



HHS Public Access

Author manuscript

Int J Dev Sci. Author manuscript; available in PMC 2016 August 07.

Published in final edited form as:

Int J Dev Sci. 2015 ; 9(3-4): 115–123. doi:10.3233/DEV-140148.

The Longitudinal Effects of Adolescent Volunteering on Secondary School Completion and Adult Volunteering

Nicholas Moorfoot^{1,*}, Rachel K. Leung^{1,2}, John W. Toumbourou^{1,2}, and Richard F. Catalano³

¹Centre for Social and Early Emotional Development, School of Psychology, Deakin University

²Centre for Adolescent Health, Murdoch Childrens Research Institute

³Social Development Research Group, School of Social Work, University of Washington

Abstract

This study explores the longitudinal effect of adolescent volunteering behaviour on young adult volunteering and the completion of secondary school. Utilising data from the Australian sample of the International Youth Development Study, frequency of volunteering in Grade 9 (mean age = 15 years) and in young adulthood (mean age = 21 years), and completion of secondary school were measured. Mixed effect logistic regression analyses revealed that adolescent volunteering was associated with an increased likelihood of volunteering in young adulthood (Odds Ratio [OR] 1.29; 95% Confidence Interval [CI] 1.20 – 1.39; N = 2,648) and of Grade 12 completion (OR 1.14; CI 1.03 – 1.28; N = 2,648), after controlling for family socioeconomic status and adolescent school adjustment. These findings suggest that adolescent volunteering may lead to further involvement in young adult volunteering and have a positive effect on school completion.

Keywords

Adolescents; Volunteering; Educational outcome; Longitudinal; School Completion; Young adulthood

The adolescent years (ages 10 to 19 years; Sawyer et al., 2012) are an important period in human development. Experiences during these years may influence physical, social and psychological adjustment into adulthood. The adolescent years are a time where health behaviours become established and social identities and lifestyles are formed (Marks & Kuss, 2001). The importance of the adolescent years has led to efforts to implement programs designed to prevent health and social problems (Catalano et al., 2012) and to promote positive youth development (Zaff et al., 2011).

Although increasing adolescent involvement in volunteering has been advocated amongst the approaches to promote positive youth development (Toumbourou, Olson, Rowland, Renati, & Hallam, 2014), there have been surprisingly few studies that have longitudinally examined the adult consequences of adolescent volunteering. The few studies that have

*Address for correspondence: Nicholas Moorfoot, School of Psychology, Faculty of Health, Deakin University, Locked Bag 20000, Geelong, Victoria 3220, Australia. namoor@deakin.edu.au.

longitudinally examined consequences have suggested that involvement in volunteering and other prosocial behaviours during adolescence can lead to numerous behavioural and psychosocial benefits in later adolescence and into young adulthood such as better academic performance, less involvement in problem behaviours, greater life satisfaction, and increased intrinsic work values (Fredricks & Eccles, 2006; Kuperminc, Holditch, & Allen, 2001; Zaff, Moore, Romano Papillo, & Williams, 2003). Volunteering rates have been on the increase over the past two decades, thus, understanding its role in adolescent development is a relevant and important issue (Grimm, Dietz, & Foster-Bey, 2006).

Volunteering in Adolescence

Volunteering can be defined as long-term, planned and non-obligatory civic involvement with the aim to assist a group, cause or an individual without any monetary return (Penner, 2004). Volunteering provides adolescents with the opportunity to exercise positive choices, to integrate in their community, develop new skills, increase confidence and develop prosocial attitudes (Zaff et al., 2003). Research has suggested that volunteering may be most beneficial when it is done on a regular basis and over an extended period of time. Zaff and colleagues (2003) conducted a longitudinal study examining the impact of volunteering in Grade 8 on future volunteering, two years post-secondary school with a sample of 8,599 adolescents. Those who volunteered in Grade 8 and continued to volunteer regularly were more than twice as likely to volunteer two years post-secondary school as those who did not volunteer at all during adolescence.

Adolescent volunteering has been argued to not only increase the likelihood of volunteering in young adulthood, but also to encourage positive psychosocial adjustment in a range of areas (Zaff et al., 2003). Involvement in volunteering activities allows adolescents to connect with others in their communities, from whom they can experience a range of different perspectives (Fredricks & Eccles, 2006). Volunteering can also connect young people with caring adults who may provide support during difficult times in adolescence (Freudenberg & Ruglis, 2007; Zaff et al., 2003).

Previous research on the influence of adolescent volunteering has been inconclusive as to whether it increases the likelihood of school completion. One of the most significant potential outcomes of adolescent volunteering is the suggestion that it may contribute to positive academic performance, however prior longitudinal studies have tended to examine volunteering as one component in the study of a broader set of youth activities. For example, a longitudinal study conducted by Fredricks and Eccles (2006) found that involvement in extracurricular school clubs that encouraged volunteering throughout secondary school was associated with higher grade point average and higher educational aspirations in Grade 11, after controlling for family demographics, children's achievement-related motivation, and academic performance in Grade 8. Similarly, Zaff and colleagues (2003) found that individuals who participated more frequently in extracurricular activities that included volunteering were more likely to attend college and achieve higher academic performance in college (Fredricks & Eccles, 2006).

Alternatively, many adolescents typically have a variety of commitments in addition to their normal schooling (e.g. part-time work, sports); hence becoming involved in more activities such as volunteering could be potentially overwhelming and put young people at risk for poor developmental outcomes. Despite this concern, findings of a longitudinal study showed that the time youth spent in organised activities (including volunteering or helping) predicted improved positive adult psychological adjustment and educational attainment approximately four years later, after controlling for demographic, family socioeconomic, and local neighbourhood factors (Mahoney & Vest, 2012).

The positive impact volunteering has on personal domains such as life satisfaction, social development and self-esteem may also prove beneficial to educational outcomes in those who volunteer (Bundick, 2011; Cemalcilar, 2009). Further, the skills (e.g., communication and work skills) developed through engaging in civic activities are likely to be beneficial in a school setting and likely to improve academic outcomes for those who volunteer (Mahoney & Vest, 2012). Factors such as socioeconomic status (SES), adolescent developmental problems, gender, age and school type/location have been found to influence academic achievement, thus it is important to control for these factors when exploring volunteering effects on secondary school completion (Fredricks & Eccles, 2006; Obradovic & Masten, 2007; Zaff, Malanchuck, & Eccles, 2008;).

Benefits Associated with Secondary School Completion

Completion of secondary school education is an important developmental milestone during adolescence. Higher levels of educational attainment is a predictor of healthy adult development (Freudenberg & Ruglis, 2007). Educational attainment during adolescence is important for health and socioeconomic status later in life; more education is consistently associated with higher work participation, lower risk of work disability, lower death rates, and lower levels of risky health behaviours (De Ridder et al., 2012; Freudenberg & Ruglis, 2007). Secondary school completion is typically a minimum entry requirement for higher education and professional employment. According to a recent systematic review school dropout prevention and intervention programs can be effective in increasing school completion (Wilson & Tanner-Smith, 2013). In particular, programs that involved community service (planning and carrying out a community service project) had an adjusted mean odds ratios of 3.53, which was translated to a 6% reduction in dropout rate for intervention participants.

If adolescent volunteering more broadly could be shown to have specific long-term benefit, it may be that encouraging volunteering during adolescence could be utilised as a preventive strategy to increase secondary school completion.

The Current Study

Recent reviews of adolescent community service volunteering have recommended further studies investigating longitudinal effects (Goethem, Hoof, Orobio de Castro, Van Aken, & Hart, 2014). Given that most of the existing studies were conducted in the United States (US), studies conducted in other nations such as Australia are important to generalise

findings. In addition, there is a lack of research that has examined the specific effects of youth volunteering, as prior studies have included volunteering as a component within broader constructs such as extracurricular involvement. Therefore, the current study aimed to examine more specifically the longitudinal effect of adolescent volunteering on secondary school completion and young adult volunteering in a contemporary Australian context by exploring volunteering as standalone variable rather than as a component of a larger variable. Additionally, the current study is the first to examine the effects of volunteering in a multivariate study over a ten-year period adjusting for confounders. It was hypothesised that individuals who were involved in more frequent volunteering during adolescence would be more likely to volunteer in young adulthood and to complete Grade 12 secondary schooling.

In order to identify the longitudinal effects of volunteering it was considered important to control for other variables that may influence adolescent volunteering, secondary school completion and young adult volunteering. Young adult volunteering and related positive developmental outcomes appear to be influenced by both gender and age, in addition to socioeconomic status (Cemalcilar, 2009; Obradovic & Masten, 2007). Family socioeconomic status, attendance at private secondary schools (i.e., independent and Catholic schools in Australia that have much higher fees compared to government schools and offer additional opportunities) and attending schools in regional and rural areas where opportunities may be more restricted may all influence adolescent volunteering and subsequent adult adjustment outcomes (Wilson, 2000). Adolescent volunteering and related positive adult outcomes may also be lower where adolescents exhibit antisocial behaviour and school adjustment problems (Horn, 2012).

Method

Procedure and Participants

Data for the current study were drawn from the International Youth Development Study (IYDS), an ongoing, bi-national longitudinal investigation of the development of healthy and problem behaviours among young people in Victoria, Australia and Washington State, U.S (Hemphill, Toumbourou, Herrenkohl, McMorris, & Catalano, 2006). The IYDS student survey used a self-report instrument that assessed a broad array of risk and protective factors predictive of antisocial and prosocial behaviours, including substance use, academic achievement, and volunteering and community service. In order to achieve a state-representative sample in each state, a two stage cluster sampling method was used for school and student recruitment in 2002. In the first stage, schools were randomly selected and within each school a target classroom was selected at random in the second stage. Within each state and grade level, public and private schools containing Grades 5, 7, and 9 students were randomly selected using probability proportionate to grade-level size sampling procedures. The original recruitment and sampling procedures and participation rates have been described in details in McMorris, Catalano, Kim, Toumbourou, and Hemphill (2011).

The sample for the current study consisted of all participants in the youngest cohort (Grade 5; average age 11; $n = 927$), the middle cohort (Grade 7; average age 13; $n = 984$), and the oldest cohort (Grade 9; average age 15; $n = 973$) of the Victorian arm of the IYDS. Across

the three cohorts, a total of 2,884 Victorian students consented and participated at baseline. For the purpose of the current analyses, two measurement points were chosen. At the first measurement point participants were surveyed when they were in Grade 9 in 2002, 2004, and 2006, respectively for the oldest, middle and youngest cohort. The age of participants at the first measurement point ranged from 14 to 16 years (mean age = 15.0, SD = 0.4). Written consent was obtained from parents for their adolescents to participate in the study and students provided assent to complete the survey. Surveys were administered in classrooms during a 45- to 60-minute period. The second measurement point for the present study collected data between 2010 and 2011 when participants were in young adulthood, with their age ranging from 18 to 24 years (mean age = 21.1, SD = 1.7). As young adult participants provided consent for their own participation, they either completed the survey online, over the telephone with trained study staff, or returned a postal survey. The final study sample for the present analyses comprised participants who completed surveys at both measurement points and provided sufficient valid data to impute all independent, control and dependent variables for the prediction of young adult volunteering and school completion (N = 2,648).

Measures

Independent Variable—*Adolescent volunteering* was measured by a single item, “During the past 12 months, how often have you done volunteer work to help other people, such as helping out at a hospital or raising money for charity?”. Response options were: 1 “Never”; 2 “Once”; 3 “Twice”; 4 “3–4 times”; 5 “5 or more times”. Responses to this item were found to show significant stability over one year follow-up from Grade 9 to 10 (Pearson $r = 0.47$, $n = 752$, $p < 0.0001$). Responses used in this analysis were the average of Grades 9 and 10 responses.

Dependent Variables—*Volunteering in young adulthood* was measured with one item, “In the past 12 months have you spent any time doing voluntary work through an organisation or group?”. Response options were “Yes” (coded as 1) and “No” (coded as 0). *Grade 12 completion* was assessed with a single item in the young adult survey, “What was the highest year level at secondary school you completed?”. Response options ranged from “Year 8 or below” to “Year 12”. Responses were dichotomised and recoded as 1 for “Year 12” (completion of secondary school) and 0 for all other options (non-completion of secondary school).

Control Variables—*Family Socioeconomic Status (SES)* was a combined measure based on 2002 parent phone interviews of parental education and parental income, which was measured on a 3-point scale with a range of (1) low SES to (3) high SES. School adjustment variables were derived from existing measures (Glaser, Van Horn, Arthur, Hawkins, & Catalano, 2005). *Low commitment to school* was assessed in Grade 9 by seven items: “During the last four weeks how many whole days have you missed because you skipped or “cut/wagged”? (response options ranged from 1 “None” to 5 “11 or more times”); “How often do you feel that the schoolwork you are assigned is meaningful and important?” (response options ranged from 1 “Almost always” to 5 “Never”); “How interesting are most of your school subjects to you?” and “How important do you think the

things you are learning in school are going to be for your later life?" (response options ranged from 1 "Very important" to 5 "Not at all important"); "Now, thinking back over the past year in school, how often did you...a) Enjoy being in school? b) Try to do your best work in school? (response options ranged from 1 "Almost always" to 5 "Never") and c) Hate being in school?" (response options ranged from 1 "Never" to 5 "Almost always"). Responses from these items were combined into a 5-point scale ranging from 1 (high commitment to school) to 5 (low commitment to school) (Cronbach's alpha = 0.79). *Academic failure* was measured by two items: "Putting them all together, what were your grades/marks like last year?" (response options ranged from 1 "Very good" to 4 "Very poor") and "Are your school grades better than the grades/marks of most students in your class?" (response options ranged from 1 "YES!" to 4 "NO!"). Responses from these items were combined into a 4-point scale ranging from 1 (high academic performance) to 4 (low academic performance) (Cronbach's alpha = 0.53). *School suspension* was used as an indicator of school behaviour problems and was measured by a single item, "How many times in the past year (12 months) have you been suspended from school?". Response options ranged from 1 "Never" to 8 "40 or more times". In addition, gender, school location (metropolitan, regional, rural) at baseline, cohort (youngest, middle, or oldest), and age of participant and school type (government, independent or catholic) in Grade 9 were also included in the analytic models as control variables.

Statistical Analyses—To estimate missing data, multiple imputation was performed in which 10 datasets including all variables were imputed and the average effects estimated using the MI command in STATA. Multivariate mixed effect logistic regression models were used to examine the longitudinal associations between volunteering in Grade 9, Grade 12 completion and volunteering at age 21, adjusting for selected confounding variables and the clustering effects of students within the recruited classrooms in Grade 9 (390 unique classrooms) using the imputed datasets. The imputed regression findings are presented but are similar to the non-imputed findings (e.g., the volunteering odds ratio estimates differed by .01). Data analyses including data preparation and multiple imputation were completed using STATA software for Windows, version 12 (StataCorp, 2011).

Results

The descriptive statistics for demographics and study variables are shown in Table 1. There were slightly more females (51.7%) than males in the study sample; the majority of the 9th graders were studying in government schools (61.9%) and living in metropolitan areas (54.7%). In Grade 9 to 10, the average frequency of volunteering was 2.0 (volunteered at least once on the 1 to 5 scale, SD = 1.3) with 45.8% reporting volunteering one or more times. At age 21, 30.8% of the sample reported that they had volunteered in the past 12 months. The majority of the young adults reported that they had completed Grade 12 education (78.4%).

Table 2 shows results from the mixed effect logistic regression models predicting volunteering at age 21 and Grade 12 completion by volunteering in Grade 9 while controlling for demographics, low commitment, academic failure, school suspension, and classroom clustering. Frequency of volunteering in Grade 9 significantly predicted an

increased likelihood of volunteering in young adulthood (OR = 1.29, $p < 0.01$, 95% Confidence Interval [CI] = 1.20–1.39). Volunteering in young adulthood was also significantly predicted by higher SES and better school adjustment.

A significant relationship was also found between frequency of adolescent volunteering and an increased likelihood of Grade 12 completion (OR = 1.14, $p < 0.05$, CI = 1.03–1.28). After multivariate adjustment for other influences Grade 12 completion was predicted by: female gender; higher family SES; metropolitan school location; being a younger student within a grade cohort; non-Government school type; and by lower academic failure and school suspension.

Discussion

This study aimed to investigate the longitudinal effect of adolescent volunteering on Grade 12 completion and volunteering in young adulthood. In line with our hypotheses, frequency of volunteering in adolescence was a significant predictor of later volunteering in young adulthood and the completion of secondary school.

Findings of the current study revealed that those who volunteered more frequently during the adolescent years were more likely to volunteer in young adulthood, compared to those who volunteered less or not at all. This is consistent with previous research conducted in the US that volunteering participation in adolescence was predictive of volunteering behaviours in young adulthood (Kuperminc et al., 2001; Zaff et al., 2008) and that participation in civic activities in Grade 8 was associated with an increased likelihood of later adolescent participation in civic activities (Zaff et al., 2011). The current findings were maintained after controlling for the significant effects of SES and school adjustment (Wilson, 2000), and hence provide more rigorous support for the view that adolescent volunteering may promote positive adult development in areas such as volunteering in the community (Obradovic & Masten, 2007). Future research should investigate the potential processes that may link adolescent volunteering behaviour with prosocial young adult development in areas such as the development of intrinsic work values and altruistic values and goals (Kuperminc et al., 2001; Zaff et al., 2003).

Our findings also contribute to efforts to establish factors in adolescence that predict the completion of secondary school education (De Ridder et al., 2012; Freudenberg & Ruglis, 2007). In line with our hypothesis those who volunteered more frequently in Grade 9/10 were more likely to subsequently complete Grade 12, after controlling for the significant effects of demographic and school characteristics and SES and school adjustment. Previous research on the influence of volunteering on school completion has been somewhat inconclusive. The current findings provide support for previous research that has found that adolescent volunteering and community service activities predicted better academic performance and less reported problem behaviours in Grade 12 (Kuperminc et al., 2001). Involvement in prosocial activities has also been found to be unrelated to the number of years of schooling completed after adjusting for school grades; however, involvement in school clubs has been found to be predictive of the number of years of schooling completed (Fredricks & Eccles, 2006). It appears that involvement in at least some form of

extracurricular activity that includes volunteering could have positive benefits for academic performance. Given that school completion is the minimum requirement for higher education and professional training, volunteering may potentially influence other related outcomes in young adulthood such as employment. Future research should seek to further confirm the current findings and investigate the processes by which adolescent volunteering may affect school completion. It is possible that adolescent volunteering may enhance areas that include self-organisation, work skills, community support, and career aspirations (Conner, 2011).

Strengths and Limitations

Although the current study used the IYDS data that was based on a state-representative sample with a longitudinal follow-up, our study design is observational rather than experimental hence can only weakly infer causality. The current analyses controlled for a range of variables that may be related to both adolescent volunteering and positive adult outcomes. However, it is possible that important factors may not have been measured. Individuals who volunteer have been found to differ on a number of factors that were not measured in the current study including life satisfaction, community belonging, social responsibility, and self-esteem (Cemalcilar, 2009). While the current study accounted for demographic influences and relevant school experiences, it is possible that there are other factors such as psychological and community factors that also influence both adolescent volunteering and young adulthood outcomes. Future studies should control for a wider set of factors from different domains when assessing the effects of volunteering.

Another limitation with the current study is that only the frequency of adolescent volunteering was used as the predictor. It has been found that long-term effects of volunteering are influenced not just by regular participation in volunteering but the timing and characteristics of volunteering in adolescence (Zaff et al., 2003). In the current study the frequency of volunteering was examined over the course of Grades 9 and 10. Future research should examine whether there are differences in long-term benefits for volunteering that happens at different points in adolescence. The current study was limited by the results being limited to self-report data and may have been strengthened with objective verification of volunteering and school completion. It is important to note that significant effects of volunteering have previously been found even in studies that used objective measures of volunteering (e.g. observations of whether youth volunteered; Kuperminc et al., 2001). Different types of volunteering may have different beneficial effects. For example, volunteering activities that provide direct interaction with people in need may be more likely to provide participants with a greater sense of accomplishment, and are more likely to stimulate greater self-discovery and change in belief systems (Reinders & Youniss, 2006). Further studies should aim to examine different forms of volunteering when exploring long-term benefits in order to obtain a broader understanding of how involvement in volunteering impacts on youth development.

Despite these limitations, the findings of the current study confirm prior research suggesting that adolescent volunteering experiences may be associated with positive adult development (Marks & Kuss, 2001). Based on the odds ratios in the present study (Table 2) a two unit

increase on our volunteering measure would convert (Chinn, 2000) to an increase of effect size .14 (CI = .03 – .25) for school completion and of .25 (CI = .19 – .32) for adult volunteering. These estimates are within the lower range for the average effect sizes (.34 CI = .22 – .45) reported in the Goethem et al. (2014) meta-analysis suggesting that adolescent volunteering benefits may sustain over time.

Future longitudinal investigation should seek to examine the processes by which adolescent volunteering may lead to positive adult outcomes. It is possible that adolescent volunteering may improve adult outcomes by increasing: prosocial relationships; and social and emotional competencies (O'Connor et al., 2014). The present study found that family SES, school commitment, and academic failure were significant predictors of both young adult volunteering and high school completion. Past research has also found that school connection and sense of belonging to school during the high school years (similar to our measure of school commitment), and academic performance predicted civic engagement and volunteering in young adulthood (Barber, Mueller, & Ogata, 2013; Duke, Skay, Pettingell, & Borowsky, 2009). Further research should investigate whether school commitment and academic failure mediate the longitudinal relationship between adolescent volunteering and positive outcomes in young adulthood.

Conclusions

Adolescence is an important period for developmental growth in areas such as identity and autonomy, sense of self, and social skills. Volunteering may provide an important context to support psychological and emotional developmental growth, while also linking young people to supportive peers and caring adults (Kuperminc et al., 2001). The present findings demonstrate positive longitudinal associations between adolescent volunteering, secondary school completion and volunteering in young adulthood. Our findings provide further evidence in a contemporary Australian context that participation in volunteering during adolescence increases the likelihood of completing secondary school. These findings suggest the importance of having volunteering opportunities available to young people. There are currently a range of opportunities for Australian youth to volunteer through organisations such as local churches, the YMCA, the Duke of Edinburgh program and within their secondary schools. The current findings revealed a minority of adolescents and young adults reported volunteering suggesting the importance of increasing opportunities and encouragement for youth to volunteer. Future research should focus on identifying the processes by which adolescent volunteering may positively impact adult development, and explore the effects of different types of volunteering and their longer term effects.

References

- Barber C, Mueller CT, Ogata S. Volunteerism as purpose: Examining the long-term predictors of continued community engagement. *Educational Psychology*. 2013; 33:314–333.
- Bundick MJ. The benefits of reflecting on and discussing purpose in life in emerging adulthood. *New directions for youth development*. 2011; 2011(132):89–103. [PubMed: 22275281]
- Catalano RF, Fagan AA, Gavin LE, Greenberg MT, Irwin CE Jr, Ross DA, Shek DT. Worldwide application of prevention science in adolescent health. *The Lancet*. 2012; 379:1653–1664.

- Cemalcilar Z. Understanding individual characteristics of adolescents who volunteer. *Personality and Individual Differences*. 2009; 46:432–436.
- Conner JO. Youth organizers as young adults: Their commitments and contributions. *Journal of Research on Adolescence*. 2011; 21:923–942.
- Chinn S. A simple method for converting an odds ratio to effect size for use in meta-analysis. *Statistics in Medicine*. 2000; 19:3127–3131. [PubMed: 11113947]
- De Ridder KA, Pape K, Johnsen R, Westin S, Holmen TL, Bjørngaard JH. School dropout: A major public health challenge: a 10-year prospective study on medical and non-medical social insurance benefits in young adulthood, the Young-HUNT 1 Study (Norway). *Journal of Epidemiology and Community Health*. 2012; 66:995–1000. [PubMed: 22315238]
- Duke NN, Skay CL, Pettingell SL, Borowsky IW. From adolescent connections to social capital: Predictors of civic engagement in young adulthood. *Journal of Adolescent Health*. 2009; 44:161–168. [PubMed: 19167665]
- Fredricks JA, Eccles JS. Is extracurricular participation associated with beneficial outcomes? Concurrent and longitudinal relation. *Developmental Psychology*. 2006; 42:698–713. [PubMed: 16802902]
- Freudenberg N, Ruglis J. Reframing school dropout as a public health issue. *Preventing Chronic Disease*. 2014; 4(4) [Retrieved April 28, 2014] from http://www.cdc.gov/pcd/issues/2007/oct/07_0063.htm.
- Glaser RR, Van Horn ML, Arthur MW, Hawkins JD, Catalano RF. Measurement properties of the Communities That Care® Youth Survey across demographic groups. *Journal of Quantitative Criminology*. 2005; 21:73–102.
- Goethem A, Hoof A, Orobio de Castro B, Van Aken M, Hart D. The role of reflection in the effects of community service on adolescent development: A meta-analysis. *Child Development*. 2014; 85:2114–2130. [PubMed: 25056762]
- Grimm, R., Jr; Dietz, N.; Foster-Bey, J. *Volunteer growth in America: A review of trends since 1974*. Washington, DC: Corporation for National & Community Service; 2006.
- Hemphill SA, Toumbourou JW, Herrenkohl TI, McMorris BJ, Catalano RF. The effect of school suspensions and arrests on subsequent adolescent antisocial behavior in Australia and the United States. *Journal of Adolescent Health*. 2006; 39:736–744. [PubMed: 17046511]
- Horn AS. The cultivation of a prosocial value orientation through community service: An examination of organisation context, social facilitation, and duration. *Journal of Youth and Adolescence*. 2012; 41:948–968. [PubMed: 21952723]
- Kuperminc GP, Holditch PT, Allen JP. Volunteering and community service in adolescence. *Adolescent Medicine: State of the Art Reviews*. 2001; 12:445–458.
- Mahoney JL, Vest AE. The over scheduling hypothesis revisited: Intensity of organised activity participation during adolescence and young adult outcomes. *Journal of Research on Adolescence*. 2012; 22:409–418. [PubMed: 23066336]
- Marks HM, Kuss P. Socialization for citizenship through community service: Disparities in participation among U.S high school students. *Sociological Focus*. 2001; 34:377–398.
- McMorris BJ, Catalano RF, Kim MJ, Toumbourou JW, Hemphill SA. Influence of family factors and supervised alcohol use on adolescent alcohol use and harms: Similarities between youth in different alcohol policy contexts. *Journal of Studies on Alcohol and Drugs*. 2011; 72:418. [PubMed: 21513678]
- Obradovic J, Masten AS. Developmental antecedents of young adult civic engagement. *Applied Developmental Science*. 2007; 11:2–19.
- O'Connor, M.; Sanson, AV.; Toumbourou, JW.; Hawkins, MT.; Letcher, P.; Williams, P.; Olsson, C. Positive development and resilience in emerging adulthood. In: Arnette, JJ., editor. *The Oxford handbook of emerging adulthood* (forthcoming). Oxford University Press; 2014.
- Penner LA. Volunteerism and social problems: Making things better or worse? *Journal of Social Issues*. 2004; 60:645–666.
- Reinders H, Youniss J. School-based required community service and civic development in adolescents. *Applied Developmental Science*. 2006; 10:2–12.

- Sawyer SM, Afifi RA, Bearinger LH, Blakemore SJ, Dick B, Ezeh AC, Patton GC. Adolescence: A foundation for future health. *The Lancet*. 2012; 379:1630–1640.
- StataCorp. Stata statistical software (Version Release 12). College Station, TX: StataCorp LP; 2011.
- Toumbourou JW, Olsson CA, Rowland B, Renati S, Hallam B. Health psychology intervention in key social environments to promote adolescent health. *Australian Psychologist*. 2014; 49:66–74.
- Wilson J. Volunteering. *Annual Review of Sociology*. 2000; 26:215–240.
- Wilson SJ, Tanner-Smith EE. Dropout prevention and intervention programs for improving school completion among school-aged children and youth: A systematic review. *Journal of the Society for Social Work and Research*. 2013; 4:357–372.
- Zaff JF, Kawashima-Ginsberg K, Lin ES, Lamb M, Balsano S, Lerner RM. Developmental trajectories of civic engagement across adolescence: Disaggregation of an integrated construct. *Journal of Adolescence*. 2011; 34:1207–1220. [PubMed: 22118512]
- Zaff JF, Malanchuk O, Eccles JS. Predicting positive citizenship from adolescence to young adulthood: The effects of a civic context. *Applied Development Science*. 2008; 12:38–53.
- Zaff JF, Moore KA, Romano Papillo A, Williams S. Implications of extracurricular activity participation during adolescence on positive outcomes. *Journal of Adolescent Research*. 2003; 18:599–630.

Biographies

Nicholas Moorfoot completed his Bachelor of Psychology (Honours) at Deakin University, Australia focusing his study on positive youth development and the impact civic involvement during adolescence has on psychosocial outcomes in young adulthood.

Rachel K. Leung, PhD is a developmental prevention scientist who studies risk and protective factors that associated with the development of health-compromising and prosocial behaviours through adolescence. She is currently a postdoctoral research fellow at the Centre for Social and Early Emotional Development at Deakin University, Australia. Her research interests include evidence-based preventive interventions with a focus on positive youth development.

John W. Toumbourou, PhD, is the Chair in Health Psychology within the School of Psychology at Deakin University, Australia. He is a prominent researcher and social advocate in areas related to child and adolescent mental health promotion and the prevention of alcohol and drug problems.

Richard Catalano is the Bartley Dobb Professor for the Study and Prevention of Violence and the co-founder of the Social Development Research Group in the School of Social Work at the University of Washington, USA. For 35 years, he has led research and program development to promote positive youth development and prevent problem behavior.

Table 1

Descriptive Statistics of Demographics, Dependent, Independent, and Control Variables

Variables	N	Proportion (%)
Dependent variables (N = 2,404)		
Volunteering in young adulthood (mean age = 21.0 years)		
Yes (coded as 1)	741	30.8
No (coded as 0)	1663	69.2
Grade 12 completion		
Yes (coded as 1)	1884	78.4
No (coded as 0)	520	21.6
Demographics (N = 2,663)		
Gender – Male		
	1387	48.3
Female		
	1487	51.7
School Type – Government		
	1648	61.9
Independent		
	411	15.4
Catholic		
	604	22.7
School location – Metropolitan		
	1566	54.7
Regional		
	509	17.8
Rural		
	789	27.5
Family socioeconomic status		
Mean (SD)	1.93 (0.5)	
Range	1 – 3	
Independent and control variables (N = 2,660)		
Adolescent volunteering		
Mean (SD)	2.0 (1.3)	
Range	1 – 5	
Low school commitment		
Mean (SD)	2.4 (0.6)	
Range	1 – 5	
Academic failure		
Mean (SD)	2.1 (0.6)	
Range	1 – 4	
School suspension		
Mean (SD)	1.2 (0.7)	
Range	1 – 8	

Table 2

Mixed Effect Logistic Regression Predicting Young Adulthood Volunteering and Grade 12 Completion by Grade 9 Predictors (N = 2,648)

Grade 9 Predictors	Volunteering at age 21		Grade 12 Completion	
	OR	95% CI	OR	95% CI
Frequency of adolescent volunteering	1.29**	1.20, 1.39	1.14*	1.03, 1.28
Female gender	1.11	0.93, 1.33	1.45**	1.15, 1.84
Age (in years)	0.93	0.72, 1.20	0.62**	0.45, 0.85
Family socioeconomic status	1.41**	1.13, 1.75	2.67**	1.98, 3.58
School location (referent: metropolitan)				
Regional	1.14	0.88, 1.48	0.62*	0.42, 0.90
Rural	1.21	0.89, 1.41	0.48**	0.35, 0.66
Study cohort (referent: youngest)				
Middle	0.90	0.71, 1.15	1.07	0.76, 1.51
Oldest	0.96	0.75, 1.24	1.35	0.94, 1.95
School type (referent: government)				
Independent	1.25	0.95, 1.64	5.02**	2.74, 9.21
Catholic	1.15	0.88, 1.51	2.05**	1.45, 2.92
Low school commitment	0.72**	0.59, 0.87	0.83	0.67, 1.03
Academic failure	0.72**	0.61, 0.85	0.35**	0.28, 0.43
School suspension	1.03	0.86, 1.24	0.60**	0.48, 0.75

OR = Odds ratios.

95% CI = 95% Confidence Intervals.

Number of classroom clusters = 390.

* p < 0.05.

** p < 0.01.