

Reducing Adolescents' Perceived Barriers to Treatment and Increasing Help-seeking Intentions: Effects of Classroom Presentations by General Practitioners

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Abstract The *Building Bridges to General Practice* (BBGP) program is an outreach initiative. It aims to reduce young peoples' perceived knowledge- and belief-based barriers to engaging in treatment and to increase their behavioral intentions to consult a general medical practitioner (GP) for physical and psychological problems. By increasing intentions, the BBGP program aims to increase actual consultations with a GP for both types of problem. A quasi-experimental nested design was used to evaluate the effect of the intervention in three Australian high schools. A Treatment group ($n = 173$, $M = 16$ years) and Comparison group ($n = 118$, $M = 15$ years) completed questionnaires of perceived barriers, intentions and self-reported consultations with a GP. Questionnaires were completed 1 week before the

intervention, 5 then 10 weeks post-intervention. The Treatment group, but not the Comparison group, showed reductions in perceived barriers over time, increased intentions to consult a GP for psychological problems and a significant correlation between intentions and subsequent GP consultations. Results support the utility of the intervention for improving adolescents' beliefs, intentions and behavior related to consulting a GP for physical and psychological problems.

Keywords Help seeking · Health promotion · Quasi-experimental evaluation · Barriers

Introduction

Across the life span, young people represent the age group with the highest prevalence of mental health problems, with about half of all lifetime mental health disorders starting by age 14 and three quarters of these disorders having onset before age 24 (Kessler et al. 2005; Newman et al. 1996). It is widely recognized that appropriate help-seeking acts as a generic protective factor against the development of mental ill-health across age groups and particularly in young people (e.g., Kalafat 1997; Rickwood et al. 2005). It is also recognized that schools provide an important location for reaching large numbers of young people with health promotion messages that might encourage positive life-long health behaviors (e.g., Rickwood et al. 2006, *in press*).

Yet, in spite of a growing number of school-based mental health promotion programs, the literature identifies relatively few programs that specifically focus on improving adolescents' professional health care seeking.

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There is also little evidence that existing help-seeking promotion programs have applied known models to guide program planning and content development, despite such standards being commonplace in many areas of health promotion (Wright et al. 2006). Similarly, there is little published research that has examined existing help-seeking promotion programs using established help-seeking measures and/or experimental or quasi-experimental designs (e.g., Kalafat and Elias 1994; Santor et al. 2007).

The current study aims to address these gaps. It examines the utility of a school-based help-seeking promotion program (Building Bridges to General Practice [BBGP]; Wilson et al. 2004) that was developed, delivered and evaluated on the basis of two theoretical models (Theory of Planned Behavior [TPB]; Ajzen 1991, 2006; & the Stages of Change model, Prochaska and DiClemente 1986), and which specifically targets adolescents' intentions and perceived knowledge- and belief-based barriers to seeking health care for physical and psychological problems. The study also uses established help-seeking measures (e.g., General Help Seeking Questionnaire [GHSQ], Wilson et al. 2005a) within a quasi-experimental nested and case-matched survey design that has been used successfully in another Australian adolescent high school study (e.g., Deane et al. 2007).

Young Peoples' Help-seeking

A number of help-seeking studies have examined patterns and perceived barriers to seeking professional health care from adolescents' and young adults' perspectives (e.g., Aisbett et al. 2007; Atkinson et al. 2003; Boyd et al. 2007; Jackson et al. 2007; Wilson and Deane 2001). A growing Australian literature reflects international findings and indicates that most young people prefer to confide in peers and 'no-one' rather than an adult or health care professional about their psychological distress (e.g., Biddle et al. 2004; Deane et al. 2001; Donald et al. 2000; Rickwood et al. 2005; Sawyer et al. 2000; Wilson et al. 2005a, b). Increasing Australian evidence also suggests that when young people do seek professional help for their mental health problems, many prefer the help of a General Practitioner (GP) (Andrews et al. 1999; Deane et al. 2001; Wilson et al. 2003a; 2005a, b). However, consistent with international studies, a growing Australian literature also highlights a number of barriers to young peoples' actual consultation with a GP when they experience physical and psychological problems (Boyd et al. 2007; Deane et al. 2007; Sawyer et al. 2000).

Although some findings seem contradictory (e.g., Aisbett et al. 2007; and Atkinson et al. 2003; vs. Boyd et al. 2007), an array of Australian quantitative and

qualitative studies converge to suggest that perceived barriers to seeking help from a GP may often relate to: (1) difficulties with service access (time, money and transport constraints, e.g., Davies et al. 1999; Wilson et al. 2003a); (2) limited knowledge about the types of help GPs provide (Wilson et al. 2003a); (3) the doctor–patient relationship (communication difficulties, e.g., Davies et al. 1999; discomfort within the doctor-patient relationship, e.g., Booth et al. 2004; Wilson and Deane 2001; Wilson et al. 2003a); (4) developmental stage issues, specifically, autonomy and individuation (belief that you should solve your problem alone, e.g., Wilson et al. 2003a); and (5) help-seeking fears including concerns about confidentiality breach (e.g., Aisbett et al. 2007; Atkinson et al. 2003; Quine et al. 2003), negative attitudes from health care service staff (Wilson et al. 2003a), experiencing embarrassment and shame during a consultation (Wilson et al. 2003a), difficulty expressing thoughts and feelings in a consultation (Wilson and Deane 2001; Wilson et al. 2003a), and concerns about being misunderstood (Davies et al. 1999; Wilson et al. 2003a). In addition, heightened concerns are noted for young people in regional and rural areas who fear loss of anonymity and confidentiality breach, and maintain a stronger ethos of self-reliance and managing your problems alone than their city peers (Atkinson et al. 2003; Quine et al. 2003).

Promoting the Help of a GP?

It has been argued that GPs provide primary health care that is both known and generally accessible for young people most in need of care (Veit et al. 1995, 1996). GPs provide comprehensive and coordinated medical care that is not focused on a particular illness or treatment type. They typically provide services to individuals, families and communities and are able to provide a total assessment of a person's presenting problems, usually incorporating psycho-social and biomedical perspectives of health. They are often the first point of contact for people seeking health care and thus, provide a vital role in the identification of young people with mental health problems, the provision of treatment and access to other specialist mental health care services (Stanistreet et al. 2004). However, given that GPs most often provide care for a range of undifferentiated illnesses, can their capacity to provide adequate mental health screening, and treatment or referral be assumed for young people?

While a number of Australian young people have viewed GP care as useful for addressing their mental health problems (Aisbett et al. 2007; Atkinson et al. 2003), others have viewed it as unhelpful (Boyd et al. 2007). A study that examined the relationship between high school

students' health beliefs and their intentions to seek physicians' care for physical and psychological problems, found that beliefs about the seriousness of physical and mental health problems, as well as more positive beliefs about physicians' effectiveness in managing each problem-type, predicted higher intentions to consult a physician (Marcell and Halpern-Felsher 2005). The adolescents believed that physicians were less effective at managing a mental health problem (depression) than physical health problems. These and other authors suggested that prevention strategies need to improve young peoples' knowledge of mental and physical health problems and provide young people direct GP contact through outreach (Marcell et al. 2005; Santor et al. 2007). However, whether such strategies are effective is not yet known.

Many studies have reported that GPs under-diagnose and under-treat psychological disorders in patients (MaGPIe Research Group 2006). A common response has been "more training" (Long 2005; Luk et al. 2002). There is, however, evidence that GPs' recognition of symptoms of psychological distress may not be inadequate, but that at least some capable GPs *choose* not to diagnose and treat mental ill-health (MaGPIe Research Group 2004), often because of time and other resource constraints that are experienced in primary care (Kang et al. 2003; Launer 2004; Vandana and Ambelas 2004). Although it is beyond the scope of the current study to continue this discussion, it is clear that more research is needed on this issue. In the meantime, it is reasonable to suggest that promotion programs to increase help-seeking from GPs should also include strategies to improve GPs' capacity to work effectively with young people (Wilson et al. 2005b; Rickwood et al. 2006), as in the BBGP program.

Models for Program Development and Delivery

Perceived knowledge- and belief-based barriers have considerable potential to be modified in an effort to change help-seeking behavior (Webb and Sheeran 2006). According to the Theory of Planned Behavior (TPB; Ajzen 1991, 2006), intention is the proximal cause of behavior with beliefs—attitudinal, normative and perceived behavioral control—being the most important determinants of intention and the caveat that perceived behavioral control can directly predict and/or moderate the intention-behavior relationship. A meta-analysis of the intention-behavior results from 47 experimental health intervention trials found that "interventions that produced greater intentions change had a corresponding greater effect on behavior" (Webb and Sheeran 2006, p. 256). Thus, a core aim of the BBGP program is to reduce perceived knowledge- and belief-based barriers to young people seeking help from a

GP, and subsequently improve their health care seeking intentions and behaviors for physical and psychological problems.

During the development of the BBGP program content and evaluation, the TPB provided the conceptual framework for the selection of specific content messages and evaluation variables. As examined in the current study, these variables include knowledge- and belief-based barriers to engaging in treatment with a GP, intentions to consult a GP for physical and psychological problems and the frequency of actual consultations with a GP following BBGP presentations.

The Stages of Change model (Prochaska and DiClemente 1986) provided the theoretical framework for the specific order of content and the delivery style that was used in the BBGP program. This model has five stages and has been widely applied to health promotion (Wright et al. 2006). Applied to the context of the BBGP program, this model implies that intention scores for seeking help from a GP will increase linearly across the first three stages: not thinking about consulting a GP (pre-contemplation), thinking about consulting a GP (contemplation), preparing ones-self and support network to consult a GP (preparation) (Webb and Sheeran 2006). The primary reason for applying the Stages of Change model in the development of BBGP is that different young people will be at different stages of readiness to hear and adopt program messages. Thus, the specific order of program content as well as the overall delivery style was designed to facilitate and motivate progress through these stages.

Finally, the delivery of the BBGP program addresses GPs' capacity to provide services for young people by including "youth friendly" training for GPs in the catchment area that is targeted by the intervention. Through their training, these GPs are also provided opportunities to network with local youth agencies and form working relationships for improved access to consultation and effective referral. Thus, while the conceptual framework provided by the TPB and Stages of Change model helped shape the content and delivery of the BBGP program, an equally important aspect of the program is the professional development training for GP presenters that incorporated networking opportunities with other youth health agencies.

Additional Evaluation and Design Considerations

Several studies in the youth mental health help-seeking literature highlight considerations for the current evaluation of the BBGP program. In one of the first studies in the mental health help-seeking literature, Kalafat and Elias (1994) used a quasi-experimental design to evaluate the efficacy of a school-based suicide awareness intervention

in an American sample of 253 students in Grade 10 and from two high schools (the mean age of the sample was not reported). The study revealed encouraging results indicating that students who participated in the intervention were significantly more aware of suicide and were more likely to seek adult help than the controls. Unfortunately, conclusions from the study were also moderated by design and measurement limitations. First, students were not randomized to the experimental and control groups and the design did not use case-matched or pre- and post-test survey responses. And second, while ‘likelihood’ that students would seek adult help was measured, these items had not been tested in previously published help-seeking work and did not delineate the type of adults (e.g., formal or informal; doctor or parent) from whom students would seek help from for their suicidal thinking.

In critique of the first limitation, there is evidence that randomization to experimental and control groups may not always be appropriate in a psycho-social school-based evaluation. Instead, there is evidence that data which is collected using designs, where the intervention and comparison groups are nested within a Grade and school (Kutash et al. 2007), might be more accurate in reflecting real-world settings (Wilson and Lipsey 2004). These strategies minimize design effects in school samples (Kutash et al. 2007), particularly when several different classrooms and schools are examined together as one study (Santor et al. 2007). For example, to examine the effectiveness of an intervention to improve attitudes towards help-seeking and actual school-based help-seeking for mental health problems in a high school student sample, Santor et al. (2007) successfully used a non-randomized controlled trial design where the intervention group was nested within a single grade (Grade 8) and where higher and lower grades (Grades 7 and 9) provided the comparison groups. In this American high school student sample of 1,124 students across grades (the mean age of the sample was not reported), the researchers found that their intervention significantly improved school-based professional help-seeking for mental health problems. These results, considered alongside the limitations of Kalafat and Elias’ study suggest that, an optimum evaluation design might use Treatment and Comparison groups that are nested within Grades, case-matched pre- and post-intervention student responses, and a measure of intentions that is specific for a particular help source and problem-type such as a GP for physical or personal-emotional problems, as used in the current study.

Additional design considerations are also raised by a study that evaluated a suicide prevention program that was delivered during class time and across sessions that ran for half the year (Aseltine and DeMartino 2004). The American study used a random assignment, post-test only design in a sample of 2,100 students from Grades 9–12 in one high school (again, the mean age of the sample was not reported),

and reported significant reductions in rates of self-reported suicide attempts in the experimental group 3 months after exposure to the intervention. However, conclusions were again moderated by a design that did not have the experimental and control participants complete study measures to provide a base-line or at the same time points in the academic year. There are likely to be variable academic pressures through a school year due to natural examination or workload demands. In addition, students undergo changes in development with regard to levels of autonomy and support or friendship networks as the year progresses. These have the potential to confound group differences and need to be accounted for within an evaluation design. A more optimal design, again, as used in the current study, would have Treatment and Comparison groups completing baseline study measures as well as the other study measures at the same time points in the academic year.

The Current Program and Study

The *Building Bridges to General Practice* (BBGP) program is an outreach initiative that aims to improve young peoples’ perceptions of GPs through an interactive high school classroom presentation (Wilson et al. 2004). It has been recommended that Australian youth health promotion programs build collaborative relationships between young people and health care providers that focus on well-being (Kefford et al. 2005). Thus, the BBGP program takes the “face” of General Practice into young peoples’ school environments where GPs are presented as friendly, non-threatening, non-judgmental, caring, and understanding.

A number of school-based ‘GPs in Schools’ outreach programs such as BBGP are currently implemented across Australia, but not isolated to Australia, and fit within broader service provision frameworks that go beyond school-based and specialist mental health services (e.g., Tier 1 of child and adolescent mental health services provided in the United Kingdom; Health Advisory Service 1995). However, the BBGP program differs from most in that it has a strong research base, and is, to our knowledge, the first Australian and international program of this kind to apply known models of behavior change to specific program content, delivery and evaluation.

Thus, the purpose of the current study was to test the utility of the BBGP program for: (1) reducing perceived knowledge- and belief-based barriers to adolescents engaging in treatment with a GP; (2) increasing adolescents’ behavioral intentions to consult a GP for physical and psychological problems; and (3) increasing subsequent self reported consultations with a GP for both problem types in high school students in regional New South Wales (NSW), Australia.

Method

Program Content

The first major component of the BBGP program involves structured professional development workshops for GPs and school personnel that address their own attitudes and beliefs about help-seeking. The GP workshop provides background knowledge in three basic areas: (1) perceived help-seeking barriers described above; (2) developmental issues which are particularly relevant to young people and help-seeking; and (3) classroom management, presentation strategies, and elementary teaching skills. The school personnel workshop addresses points 1 and 2 then gives an overview of the BBGP program content together with strategies for supporting program aims and developing a ‘help-seeking friendly’ school environment. Training is based on a participant manual which specifies each of these knowledge sets in more detail (Wilson et al. 2004). Following this training, the GP presents a lesson of 45 min duration in high school classes.

The lesson has the following structure and components, and throughout the presentation, student interaction is encouraged: (1) Introduction that (a) normalises the process of consulting GPs for physical and mental health problems, (b) describes GP training and ways GPs can help with different problem-types, (c) examines previous experiences that students have had with GPs, and (d) discusses how to overcome experiences that students perceive as unhelpful when seeing a GP in the future; (2) GP led discussion of students’ health related questions that are written by students in preparation for the presentation; (3) Presentation of information about practical issues related to consulting a GP including (a) structure of a typical consultation, (b) rules of confidentiality, (c) obtaining and using healthcare cards (i.e., Medicare cards in Australia), (d) specific cost and billing processes, (e) ways to find your own GP, (f) processes of communicating with GPs, (g) patient responsibilities, (h) ways to make the most of the consultation, and (i) feelings and thoughts that stop young people visiting a GP for physical and specific mental health problems (e.g., depression and suicidal thinking); (4) Conclusion and review. Together, GP and school personnel professional development training, then the GP delivered classroom presentation, constitute the BBGP program.

Participants

Participants were recruited from three public high schools in the Illawarra region of New South Wales (NSW), Australia. The schools served students coming from a

range of socioeconomic backgrounds with the majority coming from what would be characterized as “middle class” and “blue-collar” families. (Additional information on the family structure or parent employment status of students attending each school was not available.) Permission and ethical review was provided by the NSW Department of Education and Training Strategic Research Directorate and the University of Wollongong Human Ethics Committee.

One hundred and seventy-three Year 11 students (Treatment group who received the GP presentation) and 118 Year 10 students (Comparison group) completed the research questionnaire at three time points each 5 weeks apart. Within the Treatment group, the mean age was 15.92 years ($SD = .46$), 83% of the group were 16 years ($n = 139$) and 14% were 15 years ($n = 24$), 58% ($n = 100$) were female and 42% ($n = 73$) were male. Eighty-eight percent ($n = 152$) of the Treatment group described their cultural affiliation as Australian, the remainder ($n = 21$) described their culture as European ($n = 10$), Asian ($n = 4$), or “other” ($n = 7$). Within the Comparison group, the mean age was 14.92 years ($SD = .48$), 7% of the group ($n = 8$) were 16 years old and 79% ($n = 93$) were 15 years old, 60% ($n = 71$) were female and 40% ($n = 47$) were male. Eighty-six percent ($n = 101$) of the Comparison group described their cultural affiliation as Australian, the remainder ($n = 16$) described their culture as European ($n = 11$), Aboriginal ($n = 2$), or “other” ($n = 3$). Chi-square tests revealed that the Treatment group was not significantly different from the Comparison group in either gender composition, $X^2(1, n = 291) = 0.16, p = .69$, or cultural composition (“Australian” vs. the remaining categories), $X^2(1, n = 291) = .05, p = .82$.

Available descriptive data found that within the Treatment group, levels of general psychological distress at Time 1 (measured by the 21-item Hopkins Symptom Checklist [HSCL-21]; Green et al. 1988) were within the normal range for adolescents aged 16 years (mean = 34.54, $SD = 9.15$). Within the Comparison group, levels of general psychological distress at Time 1 (HSCL-21) were also within the normal range for adolescents aged 15 years (mean = 37.53, $SD = 10.52$) but higher than for the Treatment group, $t(289) = -2.70, p < .01$. A One-Way Repeated Measures ANOVA found that in the current study, the multivariate interaction effect for levels of distress across time by year group was not significant, $F(1.78, 513.89) = .699, p = .482$ (Greenhouse-Geiser = .889, $p = .000$), and further exploratory analyses found that controlling for levels of psychological distress in the multivariate model did not change the pattern or significance of the main results. Thus, levels of psychological distress were not included in subsequent analyses.

Study Design

The current study used a non-randomized controlled trial design that was similar to those used in other GP-adolescent' health care seeking studies (e.g., Santor et al. 2007). The Treatment group was nested within a single grade (i.e., Year 11) as was the Comparison group (Year 10) and data was collected pre-intervention (Time 1), 5 weeks post-intervention (Time 2) and 10 weeks post-intervention (Time 3). The full length of the evaluation including the intervention and the completion of each data collection was designed to fit within the 12 weeks of a NSW school term and not run across holiday breaks between school terms (there are four terms in a full NSW study year).

Year 11 was chosen as the Treatment group because students' involvement in the evaluation would not disrupt their preparation for final-year external examinations (Higher School Certificate examinations completed in Year 12). Year 10 served as the Comparison group because students' involvement in the evaluation would not disrupt their preparation for their external competency examinations (School Certificate examinations completed in Year 9). A lower grade comparison group was chosen in order to avoid disruption to examination preparation in the only other potential comparison year (Year 12 students). Santor et al. used comparison groups from both higher and lower grades but they did not differ from the Treatment group at pre-intervention on help-seeking measures. Consistent with Santor et al., to minimize the possibility of contamination between the Treatment and Comparison groups, the intervention in the current study was nested within the entire

grade rather than within randomly assigned classes within each grade.

Table 1 reports the rates of attrition over the life of the study along with the demographic characteristics and survey data of those students who withdrew from the study after completing the survey at Time 1 but before completing the survey at Time 2 (reported as 'Time 2' in Table 1), and those who withdrew after completing the survey at Time 2 but before Time 3 (reported as 'Time 3' in Table 1). Teachers indicated that attrition over time was mostly due to attendance at external activities such as sporting events that took students away from the school on days assigned to data collection.

Measures

Help-seeking intentions were measured by items that were adapted from the General Help Seeking Questionnaire (GHSQ; Wilson et al. 2005a) and used previously with adolescents. There were four items with the same general structure "If you have (problem type), how likely are you to talk to a GP about it?" The four problem types were "a physical health concern", "a personal problem like relationship difficulties with friends, family, or at school", "an emotional problem like being depressed or stressed out" and, "thoughts about suicide". Each item is rated on a scale from 1 = "Extremely unlikely" to 7 = "Extremely likely", with 4 = "Not sure". In the present study the three psychological intentions items (personal, emotional, suicidal) were calculated as a mean and used as a scale to represent

Table 1 Demographic characteristics and study variables reported by participants who withdrew from the study

	Trial group		Comparison group	
	Time 2 ^a (n = 43)	Time 3 ^b (n = 77)	Time 2 ^a (n = 18)	Time 3 ^b (n = 28)
Mean (SD)				
Age	15.86 (.42)	15.94 (.33)	14.83 (.38)	14.86 (.45)
Current psych distress	36.31 (10.18)	36.12 (12.02)	39.22 (13.55)	35.86 (9.34)
Barriers	1.43 (.60)	1.03 (.51)	1.31 (.51)	1.27 (.43)
Intentions-phys prob	4.60 (1.92)	4.92 (1.72)	4.56 (1.69)	4.75 (1.86)
Intentions-psyc prob	2.47 (1.31)	2.93 (1.49)	2.93 (1.30)	2.81 (1.44)
Frequency				
Sex—male, Female	17, 26	33, 44	7, 11	9, 19
Culture—Aust, Other	35, 8	59, 18	15, 3	26, 2
Consult—phys, psyc	–	25, 5	–	25, 5

^a Data for participants who withdrew from the study between Time 1 and Time 2, and

^b Between Time 2 and Time 3

Note: Current psych distress = HSCL-21 total scores. Intentions-Phys Prob = Intentions to seek help for a physical problem. Intentions-psyc Prob = Intentions to seek help for a psychological problem. Consult—Phys, Psyc = Consultations with a GP for physical and psychological problems respectively

intentions to seek help for psychological problems. In the current study, Cronbach alpha coefficients for psychological problems ranged from .70 to .90 across all time points and both groups.

Actual Consultations with a GP were measured by four items that were developed for use with adolescents (Deane et al. 2007) and which ask participants “How many times have you been to see a GP for help in the time since the GP presentation”... (a) “for a physical health concern”, (b) “for a personal problem” (c) “for an emotional problem”, and (d) “to deal with suicidal thoughts”. Participants replied to each of the items selecting from 0 = “I have not seen a GP at all”, 1 = “Once only” or 2 = “More than once”.

Perceived barriers to engagement in treatment were measured by 11 items from the Barriers to Engagement in Treatment Screen (BETS; Deane et al. 2007; Wilson et al. 2002) that assess adolescents’ perceived knowledge- and belief-based barriers to consulting a GP. Each item (listed in Table 3) is rated on a 4-point scale from 0 = “Agree” to 3 = “Disagree”. The BETS is scored by averaging all 11 items and higher scores represent higher perceived barriers to engaging in treatment. The BETS scores have been negatively related to Year 11 adolescents’ intentions to consult a GP for psychological ($r = -.57, p < .001$) and physical problems ($r = -.30, p < .05$), as well as prospective consultation behaviour reported at 5 weeks post-intention ($r = -.24, p < .05$) and 10 weeks post-intention ($r = -.30, p < .05$) (Wilson et al. 2003). In the current study, Cronbach alpha coefficients ranged from 0.76 to 0.85 across all time points and both groups. Only in the Trial group and at Time 1, were higher BETS scores related to being female ($r = .23, p < .01$). Higher BETS scores were not related significantly to either age or culture for either group at any time point.

Procedure

The Treatment group received BBGP presentations from GPs in the catchment area of each school recruited for the study. Before each BBGP presentation, students in Years 11 and 10 were informed about the study by school welfare staff. School welfare staff are usually senior teachers who are allocated time to take on specific duties around supporting and counselling students. Students with caregiver permission and who provided their own consent completed an anonymous but coded questionnaire (Time 1). Unique codes were generated to match student ratings over time. The questionnaire asked them to rate their perceived barriers to seeking help from a GP as well as their intentions to consult for physical and mental health problems. Students completed the same questionnaire with the addition of a

question that asked them to indicate if they had sought help from a GP in the time since the BBGP presentation and to indicate the types of problems for which they had sought help, 5 weeks following the BBGP presentations (Time 2) and again, 10 weeks after the presentations (Time 3). The Comparison group who did not receive the BBGP presentation, completed the same evaluation questionnaire as the Treatment group and concurrent to the Treatment group at Times 1, 2 and 3.

Results

Table 2 presents the means (*SDs*) of the various measures for the Treatment and Comparison groups at Times 1 through 3. At Time 1, there were no significant differences on the perceived barriers or intentions measures between the Treatment and Comparison groups (see Table 2). Thus, a 2 (Treatment/Comparison group) \times 3 (T1-T2-T3) MANOVA was conducted. Mauchley’s Test of Sphericity was significant for the perceived barriers variable only (Greenhouse-Geiser = .931, $p < .001$) suggesting the assumption of equal variance across time was violated. Adjusted degrees of freedom are reported in subsequent analyses for the perceived barriers variable.

There was a significant multivariate interaction effect for Group by Time (Wilk’s Lambda $F(6,294) = 2.34, p < .05, \eta^2 = .05$, observed power = .81 calculated using alpha = .05). Significant interactions occurred for perceived barriers, $F(1.86, 556.91) = 5.12, p < .01, \eta^2 = .02$, and intentions to seek help for psychological problems variables, $F(2,598) = 4.31, p < .01, \eta^2 = .01$, but not for intentions to seek help for physical problems, $F(2,598) = .30, p > .05, \eta^2 = .00$.

Contrasts indicated that there was no significant change in perceived barriers between any time points for those in the Comparison group. However, there was a significant decrease in perceived barriers in the Treatment group between Time 1 and 2 and also between Time 1 and 3 (see Table 2). Similar results were found for intentions to seek help for psychological problems. While there was no significant change in intentions to seek help in the Comparison group for any time points, there were significant increases in intentions from Time 1 to 2 and also between Time 1 and 3 for the Treatment group.

There was no significant Group by Time interaction for intentions to seek help for physical problems although univariate tests indicated a main effect for Time, $F(2,598) = 6.80, p < .001, \eta^2 = .02$. Thus, both groups showed increases in intentions to seek help from a GP for physical problems from Time 1 to 3. However, this was qualified by the finding that in the Comparison group, intentions were not related to subsequent rates of actual

Table 2 Means (*SD*) of high school students' barriers and intentions to consult a GP for physical and psychological problems before and after a Building Bridges to General Practice (BBGP) presentation

	Time 1 ^a		Time 2 ^b		Time 3 ^c	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>Trial group</i>						
Barriers	1.09	.49	.99**	.50	1.02*	.53
Intentions						
Phys probs	5.12	1.52	5.36**	1.54	5.35*	1.59
Psyc probs	2.92	1.39	3.11*	1.41	3.13*	1.52
<i>Comparison group</i>						
Barriers	1.10	.52	1.15	.54	1.17	.59
Intentions						
Phys probs	5.15	1.35	5.37	1.38	5.48*	1.52
Psyc probs	3.05	1.44	2.96	1.41	2.86	1.58

$n_{\text{Trial group}} = 173$, $n_{\text{Comparison group}} = 118$

^a Base-line data collected 1 week prior to a BBGP presentation

^b Time 2 data collected 5 weeks after a BBGP presentation, and

^c Time 3 data collected 10 weeks after a BBGP presentation. *Note:* Barriers were rated on a 4-point scale (0 = “agree” to 3 = “disagree”), intentions were rated on a 7-point scale (1 = “extremely unlikely” to 7 = “extremely likely”), higher scores indicate higher barriers and intentions

** Means differ from Time 1 to 2 and from Time 1 to 3 across rows at $p < .01$, * $p < .05$, Least Square Difference was used to control for multiple comparisons

consultation. In the Treatment group intentions were correlated with a higher frequency of subsequent consultations. For the Comparison group, the relationships between intentions for both physical and psychological problems at Time 1 and rates of consultation with a GP at Time 2 were not significant. Similarly, the relationship between intentions for both problem types at Time 2 and consequent consultations at Time 3 were small and non-significant ($r_s = .02$ – $.16$). However, in the Treatment group, for psychological problems, the relationship between intentions at Time 1 and rates of Consultation with a GP at Time 2 was $r_s = .23$, $p < .01$. For physical problems, the relationship between intentions at Time 2 and rates of Consultation with a GP at Time 3 was $r_s = .25$, $p < .001$. And for psychological problems, the relationship between Intentions at Time 2 and rates of Consultation with a GP at Time 3 was $r_s = .20$, $p < .01$.

Post hoc Analyses

To better understand the nature of the perceived barriers that remained after students' participation in the intervention, we examined the associations among barrier items at Time 2 and students' intentions to seek help from a GP for physical and psychological problems at Time 3. We also examined the associations among barrier items and students' actual consultations with a GP for both problem-types at Time 3.

As reported in Table 3, the results found a number of inverse associations between barrier items and intentions that were similar in magnitude for both the Treatment and Comparison groups. However, only in the Treatment group were there barrier items that correlated moderately with both intentions to seek help for psychological problems ($r_s > -.20$, $p < .001$ to $.01$ as reported in Table 3) and the rate of consultations for the same type of problem (item 1, $r_s = -.20$, item 3, $r_s = -.13$; item 7, $r_s = -.14$; item 10, $r_s = -.14$; item 11, $r_s = -.17$; $p < .01$ to $.05$, one-tailed). The results suggest that in the Treatment group, but not the Comparison group, lower help-seeking barriers were significantly associated with having consulted a GP on one or more occasions for psychological problems in the 10 weeks after the presentation (at Time 3).

Finally, post-intervention frequency data were available on participants' self-reported rates of consultation (see Table 4). In the Treatment group at Time 2, 23.1% of the sample reported they had consulted a GP for physical problems and 7.4% for psychological problems on one or more occasions since the BBGP presentation. At Time 3, this percentage had increased to 35.3% for physical problems and 9.8% for psychological problems. Wilcoxon Signed-Rank tests revealed that in the Treatment group, frequency of consultation on one or more occasions increased significantly from Time 2 to 3 for physical and psychological problems whereas, in the Comparison group only frequency of consultation for physical problems

Table 3 Correlations (r_s) among high school students' barriers to engaging in treatment^a and their intentions to consult a GP for physical (Phys) and psychological (Psyc) problems^b after a BBGP presentation

Barriers	Trial group			Comparison group		
	(M, SD)	Phys	Psyc	(M, SD)	Phys	Psyc
1. I know what to expect when I go to see a GP.	(.77, .65)	-.32***	-.26***	(.95, .87)	-.29**	-.19*
2. I feel comfortable talking to a GP who I don't know.	(1.52, .94)	-.13	-.15*	(1.65, .96)	-.13	-.16
3. I believe a GP has time to listen to my problems.	(.80, .85)	-.35***	-.37***	(.88, .86)	.01	-.33***
4. I'm happy about my family knowing if I've visited a GP.	(.84, .87)	-.22**	-.15*	(.96, .96)	-.18	-.16
5. If I tell a GP about my personal-emotional problems, I believe they will keep it a secret.	(.51, .75)	-.30***	-.28***	(.60, .77)	-.03	-.28**
6. I think GPs are interested in emotional problems as well as physical health problems.	(.71, .75)	-.25***	-.31***	(.88, .85)	-.08	-.34***
7. I believe a GP can understand my thoughts and feelings.	(1.30, .85)	-.17*	-.37***	(1.44, .97)	.08	-.38***
8. I'm not embarrassed to talk about my problems.	(1.34, .86)	-.20**	-.36***	(1.51, .98)	-.10	-.32***
9. I'm not worried about telling a GP how I truly feel.	(1.26, .81)	-.19**	-.31***	(1.34, 1.03)	-.10	-.48***
10. Getting a GP's help means I don't have to work out my problems alone.	(.86, .87)	-.28***	-.33***	(1.15, .94) ^c	-.17	-.47***
11. What I think and how I feel emotionally are important enough to talk to a GP about.	(1.06, .83)	-.26***	-.47***	(1.25, .84)	-.12	-.41***

$n_{\text{Trial group}} = 173$, $n_{\text{Comparison group}} = 118$; *** $p < .001$, ** $p < .01$, * $p < .05$

^a Barriers were measured at Time 2, 5 weeks after a BBGP presentation (individual barrier means and standard deviations are reported in brackets),

^b Intentions were measured at Time 3, 10 weeks after a BBGP presentation.

^c Rank differs between Trial and Comparison groups in the same row at $p < .01$, Wilcoxon Rank Sum Test, $Z = -2.50$.

Note: Barriers were rated on a 4-point scale (0 = "agree" to 3 = "disagree"), intentions were rated on a 7-point scale (1 = "extremely unlikely" to 7 = "extremely likely"), higher scores indicate higher barriers and intentions

Table 4 Cumulative frequencies of high school students' consultations with a GP, on one or more occasions, for physical and psychological problems after a BBGP presentation

Consultations	Time 2 ^a		Time 3 ^b		Z ^c
	One (%)	>One (%)	One (%)	>One (%)	
Trial group					
Phys probs	31 (17.9)	9 (5.2)	43 (24.9)	18 (10.4)	-4.52**
Psyc probs	12 (6.9)	1 (.5)	14 (8.1)	3 (1.7)	-2.00*
Comparison group					
Phys probs	27 (22.9)	4 (3.4)	38 (33.2)	16 (13.6)	-5.01**
Psyc probs	2 (1.7)	2 (1.7)	5 (4.2)	2 (1.7)	-1.73

$n_{\text{Trial group}} = 173$, $n_{\text{Comparison group}} = 118$

^a Time 2 data collected 5 weeks after a BBGP presentation, and

^b Time 3 data collected 10 weeks after a BBGP presentation

^c Wilcoxon Signed-Rank Test

** Frequencies increase from Time 2 to Time 3 in the same row at $p < .001$ and * $p < .05$

Note: Sample percentage is listed in brackets beside each frequency score

increased significantly. However, this result was qualified by Wilcoxon Rank Sum tests which revealed that the consultation frequencies in the Treatment group were not significantly different to those in the Comparison group for either problem type at either Time 2 or 3 (all $ps > .05$).

Discussion

Consistent with the aim of the BBGP program, the current study found that, 5 and 10 weeks after a GP presentation, there were significant reductions in perceived knowledge-

and belief-based barriers to consulting a GP in the Treatment group that did not occur in the Comparison group. Significant increases in help-seeking intentions for psychological problems also occurred following the BBGP presentation in the Treatment group but not the Comparison group and there was a significant association between participants' intentions to seek help and their subsequent self-reported consultations with a GP. Non-parametric contrasts found that for physical problems, rates of student consultations with a GP increased significantly from 5 to 10 weeks in both the Treatment and Comparison groups. Significant increases in consultations for psychological problems only occurred in the Treatment group from 5 weeks (7.4%) to 10 weeks (9.8%). However, this rate of consultations was low, as might be expected in a "normal" school sample, and there were no significant differences in the proportions of students who had a GP visit between the Treatment and Comparison groups at Time 2 or Time 3.

Despite these caveats, the results suggest that the GP presentations may be partly responsible for reducing students' perceived barriers to consulting a GP, increasing their health care seeking intentions and possibly increasing GP visits for psychological problems. Consistent with theory, the current study lends support for the utility of the Theory of Planned Behavior (TPB; Ajzen 2006) and the Stages of Change model (Prochaska and DiClemente 1986) as theoretical frameworks for developing and evaluating programs such as BBGP. There were significant correlations between perceived belief-based barriers to help-seeking and behavioral help-seeking intentions, and between intentions and actual consultations following program presentation. Nevertheless, the specific components of the BBGP program, and perhaps the evaluation, that contributed to the effects remain unclear.

The Barriers to Engagement in Treatment Screen (BETS) was initially developed as a tool for use by general practitioners to increase their "chances for successful engagement and rapport building with young people who come to [them] for help" (Wilson et al. 2002, p.15). As listed in Table 3, items are worded positively and in such a way to encourage young people to review their knowledge and beliefs about consulting a GP. Given that there was a positive change in the Treatment groups' perceived barriers to consulting a GP but not in the Comparison group, it is possible that the process of completing the BETS as part of the post-presentation evaluation may have further reinforced messages that the students were given during the GP presentations. Completing the BETS may have assisted students to cognitively challenge their perceived belief-based barriers and may have motivated actual consultations with a GP within both the Treatment and Comparison groups.

Post hoc analyses found significant associations between students' perceived barriers to treatment and their intentions and prospective consultations for those who took part in the BBGP program. Five weeks after the BBGP presentation (at Time 2) and in the Treatment group but not the Comparison group, there were lower perceived barriers to seeking help from a GP, and the strength of several barriers was inversely related to whether students had subsequently visited a GP for psychological problems in the 10 weeks following the BBGP presentation (at Time 3). The perceived barriers that were reduced following the GP presentations and which related to prospective consultations were students' poor knowledge about the consultation process together with belief that GPs don't have time to listen, GPs can't understand young peoples' thoughts and feelings, young people should handle their problems on their own, and personal and emotional problems are not important to talk about with a GP.

There are several implications raised by these results. The BBGP program, together with the process of evaluation used in the current study, appears to have a positive influence on variables associated with young peoples' help-seeking from GPs. This was particularly evident for psychological problems characterized as "personal", "emotional" and "suicidal" in nature. The results also suggest that in regional samples of adolescents, improvements in help-seeking variables can be made with a relatively modest investment in time using a program with a strong theoretical framework and solid research base. With further refinement it may be possible to strengthen these positive outcomes.

Such refinement might include the use of the BETS questionnaire to identify and target specific knowledge limitations and beliefs in individual student groups. If students complete the BETS prior to the GP presentation, items could be reviewed and the presentation content tailored to focus on resolving prominent barriers and simultaneously promoting help-seeking intentions with specific messages that are based in cognitive-behavioral theory. For example, if fear of confidentiality breach is endorsed as a prominent barrier by a particular adolescent group, GP presentations might focus on explaining how a GP can help with different problems along with the bounds of confidentiality using different case examples (Wilson et al. 2002, p. 17). This may be particularly important for samples of young people in rural or remote locations where there may be higher concerns about confidentiality than in young people from regional locations (Atkinson et al. 2003; Quine et al. 2003).

Although the influence of the BBGP presentation appeared to increase intentions to consult a GP for psychological problems, students' intentions for psychological problems at 10 weeks, were still only rated '3' on a seven

point scale of ‘likelihood’. Thus, intentions remained in the “unlikely” end of rating scale. This clearly suggests room to increase the strength and valence of help-seeking intentions. Toward this goal, further program development might specifically address variables associated with the help negation process. That is, the process that leads to increased reluctance or avoidance of appropriate help. Help negation has been found to occur in normal populations of young people as their levels of psychological distress increase (e.g., Rickwood et al. 2006). Strategies to address the help negation process might include stronger promotion of hope about the help that can be provided from a GP as well as education about the process. Education such as this would increase awareness and might inoculate young people against the avoidance process when psychological distress is experienced (Wilson et al. 2005b).

In addition, since young people seek health care, at least in part, on the basis of established relationships, further program development might aim to demonstrate a unified and multi-disciplined approach to health care (Sanci et al. 2005). This might be achieved by integrating other available health care professionals, such as school counselors and nurses, into a joint delivery of the BBGP presentation. Alternatively, given the shortage of GPs that is currently being experienced across Australia, and particularly in rural and remote areas, perhaps thought should also be given to extending the purpose of the BBGP program to other primary health care providers. This might be done by developing an alternative program that is consistent with the aims of the BBGP program. The alternative program could use the same theoretical frameworks for development and evaluation but comprise core help-seeking and health care promotion messages that can be delivered successfully by a range of individual health care providers who are not GPs but accessible to young people in their immediate catchment area. In some locations, this may mean sole presentations from practice nurses whereas in other locations, Drug and Alcohol workers might be most available and therefore, appropriate. If an alternative program was developed, an important need would be for the program to address referral processes between agencies for both young people and service providers.

Ultimately, to sustain the benefits of programs such as BBGP as well as program continuity and ongoing delivery, support from multiple sources is necessary. In schools this requires the development of a climate where seeking help from GPs and other health care professionals, including school counselors and nurses, is supported and promoted across educational opportunities and settings (Rickwood et al. 2006). Outside school, parents and other gatekeepers such as coaches and club leaders will need ongoing information about the indicators of health care needs in adolescents and young people, and specific information on

referral, service access and engagement (Wilson et al. 2005b). GPs and other health care professionals will need ongoing information about strategies for symptom recognition, and particularly the recognition of disorders that are most likely to be over looked (MaGPIe Research Group 2004). Ongoing information about strategies for the management of young people and mental ill-health in the time-pressured primary health care environment is also necessary (Dew et al. 2005). At a government level, support for interagency networking needs to be put in place and resource allocation needs to be addressed for GPs and other primary health care professionals (Kang et al. 2003). This will be particularly important for supporting health care initiatives that target young people in rural and remote locations.

Limitations

The results of the study need to be considered in relation to the constraints of the quasi-experimental nested design that was used. As noted, students were allocated to groups based on Grade (i.e., Year groups) and not randomly assigned to within-Grade Treatment and Comparison groups. In addition, attrition across time points was sizable. Attrition may reduce the ability to generalize the findings to all students in these Grades. There were no obvious differences between the characteristics of those who withdrew from the Treatment and Comparison groups, but subtle differences could mask or enhance effects. The Comparison group did not have an alternative presentation which may mean that attention factors rather than the specifics of the GP presentation could account for some of the effects found. Finally, there is a need for longer term follow-ups in order to allow sufficient time for students to consult GPs following the presentations. This is particularly important for psychological problems where consultation rates are likely to be relatively low compared to consultations for physical health problems.

Conclusion

The current results suggest that the BBGP program and evaluation can lead to reduced help-seeking barriers, increased intentions to consult a GP for psychological problems and a stronger relationship between adolescents’ intentions to consult a GP and their actual consultation behavior. However, the effects on actual consultations are small in magnitude within a 10 week follow-up. The results support further program development, implementation and evaluation using both the TPB (Ajzen 2006) and the Stages of Change model (Prochaska and DiClemente

1986) to guide each process. Further research in larger samples and over longer time periods is required to allow random assignment to groups and more rigorous examination of specific barriers that adolescents have to actually consulting a GP for physical and psychological problems.

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