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Arts engagement outside of school: Links with Year 10 to 12 students' intrinsic motivation and self-efficacy in responding to art

Julia Morris
Edith Cowan University

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Abstract

This study draws on student engagement factors to examine the relationship between students' non-school based arts experiences on their intrinsic motivation and self-efficacy to participate in visual arts responding tasks. Visual arts responding in the curriculum includes learning about artists and artworks, decoding art and making critical judgements, and is important in building 21st century learning skills such as critical thinking and communication. A total of 266 Year 10 to 12 students from 18 schools in Western Australia (WA) participated in the quantitative research, which explored outside-school arts engagement as well as cognitive and psychological engagement factors in their current year of secondary schooling. The findings showed that while being an art consumer appears to impact on intrinsic motivation and self-efficacy, producing art as a hobby outside of school does not appear to do so. The research raised questions about links between practice and theory, and how to promote students' engagement in responding.

Keywords

Arts consumption, arts practice, intrinsic motivation, self-efficacy, galleries

Introduction

The responding strand of the Australian Curriculum: Visual Arts mandates students' engagement in critically thinking about visual arts, and developing communication skills to share their perspectives in both linguistic (written and oral) and visual forms (ACARA 2015). Critical thinking and communication are just two of the 21st century learning skills cited as important for Australian students in education research and policy (Commonwealth of Australia 2017; Gilbert 2016; Greiff et al. 2014; Saavedra and Opfer 2012), as well as in the STEM (science, technology, engineering and mathematics) and STEAM (STEM + arts) literature that has been produced internationally (Herro and Quigley 2017; Bailey 2016). However, students frequently report greater enjoyment in making art than in responding to it (Author 2015). Consequently, it is necessary to explore what experiences affect students' engagement in responding to visual arts so teachers may modify classroom instruction to improve engagement.

This research study examined the factors that affect Year 10 to 12 students' engagement with responding, as well as past experiences that may affect student engagement in their senior school study. This paper specifically reports on how visual arts experiences outside of school may affect students' intrinsic motivation and self-efficacy when they engage in responding to art at school. These two factors were selected for further investigation as they are linked within the literature on student engagement, whereby students who do not have high efficacy are likely to be less motivated to engage in tasks where they feel they cannot be masterful (Bandura 2012; Moller et al. 2006). Similarly, students who have high efficacy are generally more motivated to participate in tasks, even when they are challenging (Moller et al. 2006). Students' visual arts experiences outside of school were investigated as these experiences shape students' school experiences but are often not explored in-depth (Martin Mansour Anderson Gibson Liem and Sudmalis 2013). The main aim of the study was to determine if there is any relationship between arts consumption and production on students' intrinsic motivation and self-efficacy. In the context of this study, arts consumption was defined as active participation in the artwork of others (for example, viewing art or reading about art) while arts production was defined as making or creating artworks. These definitions are consistent with the views of the Australia Council for the Arts (2010), which measures arts engagement in the two areas of creative participation and receptive participation; as well as the structure of the Australian

Curriculum: Visual Arts (ACARA 2015), which separates practice as two strands of making and responding. Two specific questions guided the research:

1. How does students' consumption of art outside of school impact their intrinsic motivation and self-efficacy to complete visual arts responding tasks within school?
2. How does students' personal arts practice outside of school impact their intrinsic motivation and self-efficacy to complete visual arts responding tasks within school?

The terms 'consumption' and 'personal arts practice' were used in the research questions as they reference two types of engagement with art. Duncum (2015) proposes that individuals, irrespective of any formal training in the arts, are 'prosumers' of art. A prosumer both consumes and produces work in relation to the world around them, including mass media (Duncum 2015). The two parts of consumption and production are reflected in both the Australia Council for the Arts (2010) terminology as well as the visual arts curriculum. Personal arts practice was used within the second research question to distinguish it from 'production', which is the specific term used when referring to school-based art making in the senior school curriculum documents. This distinction was necessary as the participants were being asked to reflect on their practice outside of their school experience. The same distinction was not required for the term consumption, as these types of activities are referred to as responding within the school context.

Literature

The consumption and production of art outside the school context

Both arts consumption and production have important benefits for individuals. Arts consumption has been linked to overall psychological and emotional wellbeing, with research suggesting that it gives individuals a sense of autonomy and empowerment as they have personal choice to seek out the type of art they are interested in (Yee-Man Siu Kwan Jun-Feng Zhang and Ka-Yan Ho 2016). Individuals also may choose to visit galleries that meet their interests or to move through exhibitions at their own pace (Yee-Man Siu et al. 2016). Art galleries or museums are a key cultural location for the consumption of art, and galleries consider branding to attract specific art consumers: "in many art museums, certain artworks, artists or genres have become cultural icons that bring together art lovers with similar tastes" (Pusa and Uusitalo 2014 p. 21). With curation aiming to *bring together* specific audiences, Pusa and Uusitalo (2014) posit a link between the art exhibited in a gallery and the type of audience it attracts, suggesting that art consumption may be shaped by an individual's identity and whether or not they see themselves as part of the gallery's target audience. Additional benefits of attending galleries include deeper embodiment with the art as the viewer experiences artworks through the somatic senses (Willcocks 2015), and social dialogue with other viewers (Yee-Man Siu et al. 2016). However, more individuals are also accessing art content online through blogs, gallery websites and social media (Australia Council for the Arts 2010; Pusa and Uusitalo 2014). Two thirds of Australians now use the internet to connect with the arts, including watching or downloading material, engaging with artists and events, and creating and selling art (Australia Council for the Arts 2014). While there are social benefits of engaging in the physical gallery space (Yee-Man Siu et al. 2016), there are new opportunities to engage online when other arts consumer opportunities are not possible (Australia Council for the Arts 2014).

Families shape an individual's values and interests, and they have an impact on arts participation and education more generally for adolescents (Mansour Martin Anderson Gibson Liem and Sudmalis 2016; Pomerantz et al. 2007). Willekens and Lievens (2014) describe how parents with higher participation in cultural activities (for example, visiting galleries, attending theatrical productions) have a positive effect on adolescent participation in the arts. They also found that having cultural objects such as artworks in the home had a positive relationship with adolescents' cultural capital; a

relationship not seen with some multimedia products, such as televisions and computers (Willekens and Lievens 2014). However, Mansour et al. (2016) note that the opportunity for families to engage in extracurricular arts activities is often linked to higher socioeconomic status, which points to an equity issue that needs to be considered when investigating the arts in the family home. The *Arts in daily life: Australian participation in the arts* report (Australia Council for the Arts 2014) found that 65% of children accessed the arts. They also found "young people, women, higher educated people (sic.) and wealthier households" (Australia Council for the Arts 2014 p. 35) had higher participation in the arts as children. Cost was a barrier for arts participation (Australia Council for the Arts 2014), and this supports the need for arts to be accessible across a range of platforms, including online platforms.

Arts consumption influences the creation of art, and as such, both aspects of visual arts need to be considered. The aforementioned *Arts in daily life: Australian participation in the arts* report (Australia Council for the Arts 2014) found an increase in visual arts creation, from 32% to 48% between 2009 and 2013. Most of this production was completed by individuals on their own (Australia Council for the Arts 2014), which is also a common practice among adolescents (Author 2015). Similar to the earlier *More bums on seats: Australian participation in the arts* report (Australia Council for the Arts 2010), the 2014 report found that adolescent engagement in making art was higher than the rest of the population, with almost two thirds of 15-24 year olds participating in creative production (Australia Council for the Arts 2014). While these statistics are encouraging, Mansour et al. (2016) found that as students get older they are less likely to participate in school or community based arts, and this may have an impact on their motivation to actively engage in arts participation at school.

Consuming and producing in the context of Australian visual arts curricula

The consumption and production elements of arts participation are echoed in the Australian curriculum through the two strands of making (related to production) and responding (related to consumption) (ACARA 2015). These two elements have been included together in Australian curricula since the 1970s (Boughton 1989), as Australia adopted responding from the development of discipline based art education in the United States and Allison's 'four domains' in England (Eisner 1987; Macdonald 2005; Caldwell and Vaughan 2011; Kim and Geahigan 2004; Boughton 1989). In practice, this means all students are asked to produce artworks that explore contemporary ideas and arts practices while also being influenced by a range of artists and contexts (ACARA 2015). They learn to decode artworks so that they can employ similar principles to construct meaning in their own works (ACARA 2015). Currently, all Australian states deliver a national Australian Curriculum, that can be adapted to meet the context of each state (ACARA 2015). In Western Australia, a state-specific version of the Australian Curriculum is taught from Kindergarten to Year 10 (School Standards and Curriculum Authority 2016). The WA Curriculum includes the same two components as the national version (making: arts production, and responding: arts consumption) but the specific content descriptors addressed at each year group level have slightly different wording to support teachers in their delivery and assessment of the curriculum (School Standards and Curriculum Authority 2016).

Year 11 and 12 students complete visual arts courses that are aligned to the WA curriculum framework (School Standards and Curriculum Authority 2016), the state-based version of the curriculum that preceded the Australian Curriculum. However, the current Year 11 and 12 visual arts courses include General Capabilities from the Australian Curriculum, meaning they are aligned with the national curriculum in supporting the development of students' broader skills (for example, literacy and intercultural understanding) within the context of each subject area (ACARA 2015). The general capabilities promote 21st century learning skills, such as communication, creativity and critical thinking (Commonwealth of Australia 2017; Greiff et al. 2014; Saavedra and Opfer 2012). In visual arts these skills are embedded within the course content wherever the teacher determines they fit best.

Year 11 and 12 students choose one of two courses in visual arts, an Australian Tertiary Admissions Rank (ATAR) course that is included towards their leaving certificate (WACE) or the General course that is wholly-school assessed (School Standards and Curriculum Authority 2016). These courses term production and consumption as *art making* and *art interpretation* tasks (School Standards and Curriculum Authority 2016). Each type of task is assessed individually, although the content is delivered simultaneously. In both Year 10 and senior school (Year 11 and 12) visual arts courses there is equal emphasis on making and responding. In the responding strand of both courses, students learn how to decode artworks, make meaning from art based on their decoding and contextual knowledge, make critical judgements, and communicate their interpretation of artworks to others (School Curriculum and Standards Authority 2016). Furthermore, students take this knowledge and encode their ideas back into their own artwork as they co-develop visual and language literacies as part of the making strand (School Curriculum and Standards Authority 2016).

Intrinsic motivation and self-efficacy: Factors of student engagement

Student engagement is one way of monitoring learning; however, it is a highly complex construct to define, although most definitions include cognitive, psychological and affective indicators (Jimerson et al. 2003; Mazer 2012). Two aspects of student engagement are intrinsic motivation and self-efficacy. Intrinsic motivation is linked to cognitive engagement and can be defined as students' motivation to learn for interest and mastery, including a sense of autonomy and individuality as well as a need for competence (Carbonneau et al. 2012; Reiss 2012). Intrinsic motivation is attached to students' sense of identity, and can change during adolescence (Carbonneau et al. 2012; Gray and Hackling 2009; Vansteenkiste et al. 2005). While intrinsic motivation should come totally from within the individual, there are also models where an extrinsic motivation can still be congruent with the students' internal identity or interests (Ryan and Deci 2000). For example, the integrated extrinsic motivation model outlines how an achievement goal may act as an extrinsic motivator even if the task is still intrinsically interesting (Ryan and Deci 2000). For example, students may be interested in visual arts, but they may also want to achieve a good grade for the subject. In this example the student is working towards an extrinsic reward (the good grade) but they are still intrinsically motivated to learn about visual arts as it is interesting to them (Deci and Moller 2007).

Self-efficacy is a concept linked to psychological engagement. It can be defined as a student's belief in their own abilities to complete a task, even if the task is challenging (Bandura 2012). Self-efficacy is affected by prior achievement (Hattie 2009), as it is improved when students feel a sense of success or competence (Deci and Moller 2007; Bandura 2012). Students with higher self-efficacy are more likely to be resilient and focused on problem solving (Martin 2007). Conversely, students with low self-efficacy are more likely to have increased anxiety about learning, and will disengage from learning if they do not experience success (Pekrun and Linnenbrink-Garcia 2012).

Intrinsic motivation and self-efficacy are two important aspects of engagement because they are linked to mastery and sustained participation in a subject. Students may begin with high motivation in a subject but have a negative experience where they do not master the subject content. This negative experience lowers their self-efficacy and may lead them to disengage with the subject in future (Bandura 2012; Bandura and Locke 2003; Deci and Moller 2007; Deci and Ryan 2008; Ryan and Deci 2000). Conversely, students may start with low motivation or self-efficacy, but through mastery of the subject build their self-efficacy and become more motivated to engage in the subject again (Deci and Moller 2007; Deci and Ryan 2008; Ryan and Deci 2000). Prior experiences shape both intrinsic motivation and self-efficacy, and these factors have been shown to affect art teachers' and students' participation in the arts (Alter 2015; Author et al. 2014; Lemon and Garvis 2013).

Methods

The aim of the research was to explore how visual arts experiences outside of school might impact on students' intrinsic motivation and self-efficacy when they engage in responding to art within senior

school visual arts courses. The two areas explored in the research were students' consumption of art, which was defined as their active engagement with artists and artworks through reading and viewing, and their personal arts practice, which was defined as the practical artworks made by students outside of any school-based activities. This study adds to the research field on extracurricular arts activities and their role in enhancing engagement, where there has been a paucity of research in the past (Mansour 2016; Martin et al. 2013).

Sample

A total of 266 secondary students from metropolitan Perth, WA were included in the study. These students were enrolled in Year 10 visual arts and Year 11 or 12 ATAR (Australian Tertiary Admissions Rank – university-pathway) visual arts. Students from these courses were purposively sampled as they have a higher assessment weighting for visual arts responding compared to Years 7 to 9, particularly in Years 11 and 12 where responding is weighted at 50% of a students' overall grade (School Curriculum and Standards Authority 2016). While Year 11 and 12 students have a more intensive commitment due to visual arts being included in their overall ATAR performance score, Western Australian Year 10 students were also included in this study where their weighting for visual arts responding was also 50%. In many Western Australian schools, Year 10 is considered part of the senior school, and therefore, the students in this sample were taken from a similar context to the Year 11 and 12 participants.

Of the 18 participating schools, six schools were from the Government sector, seven were independent and five were Catholic systemic schools. Fifteen of the schools were co-educational and three schools were single sex. All schools had an Index of Community Socio-Educational Advantage (ICSEA) between 900 and 1100, with three schools having ICSEA values closer to 1200. The ICSEA value was considered in the purposive sampling as "research shows that there is a strong relationship between the educational advantage a student has, as measured by the parents' occupation and level of education completed, and their educational achievement" (ACARA 2012, p. 2). The inclusion of ICSEA alongside school sector was to ensure the sample represented a broad range of schools and students around the median ICSEA value of 1000. Furthermore, ICSEA is an indicator of the educational advantage based on parental demographics and it was necessary to consider these demographics as the research explored students' home-based arts experiences.

Within the student sample for this study, 22.9% identified as being male and 77.1% identified as female. Most of the students were 16 years old (56.3%), 29.1% were 15 years old, 10.2% were 17 years old, and 4.3% were 14 years old.

Measure

The survey instrument aimed to measure students' engagement with responding to visual arts. The instrument was developed from the cognitive and psychological scales of the Student Engagement Instrument (Appleton et al. 2008; Appleton et al. 2006), amended by the researcher to be valid for use within the visual arts responding context. For example, Appleton et al.'s (2008) original Student Engagement Instrument includes the item, "my education will create many future opportunities for me" (future aspirations, cognitive engagement) which was amended to "studying visual arts will help me in the future" (autonomy, cognitive engagement) so that there was a link to cognitive engagement for future benefit but within the context of visual arts responding content. Similarly, the original instrument included the item, "other students here like me the way I am" (peer support, psychological engagement) (Appleton et al. 2008) which was amended to "I feel like I belong in my visual arts class" (self-efficacy, psychological engagement). While the items changed significantly to reflect the visual arts context, the broader definition of cognitive and psychological engagement was retained from the Student Engagement Instrument. The cognitive and psychological engagement scales were used as they relate to deep engagement, for example a student could look behaviourally engaged by having a high school attendance, but they may not be cognitively engaged in the work while they are

at school (Appleton et al. 2006; Author 2015). The deep engagement in these scales is consistent with the type of learning described in the visual arts responding rationale of the WA Curriculum: Visual Arts (School Curriculum and Standards Authority 2016). This rationale explains how students are to become globally aware citizens who critically think and reflect on art as consumers and practitioners (School Curriculum and Standards Authority 2016).

A total of four subscales measuring engagement were identified during confirmatory factor analyses on the instrument (Author 2017). Three subscales measured cognitive engagement (CFI = .936, TLI = .919, χ^2/df = .172, RMSEA = .053, RMR = 037). Cronbach's alpha coefficient was computed for each of the subscales: autonomy (α = .61), intrinsic motivation (α = .72), and metacognition (α = .68). The best fit model for psychological engagement was unidimensional (CFI = .993, TLI = .980, χ^2/df = 1.45, RMSEA = .042, RMR = .022). Cronbach's alpha coefficient was also computed for self-efficacy as the one factor measuring psychological engagement (α = .71). There was a moderate correlation between the cognitive and psychological scales overall (r = 5.22, p <.001) and small-moderate correlations between all subscales, ranging from .29 (metacognition-self-efficacy) to .56 (autonomy-intrinsic motivation) all significant at the >.001 level (n = 266). Students' responses to the scales were measured on a Likert scale (1 = strongly disagree; 5 = strongly agree). All subscales had four items each with the exception of self-efficacy, which had five. The items are listed in Table 1.

Table 1. Items measuring cognitive and psychological engagement in visual arts responding from the researcher's instrument, modelled on engagement definitions by Appleton et al. (2008).

Factor	Item wording
Autonomy	I view others' artworks to influence my own visual arts practice
	I cannot make decisions about what visual artworks I view*
	My teacher lets me view artworks that I am interested in
	I think it is important to study visual arts/artists
	I am responsible for my own learning in visual arts
Intrinsic motivation	I like being challenged to make meaning from visual artworks
	I enjoy experiencing new artworks
	I like learning about history by studying visual arts/artists
	Studying visual arts will help me in the future
	I do not want to learn about visual artists*
Metacognition	When I see an artwork, I know what to do to understand its meaning
	When I see an artwork, I know what knowledge I will need in order to analyse it
	I know where to get the information I need to help me analyse artworks
	I can explain how different techniques influence the meaning we make from artworks
Self-efficacy	I give up when visual arts responding tasks become challenging*
	My friends encourage me to achieve to the best of my ability in responding tasks
	The skills I learn from studying visual arts responding help me in everyday life
	I believe I am achieving to the best of my ability in visual arts responding
	I feel like I belong in my visual arts class

* These items were reverse coded due to negative wording

In addition to the scales, the instrument also asked secondary students about their engagement with visual arts in a number of areas beyond their current year of schooling. The first section of the survey collected demographic information about the student (year group, age, gender). Next, students responded to questions about their engagement with visual arts outside of school, such as if they made artworks in their own time or if they attended art exhibitions. Making art outside of school time was included as one intention of the curriculum is that responding activities influence students' art making, and the researcher was interested to see if this link existed outside of the school context. This section also collected information on the studio interests of the students (for example, painting, digital art etc.) and family engagement with art (for example, talking about art with family or owning original artworks at home, as pilot qualitative data showed students spoke about valuing art when it was modelled to them through their family actively collecting original artworks by friends, local or international artists). In the subsequent section prior schooling experiences were elicited with questions about whether or not students participated in responding to art in primary school and what art movements had been discussed by teachers in Years 7 to 9. These questions were included to give teachers background information about students' involvement with responding to art beyond their current school context, for example, the questions asked students to select art analysis skills they were familiar with from prior years of schooling or if they had any responding opportunities in primary school classes. These sections all preceded the items on their current engagement with visual arts responding.

Analysis

While the instrument included broader exploration of students' engagement with responding to visual arts, the analysis for this paper focuses on visual arts engagement outside of school and how it may impact Year 10 to 12 students' intrinsic motivation and self-efficacy in responding to art. As explained, these two factors were selected for further investigation as they are linked within the literature on motivation and engagement (Moller et al. 2006). In addition, intrinsic motivation and self-efficacy had Cronbach alpha coefficient values above .70, the cut-off used for this study due to the psychological nature of the content (Muijs 2011).

As the main aim of this study was to explore students' visual arts engagement outside of school and any relationship it has to their intrinsic motivation and self-efficacy in responding to art, students' engagement outside of school had to be categorised for analysis. Within the analysis visual arts experiences were placed in two categories: arts consumption experiences (active engagement with other artists and artworks) and arts production experiences (making their own artworks), consistent with the types of categories used by the Australia Council for the Arts (2010) and the curriculum (ACARA 2015; School Curriculum and Standards Authority 2016).

Non-parametric statistical analyses were employed due to the small sample size (AMC 2013). Data screening showed that the data were non-normally distributed and there was significant skewness in both scales. Furthermore, the non-parametric statistics employed have been shown to have similar statistical power when used with Likert scale data (de Winter and Dodou 2010). Descriptive statistics for the scales are shown in Table 2.

Table 2. Descriptive statistics for intrinsic motivation and self-efficacy scales.

Scale	Mean	Median	SD	Skewness		Kurtosis	
				Statistic	SE	Statistic	SE
Intrinsic motivation	14.47	14.00	2.68	-.441	.155*	.393	.309
Self-efficacy	17.09	18.00	3.40	-.335	.155**	.113	.309

* Significant skewness at p <.01
** Significant skewness at p < .05

Mann-Whitney U and Kruskal-Wallis tests were used to compare the effect of the students' consumption and production experiences on their intrinsic motivation and self-efficacy in responding to art. Within the Kruskal-Wallis test, a Jonckheere-Terpstra test was used to look at trends on frequency of arts experiences on motivation and self-efficacy. Pearson's *r* and Cohen's *d* were used to calculate effect sizes for each of the tests, depending on the group sizes. While it may be considered more appropriate to use Cohen's *d* for all non-parametric data, the group sizes for some questions were fairly similar and therefore it was unlikely that *r* would produce a biased result (McGrath and Meyer 2006). Using *r* for effect size was preferred due to interpretation, as there are relatively accepted cut-offs for a small (.10), medium (.30) and large (.50) effect sizes (Cohen 1992). For Cohen's *d* cut-offs were .30 for small, .50 for medium and .80 for large effect sizes (Cohen 1992).

Findings

How does students' consumption of art outside of school impact their intrinsic motivation and self-efficacy to complete visual arts responding tasks within school?

Mann Whitney U tests were used to compare the effect of arts consumption experiences on students' intrinsic motivation and self-efficacy. Reading about art in their personal time was one experience measured by the survey, with reading engagement including printed texts as well as online engagement (blogs, websites, e-zines, articles). The second experience measured was students' exposure to original artworks within their family home. Family ownership of original artwork was compared to students' intrinsic motivation and self-efficacy, as students would passively or actively view these artworks on a daily basis. Each of the experiential factors had dichotomous response categories (yes, no) which created two groups for the comparisons.

Reading about art had a statistically significant relationship with both students' intrinsic motivation and self-efficacy. Students who read about art had higher intrinsic motivation to respond to art, U = 3,994, z = 3.981, $p < .001$, d = .29 compared to those who did not read about art. However, there was no significant difference between students whose families did and did not have original artworks at home when exploring intrinsic motivation to respond to art, U = 7,644, z = .177, p = .859, r = .01. These results are summarised in Table 3, below.

Table 3. Mann-Whitney U Test of group difference on intrinsic motivation.

Item	Group	N	Mean Rank	Sum of Ranks
Do you read about art?	Yes	83	129.88	10780.04
	No	136	97.87	13310.32
Does your family own original artworks?	Yes	113	122.09	13796.17
	No	127	119.09	15124.43

A Kruskal-Wallis test was used to analyse whether students' frequency of attending art exhibitions had any relationship to their intrinsic motivation and self-efficacy. This item was measured with four nominal response categories: never or less than once a year, at least once a year, at least once every six months, and at least once every three months. As students selected only one of these categories, each group was treated as discrete for the analysis. Jonckheere-Terpstra tests were used to look at trends, as it was hypothesised that intrinsic motivation and self-efficacy should increase the more students increased their consumption of art through attending exhibitions.

The Kruskal-Wallis tests showed that there was a statistically significant relationship between intrinsic motivation and students' frequency of art exhibition attendance, $H(3) = 9.14$, $p = .028$. The Jonckheere-Terpstra test revealed a trend in the data, that as students increased their attendance their

intrinsic motivation also increased, J = 10,842, z = 3.257, p =.001, r = .20. However, this trend was only significant for those who attended "never or less than once a year" compared to those who attended at least once every three (p = .04) or six months (p = .03). Effect sizes for pairwise comparisons between each of the groups can be found in Table 4.

Table 4. Effect sizes for pairwise comparisons of exhibition attendance on students' intrinsic motivation.

Comparison	z	$\sqrt{N}$	r
Never or less than once a year – at least once a year	1.759	16.31	0.11
Never or less than once a year – at least once every six months	2.577	16.31	0.16
Never or less than once a year – at least once every three months	2.519	16.31	0.15
At least once a year – at least once every six months	1.536	16.31	0.09
At least once a year – at least once every three months	1.998	16.31	0.12
At least once every six months – at least once every three months	1.271	16.31	0.12

The same tests were conducted to determine the relationship between these experiences and students' self-efficacy. Whether or not students had original artworks displayed around the home did have a statistically significant relationship with self-efficacy. Those who had original artworks had higher self-efficacy than those who did not although the effect size was very small, U = 8,249, z = 2.212., p = .027, r = .14. Similarly, reading about art also had a medium effect on students' self-efficacy, U = 3,866, z = 4.187, p < .001, d = .52 compared to those who did not read about art. Table 5 summarises the results of the group differences on students' self-efficacy.

Table 5. Mann-Whitney U Test of group difference on self-efficacy.

Item	Group	N	Mean Rank	Sum of Ranks
Do you read about art?	Yes	81	130.27	10551.87
	No	137	97.22	13319.14
Does your family own original artworks?	Yes	115	111.27	12796.05
	No	125	128.99	16123.75

The Kruskal-Wallis test was repeated for self-efficacy, and a significant relationship between self-efficacy and art exhibition attendance was found, $H(3)$ = 12.19, p = .007. The Jonckheere-Terpstra test also revealed a significant trend in the data, J = 10,232, z = 2.182, p =.042, r = .13. This indicated that self-efficacy in responding to art was generally higher for those students who had increased their exhibition attendance. Effect sizes for pairwise comparisons between each of the groups can be found in Table 6, confirming Jonckheere's test. Pairwise comparisons were significant

except for “never or less than once a year – at least once a year” and “at least once every six months – at least once every three months”.

Table 6. Effect sizes for pairwise comparisons of exhibition attendance on students’ self-efficacy.

Comparison	z	$\sqrt{N}$	r
Never or less than once a year – at least once a year	-.651	16.31	-.04
Never or less than once a year – at least once every six months	2.988	16.31	0.18
Never or less than once a year – at least once every three months	3.013	16.31	0.18
At least once a year – at least once every six months	2.519	16.31	0.15
At least once a year – at least once every three months	2.921	16.31	0.18
At least once every six months – at least once every three months	1.510	16.31	0.09

How does students’ personal arts practice outside of school impact their intrinsic motivation and self-efficacy to complete visual arts responding tasks within school?

The second research question prompted exploration of how students’ art making is related to their intrinsic motivation and self-efficacy in responding to art. A Mann-Whitney U test was used to compare arts production and students’ intrinsic motivation and self-efficacy in responding to art. While the students were asked a number of questions on their practice, the initial question (“do you practice art outside of school?”) had dichotomous response categories (yes, no) which created two groups for the comparison. This broad question aimed to capture a range of purposes for practicing art outside the school context, including as an individual hobby, for commercial reasons or as a group activity (classes or informal).

Both tests returned non-significant results. Intrinsic motivation in students who maintained personal arts practice did not differ significantly from those who did not practice art, $U = 5{,}378$, $z = 1.756$, $p = .079$, $r = .13$. Similarly, there was no significant relationship between personal arts practice and students’ self-efficacy, $U = 6{,}047$, $z = .429$, $p = .668$, $r = .11$. Table 7 summarises the results of this test.

Table 7. Mann-Whitney U Test of group difference on both intrinsic motivation and self-efficacy.

Item	Engagement Factor	Group	N	Mean Rank	Sum of Ranks
Do you practice art outside of school?	Intrinsic motivation	Yes	172	123.42	21228.24
		No	68	113.10	7690.80
	Self-efficacy	Yes	159	121.85	19374.15
		No	71	117.28	8326.88

Discussion

The students' responses indicated that arts consumption experiences had some effect on their engagement in responding to visual arts, although most of the effect was small to moderate (Cohen 1992). Analysis revealed that reading about art and attending exhibitions had the most significant relationships with both intrinsic motivation and self-efficacy. While reading about art had a similar effect on both intrinsic motivation and self-efficacy, attending exhibitions appeared to have a greater effect on motivation. Motivation scores were higher for those students who attended an exhibition at least once every three to six months. However, attending an exhibition was significant across more of the pairwise comparisons for self-efficacy, indicating a relationship between increased exhibition visits and higher scores on the self-efficacy scale. It is possible that increased exposure to visual artworks could help students in feeling comfortable with a breadth of artistic styles and disciplines, as students are asked to engage with unseen artworks in their responding assessments (School Curriculum and Standards Authority 2016; Author 2015). Exhibitions could also support students' communication skills, as Yee-Man Siu et al. (2016) describe how art exhibition attendance can encourage dialogue with other viewers. Reading about art could have a similar influence as students engage with arts communication in a written form, whether it be through blogs, criticism or newspaper articles. These written sources could give students models for writing about art as well as encouraging them to think more critically about art content, developing two of the 21st century learning skills: communication and critical thinking (Avgerinou and Pettersson 2011; Gilbert 2016).

Having original artworks in the family home had no significant relationship with intrinsic motivation, but it did appear to affect students' self-efficacy. However, it is unknown if the effect on self-efficacy was direct or indirect. Directly, artworks around the home could be the catalyst for discussion between families and the student, or the artworks themselves may be studied by students independently. These types of activities are likely to help a student to feel a sense of mastery in responding to visual arts through practising responding skills in a safe home environment. However, the effect could also be indirect, as Willekens and Lievens (2014) argue that having arts objects in the home may be an indicator of higher arts participation, and therefore, it could be the participation in other arts activities that improves students' self-efficacy as opposed to the objects themselves. Similarly, socioeconomic status and the affordance of opportunities to access the arts through the family needs to be considered. Higher socioeconomic status has been linked to increased arts participation (Mansour et al. 2016), and the specific impact of family background (both value of and access to arts) needs further consideration.

While the three arts consumption activities (reading, exhibition attendance and ownership of artworks) appeared to have some influence on students' intrinsic motivation and self-efficacy scores, maintaining a personal arts practice did not have a significant relationship with either factor of engagement. Visual arts curricula and visual literacy literature all incorporate making artworks as a part of responding to art, as being engaged with artworks and artists informs a student's own practice (School Curriculum and Standards Authority 2016; Avgerinou and Pettersson 2011; Freedman et al. 2013). This method of instruction is commonly used in schools and has been over the last 30 years (Eisner 1987; Macdonald 2005; Caldwell and Vaughan 2011; Kim and Geahigan 2004; Boughton 1989). It is possible that arts practice did not have a significant impact on intrinsic motivation and self-efficacy for responding because students see their personal practice as being different to school-based practices, which include responding as a formal part of the artistic process. For example, a student may think about their personal practice as a hobby, as a process of making quickly rather than pursuing making for the artistic work produced at the end of the process (Author 2017). Students may also think of their making process as pure self-expression, where they are not influenced by anyone else (Author 2015). Consequently, when answering survey items on their engagement in responding the students may not consider the link between making and responding (i.e., how engaging with artists becomes an influence in their own art making practices). It could be argued that this interpretation would be appropriate for this sample of senior school students, as senior school visual arts courses

clearly isolate making and responding by having two separate examinations each weighted at 50% of the students' grade (School Curriculum and Standards Authority 2016).

Conclusion

This research study aimed to determine if increased personal arts engagement had a positive relationship with students' self-reported intrinsic motivation and self-efficacy in responding to art. Within the sample of 266 Western Australian students, it suggested that reading about art and attending exhibitions once every three to six months had a significant relationship with both students' intrinsic motivation and self-efficacy. The frequent attendance of exhibitions suggests that students are motivated to seek opportunities to engage in visual arts, and frequent participation provides opportunities to build self-efficacy through positive experiences. While these activities were conducted by students in their own time, they may hold applicability for educators who want to improve students' engagement in the area of responding. Having original artworks in the family home increased students' self-efficacy; however, this raised questions about equal access to arts experiences in the family setting. Consequently, teachers may be the facilitator of access to artworks for all students through increasing gallery visits or engagement with local arts as well as through fostering positive engagement with arts through the internet and other online platforms. Overall, self-efficacy was affected more than intrinsic motivation, which suggests that arts consumption gave students a higher sense of self-belief in their abilities. This could be due to increased exposure to the breadth of art, or reinforced through social interactions with family or friends outside of school.

Students' personal practice had no significant influence on either their intrinsic motivation or self-efficacy. It is possible that this is a result of interpretation of the survey, if students defined making and responding as isolated or interconnected processes. However, it is also possible that students saw their personal practice as completely separate to school-based learning, therefore having little impact on engagement in responding at school. A limitation of this research is in trying to measure consumption or production, as each individual's artistic process is subjective and these aspects may be connected to varying degrees for each student. In addition, the data were students' self-reports of arts participation, intrinsic motivation and self-efficacy, and these data may be strengthened by alternate sources such as parent or teacher reports. Furthermore, this study reports on the quantitative findings from one measure and future research could focus on the lived experience of students' participation through qualitative data collection. Despite these limitations, the findings show the importance of arts consumption on students' intrinsic motivation and self-efficacy in responding to art. Facilitating arts consumption in both physical and online spaces could increase students' opportunities for positive mastery experiences that develop communication, critical thinking and creativity skills that prepare them for participation in the 21st century global community (Commonwealth of Australia 2017; Greiff et al. 2014; Saavedra and Opfer 2012; Gilbert 2016).

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