Family, peer and school connectedness in final year secondary school students
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Family, peer and school connectedness in final year secondary school students

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Abstract
The study aim was to investigate Australian Year 12 students’ sense of connectedness to their schools, families, and peers, and examine associations between connectedness and emotional wellbeing. Year 12 students (492 male, 449 female) from 10 secondary schools in Victoria, Australia participated in Phase 1 of the study. Of these, 204 participants (82 male, 122 female) returned surveys 1 year later; 175 of these were attending tertiary education institutions. The study found high levels of depression, anxiety and stress among Year 12 students, with higher negative affect associated with lower levels of family, peer and school connectedness. Negative affect 1 year after leaving school was predicted by negative affect and peer connectedness at Year 12. Results suggest there are significant numbers of at-risk young people in their final year of school, who feel lonely and disconnected from peers, and who maintain concerning levels of depression, anxiety and stress in first year of university.

In Australia, Year 12 (the final year of secondary schooling) is considered to be a particularly stressful and difficult year for students (Pitman & Jukes, 1982). Results are used for competitive tertiary selection, exacerbating the pressures associated with the adolescent transitions characteristic of this stage of life. Stress, depression and anxiety have been identified in many young people as they complete Year 12 studies (Kouzma & Kennedy, 2002, 2004; Smith & Sinclair, 2000). Such negative affect may impact on young people’s goals for success and render them at risk for even more severe psychological difficulties. Reports suggest that the rate of depressive symptoms among Australian young people is high (e.g., between 15 and 40%; National Health and Medical Research Council, 1997), so that the extra stresses of Year 12 studies may act cumulatively with the stresses and anxieties of adolescent development and adolescent–adult transitions.

A potential protective factor in handling the stresses of Year 12 in particular and adolescence in general is connectedness, which can be defined as a sense of being cared for, personally accepted, valued and supported by others, as well as enjoyment of and feeling attached to family, friends, school and the wider community (Lee & Robbins, 1995; Resnick, Harris, & Blum, 1993; Rutter, 1993). Resnick et al. (1997) report that the four main protective factors promoting resilience in young people are family connectedness, school connectedness, religious affiliation or spirituality, and belief in the norms of society. Additionally, the more a young person has a sense of connectedness to their family, peers and school, the less likely it is that they will engage in high-risk behaviours such as alcohol and drug abuse, or to develop depression, anxiety, or suicidal thoughts (Resnick et al., 1997). Baumeister and Leary (1995) characterise the need to belong or feel connected as “a pervasive drive to form and maintain at least a minimum quantity of lasting, positive and significant interpersonal relationships” (p. 497). They argued that belonging is a fundamental motivation, functions in a broad variety of settings and influences cognitive and emotional patterns, and that failure to fulfil the need to belong creates long-lasting pathological consequences.

Of particular significance is family connectedness. Young people who feel close to their parents...
regularly exhibit more positive psychosocial adjustment, behavioural competence, and wellbeing (Barber & Olsen, 1997; Nada Raja, McGee, & Stanton, 1992; Paterson, Pryor, & Field, 1995). Connectedness to family has been consistently related to higher self-esteem and sense of belonging in school and in the community (e.g., Chubb & Fertman, 1992). Greenberg, Siegel, and Leitch (1983) found that for young people, the effects of stressful life circumstances were buffered by positively perceived relationships to parents. Nada Raja et al. (1992) in a large-scale longitudinal study of nearly 1000 15-year-olds reported that perceived attachment to parents was positively associated with psychological health and wellbeing. Adolescents who reported poorer relationships with parents had more conduct problems, inattention, depression and anxiety. Thiede-Call and Mortimer (2001) also linked poor parent–child relationships to poor school performance, problem behaviour, depression and low self-esteem among young people.

Good family relationships may not be enough to buffer young people through their developmental milestones; peers and school interactions of a positive nature are also likely to be important. Glover, Burns, Butler, and Patton (1998) undertook longitudinal research designed to investigate the significance of school and general social environments on young people’s mental health. Thirteen- and 14-year-olds from 26 secondary schools (N = 2678) in Victoria, Australia were surveyed for depression, deliberate self-harm, substance use and abuse and smoking. Measures of the social environment included students’ perceptions of security and victimisation at school; feelings of connectedness to peers, family and teachers, and the level of participation in school life. The first wave of data collection illustrated the associations between students’ perceptions of the school environment and depressive symptoms. The results indicated that more than 40% of young people felt that they did not have anyone in or outside of school who they perceived knew them well, or who they could trust. Young people reporting low connectedness were two to three times more likely to experience depressive symptoms compared to peers who indicated feeling more connected. As well, young people who reported that they did not feel noticed by teachers or provided with positive feedback were twice as likely to report symptoms of depression. Young people who reported that they were not treated in a friendly manner at school were four times more likely to report depression.

Measurement of the quality of school life and achievement in the final year of secondary schooling in 44 Catholic schools in New South Wales, Australia was undertaken by Mok and Flynn (1997). Four thousand and forty-nine Year 12 students were surveyed regarding their perceptions of school life across the domains of satisfaction and alienation from school, relationships with teachers and peers, sense of achievement, relevance of curriculum, self-esteem and sense of identity. The findings showed that perceived quality of school life had a significant impact on academic achievement. Students who achieved good outcomes on their HSC exams were those who indicated having higher satisfaction with schooling, were less alienated towards their schools, had positive relationships with their teachers and peers, higher self-esteem and felt school was relevant to their future lives.

A small body of literature on school belonging has consistently reported that a perception of connectedness to one’s school is associated with positive psychological, academic and behavioural outcomes. Research undertaken by Anderman (2002) investigated the relationships between perceived school belongingness and depression, optimism, social rejection, school problems and grade point average (GPA). The Add Health in-school survey data (Udry, 2003) were used, with a sample size of 58,653 students from 132 schools. Findings showed that higher reported levels of a sense of belonging to the school were associated with less depression and social rejection, fewer school problems, greater optimism and a higher GPA. Additionally, Bonny, Britto, Klostermann, Hornung, and Slap (2000) undertook a study to identify factors that differentiated young people who did and did not feel connected to their school. Their findings indicated that among 4773 7th–12th-graders, decreasing school connectedness was associated with declining health status, increased visits to the school nurse, cigarette/alcohol use and an absence of extracurricular activities.

Overall, the research on school connectedness shows a strong link between young people who feel that they belong to their school and levels of engagement, enjoyment of school and investment of themselves in the process of learning compared to young people who do not have a sense of connectedness (Goodenow, 1992; Osterman, 2000).

Perceived quality of school life partly overlaps with perceived quality of peer relationships, but these factors are not identical. Peer relationship quality is both broader and narrower, not necessarily relating to teacher interactions or school success, but including networks and interactions outside of the school. Connectedness to peers appears essential for healthy development among young people. Those who experience problematic peer relationships are considered at risk for a number of psychological and behavioural difficulties during development (Parker & Asher, 1993). They are more likely to withdraw from school, be low achievers, have a variety of
learning problems, have higher rates of delinquency and experience an array of mental and emotional problems that may extend into adulthood compared to their more socially connected age mates (Savin-Williams & Berndt, 1990). Thus, psychological problems may be the result of as well as the cause of problems with peers (Parker & Asher, 1987).

Kohut (1984) argued that individuals need to have a sense of connectedness to others in order to prevent feelings of loneliness, and that this need cuts across the social domains in which a person is embedded. For young people with an absence of intimate and social connections to peers, the experience of loneliness is more likely to occur (Buchholz & Catton, 1999). Consequences for individuals who experience prolonged loneliness can include behaviour problems, illness and suicide (Perry, Kelder, & Komro, 1993). A study by Lau, Chan, and Lau (1999) investigated aspects of loneliness and depression among more than 6000 Chinese children and adolescents in grades 4–9. The findings showed that peer-related loneliness was the most significant predictor for scores of depression. Furthermore, the findings from that study support research by Garber, Robinson, and Valentiner (1997) who suggested that among young people who are unpopular or have poor peer relationships, depression is more prevalent.

Having a good friendship group is seen as a vital protective factor for Australian young people (Fuller, McGraw, & Goodyear, 1999). Being well connected to peers was rated as the second most important protective factor after connectedness to parents. In terms of promoting wellbeing, having somewhere to belong such as a peer group was considered critical. Young people in the Fuller et al. studies (1998, 1999) who felt they belonged, described themselves as having a larger group of friends and enjoying life more. They were seen as more physical and sporting and as more confident speakers. Young people in that study who felt that they did not belong had a smaller social group, seemed more down, less confident, did not enjoy things and got into trouble more than their better connected age mates.

**Connectedness, depression and self-harm ideation**

Research has demonstrated that deficits in belonging have a significant impact on both the experience of depression (Hagerty & Williams, 1999) and suicidal ideation (Lewisohn, Rohde, & Seeley, 1996; Morano, Cisler, & Lemerond, 1993). Further, depression is reported to co-occur with other internalising disorders such as anxiety and with externalising disorders such as aggression (Combs, Connor, & Hinden, 1998). The experience of depression or more generalised negative affect can have a profound impact on the ability to function both socially and academically for young people (Kovacs, 1989; McFarlane, Bellisimo, Norman, & Lange, 1994; Nolen-Hoeksema & Girgus, 1994). Mood disorders such as depression can disrupt the formation of peer relationships, impact on existing friendships and on learning and academic success; a decline in cognitive functioning often occurs as a consequence of the onset of affective disorders (Combs et al., 1998). Negative affect has been associated with but not exclusively predictive of a higher incidence of both thoughts and acts of fatal and non-fatal self-harm (Brent, 1993; Gould et al., 1998; Pinto & Whisman, 1996). Brent et al. (1993) argue that suicidal ideation of any nature (thoughts, threat, gesture, or attempt), places young people at significant risk for a rise in lethal behaviour, and prior suicide attempts or life-threatening behaviours are a risk factor for completion.

Investigators have highlighted low family support (Dubow, Kausch, Blum, Reed, & Bush, 1989) and poor family communication (Dukes & Lorch, 1989) as significant correlates of suicidal ideation. Strang and Orlofsky (1990) suggested that a sense of hopelessness about interpersonal difficulties, expectations for the future, and the absence of meaningful interpersonal relationships are considered important variables in an explanatory model of suicidal ideation. Similarly, Teicher and Jacobs (1966) proposed that the subjective experience of connectedness, hopes for the future and self-efficacy are good predictors of lowered incidence of suicidal ideation.

Recent research utilising a sample of 3757 Year 10 and Year 11 students from Queensland indicated that self-cutting and overdose were the most common forms of self-harm and that thoughts of self-harm may precipitate acts for up to 30 days (De Leo & Heller, 2004). Field, Lang, Yando, and Bendall (1995) found suicidal thoughts to be associated with a low level of intimacy with parents. In contrast, the protective effects of school and family connectedness have been shown to reduce the risk of suicide by as much as 70–85% in data collected from the Add Health Survey (Wagman-Borowsky, Ireland, & Resnick, 2001).

Overall, the evidence so far has been largely supportive of connectedness being fundamentally important for wellbeing and adjustment. Continued research is needed to develop further understanding of the function of connectedness and the conditions under which connectedness influences affect, cognitions and behaviour pertinent to social, academic and psychological functioning for young people in Australia.

**Aims and hypothesis**

Year 12 students’ perceptions of school, parent and peer connectedness, and their levels of negative affect
(anxiety, depression, stress and self-harm ideation) were assessed in the present study. The relationships between connectedness and affect were examined, the hypotheses being that higher connectedness would be associated with lower levels of negative affect of all types. The research design incorporated a longitudinal element, with affect being measured concurrently with connectedness in Year 12, and again 1 year later, for a subgroup of the sample. Thus both current and longer-term associations between connectedness in Year 12 and wellbeing could be assessed, and the relative strengths of three types of connectedness (family, peer and school) in predicting negative affect examined. A quantitative methodology was used to extend and develop the qualitative findings from the Fuller et al. studies (1998, 1999). These studies demonstrated the significance of connectedness for adolescent school children but the methodology used did not enable systematic assessment of relationships between variables, or measurement of whether connectedness could predict wellbeing outcomes.

Methods

Participants

Phase 1. Nine hundred and forty-one Year 12 students (492 male, 449 female) from 10 secondary schools in Victoria, Australia participated in the present study. Seven of the schools were private single-sex schools, one school was a private co-education school and two were co-education state schools. Nine of the schools were in metropolitan Melbourne and one school was in rural Victoria. Year 12 students who participated were aged between 16 and 19 years of age with a mean age of 17.4 years ($SD = 0.6$ years). This sample was representative of a wide range of ethnic backgrounds; 78% were born in Australia, and the remaining 22% were born in various countries including the United Kingdom, Europe, the Middle East and Asia. Participation in the study was voluntary. With regard to living arrangements, 76% of participants lived with both parents, 14% lived with only their mother, 2.7% lived with only their father, and 6.9% lived with someone other than a biological family member.

Phase 2. Two hundred and four participants (82 male, 122 female) who participated in Phase 1 of this study completed and returned surveys for Phase 2. The age range for Phase 2 was 17–20 years with a mean age of 18.3 years ($SD = 0.6$ years). Participants born in Australia comprised 82% of the sample, and the remaining 18% were of other origins as indicated in Phase 1. Of the 204 returns, 175 of the participants were attending tertiary education.

The other respondents had either deferred studies or were not attending tertiary education.

Measures

Demographic information obtained included sex, age, current living arrangements, participants’ country of birth and parents’ countries of birth.

School connectedness. The Psychological Sense of School Membership (PSSM) developed by Goodenow (1993) was utilised. The focus of the PSSM is on a student’s sense of belonging to their school community. The 18-item, self-report measure requires participants to indicate the extent to which they agree with statements on a 5-point Likert scale. Summed ratings of the items are divided by the number of items to produce a score range from 1 to 5 (high connectedness). Goodenow reported a potential tipping point or midpoint of 3.0 for this scale, below which, students are viewed as more negative than positive in their responses regarding school belonging. The Cronbach alpha for the scale in the current study was .90.

Family connectedness. This 13-item, self-report measure was developed by Bearman, Jones, and Udry (1997) to measure a student’s perception of the level of caring and support provided by his or her family, and perception of general family cohesiveness. Participants indicate the extent to which they feel connected to their family on a 6-point Likert scale. Total score is divided by the number of items to produce a score range of 0–6 (midpoint = 2.5), with 6 representing high connectedness. The Cronbach alpha was .90.

Peer connectedness. The revised UCLA-R Loneliness Scale (Russell, Peplau, & Cutrona, 1980) was used to operationalise peer connectedness, because this scale taps the experience of belonging. This is a 20-item, self-report measure, consisting of 10 statements dealing with satisfaction and 10 dealing with dissatisfaction with social relationships. Participants indicate how frequently they experience the feelings stated in each item on a 4-point Likert scale. Scores can range from 20 to 80 with high scores indicating greater feelings of loneliness. Scores were reversed and divided by the number of items to achieve consistency with the positive direction of scoring for other variables, and the variable named “peer connectedness” (range 1–4; midpoint = 2.5), with 4 representing high peer connectedness). The Cronbach alpha was .92.

Measures of negative emotions: Depression, Anxiety and Stress Scale. The Depression, Anxiety and Stress
Scale (DASS)-21 short form is an Australian-normed self-report instrument developed by Lovibond and Lovibond (1995) to measure negative emotions. Participants indicate on a 4-point Likert scale how much each statement applied to them over the past week. The Cronbach alphas for this measure were .76 (stress), .83 (anxiety) and .86 (depression). Although the DASS-21 scale is suitable for measuring depression anxiety and stress, the measure does not assess the degree to which a participant may be experiencing self-harm ideation. For this reason one exploratory item relating to self-harm ideation (item 22) was included in the present study. Due to the constraints outlined by the Victorian Department of Education in their requirements for research in schools the question was general in content, without specifically referring to suicide. The item content was “I thought about hurting myself”. The response categories were the same as for the DASS items. Item 22 remained as a single item for data analysis. As part of a larger study of adjustment to tertiary study, the DASS-21 and the suicide ideation item were administered to a subsample of the Year 12 group, 1 year after initial testing.

Procedure

At Time 1, Year 12 students were surveyed during the third term (August–September) of 2000. Both the researcher and Student Welfare Coordinator at each school were in attendance during the survey completion phase. The survey was administered in classroom settings and was completed in approximately 50 min. Participants who had volunteered their contact details at Time 1 were sent a survey through the post or via email approximately 1 year later (Time 2). Participants who were emailed the survey could either return the completed survey via email or through the postal service via a reply paid envelope. Seven hundred and fifty-two surveys were distributed for Phase 2. The response rate for return was 27%.

Results

Descriptive data

Table 1 shows means for the key scales for the total sample and by gender. Means for school, family and peer connectedness were significantly above the neutral or midpoint (using one-sample t-tests), indicating more positive than negative responses for each type of connectedness: School, \( t(936) = 27.7, p < .001 \); Family, \( t(936) = 61.6, p < .001 \); Peer, \( t(927) = 38.4, p < .001 \).

One-way ANOVAs indicated that at Time 1 (\( N = 938 \)) female students were significantly more stressed, \( F(1,936) = 19.08 \), and anxious, \( F(1,936) = 6.14 \), than male students. They did not differ on depression. Female students showed stronger peer connectedness than male students, \( F(1,932) = 2.60 \), but the sexes were similarly moderately connected to their school and strongly connected to their families. At Time 2 (\( N = 203 \)), there were no significant gender differences on stress, anxiety or depression.

Percent responses to specific items give a flavour of the level of connectedness of the sample. With respect to school connectedness, 80% or more of students said it was moderately, very or completely true that they felt part of the school, and that most teachers were interested in them. More than 30%, however, sometimes felt they did not belong at the school, and 21% wished they were at a different school. Family connectedness was strong, with 88% of students believing their mother cared for them “very much” and 77% indicating this same belief with respect to their fathers. Nevertheless 22% wanted to leave home and 19% said they get upset at home, “quite a bit” or “very much”. Regarding peer connectedness, nearly 90% felt that there were people they could talk to “sometimes” or “often”, and 80% felt that there were people who understood them. However, approximately 30% sometimes or often felt left out, that their relationships were superficial, and that they lacked companionship.

Table 2 shows the category, frequency and percentage of participants who described themselves as experiencing depression, stress and anxiety during Year 12. Norms provided by Lovibond and Lovibond (1995) are indicated in the “expected” column. The current sample were more anxious, depressed and stressed than the normative expectation of approximately 78% scoring “normal” in each category. In the current sample only approximately 50% scored at this level, the rest indicating higher levels of the negative affect. More than 12% were

<table>
<thead>
<tr>
<th>Time 1 (year 12)</th>
<th>Total M</th>
<th>SD</th>
<th>Male M</th>
<th>Female M</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Connectedness</td>
<td>3.61</td>
<td>.68</td>
<td>3.58</td>
<td>3.65</td>
</tr>
<tr>
<td>Family Connectedness</td>
<td>4.04</td>
<td>.77</td>
<td>4.00</td>
<td>4.08</td>
</tr>
<tr>
<td>Peer Connectedness</td>
<td>3.18</td>
<td>.54</td>
<td>3.14</td>
<td>3.23**</td>
</tr>
<tr>
<td>Stress</td>
<td>14.84</td>
<td>9.23</td>
<td>13.59</td>
<td>16.20***</td>
</tr>
<tr>
<td>Anxiety</td>
<td>8.72</td>
<td>7.76</td>
<td>8.12</td>
<td>9.38*</td>
</tr>
<tr>
<td>Depression</td>
<td>10.99</td>
<td>9.33</td>
<td>10.99</td>
<td>11.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time 2 (1 year later)</th>
<th>Total M</th>
<th>SD</th>
<th>Male M</th>
<th>Female M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>11.62</td>
<td>9.15</td>
<td>10.13</td>
<td>12.58</td>
</tr>
<tr>
<td>Anxiety</td>
<td>6.23</td>
<td>6.18</td>
<td>5.53</td>
<td>6.62</td>
</tr>
<tr>
<td>Depression</td>
<td>8.60</td>
<td>8.16</td>
<td>9.16</td>
<td>8.24</td>
</tr>
</tbody>
</table>

Note: *p < .05; **p < .01; ***p < .001.
severely or extremely severely depressed, more than 20% severely or extremely severely anxious, and more than 10% severely or extremely stressed.

**Changes over time**

For the subsample tested at Time 2, there was a significant drop in stress, anxiety and depression from Year 12 to 1 year later, similar in magnitude to the drop indicated in Table 1: Stress, $F(1,202) = 40.58$, $p < .001$; Anxiety, $F(1,202) = 33.37$, $p < .001$; Depression, $F(1,202) = 9.46$, $p < .01$.

Note that the subsample means for anxiety, depression and stress at Time 1 did not differ significantly from those of the total sample at Time 1 (Time 1 $M$s for the total sample and Time 2 $M$s for the subsample are shown in Table 1; Time 1 $M$s for the subsample were 15.52, 8.01 and 10.35 for stress, anxiety and depression, respectively).

In the Time 1 total sample, 19.3% of students ($n = 181$) had thoughts of self-harm. In the follow-up subsample, 19.4% ($n = 39$) had thoughts of self-harm at Time 1, and this had dropped to 9% ($n = 19$) at Time 2. Only nine students (4.5%) in the follow-up sample had self-harm ideation at both Times 1 and 2.

**Relationships between variables**

Table 3 presents correlations between connectedness and negative affect at Times 1 and 2. Lower perceived connectedness to school, family and peers was associated with higher levels of stress, depression, anxiety and overall negative affect both during year 12 and 1 year later. The three measures of connectedness were moderately related and the three measures of negative affect were more strongly related, at both times of testing.

At Time 1, one-way ANOVAs showed significant differences between those with thoughts of self-harm and those with no such thoughts on family, peer and school connectedness, $F(1,924) = 85.8$, 148.9 and 81.1, respectively; $p < .001$ in each case, with connectedness lower in each case for those with self-harm ideation. Additionally, those with self-harm ideation at Time 2 had shown significantly lower peer connectedness, $F(1,199) = 21.2$, $p < .001$, family connectedness, $F(1,199) = 15.3$, $p < .001$, and school connectedness, $F(1,199) = 5.1$, $p < .05$, at Time 1.

Table 4 shows the regression analysis for the predictive strength of gender (dummy coded), school, family and peer connectedness on depression, anxiety and stress at Time 1, and the predictive strength of gender and connectedness at Time 2 when Time 1 negative affect is taken into account. All the connectedness variables plus gender significantly predicted Time 1 depression, accounting for 42% of the variance of this variable. Peer connectedness was the strongest predictor of depression. For stress and anxiety at Time 1, peer and family connectedness were both significant predictors (along with gender for stress at Time 1), accounting for 21% and 22% of the variance, respectively. At Time 2 the Time 1 measure of anxiety, depression or stress was included with the connectedness variables in the regression equations to attempt prediction of Time 2 anxiety, depression and stress respectively. Time 1 negative affect was by far the strongest predictor of Time 2 negative affect. However, for depression at Time 2, Time 1 peer connectedness (low) was also a significant predictor. Thus high peer connectedness was a protective factor against concurrent Year 12 stress, anxiety and depression, and a long-term protective factor against depression. High family connectedness mitigated against concurrent

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**Table 2. Percentage of Year 12 students showing stress, anxiety and depression in comparison with normative data**

<table>
<thead>
<tr>
<th>N= 936</th>
<th>Stress</th>
<th>Anxiety</th>
<th>Depression</th>
<th>Expected %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>54.4</td>
<td>51.6</td>
<td>54.5</td>
<td>78</td>
</tr>
<tr>
<td>Mild</td>
<td>14.8</td>
<td>6.8</td>
<td>15.4</td>
<td>9</td>
</tr>
<tr>
<td>Moderate</td>
<td>18.9</td>
<td>20.2</td>
<td>17.5</td>
<td>8</td>
</tr>
<tr>
<td>Severe</td>
<td>8.9</td>
<td>9.6</td>
<td>7.8</td>
<td>3</td>
</tr>
<tr>
<td>Extremely Severe</td>
<td>2.4</td>
<td>11.3</td>
<td>4.3</td>
<td>2</td>
</tr>
</tbody>
</table>

**Table 3. Correlations between variables**

<table>
<thead>
<tr>
<th>Family C</th>
<th>Peer C</th>
<th>Anx T1</th>
<th>Depr T1</th>
<th>Str T1</th>
<th>Anx T2</th>
<th>Depr T2</th>
<th>Str T2</th>
</tr>
</thead>
<tbody>
<tr>
<td>School C</td>
<td>.44</td>
<td>-.32</td>
<td>-.45</td>
<td>-.23</td>
<td>-.30</td>
<td>-.25</td>
<td>-.25</td>
</tr>
<tr>
<td>Family C</td>
<td>.45</td>
<td>-.32</td>
<td>-.45</td>
<td>-.23</td>
<td>-.30</td>
<td>-.25</td>
<td>-.25</td>
</tr>
<tr>
<td>Peer C</td>
<td>-.32</td>
<td>-.45</td>
<td>-.45</td>
<td>-.23</td>
<td>-.30</td>
<td>-.25</td>
<td>-.25</td>
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<tr>
<td>Anx T1</td>
<td>.61</td>
<td>.66</td>
<td>.55</td>
<td>.36</td>
<td>.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depr T1</td>
<td>.66</td>
<td>.42</td>
<td>.46</td>
<td>.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Str T1</td>
<td>.42</td>
<td>.54</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Anx T2</td>
<td>.62</td>
<td>.71</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Depr T2</td>
<td>.63</td>
<td></td>
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</tbody>
</table>

**Notes:** Anx = anxiety; C = connectedness; Depr = depression; Str = stress; T1 = Time 1; T2 = Time 2.

All correlations significant at $p < .01$. 

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stress, depression and anxiety in Year 12, and high school connectedness was also a protective factor against Year 12 depression. At Year 12 but not 1 year later, female gender was a risk factor for both anxiety and stress, over and above the connectedness variables. Negative affect in Year 12 was strongly predictive of depression, anxiety and stress 1 year later, for the retested subgroup of the Year 12 sample.

A discriminant function analysis was conducted to attempt to predict those with self-harm ideation at Time 2, using Time 1 variables (gender, connectedness measures, negative affect measures, self-harm at Time 1). The discriminant function was significant, \( \chi^2(8) = 31.66, p < .001 \); Wilks’ \( \lambda = 0.85 \), with 75.6\% of cases correctly classified (76.4\% of those without self-harm ideation at Time 2, 68.4\% of those with self-harm ideation at Time 2). Standardised canonical discriminant function coefficients showed peer connectedness at Time 1 to be the strongest predictor of self-harm ideation at Time 2 (−.58), followed by family connectedness (−.40), Time 1 anxiety (.36) and self-harm ideation at Time 1 (.29).

### Discussion

The present study found high levels of depression, anxiety and stress in a relatively large sample of Year 12 students in Victoria, Australia, in support of other studies showing a high degree of negative affect associated with being a teenager in the final year of school (Kouzma & Kennedy, 2002; 2004; Pitman & Jukes, 1982; Smith & Sinclair, 2000). More than 10\% of students were extremely or severely stressed and depressed at the time of testing, and more than 20\% were extremely or severely anxious. The normative expectation for adults would be approximately 5\% scoring at these levels. Additionally, a significant number (around 20\%) had thoughts of self-harm, which is likely to signal a higher risk of suicide attempts. The extent of emotional ill-being reported by Year 12 students is alarming even if it is in accordance with other research studies. The time of testing was late in the school year (August–September), with examinations expected 1–3 months later. This timing no doubt exacerbated negative affect, and the high levels may have been relatively short lived. Indeed, they dropped significantly over the following year. However, such extreme states of tension and distress may have the capacity to have longer term and even irreversible negative outcomes (e.g., example suicide), as well as a role in reducing short-term social and cognitive efficacy. For example, high levels of anxiety, depression and stress may interfere with the ability to study, plan and learn. It may be more difficult to engage normal coping strategies such as seeking social support, relaxing with friends, or improving mastery of learning/assessment tasks through discussion, reading and study.

Depression, anxiety and stress all dropped significantly in the subsample re-tested 1 year later, after they had completed Year 12. These were students who mostly continued on to tertiary education, but had not differed significantly from the larger group while in Year 12, in terms of their negative affect. Even though these students were for the most part still studying, the pressures were experienced as less intense. Testing was similarly timed to the testing in Year 12 (around August), which meant that most students were approximately 2 months away from final (second semester) examinations. However, within the university semester system there is more likely to be both continuous assessment and examinations that test only a section of 1 year’s work rather than a full year’s work, as in Year 12. Additionally, although university results are important, they do not loom as large as a filter of life options as Year 12 exams.
Of particular concern were those young people who retained high levels of negative affect across the two testing times. These students were apparently not able to wind down their depression, anxiety and stress even in less stressful situations. They had not developed protective strategies to help them face life’s contingencies, so they remained at risk of negative psychosocial outcomes. That Year 12 depression, anxiety and stress were the strongest predictors of these states 1 year later is probably not surprising, but it does suggest an education/social system that is not teaching young people how to handle pressure.

Connectedness was clearly a protective factor against emotional ill-being. This finding supports previous research indicating that perceptions of connectedness to others affect a young person’s mental health and wellbeing (Colarossi & Eccles, 2003; Glover et al., 1998; Resnick et al., 1997). Unsupportive environments take a toll on adolescent mental health, whereas the experience of consistently supportive environments is associated with higher levels of emotional wellbeing (Hammen, 1992). Peer connectedness was a particularly strong predictor of wellbeing, and this variable remained an independent predictor of depression 1 year later, even taking Time 1 depression into account. The significant relationships between peer connectedness and negative affect are in line with previous research showing negative affect more common among young people who are unpopular or have poor peer relationships (Graber, Brooks-Gunn, & Petersen, 1996; Parker & Asher, 1993). Donald, Dower, Lucke, and Raphael (2001) also found poor relationships with both parents and peers to be the most common correlate of psychological distress in a sample of Australian 15 – 24-year-olds. There is likely to be a two-way relationship between poor social networks and negative affect, with young people who feel high levels of negative mood less able to make and sustain friendships, as well as lack of friendships leading to distress. One-way causality is unlikely and could not be established through correlational studies. For some young people, poor connectivity may produce depression, stress and anxiety, while for others, their negative affectivity may break down or prevent formation of relationships with others. Breaking this cycle of poor peer relationships for a subgroup of young people in their final year of school may involve both individual counselling and educational interventions (e.g., learning friendship skills) and also more systemic change, such as whole school approaches to bullying.

Family connectedness also acted as a protective factor against depression, anxiety and stress among young people in Year 12. This is consistent with early research about the important role of family warmth and support in children’s mental health (Garnezy, 1985; Glover et al., 1998; Resnick et al., 1993; Rutter, 1979). What is evident from current and past research findings is that relationships between young people and their parents have a crucial bearing on vulnerability and resilience (Brennan, 1993). A positive relationship with parents contributes to a young person’s sense of belonging, security and connectedness (Chubb & Fertman, 1992; Resnick et al., 1993; Rutter, 1980). Poorly connected young people are less likely to regulate negative feelings and assess relationships as positive, potentially leading to distress (Kobak & Sceery, 1988). The adolescent years are often seen as a time when family relationships become strained as the young person moves toward greater independence, not always in ways approved of by parents. Despite these tensions, adolescents in the current sample were in general happy in their family relationships. Those who were less so may have been in some cases undergoing temporary difficulties, and in others experiencing longer-term lack of family support (or perceived lack). It is interesting that family connectedness reported in Year 12 did not predict negative affect 1 year later (over and above Time 1 negative affect). This could suggest that family connectedness has its effects earlier rather than later.

School connectedness was associated with lower levels of depression, anxiety and stress in Year 12, but was only an independent predictor of Time 1 depression (not Time 1 anxiety or stress). This may be because of the degree of overlap this variable exhibited with peer connectedness, such that students’ experiences of school are highly related to their experiences with their school friends.

There were an alarming number of young people (181; 19%) in the Year 12 sample who reported having thoughts of harming themselves. Due to the broad general question of self-harm/ideation asked in the current study the particular type of self-harm these young people thought about could not be elucidated. Self-harm ideation could range from behaviours such as cutting or burning to suicide (De Leo & Heller, 2004). Studies have identified a number of risk factors associated with self-harm ideation and suicide in young people, primary among these are depression, academic stress and parental rejection. Young people are likely to be more vulnerable if they have one of these risk factors, and an increase of two or more is considered to intensify the risk of self-harm and suicide (Beautrais, 2000). These results support earlier studies, which have found a higher incidence of ideation among young people with poor family relations (Dukes & Lorch, 1989; Field et al., 1995) and inadequate social connectedness (Lewinsohn et al., 1996). In addition, they support earlier findings by Street, Kromrey, Reed, and Anton (1993) who found both
depression and suicidal ideation in approximately 10% of their college-bound sample of Year 12 students.

Overall, negative affect 1 year after Year 12 was predicted by Year 12 negative affect, and, in the case of depression, by peer connectedness back in Year 12. The pattern that emerged seems to be that at-risk young people in their final year of school, who feel lonely and disconnected from their peers, are carrying these risk factors through to life after school. They are most at risk of self-harming thoughts (and possibly actions) if they experience poor peer and family connectedness and high anxiety at Time 1, as well as self-harm ideation at Time 1. Gender differences were evident in the large group at Time 1 in both stress and anxiety, suggesting female gender as a risk factor for these negative affects. It is worth noting that DASS norms for the adult population show only very small gender differences (Lovibond & Lovibond, 1995), while in this sample the gender differences were statistically and, at least in the case of stress, psychologically significant during Year 12. However, this was not the case for depression. Boys’ depression was higher than girls’ 1 year later, suggesting young men as having the potential to be particularly vulnerable to long-term effects of negative affect. Interestingly though, anxiety was more strongly predictive of self-harm ideation than depression.

Recommendations at the Year 12 level

Undeniably, these findings point towards the need to be more proactive with Year 12 students exhibiting negative affect even at moderate levels. For example, resilience programs that assist young people to regulate emotion and promote their own coping resources (e.g., Fuller, Bellhouse, & Johnston, 2001) may help to reduce the number of young people who become distressed as they make their way through their final year of secondary schooling. There is also strong support in the literature for the promotion of developmentally and psychologically appropriate learning environments that foster a sense of connectedness among young people (Benard, 1999; Rutter et al., 1997). School connectedness is strongly related to peer connectedness, therefore it is important to work on negative peer relationships and increase cooperative school environments (e.g., reduce bullying). The provision of caring and positive teacher–student relationships where the improvement in parent or peer relationships is not possible, can provide an alternate path to protection against the development of psychological problems in vulnerable young people and can assist in developing appropriate coping strategies and the scaffolding for resilience to emerge (Kenny & Waters, 1995). In addition to preparing young people for the academic demands associated with higher education, preparing young people for the social and emotional aspects of this transition could include social skills training programs that enhance aspects of communication and the development of peer relationships.

There is no single intervention that will be successful in engaging all students and enhancing connectedness. Young people who are disconnected from the school and their peers may require specialised support to enhance their levels of connectedness. Scales and Taccogna (2000) suggest implementation of interdisciplinary care teams of school personnel who would commit to connecting with young people on a deeper level. The more such protective resources are available to an individual, the lower the probability of developing persistent psychological disturbances.

Although challenges to young people’s wellbeing can occur at any point in the life cycle, there are specific points in the school years when these challenges are at their highest. Because these stages are predictable, such as the final year of secondary school, it is important that schools develop prevention programs at these levels (Fuller et al., 1999). Prevention efforts that are offered early before the clinical need is apparent or before symptoms have become severe, have the potential to reach a much larger target group. An alternative is to provide prevention efforts at times of greatest stress, for example, during Year 12 exams. If the source of the stress cannot be modified in any direct way an alternative may be to increase support networks through greater connectedness within the social domains of the young person.

References


