in the education faculty at Avondale College of Higher Education at the time of writing this article. She is waiting for the next creative career adventure to be made known in the great journey of life. Kaye is trusting that she will continue to be a creative advocate–working for justice, demonstrating kindness and establishing mercy––on behalf of our youngest citizens who Jesus identifies as 'the greatest in the Kingdom of Heaven'".

Flexible learning environments

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Keywords: behaviour management, classroom environment, differentiation, engagement

The health benefits and impact on obesity in children and adolescents was … a compelling argument towards trialling a flexible learning space.

Term One of 2016 was coming to an end and my understanding of individual students needs and differentiating learning to suit them, was in full swing. The need for adapting my teaching strategies and providing opportunities for all students to be successful is something I take extremely seriously. The learning environment was something I had never spent as much time or focus on, and had not (at this point) realised the impact it had on learning. As I watched the same student attempt to engross herself in anything other than the task I had set, whilst another wriggled and fidgeted every time they were asked to sit either on the floor or at a desk, I realised that I could do one of 2 things; I could raise my voice and ask them to stop what they are doing before issuing a consequence OR I could make a change, by providing a learning environment for my students where their needs were being better met, whilst also encouraging involvement and engagement in their own learning.

This was the basis for my experimental change in Term 2, 2016 to adapt some of my seating and classroom organisation to a flexible approach.

I wanted to ensure everything I did was research based and aligned with best teaching practice. In a study composed by Dr. Lanningham-Foster (Brekke-Sisk, 2006), focusing on NEAT (non-exercise activity thermogenesis) she recorded the impact of flexible learning spaces on student attention as described by a teacher of grades four and five.

> I noticed several major changes in my students once we implemented the more mobile classroom," says Rynearson. "There was less movement for movement's sake — fewer trips to the bathroom or water fountain. Students shifted their bodies and changed positions when they needed to in order to stay focused. And students were able to move themselves away from other students who might be distracting or bothering them. This led to much less bickering and fewer distractions from class work. Rynearson also applauded the increased amount of space available in a classroom without desks. (p. 5)

Sitting for long **periods** of time (more than 10 minutes) does not suit the functioning ability of all students, but it also has links to weight gain and health problems (Brekke-Sisk, 2006, p. 3).

Levine with associated researchers (Levine, et al., 2005, Levine & Kotz, 2005, Levine, 2015) says that research has linked sitting for long periods of time with a number of health concerns, including obesity and metabolic dysfunction. Kravitz (2009), claims that even if children exercise in the morning or evening, but sit the rest of the day at a desk, rarely getting up, they would be at risk of significant heart problems. McManus (2015) found that it was much better for children and adults to be in an environment that is active and mobile rather than sedentary. Further, it was found to be detrimental for students to sit for long periods of uninterrupted time. More recently Laskowski (2018) asserts,

> Research has linked sitting for long periods of time with a number of health concerns. They include obesity and a cluster of conditions — increased blood pressure, high blood sugar, excess body fat around the waist and abnormal cholesterol levels — that make up metabolic syndrome. Too much sitting overall and prolonged periods of sitting also seem to increase the risk of death from cardiovascular disease and cancer. (para. 1)

While I was not wanting to go as extreme as removing all chairs and traditional desks, I was interested in the notion of allowing opportunities for students to move whilst in the classroom. I also recognised that if increasing mobility in class is developed in a controlled and intentional manner that there is the protentional opportunity to alleviate the amount of distractions that I had previously experienced. The health benefits and impact on obesity in children and adolescents was also a compelling argument towards trialling a flexible learning space.

Brain research also confirms that physical activity – moving, stretching, and walking – can actually enhance the learning process. Jensen (1998), in

his article *Teaching with the Brain in Mind*, protests against the sedentary classroom style and suggests a better way to spend the long days in the classroom, not only for students, but for teachers. Teachers need to engage students in a greater variety of postures, including walking, lying down, moving, leaning against a wall or desk, perching, or even squatting. In 2000, Jensen said that physical activity enhances brain activity and memory retention.

It is important for teachers to find ways to increase student movement through the school day. The research in primary schools where increased movement through the day has been implemented, indicate learners' achievement and wellbeing are maximised (Barrett, Zhang, Moffatt, & Kobbacy, 2013).

Firstly, I was not willing to fork out thousands of dollars, to discover that flexible seating was unsuccessful, so I turned to Kmart and Gumtree. I purchased stools without backs and yoga balls to encourage core stabilisation and posture, "To perform well in an educational environment, kids need to strengthen their motor skills and core muscle to manipulate a writing instrument, control their eye movement to track words on a page, and calm their bodies so they can attend and focus on the instructions the teacher is giving" (Villaneda, 2016, para.7).

I also extended some of the table heights so that students were able to stand whilst completing their work. Cushions, bean bags and a coffee table were purchased for students to kneel or sit at and the room with varying work heights gave me even more floor space. Regular seating was still provided for students who preferred the traditional classroom setup and worked best in that setting. I spent in total $205 for this experiment.

When I first introduced the flexible seating to students, they were required to change positions after each lesson to provide them an opportunity to evaluate the seating in which they were most engaged, efficient and productive. It did not take long before students did not choose a seat based on who else was sitting there, but instead, because it was a space where they felt they could be successful. Students became aware of how they learned best and made sensible and positive decisions. A strategic and firm set of expectations is required to ensure the classroom continues to be a space of engagement and motivation. Students were aware that I was able to move them at any time because I care about them having the best learning opportunities.

My findings: *Engagement*

The specific student mentioned earlier who struggled to stay on task, was completing her work independently. The attention required to sit on the wobbling chair discouraged her from needing to fiddle and play. She still required refocusing at times but a significant improvement in her attention to given tasks was noted.

Other students chose the standing desks as an optimal working space during almost every activity. Prior to this they were always moving around my room finding it difficult to sit still and becoming easily distracted. It was noted that these students were the same ones who would be itching for Physical Education lessons and any opportunity to get outside for a game of soccer.

My findings: *Behaviour management*

I monitored the changes of my classroom and the impact on behaviour for the rest of Term 2 and happily continued my flexible classroom for the remainder of the year. I found I rarely spoke to students about using seats inappropriately, no more swinging on chairs. Students were working in a space optimal for their own learning and in most instances were motivated to achieve in class.

There will certainly be difficulties when making adjustments and it is important to note the importance of setting expectations and boundaries with a commitment to follow through.

For 3 years I had been providing my students with a one size fits all classroom, a classroom that looked very similar to one 50 years earlier, yet the world outside their classroom had shifted dramatically. My change to our classroom not only improved specific students engagement and attention whilst at their desk but it also provided opportunities for collaboration, co-operation and problem solving.

The flexible learning environment for my class was exactly the improvement my students needed to encourage them to re-engage in school. My experiment and findings led our school administration to support and implement a flexible learning space for all Stage 2 classrooms. TEACH

> *"It did not take long before students did not choose a seat based on who else was sitting there, but instead, because it was a space where they felt they could be successful."*

References

Barrett, P., Zhang, Y., Moffatt, J., & Kobbacy, K. (2013). A holistic, multi-level analysis identifying the impact of classroom design on pupils' learning. *Building and Environment, 59*(Jan 2013), 678–689.

Brekke-Sisk, N. (2006). Standing room only in classroom of the future. *Mayo Alumni, 42*(3), 3-5.

Jensen, E. (1998). *Teaching with the brain in mind.* Alexandria, VA: Association for Supervision and Curriculum Development.

Jensen, E. (2000). *Learning with the body in mind: The scientific basis for energizers, movement, play, games, and physical education.* San Diego, CA: Brain Store.

Kravitz, L. (2009). *Sitting is hazardous to your health.* Retrieved from https://www.unm.edu/~lkravitz/Article folder/sittingUNM.html

Laskowski, E. R. (2018, May 8). *What are the risks of sitting too much? Expert answers: Healthy lifestyle adult health.* Retrieved from https://www.mayoclinic.org/healthy-lifestyle/adult-health/expert-answers/sitting/faq-20058005

(reference list and author information continued page 61)

The Word made flesh

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“it was hard for to see that His plan for me was to write poetry for Him and not for thee do you get what I mean?”

They said
I never had a voice
that my non-speaking self somehow started
speaking silly slurs.
Similes
slithering softly out of my mangled mouth.
A saved sinner
stuttering metaphor momentarily moving
while making music with God.
I was an unread book,
blatantly
bewildered by berating bullet point pens.
It didn’t matter that I was a paperback
they still put the paper back on the book shelf
without even taking a second look back.
And well,
hardcovers lasted longer.

I was the book
that came without an audio version,
that looked good from pen to paper
but when it came to being said
I sounded like a paper scrapper.
I was the finest scrapper
of paper you could ever see or hear.
I got lost in the buried debris
of the non-fiction, fiction sections of the library.
Lingo
lingering lavishly within these four walls.
Wallow, withering words
awaken through the hollow halls.

And there he stood
as radiant as the sun.
He shone
His light like photosynthesis
as to see my very innocence.
His efficiency in curing my vitamin deficiency
brought me to the conclusion that He is the Author of Time.
Time,
He took in mending the creases and tears in my unpublished pages.
Time,
He took in reading each word
of each line
of each chapter
in stages.
Time,
He took
to wait….
For me to realise that the words in my own book were empty.

Empty of His word
because
in the beginning was the Word and the Word was with God
and the Word was God but I made it my ending.
My happily ever after,
after my wants,
after my needs,
after everything me
it was hard for to see
that His plan for me
was to write poetry for Him
and not for thee
do you get what I mean?

It seemed,
I never really fit in any book classification
until I was on my face
and knees
in supplication
with my publisher regarding my publication.
I failed to read the line in my contract
where it said,
“Seek first the kingdom, His righteousness
and all things will be added to you”
He never came to subtract
but simply add.
My bad,
I wasn’t really good with maths.

I hoarded myself
like a paper plane
from the biographies to science fictions,
as a nomadic barbarian,
I didn’t know where I belonged
until I met my Librarian.
His attention to detail is immaculate,
knowing every word,

comma,
exclamation mark,
full stop
ever written,
crossed out
and erased.
He is the voice of the now
He is my breath of fresh air.
My greatest chapter still in progress!
My Alpha and Omega,
From the beginning to the end.
He is the Word made flesh.

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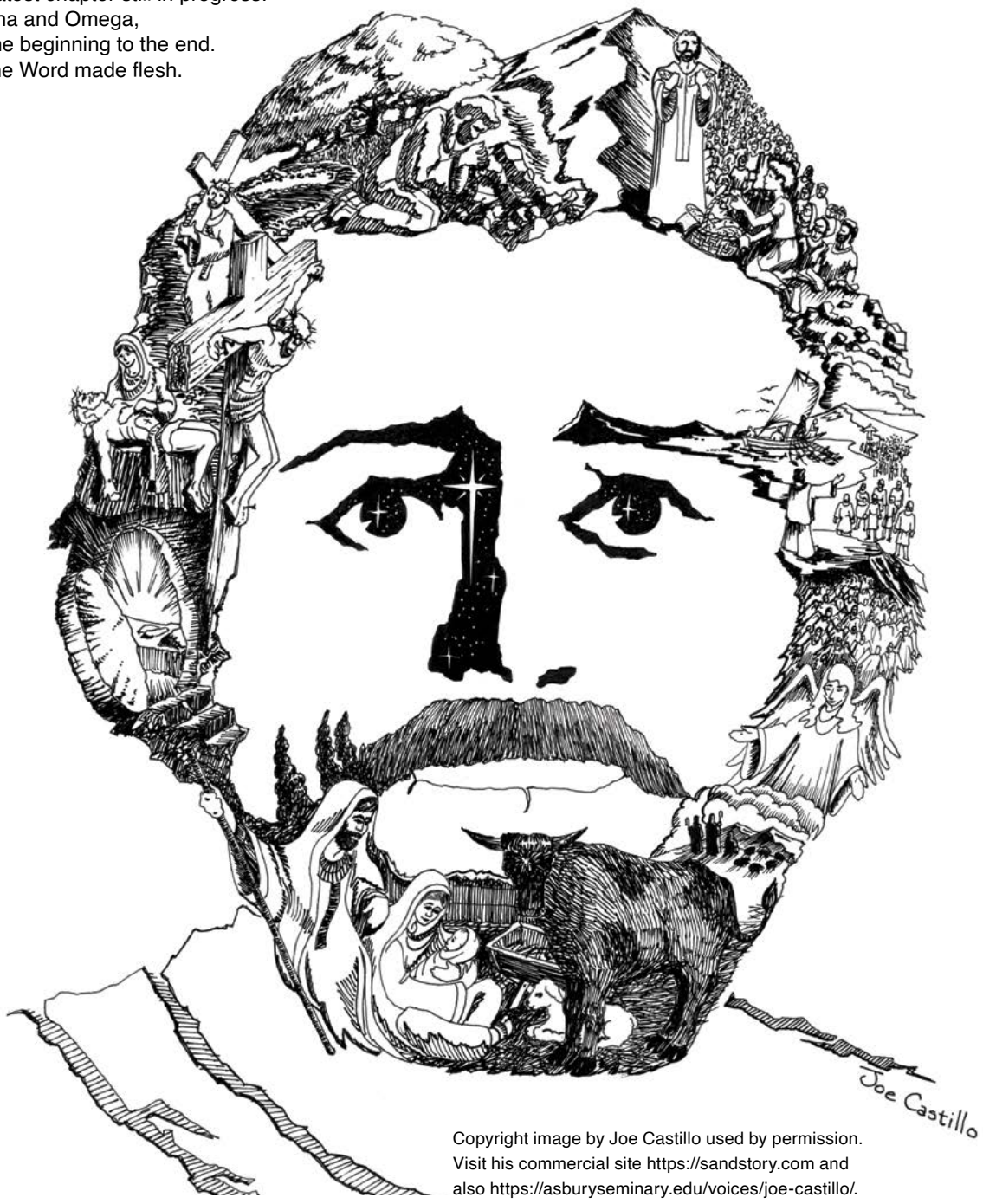
Janice Tuuina is the ICT Support Technician for Seventh-day Adventist Schools (Greater Sydney) Ltd. Since submitting her poem she has married changing her family name so her email address is Janice.Fereti@gs.adventist.edu.au.



Becoming collaborators: First conference brings tertiary teacher educators together

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Key words: connection, collaboration, research development, teacher education

Teacher educators at Seventh-day Adventist tertiary institutions across the South Pacific will seek to collaborate on development and research after attending an inaugural conference.

Academics from Pacific Adventist University and Fulton and Sonoma Colleges and education administrators from the Seventh-day Adventist Church's South Pacific-based unions travelled from Fiji and Papua New Guinea to join their Australian and New Zealand-based colleagues at Avondale College of Higher Education, September 9-11.

Initiated by the church in the South Pacific on the recommendation of the Adventist Tertiary Network—comprising the heads of the church's five tertiary institutions plus the directors of education for the church's unions—but hosted by Avondale on its Lake Macquarie campus, the conference sought to share and strengthen teacher education programs. "Because the church doesn't have a large higher education network, we sometimes feel we're working in splendid isolation," says co-convenor Beverly Christian, Head of the Discipline of Education at Avondale. "But the bringing together of four teacher education institutions created the sense of a sisterhood."

The sharing of findings from research helped, too, with the conference featuring 12 presentations of about 20 minutes and more than 20 five-minute presentations. The variety of the research, and the young age of the researchers, impressed Dr Carol Tasker, Director of Adventist Education for the church

> *The bringing together of four teacher education institutions created the sense of a sisterhood.*

Caption: Participants attending the inaugural conference of South Pacific Adventist teacher educators.

in the South Pacific. “As teachers become more confident in research, they’re more confident in leading students in their research,” she says. “Good teaching comes out of good research.”

The personal connections with colleagues who had ceased being ‘strangers’ may see Pacific Adventist University collaborate with Associate Professor Maria Northcote, Course Convener for the Master of Education (Research) at Avondale, to improve the mentoring and supervising of research students. Dr Peter Beamish, a Senior Lecturer in the Discipline of Education, may gather data from the three institutions for a wellbeing profiler he has developed. And delegates spoke in general terms about a potential collaborative project: discovering what people perceive a Christian teacher to be.

Keynotes speakers Dr David Williams of Harvard University, Dr Darren Morton and Dr Carolyn Rickett from Avondale encouraged delegates to innovate, care for their wellbeing and listen generously.

Williams shared strategies for making Adventist schools more affordable, suggesting perhaps churches could return to the practice of helping parents pay fees and schools could lower costs by creatively managing larger classes while maintaining learning outcomes. He also challenged educators to meet the needs of the increasing ethnic diversity in Adventist churches.

Morton presented his keynote while leading delegates on a walk around Sandy Creek on the Avondale Estate. All delegates received a free copy of Morton’s new book, *Live More Happy*.

Rickett applied her understanding of connection in a healthcare-associated counselling context to education. She gave each delegate a stuffed fabric heart, similar to the ones given to doctors as a reminder they are dealing with people not just patients.

The convenors wove wellbeing into the conference program—other initiatives included a daily exercise timeslot and games in the auditorium with physical education and health lecturer Wendy Herman.

Spirituality featured, too, with each institution leading a worship. One by campfire on the banks of Sandy Creek featured the sounds of South Pacific voices wafting through the night air. Another featured an ensemble performance of a song composed by one of the delegates.

Mele Vaihola attended the conference in her role as Associate Director of Adventist Education for the church in the Trans-Pacific. She describes the sharing of research findings, the collaboration and the networking as “a blessing . . . as we prepare teachers to be conversant, capable and committed for now and for eternity.” TEACH

(reference list and author information continued from page 57)

Levine, J. A., Lanningham-Foster, L. M., McCrady, S. K., Krizan, A. C., Olson, L. R., Kane, P. H., … & Clark, M. M. (2005). Interindividual variation in posture allocation: possible role in human obesity. *Science. 307*(5709), 584-6.

Levine, J. A., & Kotz, C. M. (2005, August). NEAT--non-exercise activity thermogenesis--egocentric & geocentric environmental factors vs. biological regulation. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/16026422

Levine, J. A. (2015). Sick of sitting. *Diabetologia, 58*(8), 1751–1758. doi: 10.1007/s00125-015-3624-6

McManus, A. M. (2007). Physical activity – a neat solution to an impending crisis. *Journal of Sports Science and Medicine, 6*(3), 368–373.

Villaneda, A. (2016, January 13). Why these core muscle exercises help prevent learning challenges in the classroom. Retrieved from http://ilslearningcorner.com/2015-11-why-these-core-muscle-exercises-help-prevent-learning-challenges-in-the-classroom/

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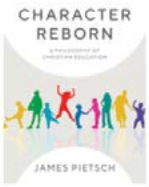
Alyssa is a kindergarten class teacher at the Hills Adventist College.

> *delegates spoke in general terms about a potential collaborative project: discovering what people perceive a Christian teacher to be.*

BOOK REVIEWS



Character reborn: A philosophy of Christian education

Pietsch, James (2018). Sydney, NSW: Acorn Press, pp. 292
ISBN 9780647519790 (paperback)

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This book makes a valuable contribution to Christian education. Avoiding the all-too-familiar clichés found in some of the literature in this field, the author provides the reader with a rich tapestry of ideas and reflections, both philosophical and practical.

Who is James Pietsch? He leads Inaburra, a K-12 Christian Independent School in Bangor; an outer southern suburb of Sydney. His material, in part or whole, should have wide appeal and be obligatory reading for committed educators — whether principals, teachers, chaplains or even school board members — serving faith-based Christian schools.

In the opening chapters, the author establishes the credentials of the Christian faith for readers. He contends for a biblical theistic world view (as an alternative to an exclusively rational, scientific paradigm) in which the Bible is perceived as a 'love story' in which we are invited to become living, intelligent actors, as it moves to its denouement.

As a principal, Pietsch is very much aware of the challenges facing schools' leadership incumbents today; the challenge of operating in an increasingly complex environment of competing and sometimes conflicting voices — including Caesar's. For instance, many faith-based schools now have a mixed student body from diverse backgrounds and from a variety of non/religious belief. In this context, he asks, how do we make Jesus known? How do we challenge the dominant voices of individuality, self-fulfilment and greed? Also, given the heterogeneity of students' backgrounds, is it reasonable for faith-based schools to downplay their belief system to gain broader acceptability and traction or, by this very action, do they jettison their *raison d'etre*? Accordingly, meaningful responses to these 'puzzles' require re-imagining of what it means to be the Christian school community in the 21st century.

> *Pietsch puts forward the notion of education as becoming. He sees this as life-long learning; a holistic education that focuses on New Testament, kingdom values*

In his quest for Christian schools to make Jesus known, Pietsch puts forward the notion of education as *becoming*. He sees this as life-long learning; a holistic education that focuses on New Testament, kingdom values and the development of a virtuous moral character and also a *learning character* consisting of the author's proposed four Rs: resilience, resourcefulness, reflectiveness and reciprocity.

He disparages education as transmission, and schools as ATAR factories. Instead, his assertion is that the symbiotic relationship between teaching and learning is manifested ideally in collaborative, creative, dialogical, meaning-making activities — a multi-directional interplay of ideas — and a formidable challenge for teachers, given an environment of mandated topics in set time periods.

With a passion for mathematics, Pietsch laments that few things have changed in today's typical maths classroom, except the use of new technologies. Not only does he provide many practical suggestions as to the 'whys and hows' of learning and teaching mathematics (evoking 'images' of Eddie Woo, perhaps?), but in referring to paradoxes, logic, levels of certainty, chaos and order, he draws interesting analogies between mathematics and understanding Scripture. Other interesting points offered are, how changing the rules or making certain assumptions may result in different outcomes, how quadratic equations may illustrate that there is more than one answer in some life situations, or how Jesus' ethical perspective represents an inversion of the world's values. However, Pietsch makes it very clear, that there is no such 'thing' as *Christian mathematics*, only Christian teachers of the subject.

Observations and discussion are not confined to one curriculum subject. Attention is given to the creative and performing arts, the sciences, as well as to physical education and sport. Regarding the latter, discussion and reflection focuses on some myths and realities about character (de)formation and building and the desire to win at all costs — "whatever it takes" — perhaps conjuring up images in readers' minds of Lance Armstrong, Mike Tyson and the Essendon Bombers in contrast to the Fijian Rugby Sevens' bursting into songs of praise to God on-field, on winning the gold medal.

Surprisingly, to some, Pietsch does not argue specifically for teaching as a ministry or vocation,

preferring to regard it as a profession. Also, Scripture classes per se in which propositional truths are covered are not perceived as forming a part of students' overall study program. Rather he opts for *participatory truths* — classrooms where teaching not only has a knowledge basis but, perhaps more importantly, a *relational* one. This understanding, of course, has been central to aboriginal culture for thousands of years in teaching each new generation, but has largely been lost in the developed world because the industrial revolution 'ushered in' a mass education model.

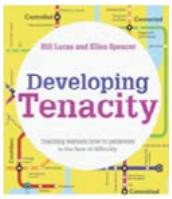
Pietsch expects teachers in Christian schools to demonstrate such character virtues as justice, compassion, grace and intellectual humility rather than superiority. This represents an indirect *vis a vis* a direct 'enfaithing' approach; an emphasis on 'walking' the Christian faith journey, over and above 'talking' it. Further strengthening of this *modus operandi* is provided by student service projects, thereby engaging in bringing healing to a broken and hurting world. Propositional truth on its own, according to the author, does not transform character; Jesus' narrative of The Good Samaritan being a case in point.

In traversing the educational landscape the author variously calls on luminaries or theorists in education, psychology, art, music, philosophy, mathematics, film and theology to support his claims and reasoning. This speaks of his openness to ideas and willingness to extend boundaries for Christian conservatives. Moreover, in being open, he endeavours to reach a wider audience — beyond adherents of Christianity.

With this book Pietsch stretches Christian educators' minds to be dissatisfied with the status quo and simultaneously reinvigorates them to lead purpose driven school communities who will facilitate the work of the Spirit and provide students with opportunities to choose Jesus as Lord, Saviour and friend. TEACH

Developing tenacity: Teaching learners how to persevere in the face of difficulty

Lucas, B., & and Spencer, E. (2018).
Bancyfelin, UK: Crown House.
pp. 200
ISBN-13: 978-1785833038



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Nelson Mandela said: "Education is the most powerful weapon we can use to change the world". Education, however, is not only about passing on skills and knowledge but also about developing character or, as the authors of Developing Tenacity, put it: developing capabilities or dispositions that will aid the learner not only at school but all through life.

Lucas and Spencer note that a social science experiment carried out by Mischel at Stanford University in the 1960's sparked interest in the role that character development plays in education as well as in life success. Young children were given a choice between eating a marshmallow immediately and receiving two treats if they could wait for 15 minutes. Follow-up studies indicated that the children able to delay gratification did better in many areas of life than those who ate the marshmallow immediately. These intriguing results gave impetus to a new direction in education research: could 'habits of mind' or 'dispositions' be important in the achievement of academic success?

The research suggests that this is indeed the case and *Developing Tenacity* takes as its starting point the work of Carol Dweck and her colleagues in 2014. They studied aspects of student motivation (self-regulation strategies and mindset) and identified a number of non-cognitive factors important in the achievement of academic success. The label they gave these non-cognitive factors was *tenacity*, defined as the ability to 'work hard and to work smart for a long time.' Lucas and Spencer have broadened the scope of this concept beyond purely academic parameters and have described tenacity as encompassing

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qualities such as resilience, perseverance, grit and self-control. Simply stated it refers to the tendency to look beyond short-term-goals and rewards to longer-term achievements.

Developing Tenacity establishes a sound foundation for cultivating this important capability in the classroom. The concept of tenacity is thoroughly explored, the habits of tenacious students are clearly laid out and the case for the importance of this disposition, based upon sound psychological research, is convincingly argued.

Signature pedagogies, or learning methods most suited to achieving particular outcomes, are set out in detail with the purpose of giving the teacher clear guidelines for the development of tenacious learners.This book is rich in practical detail built upon a strong theoretical foundation. It divides the four core aspects of tenacity (being connected, confident, controlled and committed) into twelve sub-habits and then suggests a core approach and starter ideas for each of these habits.

The chapter titled "Getting Going' is particularly useful. It offers many good ideas for creative ways to promote the development of tenacity in the classroom. The Appendix tabulates these starter activities for teaching the twelve sub-habits of tenacity, for ease of access. Everything is laid out clearly.

Developing Tenacity looks beyond the classroom at ways of encouraging parents to engage with the idea of tenacity, as well as professional development and leadership training ideas to promoting the concept amongst staff.

> *"the habits of tenacious students are clearly laid out and the case for the importance of this disposition, based upon sound psychological research, is convincingly argued."*

This book also explores the potential of extra-curricular activities to develop resilience and character, and explores the positive relationship between these activities and academic success.

The largest section of *Developing Tenacity* is devoted to describing case studies and 'promising practices' in schools in the United Kingdom and America. Various implementations of signature pedagogies, focusing on teaching dispositions such as tenacity, are presented and make for fascinating and inspiring reading.

The second last chapter in the book gives four broad approaches to assessing tenacity as well as suggestions for tracking the progress of the development of this habit of mind. Finally, the authors outline the challenges faced by real teachers in the busy world of school and the objections that might surface when the idea of teaching a concept such as tenacity is put forward. Lucas and Spenser provide some model answers, which may be offered as counter arguments should objections be raised.

I found this book engaging and psychologically sound. Its basic premise that the emotional or non-cognitive development of the student is crucial to his or her success is well supported. The concepts are interesting and the research upon which they are based is integrated in a seamless way. This book provides compelling evidence that tenacity is an essential component of character development and will be of great value to educators who want to engage their students in a life-long process of learning. **TEACH**

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