Evaluation of an online youth ambassador program to promote mental health

To evaluate an online Youth Ambassador (YA) program designed to promote internet resources for mental health in an adolescent population, 56 YAs and 357 of their Year 10 peers from 11 Tasmanian schools completed e-mental health questionnaires before and after the YAs attended a single workshop session. The workshops, which were delivered in the high school setting, were either facilitated or self-directed. Self-reported awareness of e-mental health resources increased among both YAs and their peers. The peer group also showed increased frequency of recommending help-seeking to others. There were no differences in outcomes for facilitated or self-directed workshop formats. The results suggest that an online YA program delivered in school is useful in improving mental health awareness for workshop participants. While their Year 10 peer groups also showed increased awareness, this could not necessarily be attributed to the participation of all 11 schools in the YA program.

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Mental health disorders account for 55% of the total disease and injury burden in individuals aged 15–25 (Mathers, Vos & Stevenson 2001). Sawyer et al. (2001) found that three-quarters of young people (aged 4–17) with a mental health condition did not seek help, and that mental health problems were likely to increase the risk of suicidal behaviour (Australian Bureau of Statistics 2008). Early intervention for young people results in better responses to treatment and lower lifetime prevalence of mental illness (McGorry 2007). Increasing the number of individuals seeking help is an important goal for improving mental health. An effective public mental health strategy should include dissemination of information via the internet, which has advantages in terms of cost, anonymity and accessibility to youth (Department of Communications Information Technology and the Arts 2005). Another strategy is to encourage individuals to promote health in the population via peer-networking initiatives such as youth ambassador programs.

Schools are suitable locations for implementing strategies that promote early help-seeking behaviour via the use of existing peer networks. Young people identify a preference for talking to family and friends about their own mental health issues (Kelly, Jorm & Rodgers 2006). However, young people find it hard to know how to help peers in need

of support (Turner & Shepherd 1999) and tend not to ask adults for advice even when worried about their peers (Dunham 2004). Increasing mental health literacy (Zachrisson, Rodje & Mykletun 2006) and programs that encourage the development of listening skills (Turner & Shepherd 1999) can assist young people when they are helping others. For example, the Canadian Youth Educating About Health (YEAH) program, designed and led by young people, provided education and increased awareness of sexual health and associated risk factors with drug taking for people aged 12–25 years (Hampton et al. 2005).

The virtual Youth Ambassador (online YA) program (www.yshareit.com) is a multimedia interactive online program that aims to increase awareness, access, sharing and recommendation of reputable e-mental health resources among young people. The program draws on research that has identified the benefits of peer-led health programs for young people (Brindis et al. 2005; Mellanby, Rees & Tripp 2000). It aims to foster networks of YAs who have the competence and confidence to promote reliable e-mental health information among their friends, family and community.

This online YA program has been added to the original *yshareit* program, a "triage" website which provides links to five reputable e-mental health websites of relevance to young people (ReachOut!, Ybblue, BluePages, MoodGYM, Kids Help Line) (Spiranovic et al. 2008). Research on the original *yshareit* program evaluated half-day workshops, led by researchers, and demonstrated effectiveness in promoting mental health resources to youth (Spiranovic et al. 2008).

The present study aimed to evaluate the effectiveness of a one-hour workshop incorporating the online YA program in terms of promoting awareness, access, sharing and recommendation of mental health resources among peer networks within Tasmanian high schools. Further aims were to investigate the effects of workshop delivery (facilitated vs. self-directed), and geographical location (country vs. town) on the outcomes associated with the program among Year 10 students

who completed the YA workshop and among their Year 10 peer groups.

Method
Participants

Eleven Tasmanian government schools agreed to participate in the YA program and the present study. Schools were targeted for participation based on whether they were classed as town or country schools and their geographical region in the state, with larger schools targeted first. Schools were allocated to receive either facilitated or self-directed YA workshops such that each combination of school type (town, country), geographical area (South, North and North-West Tasmania) and workshop type (facilitated, self-directed) was realised. School type was categorised based on the Australian ARIA+ classification system (National Key Centre for Social Applications of Geographical Information Systems (GISCA) n.d.), with five schools in areas scoring above 2.4 (4 = outer regional, 1 = very remote) designated as country, and six schools below 2.4 (all inner regional) as town.

Parents of Year 10 students at participating schools were sent an information sheet on the study. The parents of all YA participants were required to provide written informed consent for their child to participate and the parents of the Year 10 peer group returned a consent form if they did not wish their child to participate. Ethical approval was granted from the Human Research Ethics Committee (University of Tasmania) and approval was granted from the Department of Education (Tasmania) to conduct the study in Tasmanian government schools.

Participants comprised a group of 77 (21 male, 56 female) Year 10 (15- to 16-year-old) students who completed the virtual YA workshop (YAs), and a group of their Year 10 school peers (n = 671) who did not participate in the workshops and who had no formal knowledge of the YA program (Peers). The YA group comprised Year 10 students who self-identified or were teacher-identified as having leadership skills and/or an interest in mental health. Baseline and follow-up measures were available for 56 YAs (13 male, 43 female) and

357 peers (182 male, 175 female). Missing data was due to absences from school or classes on the day that the questionnaire was administered and inconsistencies in the use of a unique identifying code used to match baseline and follow-up data. The YA group was comprised of 26 participants (facilitated = 13, self-directed = 13) from country schools and 30 participants (facilitated = 14, self-directed = 16) from town schools. The peer group was comprised of 160 participants (facilitated = 68, self-directed = 92) from country schools and 197 participants (facilitated = 92, self-directed = 105) from town schools.

Materials
e-mental health questionnaire

An e-mental health questionnaire (eMHQ) was developed in a pilot study. A total of 91 items assessing awareness, use and sharing of e-mental health resources were administered to 124 Year 10 students in schools that did not participate in the subsequent intervention study. Based on a Principal Component Analysis (PCA), 21 items were selected and grouped into four subscales:
• awareness of e-mental health resources (7 items) (e.g. 'How much do you know about websites that provide information on the following?');
• access to e-mental health resources (7 items) (e.g. 'How often do you visit websites to get information about the following?');
• sharing mental health issues (3 items) (e.g. 'How often do you talk with the following groups of people about mental health and wellbeing issues?'); and
• recommendation of mental health resources (4 items) (e.g. 'How often have you recommended the following to someone dealing with a mental health issue?').

Each question was rated on a scale ranging from 1 ('nothing/never') to 5 ('huge amount/ extremely often'). High internal consistencies were obtained for the questionnaire's subscales with Cronbach's alpha ranging from 0.74 to 0.93. Eigenvalues obtained to assess construct validity for four subscales ranged between 2.11 and 4.98 (PCA, Varimax rotation).

Virtual YA program
The Virtual YA program (www.yshareit.com) provides online training in three interactive steps: 1) education regarding mental health issues and help/support resources; 2) activities to improve communication skills; and 3) strategies for sharing information. The program encourages participants to utilise e-mental websites (ReachOut!, Ybblue, BluePages, MoodGYM, Kids Help Line) to answer questions.

Procedure

Face-to-face Virtual YA workshops (approximately 60 minutes) were conducted with groups of 5–8 YA participants during class time using school computer and internet facilities. Workshops were conducted over a three-month period by researchers with tertiary qualifications in mental health (psychiatry / clinical psychology / research psychology). In facilitated workshops, a presentation regarding mental health and peer education was delivered before commencing the Virtual YA program, and each step in the program was led by the researcher(s), followed by discussions of relevant topics. In self-directed workshops, students worked through the YA program themselves and researchers provided technical assistance only.

Both the YA participants and their Year 10 peer groups completed the eMHQ in their class groups prior to the time that the YAs completed the workshop and again three months after the workshop. Questionnaires were administered by the contact teacher for that school during designated class time. Participants in the Year 10 peer group did not participate in the workshops and were given no formal knowledge of the YA program.

Design and data analysis

At baseline, YAs and peers were compared using one-way ANOVAs. Mean responses on eMHQ subscales were examined at baseline and follow-up for the YA group and the peer group separately using repeated measures ANOVAs. Between-group variables were school location (town, country), and

The program draws on research that has identified the benefits of peer-led health programs for young people.

TABLE 1 Means scores (SD) for YA and peer groups on each of the four eMHQ subscales as a function of workshop type

	YA group					Peer group				
		Baseline		Follow-up			Baseline		Follow-up	
	n	*M*	*SD*	*M*	*SD*	*n*	*M*	*SD*	*M*	*SD*
Awareness										
Facilitated	27	2.03	0.79	2.29	0.74	160	1.83	0.72	2.03	0.75
Self-directed	29	1.97	0.63	2.67	0.78	197	2.12	0.85	2.26	0.87
Total	56	2.00	0.71	2.49	0.78	357	1.99	0.81	2.16	0.82
Access										
Facilitated	27	1.20	0.29	1.22	0.33	160	1.26	0.49	1.24	0.41
Self-directed	29	1.20	0.30	1.29	0.40	197	1.34	0.58	1.38	0.58
Total	56	1.20	0.29	1.26	0.37	357	1.31	0.54	1.32	0.51
Sharing										
Facilitated	27	2.20	0.81	2.11	0.84	160	1.80	0.76	1.89	0.69
Self-directed	29	2.23	0.79	2.29	0.96	197	2.09	0.87	2.10	0.89
Total	56	2.21	0.79	2.20	0.90	357	1.96	0.84	2.00	0.81
Recommend										
Facilitated	27	1.37	0.59	1.49	0.63	160	1.26	0.52	1.44	0.63
Self-directed	29	1.49	0.60	1.52	0.55	197	1.43	0.60	1.55	0.79
Total	56	1.44	0.59	1.50	0.59	357	1.36	0.57	1.50	0.73

workshop type (facilitated, self-directed). Sex (male, female) was also included as a between-group variable in the peer group but not the YA group analyses due to the small number of males in the YA group. The repeated measures variable was time (baseline, follow-up). Dependent variables were mean scores on the subscales of the eMHQ (range 1–5). Significant interactions were followed up with one-way ANOVAs with Bonferroni corrections to control for inflation of Type 1 errors. An alpha level of .05 was used and data were analysed using SPSS software, version 17.0 (SPSS Inc., USA).

Results

Table 1 shows means scores and standard deviations on each of the eMHQ subscales for the YA and peer groups at baseline and follow-up as a function of workshop type. Total scores of the YA and peer groups were compared at baseline on each of the subscales using one-way ANOVAs. At baseline, the YA group had significantly higher scores on the Sharing subscale ($M = 2.2$, $SEM = 0.79$) in comparison to the Year 10 peer group ($M = 1.96$, $SEM = 0.84$), $F(1,411) = 4.69$, $MSE = 0.688$, $p<.05$. There were no other significant differences between the two groups at baseline. At follow-up, scores on the Access subscale were significantly greater for the YA group ($M = 2.49$, $SEM = 0.78$) relative to the peer group ($M = 2.16$, $SEM = 0.824$), $F(1,411) = 8.022$, $MSE = 0.668$, $p<.01$. There were no other significant differences between the two groups at follow-up. While the sample sizes for these comparisons are substantially different, the assumption of homogeneity was not violated, indicating equality of variance.

Youth Ambassador (YA) group

For the YA group, there was a significant main effect of time for the Awareness subscale,

$F(1,52) = 19.6$, $MSE = 0.306$, $p<.001$ ($\eta^2_p = 0.27$), such that mean scores were significantly greater at follow-up ($M = 2.48$, $SEM = 0.10$) relative to baseline ($M = 2.01$, $SEM = 0.10$). The main effect of time was not significant for other subscales and there were no other significant main effects or interactions (ps>.05).

Year 10 peer group

For the Year 10 peer group, there was a significant main effect of time for the Awareness subscale, $F(1,349) = 13.75$, $MSE = 0.380$, $p<.001$ ($\eta^2_p = 0.038$), such that mean scores were significantly greater at follow-up ($M = 2.1$, $SEM = 0.043$) relative to baseline ($M = 1.97$, $SEM = 0.042$). Similarly, there was a significant main effect of time for the Recommend subscale, $F(1,349) = 14.01$, $MSE = 0.258$, $p<.001$ ($\eta^2_p = 0.039$), such that mean scores were significantly greater at follow-up ($M = 1.49$, $SEM = 0.03$) relative to baseline ($M = 1.35$, $SEM = 0.03$). There were no other significant main effects or interactions involving time for the Year 10 peer group. There were, however, significant main effects of sex, such that females showed significantly higher mean scores relative to males on the Awareness (2.2 vs. 1.9), Access (1.4 vs. 1.3), Sharing (2.2 vs. 1.8) and Recommend (1.5 vs. 1.3) subscales overall (ps<.05).

Discussion

The study investigated the efficacy of a multimedia online YA program, which aims to increase awareness, access, sharing and recommendation of selected internet mental health resources. The results demonstrated positive outcomes for the Awareness subscale among YAs who completed the program. That is, YAs reported knowing more about websites which provide information about mental health and wellbeing issues.

There was no difference in outcomes between the self-directed and facilitated workshop formats. These findings suggest that the main factor in producing change was the use of the online YA program, which was a common component. It is also likely that the method used for selecting the YAs resulted in a target audience who were receptive to either

method of workshop delivery. There was no difference in the outcomes of town and country schools, suggesting that the program was equally effective for schools in different regions. YAs did not show any differences on the Access, Sharing and Recommendation subscales between baseline and follow-up. While this indicates that YAs did not visit websites to get information, talk with people about mental health issues or recommend services to someone dealing with a mental health issue more frequently following the intervention, the three-month follow-up period used in the present study may not have been sufficient to capture such changes.

The Year 10 peer groups were similar to the YA groups at baseline, however, the YA group reported talking about mental health and wellbeing issues more frequently than their Year 10 peer group. This finding is not surprising given that the YA group were either self-identified or teacher-identified as having leadership skills and/or an interest in mental health.

The Year 10 peer group had significantly higher scores on both the Awareness and Recommend subscales at follow-up relative to baseline. These changes cannot be definitively attributed to a knock-on effect of the workshops for YAs in their schools, since the project did not include scheduled activities for YAs to present to peers and there was no control cohort of schools without a workshop. Thus the effects seen for the peer group could either be due to participation of schools in the program or simply an effect of increased awareness due to the passage of time between the baseline and follow-up assessment. Further research is required to investigate these possibilities.

The absence of a control group may also limit the interpretation of the increased awareness observed among the YA group. However, while there were no differences between the YA group and the peer group at baseline, the YA group showed significantly higher Awareness scores than the peer group at follow-up. In addition, the effect size of the change in Awareness subscale was considerably larger for the YA group relative to their peer group. These findings suggest that completion of the program had a greater effect on mental health awareness than

non-completion, and that a brief intervention with structured online materials can produce relevant change in a mental health promotion intervention in youth. However, the present study did not assess whether these learning and attitudinal outcomes have any impact on the mental health of the target population. This is an area for future research.

Another area for future research is the examination of sex differences among those who undertake the program. While the small and uneven number of males precluded examination of sex differences among the YA group, sex differences were observed among the peer group such that females showed higher scores on all subscales of the questionnaire overall and this difference did not vary over time. These sex differences confirm the widely reported observation that females are more informed and able to talk about mental health issues (Rickwood et al. 2004). The literature indicates that reasons which prevent young males seeking help for mental health problems include the stigma of seeking help (Rickwood, Deane & Wilson 2007), belief that they should deal with problems themselves (Andrews et al. 1999; Cigularov et al. 2008; Gould et al. 2004), disbelief of services and treatment (Andrews et al. 1999; Kelly, Jorm & Rodgers 2006), and lack of availability of accessible and acceptable services (McGorry 2007). Future directions for the development of this online YA program may include tailoring of the program to a male audience to address some of these issues.

This research indicates the potential utility of a novel health promotion and early intervention method. Given the high level of unmet health needs in young people, it may be anticipated that online health promotion programs with a focus on social networks will become commonplace. Careful evaluation of outcomes will be required to ascertain the effectiveness of this approach in different areas of health. The characteristics of programs that are most acceptable, promote use, produce relevant and safe outcomes, and that are directed to target populations such as specific age brackets, also require further investigation. Programs that contain inbuilt evaluation of educational and/or mental health indices and outcomes will assist with the development

of this field. Associated marketing strategies also require systematic evaluation; the current study was restricted to the provision of a single-session workshop without a broader promotional strategy. One obvious avenue to explore is to link programs such as the *yshareit* virtual YA program to a health portal that has high usage rates and where users are already engaged in an online medium. Increasingly, school curricula are populated with a heterogeneous selection of health topics and health promotion activities. Research that takes a students' eye-view of how these components do or do not fit together would also be valuable for our understanding of health promotion as a whole and the relative contributions of specific interventions.

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