

Australian Journal of Educational & Developmental Psychology



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Australian Journal of Educational & Developmental Psychology, 2017, Vol. 15, pp. 53-65

Editor for this article: Jennifer Archer, PhD
Published by the UON School of Education
ISSN 1446-5442

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Critical links between arts activity participation, school satisfaction and university expectation for Australian high school students

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Abstract

Positive school experiences increase school satisfaction and educational aspirations and, are important developmental opportunities for adolescents. Associations between time-varying school-based arts participation, students' school satisfaction and university expectation were investigated using data collected from 1,215 students in 29 Western Australian high schools. Associations between school-based arts participation and school satisfaction, and school-based arts participation and university expectation were tested using latent growth curve analyses. Positive associations were found between school-based arts participation and time-specific variations in school satisfaction and university expectation in each year of activity participation. Higher levels of school satisfaction and university expectation were reported above and beyond individual-specific underlying developmental trajectory for these outcomes, controlling for socio-economic status. Policy implications and practice are discussed in the context of arts provision for Australian schools.

Keywords: aspirations, arts activity, university expectation, school satisfaction

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Positive school experiences contribute to multiple aspects of development during adolescence, ranging from an increase in intellectual capital and academic attainment to psychological wellbeing and peer relationships (Eccles & Roeser, 2011; Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2007). However, not all students have positive experiences at school nor do they feel satisfied with their school life. In a recent survey of Australian students' school life, approximately 21% of high school students were found to lack interest in school and were unhappy with school (Hancock & Zubrick, 2015). Australian parents and policymakers are concerned about the potential negative effects that this disaffection may have on young people achieving optimal academic and developmental outcomes.

Aspiration and expectation

Thriving at school and developing educational aspirations that lead to a successful future are important developmental tasks for adolescents. Early aspirations are conceived as optimistic and vague representations of a future possibility (Nurmi, 2004), which are then strengthened and refined with age through cognitive processes of developing goals and decision-making. Ecological systems theory (Bronfenbrenner & Morris, 2006) suggests that developmental goals are influenced by interactions and experiences gained within contexts where young people are socialised. Positive interactions with parents, teachers and like-minded peers are likely to influence aspirations (Rumberger, 1993; Tucker, Barber, & Eccles, 2001) and their evaluations about the likelihood of achieving those hoped-for goals. The stronger the perceived likelihood of realising those aspirations, while taking into account current interests, abilities, success and failure, and available opportunities (Gottfredson, 1981), the greater likelihood that behaviours will be adapted to maintain their desired trajectory (Markus & Nurius, 1986; Nurmi, 2004).

Various nomenclatures have been used to describe young people's higher education aspirations. These include plans (Catterall, 2012); intention (Martin et al., 2013);

likelihood (Eccles, Jozefowicz, Barber, & Belansky, 1993; Marjoribanks, 1998) and want (Schoon, 2006). Eccles et al. (1993) conceptualised 'likelihood' as an expectation of going onto college/university based on accumulated self-knowledge and more than just a vague desire. Educational aspirations and expectations have been found to have distinguishable differences (Gottfredson, 1981; Beal & Crockett, 2010). However, Beal and Crockett's work found that both of these constructs similarly predicted education attainment eight years later. This study uses 'expectation' of going on to higher education because this construct is a suitable measure of educational aspiration and includes assessment of the realistic chances of attainment rather than aspirations grown in ideal conditions.

School satisfaction

School satisfaction is an important aspect of adolescents' quality of life. Given the centrality of school in adolescent life, school satisfaction has the potential to influence present and future trajectories (Baker, Dilly, Aupperlee, & Patil, 2003). One important aspect of young people's development is their socio-emotional needs at school and whether these are met. In the broad field of educational psychology, school satisfaction is situated in a cluster of constructs that include engagement (Appleton, Christenson, Kim, & Reschly, 2006), belonging (Goodenow, 1992), liking (Hawkins, Guo, Hill, Battin-Pearson, & Abbott, 2001) and attachment (Mouton, 1996). As young people move through their schooling, positive school experiences such as achievement, competence and relatedness (Wigfield et al., 2015) are likely to increase their interest, enjoyment and engagement at school and contribute to increased school satisfaction and, more widely, a positive sense of wellbeing. The current literature has paid little attention to how school-based arts activities may affect students' school experiences and how these experiences may be fostered to positively influence student outcomes (Elmore & Huebner, 2010).

School-based arts participation

Research has linked extracurricular activity participation with positive self-concept and self-worth (Blomfield & Barber, 2009), self-esteem (Kort-Butler & Hageman, 2011; Martin et al., 2013), promoting prosocial behaviours (Poulin & Denault, 2013) and lower rates of risky behaviours (McCabe, Modecki, & Barber, 2016). School-based extracurricular activity participation has been found to be more strongly associated with academic engagement and achievement than out-of-school activities (Gerber, 1996). Context-specific activities that are aligned to the individual's future aspirations are likely to impact on goals and outcomes in that same context (Marsh & Kleitman, 2002).

Arts participation is one of the most common forms of school-based extracurricular activities undertaken by Australian adolescents (Ewing, 2011; Martin et al., 2013). Generally, these activities are self-selected from a range of offerings that include dance, performing arts, band, choir, playing a musical instrument, digital music, and film within the high school setting. Such arts-based activities offer a number of developmentally facilitative experiences (Hansen, Larson, & Dworkin, 2003), promoting positive social, academic and behavioural outcomes for adolescents (Deasy, 2002; Fiske, 1999). Active engagement in arts activities at school has been shown to facilitate positive school experiences, for example through participants' perceptions of more positive support from other students and a more positive identification with the school (Martinez et al., 2016). Such positive experiences, accumulated over multiple years of participation, help to enhance students' perceptions of school life, develop a better attitude to school and improve wellbeing (Darling, Caldwell & Smith, 2005).

The stage-environment fit theory (Eccles & Midgley, 1989) posits that when students are participating in school-based activities that coincide with their personal interests and talents, there is increased motivation to achieve academically, and a higher level of school enjoyment (Orkibi, Ronen, &

Assoulin, 2014; Park, Holloway, Arendtsz, Bempechat, & Li, 2012). Arts activity participation allows students who value art to gain skills and competencies in a personally meaningful domain. Through arts engagement, students have opportunities to carve out an activity-based persona (an artist, a dancer) and perhaps as a result, to find a place in the social structure of the school where they feel they belong (McNeal, 1999; Barber, Eccles, & Stone, 2001). This process can help to develop a positive identity with a connection to school, even where success in traditional academic subjects has been elusive. Illustratively, Fiske (1999) reported that arts activity in schools provided powerful benefits particularly for engaging difficult students.

In much of the previous research, the impact of participation is considered at only one point in time, or as a uniform "all or nothing" measure (Rose-Krasnor, Busseri, Willoughby, & Chalmers, 2006, p. 386), rather than considering arts participation patterns over time. However, school-based arts activity participation is not constant across a high school career and can vary across the years for different reasons: activity experimentation, friendship shifts, or fluctuating school resources (Ewing, 2011; Stearns & Glennie, 2010) are some examples. We sought to account for this variation in the study.

The current study

The aims of the current study were to examine the associations between school-based arts activity participation and levels of school satisfaction and university expectation for students in high school. Analyses allowed for students' movement in and out of arts activities across the high school years and investigated cross-sectional time-varying associations. Firstly, we hypothesised that school-based arts participants would report contemporaneously higher levels of school satisfaction, above and beyond students' individual school satisfaction trajectories from year 8 through to year 11. Secondly, we hypothesised that school-based arts activity participants would report contemporaneously higher university expectation, above and beyond what was

expected based on the individual-specific underlying developmental trajectory for university expectation.

Method

Participants

The sample comprised 1,215 students (58% female) from 29 high schools (68% metropolitan, 32% regional) who responded to the Youth Activity Participation Survey of Western Australia (YAPS-WA). The baseline mean age was 13.47 years ($SD = .31$). Of these participants, 56.1% were Caucasian, 7.0% were Asian, 2.0% were Aboriginal or Torres Strait Islanders, 3.4% were Middle Eastern/African, 18.0% were other (e.g., Indian, and Maori) and 12.7% didn't report ethnicity.

Procedures

Survey data were collected from 2010 to 2013 as part of the larger YAPS-WA study investigating students' extracurricular activities. Responses were captured using laptops, iPads or pen and paper if requested by the school. The survey was approved by the Murdoch University Human Research Ethics Committee, the Department of Education (WA) and the WA Catholic Education Office and took around 45 minutes to complete. Survey participation required active informed student and parent consent.

Measures

School-based arts activity participation. Students were asked to report all their art activity participation at school including performing arts (dance, drama, singing), visual, digital and creative arts, musical instrument playing, choir and band. These activities included individual pursuits and group-based activities. Two groups were identified—those participating in any school-based arts activities during each school year and those with no school-based arts participation that year (0 = *No school-based arts participation*, 1 = *Yes, school-based arts participation*).

School satisfaction. This scale was based on the mean of three items designed to determine students' perceived satisfaction with school. The school satisfaction items were not included in the 2011 YAPS survey, therefore, the time lag between each wave of data was not equivalent and analyses adjusted for this gap (Byrne, 2012). Three statements were rated – “school is interesting”; “I enjoy school activities”; and “I look forward to going to school” on a 5-point scale ranging from 1 = *not at all true for me* to 5 = *very true for me*. The items were adapted from the Multidimensional Students' Life Satisfaction Scale (MSLSS) (Huebner, 1994). Reliability for the scale at each time point was high ($.85 < \alpha < .89$).

University expectation. Student university expectation was measured using one item “how likely are you to go to university after high school?” The item was measured using a 7-point scale where 1 = *Not at all likely* to 7 = *Very likely*. This item was adapted for use from the Michigan Study of Adolescent Life Transitions (Eccles & Barber, 1999).

Covariates. SES was included in the study as a time-invariant covariate (0 = *below median*, 1 = *above median*). SES was measured at school level using the school's Index of Community Socio-Educational Advantage (Australian Curriculum Assessment and Reporting Authority (ACARA), 2015). This index describes a school's comparative socioeconomic advantage using data on parental education, occupation, income, ethnicity, and geographical location of students (author citation removed for anonymous review). The ICSEA index has a mean of 1000, and standard deviation of 100 and participating schools ranged between two standard deviations above and below the mean (author citation removed for anonymous review).

Analysis plan

Latent growth curve models (LGCs) were used to characterise change in school satisfaction and university expectation over four years of high school. All analyses were conducted using *Mplus 7.4* (Muthén & Muthén, 2015). Model fits were evaluated

using maximum likelihood estimation with robust standard errors (Yuan & Bentler, 2000). The analyses used Bias-corrected (BC) bootstrapped confidence intervals (5000 iterations) to generate estimates for the model, with 95% confidence intervals (CI) to estimate significance and strength of the associations in each model. These approaches adjust for non-normality in the data and can be used to estimate missing data based on case information within the dataset (Yuan & Bentler, 2000). All models were assessed and found to have acceptable fit using the chi-square goodness-of-fit test, the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). For a good fitting model, the CFI has a value greater than .95 and for the RMSEA values between .05 and .08 represent acceptable fit (McDonald & Ho, 2002).

Firstly, we estimated unconditional LGCMs separately for school satisfaction and university expectation. School satisfaction scores were taken with an initial time point in 2010, then in 2012 and finally in 2013, fixing the required time points at 0 for baseline, then at 2 for the second measurement two years after baseline, and then at 3 for three years after baseline. The slope factor, therefore, represented the overall shape of the school satisfaction trajectory using three measurements over four years. For university expectation, the scores were taken in consecutive years from 2010 to 2013. The slope factor, therefore, represented the overall shape of the university expectation trajectory for four years. As the model for university expectation could be identified with four time points, we tested for quadratic growth as well as linear growth. The covariance between the intercept and slope was estimated separately for each outcome measure.

Next, we estimated two separate models whereby school-based arts participation was used as a time-varying predictor of growth in school satisfaction and growth in university expectation, testing contemporaneous associations. SES was included in each model as a time-invariant predictor of the intercept and slope of school satisfaction, and intercept and slope of university

expectation. Specifically, this final model examined the extent to which school-based arts participation accounted for within-time (concurrent) relations with school satisfaction (or university expectation). We estimated a LGCM in which participation in school-based arts activities in Year 8, 10, and 11 served as predictors of individual variability in students' school satisfaction in Year 8, 10, and 11 (for university expectation in Year 8, 9, 10, and 11). These two models evaluated whether school-based arts participation was cross-sectionally associated with school satisfaction (or university expectation) above and beyond what was expected based on the individual-specific underlying trajectory of school satisfaction (or university expectation).

Results

Descriptive data (correlations, means, standard deviations) for the latent variables of school satisfaction and university expectation at each time point and SES are presented in Table 1.

Unconditional univariate latent growth curve models

School satisfaction. The unconditional linear latent growth curve model for school satisfaction in the total sample fit the data well: $\chi^2(1, N = 1187) = 5.74, p = .25, CFI = 0.99, RMSEA = .063$. The LGCM had a significant negative slope (standardised slope: $M_s = -.06, p < .05$), indicating a decline in school satisfaction levels for students from year 8 to year 11. The variances for the intercept and slope were $D_i = .70, p < .05$, and $D_s = .06, p < .05$, respectively, indicating substantial variation across the students in initial school satisfaction levels and their trajectories. The correlation between the intercept and slope (R_{is}) was $-.09 (p < .05)$, which suggested students with higher initial levels of school satisfaction experienced greater decline over time.

University expectation. The unconditional linear LGCM for university expectation in the total sample fit the data well: $\chi^2(5, N = 1209) = 28.83, p = .00, CFI = 0.99, RMSEA = .063$.

The LGCM had a significant negative mean slope ($M_s = -.09$, $p < .05$), indicating a decline in university expectation levels for students from year 8 to year 11. The variance for the intercept and slope were $D_i = 2.30$, $p < .05$, and $D_s = .20$, $p < .05$, respectively, indicating substantial variation across the students in initial university expectation levels and trajectories. The

correlation between the intercept and slope (R_{is}) was not significant. The quadratic model specification was problematic (i.e. negative residual variances) for the four university expectation scores, and therefore, quadratic growth was not considered further. The linear growth model was considered an acceptable fit for the trajectory of university expectation and used in the final model.

Table 1
Correlation and descriptive statistics

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. School satisfaction Yr8	1											
2. School satisfaction Yr10	.52**	1										
3. School satisfaction Yr11	.40**	.61**	1									
4. University expectation Yr8	.39**	.32**	.29**	1								
5. University expectation Yr9	.33**	.33**	.25**	.72**	1							
6. University expectation Yr10	.31**	.43**	.34**	.62**	.74**	1						
7. University expectation Yr11	.28**	.37**	.42**	.60**	.68**	.78**	1					
8. Art participation Yr8	.11**	.11**	.07	.23**	.26**	.23**	.19**	1				
9. Art participation Yr9	.16**	.09*	.08*	.24**	.23**	.19**	.20**	.19**	1			
10. Art participation Yr10	.15**	.12**	.07	.19**	.22**	.21**	.18**	.15**	.45**	1		
11. Art participation Yr11	.12**	.12**	.14**	.15**	.13**	.14**	.13**	.16**	.33**	.41**	1	
12. ^a SES	.14**	.10**	.07	.29**	.29**	.28**	.24**	.17**	.19**	.15**	.05	1
Mean	3.18	3.12	3.03	5.14	5.18	5.14	5.07					
SD	.99	.97	1.02	1.77	1.79	2.03	2.08					

Note. ^aSchool-level socio-economic status
* $p < .05$; ** $p < .01$

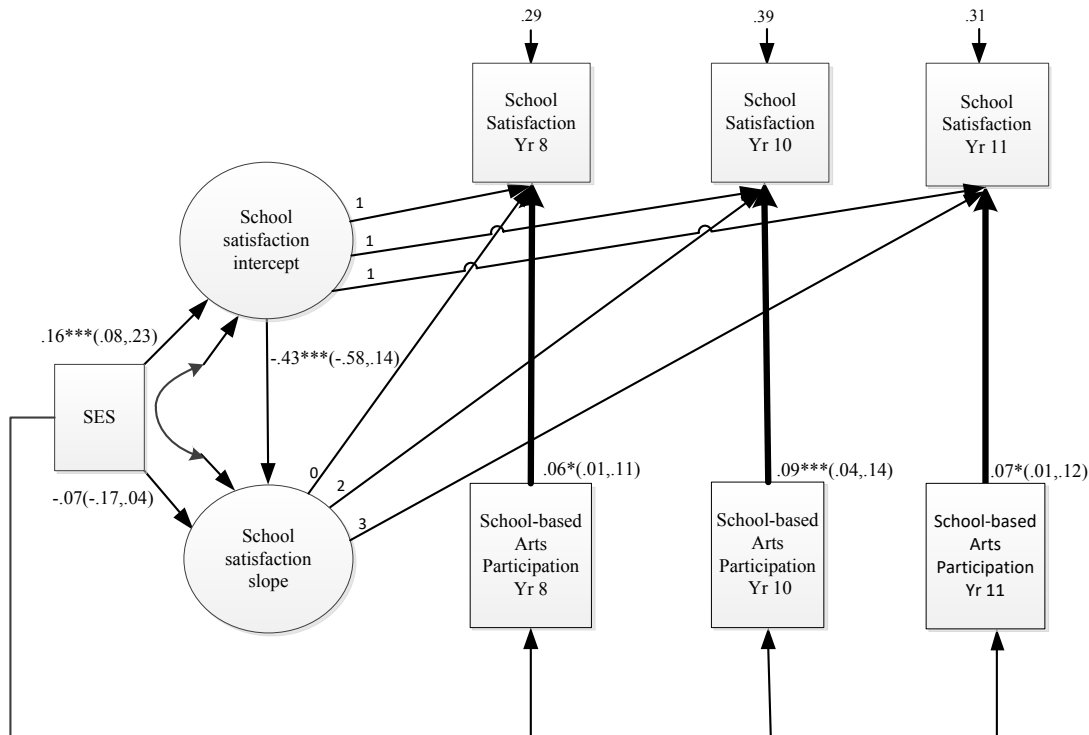
Does school arts participation predict time-specific elevations in school satisfaction trajectories?

Concurrent associations for school satisfaction. The full LGCM of school satisfaction, with time-invariant (i.e., SES) and time-varying (concurrent school arts participation from year 8 to year 11) covariates fit the data well, $\chi^2(8, n = 1215) = 21.13$, $p = .007$, CFI = 0.98, RMSEA = .037. Results are shown in Figure 1. Students who participated in school arts reported significantly higher levels of school

satisfaction in year 8 ($\beta = 0.13$; $p < .05$), year 10 ($\beta = 0.19$; $p < .05$) and year 11 ($\beta = 0.15$; $p < .05$). These results suggest that school arts participation added to the prediction of school satisfaction beyond what would be expected based on their individual trajectories alone, controlling for SES. The R^2 values for school satisfaction are all greater than .61, indicating that the variation in levels of students' school satisfaction is well explained by the intercept and slope and school-based arts participation as the time-varying covariate, after controlling for SES.

Figure 1

Full LGCM showing concurrent associations with time-varying arts participation and time-invariant covariate (SES) with standardized parameter estimates. School Arts participation predicted schools satisfaction above and beyond the growth in school satisfaction that is accounted for by school satisfaction trajectory. Significant parameters are denoted with asterisks and bold lines and the 95% confidence interval for each parameter is provided in parentheses. Residual variances for school satisfaction variables are included. * $p < .05$; ** $p < .01$; *** $p < .001$.



Does school arts participation predict time-specific elevations in university expectation trajectories?

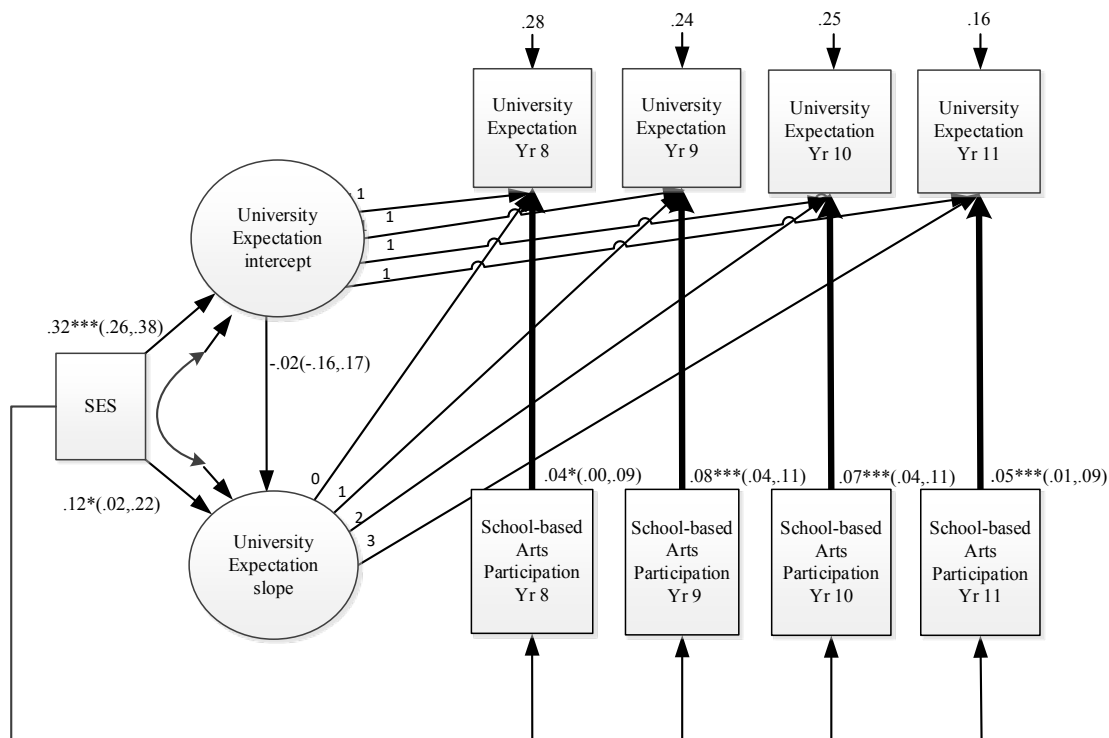
Concurrent associations for university expectation. The full LGCM of university expectation, with time-invariant (i.e., SES) and time-varying (concurrent school arts participation from year 8 to year 11) covariates fit the data well, $\chi^2(19, n = 1215) = 86.52, p = .000, CFI = 0.98, RMSEA = .054$. Results are shown in Figure 2. Students who participated in school arts reported significantly higher levels of university

expectation in year 8 ($\beta = .16; p < .05$), year 9 ($\beta = .29; p < .05$) year 10 ($\beta = .31; p < .05$) and year 11 ($\beta = .24; p < .05$). These results suggest that school arts participation contributed to higher university expectation than would be expected based on individual trajectories alone, after controlling for SES. The R^2 values for university expectation were all greater than .72, indicating that the variation in observed outcome measures for university expectation was well explained by school-based arts participation as the time-varying covariate, together with controlling for SES.

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Figure 2

Full LGCM showing the concurrent associations with time-varying arts participation and time-invariant covariate SES with standardized parameter estimates. School Arts participation predicted university expectation above and beyond the growth in university expectation that is accounted for by the growth trajectory. Significant parameters are denoted with asterisks and bold lines and the 95% confidence interval for each parameter are provided in parentheses. Residual variances for university expectation are included. * $p < .05$; ** $p < .01$; *** $p < .001$.



Discussion

Little prior research has tested the relations between arts participation, school satisfaction and educational aspiration. This study sought to contribute to filling that gap by testing the hypothesis that students who participated in school-based arts would report higher levels of school satisfaction at each time point in high school; this hypothesis was supported. Support was also found for the second hypothesis that students who participated in arts activities would contemporaneously report higher expectation for going to university.

The findings revealed that, on average, school satisfaction declined with age as students moved through high school which is consistent with previous research (Elmore & Huebner, 2010; Tomy & Cummins, 2011). This decline coincides with expected developmental changes as young people

began to seek autonomy from parents and teachers to decide their own educational and career future. We also found that university expectation declined with age, as students moved through high school. It is likely that older students had re-evaluated their post-high school educational goals as they moved through school, and the realisation of previously laid plans came to be viewed as less likely, particularly in low SES schools (Fleming & Grace, 2014).

This study examined and found positive associations between school-based arts participation and school satisfaction, supporting Marsh & Kleitman's (2002) research that linked school-based activities directly with school-related outcomes. School-based arts participation involves context-specific processes that link directly to students' developmental and educational outcomes (Gerber, 1996). One explanation is that linking students with positive mentors

and role models in arts activities provides a supportive environment that transfers into the broader school environment (Ewing, 2002). Further, school-based arts activities often allow for self-definition and explicit expression of an outward message to the outside world that “this is who I am” and declaratively “I am creative” that is congruent with the participant’s personal identity (Barber, Abbott, Neira, & Eccles, 2014; Hansen et al., 2003). When this personal expressiveness is supported, it is likely to result in more goal-directed behaviours that achieve developmental and academic outcomes (Coatsworth et al., 2005) particularly for students who find schoolwork challenging. Additionally, arts participation may offer an anchor to which academically challenged or disengaged students can attach during high school, providing a buffer against declines in both school satisfaction and educational aspirations. It is also possible that positive experiences gained in arts may have helped participants to develop more positive attitudes towards school and afforded them opportunities to see school as a more satisfying place to be, more enjoyable and more interesting than the way school is viewed by those who do not participate in arts.

University expectation was also positively associated with school-based arts activity participation. This finding suggests that arts participation in the high school years provides students with more positive school experiences, increasing their enjoyment and interest in school and facilitating access to positive mentors and role models that assisted students to more confidently and optimistically plan for a future that includes post-high school education. Studies investigating arts participation in the school domain specifically are scarce; however, our findings that university expectations were linked with students’ school-based arts activity participation across the high school period are consistent with previous research (Kaufman & Gabler, 2004). It is likely that students benefit significantly from the cognitive enrichment experienced during training and practice in arts, and also through accessing supportive adults in these activities who provide knowledge, skills and social capital (talking, learning and working

with them) as young people move through high school and develop their personal and educational aspirations.

Our results should be interpreted with caution as causality could not be determined in our design; that is, it is possible that students with more optimistic attitudes about school and higher aspirations are more likely to participate in arts activities or that those participating in arts were more attuned and confident in developing aspirations and expectations for higher education. The results indicated higher levels of both school satisfaction and university expectation for arts participants above and beyond expected individual trajectories and this effect held across multiple data points. We controlled for SES so that some of the between-group differences were accounted for (Holland & Andre, 1987) which may attenuate some of the selection biases concern in this study; however, caution is still warranted.

Conclusion

This study contributes to the literature by identifying school-based arts participation as a potential factor in enhancing school satisfaction and increasing university expectation. Arts activities may be used as a design feature in future school-based interventions for students who are dissatisfied with school and considering dropping out. These activities and the positive experiences gained during participation may help to remediate negative experiences and contribute to enhancing school satisfaction, and potentially, post-high school educational aspiration. Further research to investigate processes such as mentoring and the dynamics of arts participation that lead to positive school attitudes, could contribute to better understanding of how personal factors and social interactions affect students’ school life. Our investigation into the role of arts activity participation in school satisfaction and university aspirations adds to the literature on the benefits of school-based arts participation for students at high school. We believe that this research is timely in highlighting the importance of school-based arts activities as arts programs are often reduced when resources are scarce (Stearns

& Glennie, 2010; Ewing, 2011). Cutting these programs from schools, particularly in low SES areas, could compromise students' quality of school life and curtail their ambitions for educational attainment after high school.

Acknowledgements

The Youth Activity Participation Study of Western Australia has been funded by grants under Australian Research Council's Discovery Projects funding scheme: DP0774125 and DP1095791 to Bonnie Barber and Jacquelynn Eccles, and DP130104670 to Bonnie Barber, Kathryn Modecki, and Jacquelynn Eccles. Portions of this research was funded by the MAP4U Project which was, in turn, funded by the Department of Industry, Innovation, Science, Research and Tertiary Education (DIISRTE) for the Murdoch's Aspirations and Pathways for University (MAP4U) Project (2012- 2016). We are grateful to the 29 Western Australian high school principals, staff, and students who participated in the study. We would also like to thank Corey Blomfield Neira, Bree Abbott, Catherine Drane, Kira McCabe, Gabriel Heaslip and Melanie Coleman for their contributions to data collection and project management.

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AJEDP is published by the University of Newcastle, Australia

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