Adolescent Problem Behaviour: Can a Supportive Family Protect Disadvantaged Youth?

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I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary educational institution.

Signed: ..................................

Hayley Passmore
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Thesis Title: Adolescent Problem Behaviour: Can a Supportive Family Protect Disadvantaged Youth?

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Abstract

Problem behaviours among adolescents are currently a global public health and safety issue. Involvement in risky behaviours is especially high for youth who are made more vulnerable by contextual factors, such as a low socioeconomic status (SES). This study aimed to investigate protective factors that could ameliorate the relation between low SES and heavy adolescent problem behaviour involvement, namely, perceived family support. Adolescents’ \( n = 109, 67.0\% \text{ female}, M_{\text{age}} = 14.73 \) years) reported on parental education and perceived family support, and risky behaviours were measured using innovative “real-time” experience sampling method. Whilst SES was associated with the adolescents’ problem behaviours in this study, family support did not moderate this relationship, above and beyond key covariates such as gender and ethnicity. Implications for future research are discussed in light of study findings.

*Keywords:* Adolescent, problem behaviour, socioeconomic status, family support, protective factors.
Acknowledgements

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Adolescent Problem Behaviour: Can a Supportive Family Protect Disadvantaged Youth?

Preventable injuries account for 40% of deaths amongst young people worldwide (Sawyer et al., 2012). Road accident injuries are the leading cause of adolescent death, with alcohol-related injuries being an additional major cause (Patton et al., 2009). In fact, because young people are likely to engage in risky driving behaviours, young drivers are significantly over-represented among those killed or injured in road accidents (World Health Organisation, 2010). Similarly, one in five hospitalisations of young Australians are due to alcohol (Australian National Council on Drugs, 2012). This is imperative, as recent research shows that three of four Australians aged 12 to 17 years old have consumed alcohol (White & Bariola, 2012). Further, 18.5% of 17 year olds drink more than four standard drinks during one occasion on a weekly basis, with many admitting they got into a physical fight after drinking alcohol (White & Bariola, 2012). In addition, adolescents commonly try illicit substances (Australian Bureau of Statistics [ABS], 2008). For instance, over a third of 17 year olds in Australia have used cannabis at least once (White & Bariola, 2012). These alarming statistics highlight various preventable threats to overall adolescent health and safety. Consequently, action must be taken to enhance adolescent health, and ultimately reduce preventable illness, injuries and mortality amongst youth both in Australia and worldwide.

Adolescent problem behaviour is a global public health and safety issue (Sawyer et al., 2012), and includes drug and alcohol use, smoking, violence and dangerous behaviour on the roads. Such adolescent behaviour can predict similar behaviour during adulthood, where it can result in many undesirable and possibly permanent outcomes such as substance and alcohol addiction, injury, illness and
even loss of life (Bor, McGee & Fagan, 2004; Kjellstrand & Eddy, 2011; Odgers et al., 2008). Further, adolescent problem behaviours represents a financial burden on public health systems, criminal justice systems and the larger community (Milnes et al., 2011). Therefore, it is crucial that methods are developed to reduce adolescent involvement in such behaviours.

Adolescence is a key time for risky and dangerous behaviour due to the occurrence of physiological and biological change, and an incompletion of brain maturation (Reyna & Farley, 2006). In comparison to adults, adolescents have less ability to inhibit their behaviour, plan for the future, and consider and learn from possible consequences (Reyna & Farley, 2006). In fact, they actually seem to perceive behaviours as less risky than they actually are (Reyna & Farley, 2006). In addition, adolescents are generally more impulsive in their actions than adults, which relates to their lack of consequential thinking and failing to weigh up the costs or benefits of their behaviour (ABS, 2008). Illustratively, despite variations of problem behaviours in gender and age groups, evidence shows that the vast majority of individuals in western societies will partake in risky behaviours at some point during adolescence, commonly alcohol and drug use (White & Bariola, 2012).

Given this intrinsic vulnerability during adolescence, it is critical that we understand factors that both protect and exacerbate adolescent risk. Much of the research in this area aims to identify risk factors associated with problem behaviour, or investigates the long term problematic outcomes (Gershoff, Aber, Raver & Lennon, 2007; Lansford et al., 2006). Relatively fewer studies have examined protective factors (Schmied & Tully, 2009). Therefore, this thesis aims to broaden the knowledge about possible protective factors for adolescent problem behaviours, which is crucial for developing prevention or intervention strategies that will
successfully reduce these behaviours (Bor et al., 2004; Goldfarb, Tarver & Sen, 2014; Goldner, 2009; Kjellstrand & Eddy, 2011). In particular, among the protective factors previously identified in the literature, it is essential to determine whether these factors can moderate or minimise the influence of major risks for problem behaviour involvement, particularly among vulnerable youths. Here, the terms problem behaviour and risky behaviours are used interchangeably for any undesirable behaviour that poses a risk to the adolescents own health or safety.

In line with major foci of previous research, interventions have primarily aimed to diminish risk for adolescent problem behaviour rather than promote protection against adolescent problem behaviour (Burke, Brennan & Cann, 2012). For example, anti-alcohol and drug use campaigns aimed at adolescents often focus on diminishing the negative influence of peer pressure (Moore, 2011) rather than promoting protective influences such as social support (Rueger, Malacki & Demaray, 2008). Furthermore, interventions aiming to educate parents especially fail to teach parents how to maintain and strengthen their relationship with their children (Cavell, Elledge, Briesmeister & Schaefer, 2007; Dumas, 2005), or of the importance of closeness and acceptance within this relationship (Burke et al., 2012; Hayes, Luoma, Bond, Masuda & Lillis, 2006). To develop cost-effective, evidence based prevention and intervention strategies, it is crucial to incorporate factors that protect against problem behaviours and moderate for the exacerbating factors (Bor et al., 2004).

One of the main contextual risk factors that has been identified to predict high levels of problem behaviours is low socioeconomic status (SES; Conger et al., 1991; Kjellstrand & Eddy, 2011). Here, low SES involves the economic and social condition of the adolescent’s family (Conger, Conger & Martin, 2010). Indeed, the
relationship between low SES and higher rates of antisocial behaviour has consistently been established in the literature (Boe, Overland, Lundervold & Hysing, 2012; Conger et al., 2002; D’Onofrio et al., 2009; Kahn, Wilson & Wise, 2005; Martin et al., 2010; Murray, Irving, Farrington, Colman & Bloxsom, 2010; Rutter, Giller & Hagell, 1998). Often, there are many complex individual and contextual factors associated with having a low SES including living in a deprived area, earning a low income, having low educational attainment or being unemployed. Each of these aspects of low SES contribute to high levels of stress (Conger, Xiaojia, Elder, Lorenz & Simons, 1994; Conger et al., 2010). As a result of exposure to multiple stressors, low SES is linked to a range of poor outcomes within the family, including parental aggression, punitiveness and hostility, relationship difficulties, and poor family interactions (Conger et al., 1994).

As individuals try to alleviate the severity of their stress and stressors, they often look for effective, and sometimes alternate, methods to minimise their stress (Merton, 1938). One explanation for the link between SES and crime, for instance, suggests that problem behaviour is a cathartic release of stress. Illustratively, Merton (1938) argues that when people experience strains or imbalances, they engage in risky behaviours to diminish the extent of the strain, and this Strain theory is well supported in the criminology research. For instance, Agnew (2006) reviewed much of the criminology literature surrounding Strain theory, and concluded that numerous strains are prospectively linked to higher problem behaviour involvement. In this meta-analysis, strain included unemployment, residing in an economically deprived area, earning low income, being poorly educated and working in the secondary labour market. Agnew (2006) concludes that strain should be firmly established as a major cause of crime.
Unfortunately, contextual strains, such as living in a deprived neighbourhood, are difficult to change through intervention (Conger et al., 2010). It is very difficult to alter the embedded economic and social hardships that are linked with poverty and low SES. As a result, it is essential to determine protective factors that can be altered, with the aim of decreasing vulnerabilities associated with low SES, including problem behaviour involvement. Although a strong correlation between SES and problem behaviour is well established in the literature, relatively less research seeks to determine factors which could act as a moderator of this relation (Conger et al., 1994; Fergusson, Swain-Campbell & Horwood, 2004). Identifying modifiable factors that can protect low SES youth against problem behaviour involvement is important, and could inform prevention and intervention efforts with youth (Bor et al., 2004).

Thus, the current study aims to ascertain buffering factors for the prominent relationship between low SES and adolescent problem behaviour involvement. This relationship has been extensively researched by Conger and colleagues (1994, 2002, 2010), resulting in the development on the Family Stress Model (FSM; Conger et al., 1994). The FSM focuses on the link between low SES and problem behaviour, and the detrimental effect that negative family processes can have on this relationship. The FSM posits that high levels of economic pressure and stress often result in a deterioration in the quality of family interaction and support (Conger & Donnellan, 2007; Conger et al., 1994; Taylor & Conger, 2014). Results consistent with this model have since been found across a range of ethnicities and countries (Benner & Kim, 2010; Conger et al., 2002; Parke et al., 2004; Solantaus, Leinonen & Punamaki, 2004). Within Australia, the Youth Offender Risk Identification report (McGregor, Gately, Kraemer & Kessell, 2010) supports the links emphasized in the FSM, and
adolescent problem behaviours. In fact, the relationship between poor family support and increased problem behaviour involvement is well established amongst adolescent research (Oetting, Edwards, Kelly & Beauvais, 1997). In line with this research and the FSM, it is assumed that positive rather than negative family processes should work to reduce adolescent risky behaviours (Conger & Conger, 2002). For instance, positive family processes, such as a family environment that is supportive and encouraging, should help youth to cope with stressors associated with low SES and ameliorate their risk for problem behaviour. Therefore, family support could possibly protect those who are most likely to engage in risky behaviour, such as adolescents from a low SES.

Family support is a multidimensional variable that taps the adolescent’s perception of conflict, cohesion and expressiveness within the family (Catanzaro & Laurent, 2004). Many factors influence not only how supportive a family is, but, simultaneously, the adolescent’s perception of that support. Here, support includes verbal expressions of love, affection, praise, encouragement and companionship (Aquilano & Supple, 2001; Barber, 1997). Furthermore, the perceptions of this support within the family are influenced by how well the adolescent feels their family listens, helps with decision making and problems, gives emotional support, and is warm, encouraging and involved. Family involvement includes the knowledge that the parent has of the adolescents’ activities, and their level of supervision or monitoring of these activities (Aquilano & Supple, 2001). While family support is often investigated under the term social support, which combines both family and peer support, research shows that positive family support tends to be more influential.
on the behaviours of young adolescents than positive peer support (Hamdan-Mansour, Puskar & Sereika, 2007).

When family support is perceived as high, research shows it acts as a moderator for adolescents for additional vulnerabilities similar to risky behaviour (Catanzaro & Laurent, 2004). In the past literature, family support has been identified as a buffer for the effects of stress on avoidant coping behaviours including excessive alcohol use (Catanzaro & Laurent, 2004), and substance abuse (Averna & Hesselbrock, 2001). Further, Seiffge-Krenke (1995) found perceived family support buffered for the effects of stress on depression, and research also shows family support is a moderator for the link between parental divorce and risk behaviours. These buffering effects of family support indicate that social support from the family can guide an individual’s behaviour away from risk by motivating them to better protect their health (Pratt, 1991). However, aside from the literature described above, most previous research has focused on the exacerbating effects of this relationship, rather than the protective effects. For example, the physical health of adolescents who had experienced stress worsened when they had low levels of family support (Cheever & Hardin, 1999). Similarly, a longitudinal study found that low support intensified the negative relationship between stress and the mental health of adolescent boys (Ystgaard, Tambs, Dalgard, 1999). While these findings strengthen the epistemology surrounding family support as a moderator, it is still unclear whether high family support explicitly protects adolescents when at high levels, or acts mainly as a risk factor at low levels. With much of the past research focusing on negative moderators, it is now crucial to determine protective positive moderators, with the aim of effectively reducing adolescent risky behaviour.
It is also important for any such investigation to control for other variables related to problem behaviour involvement. First, types of adolescent behaviours generally depend on their gender, as male and female adolescents have been found to externalise differently (Gjerde, Block & Block, 1988). For example, male adolescents are more likely than females to externalize, such as act disagreeably, aggressively and antagonistically. Second, individuals at different stages of adolescence have different averages of risky behaviour involvement. For instance, compared to younger adolescents, older adolescents are more likely to engage in rule-breaking behaviour such as substance abuse, vandalism and truancy (Stanger, Achenbach & Verhulst, 1997). Third, adolescent problem behaviour can also vary across ethnicities. Specifically, ethnicity has been significantly associated with school misconduct, delinquency, and largely with drug use (Lamborn, Mounts, Steinberg & Dornbusch, 1991). Although these differences depend on the types of risky behaviours included, they have been found repeatedly across a range of samples (Bongers, Koot, van der Ende & Verhulst, 2003; Furman & Buhrmester, 1992; Hicks et al., 2007; Rose & Rudolph, 2006; Stanger et al., 1997). Therefore, any research into adolescent problem behaviour should take both gender, age and ethnicity differences into account.

Finally, any examination of adolescent problem behaviour requires accurate and valid measures of risk involvement. For instance, advances in technology allow for the “in the moment” reporting of actual problem behaviour involvement. As such, the current study uses the innovative experience sampling methodology (ESM) to assess adolescent risky behaviours. This method collects “real-time” data, measured at multiple times each day across several days of the study period. Participants report on their state or circumstances as they are experiencing them or a
short time after, rather than trying to report retrospectively as in global survey-based methods. An increasingly common tool for ESM research is mobile phones, which prompt participants to complete an entry and allow for an instantaneous response. Indeed, as adolescent mobile phone ownership grows exponentially, with an approximate 83% of adolescents in Australia now owning their own mobile device (Matthews, 2004), ESMs are becoming increasingly valuable and easily accessible new tools for researchers. Promisingly, many studies show ESMs are valid and reliable methods of data collection, particularly for use with adolescents (Kauer, Reid, Sanci & Patton, 2009; Reid et al., 2008; Schneiders et al., 2007; Shrier, Shih, & Beardslee, 2005; Silk, Steinberg & Morris, 2003).

Repeatedly, it has been recommended that more sophisticated and thorough research methods be used with youth to accurately tap their behaviours (Bor et al., 2004; Conger et al., 2010; Gershoff et al., 2007; Goldfarb et al., 2014; Goldner, 2009; Kjellstrand & Eddy, 2011; Shrier et al., 2005). In particular, valid and reliable methods should be used to inform effective prevention and intervention strategies. Consequently, the current study will use an experience sampling method to investigate the moderating effect of family support on the relationship between low SES and adolescent risky behaviours.

There are three hypotheses within this study. First, the current study expects to sustain the already well-established relationship between SES and adolescent problem behaviour involvement (Conger et al., 2010; D’Onofrio et al., 2009; Kjellstrand & Eddy, 2011; Martin et al., 2010). Second, given the demonstrated effect of gender, age and ethnicity on adolescent externalisation problems, these variables are all expected to be associated with adolescent problem behaviour (Bongers, et al., 2003; Furman & Buhrmester, 1992; Gjerde et al., 1988; Hicks et al.,
2007; Rose & Rudolph, 2006; Stanger et al., 1997). Therefore, gender, age and ethnicity will be controlled for as covariates in the following. Finally, given the nature of family support and the findings of past research, it is hypothesised that family support will act as a moderator for problem behaviour exhibited by adolescents, as displayed in Figure 1. For example, low SES adolescents should be protected from exhibiting a high frequency of risky behaviours if they have high perceived family support. Alternatively, low perceived family support should exacerbate the frequency of problem behaviour.

Figure 1. Moderation model of SES, Adolescent Problem Behaviour and Family Support.

Method

Participants

Participants \( (n = 109, M_{age} = 14.73 \text{ years}, S.D = .92) \) were taken from the How Do You Feel? project (HDYF) run by Murdoch University, Perth, Western Australia, in conjunction with the Young and Well Cooperative Research Centre.
HDYF is a three year study that began in 2013, and assesses adolescent emotion, problem solving and technology use. The current sample were students from a metropolitan Perth high school and were in years nine, ten and eleven at the time of the study.

The majority (71.6%) of participants listed their ethnicity as Caucasian, followed by ‘Other’ (11.0%), Maori (7.3%), African (3.7%), Aboriginal or Torres Strait Islander (0.9%) and Asian (0.9%). Of the participants, 67.0% were female ($n = 73$) and 30.0% male ($n = 33$). Few participants reported no gender, ethnicity or age (2.8%, $n = 3$, 4.8%, $n = 5$, 11.9%, $n = 13$, respectively).

Missing Data. Some missing data existed, however the maximum number of missing data for any one category was less than 12% of the sample, and thus deemed acceptable (Field, 2013). Missing data was likely attributable to participants’ missing a question, forgetting to complete an entry or else reluctance to answer a question, and the other completed measures of the participant were still included in analysis.

Measures

Pre-test survey. All items in the pre-test survey were taken from the HDYF survey (Appendix A), which contains self-report items based on previous measures of adolescents emotion regulation (Gross & John, 2003), peer and family support (Zimet et al., 1988), peer influence (Modecki, 2008) and problem behaviours (Fredricks & Eccles, 2006), among others. Only youth who completed this pre-test were able to participate in the experience sampling sway.

Demographic Background. Demographic information included gender, ethnicity and age at the time of completing the study. Age was calculated from an item asking the participants’ birthdate, and gender was coded as female = 0 and male
The ethnicity item gave the participants six possible answers, and were coded as follows; Caucasian = 1, Aboriginal/Torres Strait Islander = 2, Asian = 3, Middle Eastern = 4, African = 5 and ‘Other’ = 6 (possible to provide an open-ended answer at this option).

**Socioeconomic Status.** SES was determined by two items that tapped parental education level, being “What education has your mother/father completed?” The possible answers were coded as; ‘Do not know’ = 0, ‘Did not finish high school’ = 1, ‘Finished high school’ = 2, ‘Finish university’ = 3. ‘Do not know’ was coded lower than other possible answers as being unsure of parental education level is a likely indication of lower SES (as used in Modecki, 2008, 2009). Participants’ SES was then calculated by obtaining a mean of both the mother’s and father’s education levels. Parental educational level is recognised as a reliable measure of SES (Caro & Cortes, 2012; Lamborn et al., 1991), even when it is reported by the child instead of by the parents themselves (Kreuter, Eckman, Maaz, Watermann, 2011).

**Perceived Family Support.** The HDYF pre-test survey measures perceived family support using the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988). All four items that comprised the scale were measured on a 5 point Likert scale, from (1) Strongly Disagree to (5) Strongly Agree. Example items include “I get the emotional help and support I need from my family” and “My family really tries to help me”. Perceived family support scores were calculated by averaging the scores of all items in the scales. Research using the MSPSS show it is significantly correlated with adolescent problem solving ($r = .47, p < .001$) and discussing problems with parents ($r = .18, p < .001$) (Cicognani, 2011).

**Daily Problem Behaviour.** Daily problem behaviour was measured within the HDYF experience sampling surveys (Appendix B). The experience sampling
item used in this study tapped problem behaviour, asking “Since the last message did you do anything risky or dangerous?” Participants responded with either ‘Yes’ or ‘No’ answers, completing this question on a smartphone five times a day for seven days. A daily problem behaviour score was created for each day, and the sum of adolescent problem behaviour frequency across the seven days was totalled to get an overall frequency score out of a possible 35. In cases where a participant failed to complete an entire experience sampling entry, this was taken as a nil entry towards their total problem behaviour score for the week.

**Procedure**

Ethical clearance from Murdoch University Human Research Ethics Committee was obtained for the HDFY project prior to the commencement of this study. An invitation letter to participate in the HDYF project and a consent form for the school Principal (Appendix C) was sent to a target school in a metropolitan suburb of Perth. This school was identified as being in a low socioeconomic area, according to the Index of Community Socio-Educational Advantage (ICSEA) scores (Australian Curriculum, Assessment and Reporting Authority, 2012). The school principal was then contacted as a follow up, and formally invited to participate in the study. Individual participants were recruited by school personnel and research assistants, who attended the school during assemblies to inform students about the study and give them information letters to give to their parent. Informed consent was obtained from participants (Appendix D) and their parents (Appendix E) prior to their participation in the study. Participants were informed that their answers would be kept confidential from teachers and parents and that they could withdraw their consent at any time without incurring a penalty.
Participants completed the pre-test survey at their schools during an appropriate class time elected by school personnel. Prior to commencement of the survey, each participant was allocated an individual ID number, which they recorded on their pre-test survey, and allowed researchers to match students’ responses throughout the study. Researchers gave brief instructions on how to carry out the survey (Appendix F) and supervised whilst participants completed the surveys. An available classroom with twenty-five desktop computers connected to an external web server was used for the participants to complete the pre-test survey. Using computers to complete surveys has been shown to be a successful method in the past, especially with adolescent participants, and also reduces the number of errors which could have occurred from researchers’ coding and entering the data manually post survey (Larson, Hansen & Moneta, 2006). Alternatively, an equivalent paper and pen survey was issued upon student request.

Immediately after participants had completed the pre-test survey, they were individually allocated an iPhone 5 by researchers for their use for one week. All students were given instructions on how to use the device to complete the momentary surveys, as well as for other basic functions. Appropriate internet and phone behaviour previously outlined in the consent forms was reiterated to all participants. Students then kept the smartphone for the duration of one week, with automated web-based surveys sent in a link via text message five times daily; in the morning, at lunch, after school, in the evening and before bed time. Students were instructed to complete these surveys as soon as they were sent or at a time of nearest convenience, but surveys would close within one hour after they were sent to minimise retrospective bias in reporting (Silk et al., 2003). Participants were also allowed to use the device for personal use as an incentive to complete the momentary surveys.
In order to adhere to the rules set by the participating schools, students were instructed to return the phone at the beginning of every school day to researchers who were onsite during the testing period so as not to disrupt classes. Students were then to return to the research location during their lunchbreak to complete their midday survey. Students were also asked to return after school to pick up their smartphones in order to take the device home with them for the evening. The participants handed back the phone after the week-long testing period was finished, and were thanked for their participation. Once experience sampling data was downloaded from the mobile phones, all devices then had their memory cleared entirely to ensure complete confidentiality for all participants, and to rid the phone of any remaining personal information.

**Results**

**Analysis Plan**

The aim of this research was to examine the relationship between SES (independent variable) and adolescent problem behaviour (dependent variable) and in particular, determine whether family support moderates this relationship. Computer software Statistical Package for the Social Sciences (SPSS) Version 22 was used in conjunction with MODPROBE (Hayes & Matthes, 2009) to analyse study data. First, to gain an initial overview of the sample, descriptive statistics were calculated. Following this, appropriate assumption tests for ordinary least squares (OLS) regression analysis were carried out to detect any serious violations that could affect the generalizability of the results (Field, 2013). Hierarchical multiple regression analysis was then used to determine whether family support and SES were related to problem behaviour above and beyond key covariates such as gender and
ethnicity. Finally, moderated multiple regression analysis was conducted to test for the moderating effect of family support on the link between SES and adolescent problem behaviour involvement.

**Descriptive Data**

Descriptive data for the sample are displayed in Table 1.

Table 1.

*Descriptive Data for the Sample*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Behaviour</td>
<td>109</td>
<td>1.22</td>
<td>2.13</td>
</tr>
<tr>
<td>SES</td>
<td>105</td>
<td>1.28</td>
<td>0.85</td>
</tr>
<tr>
<td>Family Support</td>
<td>108</td>
<td>3.72</td>
<td>0.88</td>
</tr>
<tr>
<td>Gender</td>
<td>106</td>
<td>0.31</td>
<td>0.46</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>104</td>
<td>2.03</td>
<td>1.87</td>
</tr>
<tr>
<td>Age</td>
<td>96</td>
<td>14.73</td>
<td>0.92</td>
</tr>
</tbody>
</table>

**Assumption Testing**

OLS regression assumes the dependent variable is linearly related to any predictors (Field, 2013). As visual inspection of scatterplots determined adolescent problem behaviour is linearly related to both the independent variable and possible moderator, this assumption has been met. OLS regression analysis also assumes that the independent and dependent variables are quantitative, continuous and unbounded (Field, 2013). As the variables in this study were measured at the interval level, and data ranged across all numerical scales used, this assumption has been met. Another assumption of regression analysis is the independence of variables (Field, 2013),
which was met in this data given that each value was obtained separately. Notably, if analyses were conducted such that individual data points across the day and week were used to assess problem behaviour, then an OLS regression would no longer be appropriate. Instead, multiple time points would be nested within each person, requiring multilevel linear modelling to account for within person clustering (Field, 2013). As such, this study used a sum of information collected across the week, and met the basic assumption of data independence for OLS methods.

OLS regression also assumes that the sample size is adequate, such that at least 10 cases per predictor are attained (Field, 2013). This study has five independent variables; SES, family support, age, ethnicity and gender. This means that the recommended minimum sample size would be at least 50, and as the sample sizes range from 96 to 109 for these variables, this assumption has been met.

Additionally, OLS regression analysis assumes that each variable should be approximately normally distributed if the results are to be generalised (Allen & Bennet, 2010). The distribution of adolescent problem behaviour involvement was examined, along with the relevant histograms, to determine if the assumption of normality was met. This assumption was violated with skewness (2.90, $SE = .23$), kurtosis (9.28, $SE = .46$) and the Shapiro-Wilk test of normality ($S-W = .60$, $df = 104$, $p < .001$). SES was similar, violating the assumption of normality with skewness (.01, $SE = .24$), kurtosis (-.92, $SE = .47$) and the Shapiro-Wilk test ($S-W = .93$, $df = 104$, $p < .001$). Family support also violated this assumption, with skewness (.18, $SE = .23$), kurtosis (-.80, $SE = .46$) and the Shapiro-Wilk test ($S-W = .95$, $df = 104$, $p = .001$).

However, the decision to normalise or transform data must be balanced with the degree to which sample distribution represents patterns existing within the larger
population. In fact, the problem behaviour distribution of this sample is likely an accurate representation of adolescent problem behaviour (ABS, 2008). Previous studies demonstrate that when adolescents are asked to report their problem behaviour involvement, data tends to be heavily skewed, as only a small number of adolescents report high levels of precarious behaviour (ABS, 2008). As such, problem behaviour measures are often left untransformed despite skew (Modecki, 2008).

Further, this study was particularly interested in the effects of low to moderate SES on adolescent problem behaviour. Thus, data was collected from a school with a low socioeconomic score. As the positively skewed distribution of parental education accurately reflects the range of SES in this sample, which in turn reflects the typical range of parental education level among youth in an at risk context, the decision was made not to transform the SES variable.

Conversely, the distribution of family support was negatively skewed in this sample, meaning adolescents more frequently reported a high score of perceived family support rather than a low score. To correct for such a lack of normal distribution it is possible to transform the skewed variable. However, when deciding whether to transform the family support variable or not, the robustness of the sample size of this variable ($n = 108$) was considered. With samples of 100 or more, a better approximation of normal is possible than with smaller sample sizes, even in samples with heavy-tailed distributions (Field, 2013). Therefore, the decision was made not to transform the perceived family support variable.

OLS regression analysis also assumes lack of multicollinearity (no correlations greater than .80), otherwise the analyses can be unstable and difficult to interpret (Allen & Bennett, 2010). Bivariate correlations are shown in Table 2, and
correlations were only moderate between key variables (e.g. $r = -0.27$ between problem behaviour and family support, and $r = 0.20$ between family support and ethnicity). Hence, the assumption of multicollinearity was satisfied.

Surprisingly, age was not significantly associated with adolescent problem behaviour in this data, although it typically tends to be associated with problem behaviour in the literature (Gjerde et al., 1988; Stanger et al., 1997). Analysis were run with and without age as a covariate, and results were substantively the same. However, given the relatively small sample size and an effort to capitalise on available power, all further reported analyses excluded age as a covariate. However, gender and ethnicity were still included.

Table 2.

*Pearson’s r Correlations between Predictors, Covariates and Outcome Variables in the Study*

<table>
<thead>
<tr>
<th></th>
<th>Problem Behaviour</th>
<th>SES</th>
<th>Family Support</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Behaviour</td>
<td>1</td>
<td>--</td>
<td>--</td>
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</tr>
<tr>
<td>SES</td>
<td>-.27**</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Family Support</td>
<td>.06</td>
<td>.08</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Gender</td>
<td>.11</td>
<td>-.02</td>
<td>-.02</td>
<td>1</td>
<td>--</td>
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</tr>
<tr>
<td>Ethnicity</td>
<td>-.11</td>
<td>-.05</td>
<td>.20*</td>
<td>-.04</td>
<td>1</td>
<td>--</td>
</tr>
<tr>
<td>Age</td>
<td>.02</td>
<td>.17</td>
<td>-.04</td>
<td>.01</td>
<td>-.04</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note.* -- Repeated information.

*p < .05, two-tailed, **p < .01, two-tailed.*
Finally, a further assumption of regression analysis is the normal distribution, lineal relationship and independence of residual errors (Allen & Bennett, 2010). Further, the variance within the residual errors should also be homogenous. These assumptions were satisfied based on the Durbin-Watson test, which at 2.16 is considered sufficient (Field, 2013). Further, visual inspection of histograms and normal probability plots of the residues indicated that the assumptions for normality, linearity and homoscedascity of residuals were met for all independent and dependant variables.

**Regression Analysis**

Hierarchical multiple regression analysis was used to test the hypothesis that family support and SES were related to problem behaviour above and beyond key covariates, such as gender and ethnicity. Covariates gender and ethnicity were entered into Step 1 to control for these potential co-varying factors in adolescents’ problem behaviour. Collectively, they accounted for 2% of the explained problem behaviour, which was not statistically significant, $F(2, 99) = 1.02, p = 0.363$.

Family support and SES were then entered into the model on Step 2. Together, these variables accounted for a significant amount of explained variance in adolescent problem behaviour involvement, $\Delta R^2 = .11, \Delta F(4, 97) = 2.96, p = .023$. Specifically, above and beyond gender and ethnicity, SES independently contributed to the model ($B = -.72, p =.004$), such that low SES was associated with higher problem behaviour. However, family support did not contribute significantly to the model ($B = .32, p =.198$).

Next, moderated multiple regression was run to determine whether the association between low SES and adolescent behaviour was moderated by family support. Moderation analysis requires the centring of the independent and
moderating variables prior to the actual analysis of that data to decrease multicollinearity, and also to make the interpretation of the main effects easier (Field, 2013). Mean centring is carried out by calculating the mean of the variable, and subtracting this from each raw score. Next, an interaction variable is computed by multiplying the independent and moderating variables together, in this case, SES and family support. MODPROBE (Hayes & Matthes, 2009) computes both of these steps simultaneously, without the need for the researcher to centre variables or create new variables in the data set. Further, MODPROBE uses stepwise hierarchical regression as per recommended best practice (Cohen, Cohen, West & Aitken, 2003), entering covariates and main effects on Step 1 and the moderator term on Step 2.

Using MODPROBE (Hayes & Matthes, 2009), moderated multiple regression was run. The overall model was significant, $\Delta R^2 = .11$, $\Delta F(5, 96) = 2.43$, $p = .041$. All conditional main effects and interaction effects are shown in Table 3. A conditional main effect for SES was significant, such that a higher SES was related to lower amounts of problem behaviour involvement with the interaction between family support and SES accounted for. However, there was no main effect for family support. Moreover, the interaction between SES and family support was not significant. Thus, the hypothesised moderation was not present. Due to the lack of significance of the interaction term on problem behaviour, a follow-up simple slopes analysis was not required to investigate different amounts of moderation at various levels of SES (Field, 2013).
Table 3.

Linear Model of Predictors of Problem Behaviour

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.43</td>
<td>.37</td>
<td>3.88</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td>[0.70, 2.17]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covariates</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.42</td>
<td>.50</td>
<td>.84</td>
<td>p = .406</td>
</tr>
<tr>
<td>[-0.57, 1.41]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>-.15</td>
<td>.11</td>
<td>-1.35</td>
<td>p = .179</td>
</tr>
<tr>
<td>[-0.38, 0.07]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SES (centred)</td>
<td>-.67</td>
<td>.28</td>
<td>-2.40</td>
<td>p = .018</td>
</tr>
<tr>
<td>[-1.22, -0.11]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Support (centred)</td>
<td>.32</td>
<td>.27</td>
<td>1.17</td>
<td>p = .245</td>
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<tr>
<td>[-0.22, 0.85]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SES x Family Support</td>
<td>-.17</td>
<td>.29</td>
<td>-.58</td>
<td>p = .560</td>
</tr>
<tr>
<td>[-0.76, 0.41]</td>
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Note. $R^2 = .11$

Discussion

The current study examined perceived family support as a moderator of the relationship between SES and adolescent problem behaviour, using an innovative measure of “real-time” reported problem behaviour involvement. SES is a contextual factor repeatedly associated with adolescent problem behaviour (Conger et al., 2010; Kjellstrand & Eddy, 2011; Murray et al., 2010). Specifically, adolescents from a low socioeconomic are especially vulnerable to high engagement in of risky behaviour (Fergusson et al., 2004; Lansford et al., 2006). However, Conger and colleagues (1994; 2002; 2010) suggest that family processes such as familial support may have a buffering effect on this relationship. As such, positive
family processes were characterised as perceived family support for the purpose of this study, and its moderating effects were investigated. This study aimed to expand the research regarding protective factors for adolescent problem behaviours.

There were three hypotheses tested in this study. First, it was hypothesised that SES would have a negative association with adolescent risky behaviours (D’Onofrio et al., 2009; Martin et al., 2010; Kjellstrand & Eddy, 2011). Second, it was expected that problem behaviour involvement of youth would be related to gender, ethnicity and age, given their documented relationships in previous research (Bongers et al., 2003; Furman & Buhrmester, 1992; Gjerde et al., 1988; Hicks et al., 2007; Rose & Rudolph, 2006; Stanger et al., 1997). Last, it was expected that family support would have a moderating effect on the relationship between SES and adolescent risky behaviours. This hypothesis was based on previous research regarding the buffering effect of family support on the relationship between contextual factors such as stress and youth problem behaviour involvement (Averna & Hesselbrock, 2001; Catanzaro & Laurent, 2004; Seiffge-Krenke, 1995). Further, it was based on the idea that positive family processes such as family support could be an effective protective factor for youth, particularly those made vulnerable by negative contextual factors. In particular, adolescents from a low SES with high levels of family support were expected to be protected from exhibiting high frequencies of risky behaviour. Alternatively, the link between low SES and problem behaviour for youth with low family support was expected to be exacerbated. The findings of the study will be discussed below, followed by an overview of its strengths and weaknesses, and recommendations for future research.
Demographic Predictors of Problem Behaviour

The first two hypotheses of this study involved associations between demographic factors and youth risky behaviours across seven days. First, using mobile phones as a means to engage adolescents in self-disclosure of their risky behaviour, this study replicated the robust effect of SES on adolescent problem behaviour (D’Onofrio et al., 2009; Martin et al., 2010; Kjellstrand & Eddy, 2011). SES was significantly and negatively associated with problem behaviour in this at-risk sample of adolescents. Specifically, youth from a lower socioeconomic background, as measured by parental education, were more likely to engage in problem behaviours across seven days. This finding is in line with a body of research highlighting the effects of contexts and class on behaviour, and the necessity of developing effective interventions and preventative strategies for adolescents whom are vulnerable due to low SES.

Second, in contrast to study hypotheses, there were no significant relations between problem behaviour involvement and age, gender or ethnicity in this sample. This was surprising, given the documented relationships of all three factors with problem behaviour (Bongers et al., 2003; Furman & Buhrmester, 1992; Gjerde et al., 1988; Hicks et al., 2007; Rose & Rudolph, 2006; Stanger et al., 1997). Gender was not significantly associated with problem behaviour in this sample, and this finding may reflect a lack of actual gender differences in behaviours. While it tends to be males who engage in more frequent risky behaviours, there are also females who are highly delinquent and exhibit frequent problematic behaviours, especially during adolescence (Australian Institute of Criminology, 2012; McKnight & Loper, 2002). Regarding age, there was a lack of variance amongst participants, as they were all adolescents, and their ages only varied within three years of each other. Similarly,
there was a lack of variability in the sample’s ethnicity, with the majority of participants being Caucasian. The lack of significant findings present in this study highlights the complexity and multi-faceted nature of adolescent problem behaviour. An additional possibility is that the lack of significance regarding these demographic factors may suggest that the methodology in this study captured behaviour among only the most risky youth. This possibility will be discussed in more detail later.

**Family Support as a Possible Protective Effect**

The primary aim of this research was to test the hypothesis that family support would moderate the relationship between SES and problem behaviour. Surprisingly, within this sample, adolescent problem behaviour involvement was not found to be associated with perceived family support. Although, a moderator need not directly affect a dependent variable. However, family support did not moderate the relationship between SES and adolescent problem behaviour. Unexpectedly, the main hypothesis of this study regarding family support having a buffering effect on the relationship between SES and adolescent problem behaviour was not supported by study findings. There are two main explanations for this lack of significant findings.

First, it is possible that instead of family support, different kinds of support could moderate the relationship between SES and adolescent risky behaviour involvement. The lack of significant findings surrounding family support in this study indicates that it may be crucial to look further than supportive family processes to either peer support or social support as whole, as protectors against stressful economic circumstances. Peers are highly influential during adolescence (Rose & Rudolph, 2006) and can protect youth from risky behaviour and bolster their prosocial behaviour (Lansford et al., 2003). Therefore, it would be valuable for
future research to test peer support as a potential moderator of the negative association between SES and risky behaviours. Further, overall social support, which includes both peer and family support, could be a protective factor against problem behaviour rather than any specific aspects of support. For instance, general social support can impact the extent to which adolescents internalize or externalize stress (Rueger et al., 2008). Such findings infer that it may not matter where support for an adolescent originates, but only that they perceive themselves as being supported in general. Thus, future research could also benefit from investigating the moderating effect of overall social support on the relationship between SES and risky behaviour.

A second, and non-competing, possibility is that family support does in fact buffer the relationship between SES and adolescent problem behaviour, in addition to other aspects of support, for youth engaging in low and moderate levels of problem behaviour. However, as discussed in detail below, it may be that while family support is protective for problem behaviour, the present study only reflects heavy problem behaviour involvement form very high risk youth, who engage in risky activities frequently enough to be assessed within a short seven day period. Future research assessing risk and over a longer testing period may pick up adolescent problem behaviour at all levels of involvement. It is possible within such research that family support could act as a buffer against problem behaviour, mainly for those who engage in moderate levels of risk. Indeed, the behaviour of very high risk adolescents is difficult to alter, especially if there are exacerbating contextual factors present like a low SES (Pollard, Hawkins & Arthur, 1999). Therefore, it is probable that family support alone is not enough to protect youth from engaging in frequent risky behaviour. However, for adolescents from a low SES with only low or
moderate risky behaviour involvement, it is possible that family support could act as a protective factor on this relationship.

**ESM Research and Implications for Future Work**

Using an innovative experience sampling data collection method, this study was able to capture “real-time” information from an adolescent sample over the course of one week. Here, information was obtained about a specific ‘snap-shot’ in time, with participants entering their behaviour directly into smartphone devices within a short time frame to when it occurred. Importantly, this represents an improvement on previous research which typically asks adolescents to retrospectively report their behaviours over the previous six months or year.

Further, the ESM in this study enabled data collection to overcome numerous factors that can influence an adolescent’s willingness to comply with collection procedures and give truthful answers. For example, when collecting information in an education setting, peer pressure or group context can influence responses (Dashiff, 2001). Similarly, in data collection carried out at the home, adolescents’ response could be affected by ingrained response patterns or family norms (Dashiff, 2001). In this study, participants completed their entries at various times throughout the day in a range of locations. At most of these time points, it was likely that the adolescents were able to choose the environment of which they were to complete an entry in. Accordingly, this may have resulted in more accurate data being obtained from the sample.

While this ESM methodology is an exciting improvement to existing methods, the current study highlights areas for further improvement. Specifically, research using ESM to capture risky behaviours needs a longer testing period in order to tap problem behaviour involvement from moderate and low risk youth. It is likely
that youth who are frequently involved in risky behaviour are those who report problem behaviour within a short seven day window. Youth who only engage in a moderate level of problem behaviour may engage in problem behaviours once a fortnight or month, and this would not be picked up on during a short testing period of one week. As neither moderate or low to no involvement youth likely do not report problem behaviour within a single week, the current seven day method does not distinguish between those with moderate risky behaviour involvement and those with low involvement. Therefore, youth in this study reporting problem behaviour involvement were likely very high risk adolescents, meaning there was minimal variance in levels of risky behaviour involvement. Using ESM methodology over a longer time frame would assist with these issues, and likely tap problem behaviours at low, moderate and high levels.

**Strengths of the Study**

There were a number of notable strengths within the current study. First, the use of mobile phone devices to complete experience sampling entries is a major strength of this study. This represents an innovative addition to the adolescent problem behaviour literature, as this methodology is not yet commonly used by researchers. Understandably, as adolescents alter their behaviour to spend more and more time online (Holtz & Appel, 2011), it is crucial for research to stay current and relevant. For the current generation of adolescents, this means that researchers should utilise technology to their advantage, and optimise upon the high rates of adolescent mobile phone use (Matthews, 2004). The current study aimed to do just this, and although the major hypothesis was not supported, the study still brings crucial awareness to the need for innovative methodology to examine adolescent problem behaviour. Further, the methodology of this study was particularly useful
for tapping problem behaviour levels of high risk youth. For future research wanting to capture problem behaviour involvement, at low and moderate levels as well as high, it may be beneficial to use a longer testing time frame. However, for researchers interested in adolescents with a high risky behaviour frequency, the present study provides evidence that experience sampling is an effective method.

Second, this study is an important addition to the literature regarding possible protectors for adolescent risky behaviours. Adolescent problem behaviour results in a large number of adolescents experiencing undesirable consequences such as injury, illness and even death (Sawyer et al., 2012). Therefore, it is essential for research to focus on factors that can protect adolescents from such outcomes. In particular, effective protective factors are required for those youth who are more vulnerable to problematic behaviours, such as those from a low SES (Schmied & Tully, 2009). Much previous research has focused on factors that exacerbate negative behaviours. This study attempts to shift this focus to protective factors, despite its lack of significant statistical findings. Results of this study did not show family support to be a significant protector for the negative relationship between SES and adolescent problem behaviour. Despite this, the concept of positive family processes acting as a buffer upon this relationship brings awareness to a crucial gap in the adolescent behaviour research. As one possibility for future research, supplementary positive family processes may serve to protect low SES youth from exhibiting problem behaviour (Conger et al., 2010), including family cohesion, affection, acceptance, closeness, structure, nurturance, satisfaction, warmth and positivity. Further research is needed in the area of protective family factors for families facing stressful circumstance such a low SES, in order to develop appropriate preventative strategies.
Limitations and Future Research

At the same time, this study is not without its limitations. Foremost, this study likely only tapped problem behaviour at the highest level of involvement. Future research using similar methodology should aim to collect data over a much longer duration, such as several weeks. This appears essential to capture adolescent problem behaviour at low, moderate and high levels, and therefore gain an accurate insight into such behaviour. It is recommended that participants complete daily entries on their allocated mobile devices over a month long period, rather than several momentary entries across several days, in order to accurately reflect frequencies of risky behaviour amongst a range of youth. In addition, fewer daily entries would make the data collection period less intensive, and perhaps more appealing to participants. Further, since this sample was obtained from a low socioeconomic high school, it was expected that youth would be highly involved in problematic behaviours given the findings of previous research (D’Onofrio et al., 2009; Martin et al., 2010; Kjellstrand & Eddy, 2011). Consequently, any interpretation of this study’s findings should take into account the unique context of adolescents with high problem behaviour involvement, rather than adolescent risky behaviours in general.

In addition, this sample of adolescents might be reporting less frequent risky behaviour than what is actually occurring due to their perception of behaviours being less risky than they actually are (Reyna & Farley, 2006). Commonly, youth perceive behaviours as less dangerous and problematic than adults do (Reyna & Farley, 2006). Given that any problem behaviour reported in this study had to first be deemed as risky by the adolescent themselves, it is possible that many risky behaviours went unreported. This issue is one that will be encountered by any research involving self-
reporting measures of problem behaviours for adolescents, as it could impact upon the accurate reporting of such behaviours.

Furthermore, there were several design limitations worth noting, particularly in regards to the measures used. For instance, SES of the adolescent was measured using only parental education as a proxy measure. Future research would benefit from measuring a combination of parental education with other factors such as parental employment status, parental income and suburb of residence. In addition, it may be that additional measures were needed to accurately tap perceived social support. Future research may benefit from using measures for not only family support, but peer support and generalised social support as well. This may assist in getting a wider overview regarding the kinds of moderating effects that support can have on the relationship between SES and risky behaviour involvement.

Additionally, this study has a relatively small sample size, with minimal variance in regards to basic demographic information such as SES and age. Future studies would benefit from undertaking similar research with a larger and more diverse sample, possibly with ages that range across the full adolescent period. A larger sample size would also increase the robustness of results, as moderation tends to be underpowered (Cohen, Cohen, West & Aitken, 2003). However, it may be difficult to balance such an intensive data collection method with sample size, and obtaining willing participants. Further, this study was hampered by its rate of missing data, particularly in the experience sampling entries. This was attributed to participants simply forgetting or being reluctant to complete an entry, and the fact data was collected from at risk youth who tend to be difficult to obtain information from (Dashiff, 2001). Furthermore, this particular sample had low rates of school attendance and high rates of truancy throughout the duration of the study, which
greatly impacted upon their completion of day time entries, such as at lunch. Some students forgot to collect their mobile device from researchers at the end of the school day, meaning they were then unable to complete the last three entries for the day. To assist in the reduction of missing data, future research should investigate if more practical or plausible methods of getting the adolescent’s to thoroughly engage in the study and be invested in the results. The reward of receiving free internet and mobile phone usage for the seven day period may not have been enough positive reinforcement for all participants alike.

Lastly, a limitation may lie with the data analysis model used in this study. Due to the nested nature of experience sampling data, time points nested within each participant, ideally this study could have used hierarchical linear modelling analysis. Such analysis were beyond the scope of the current study, however, this is something for future research to consider.

Due to all of these limitations, namely failure to capture variability in levels of problem behaviour, the results of the present study should be considered with caution. However, it is possible that protective factors against adolescent problem behaviour could be determined if methodologies were altered in line with these recommendations. Future research is categorically recommended in this area.

**Conclusion**

Adolescent problem behaviour is a major health and safety issue, with detrimental and sometimes permanent outcomes for youth (Sawyer et al., 2012). However, research to date has emphasized factors that exacerbate the risk of high problem behaviour involvement, instead of focusing on factors that could protect youth from such behaviours. While it is important to understand which factors increase adolescent risky behaviours, it is essential to determine factors that protect
against them, in order to assist in reducing overall adolescent problem behaviour. Further, previous research is disadvantaged by the dependence on survey research based on summary data rather than capturing intensive data in “real time” (Kauer, et al., 2009; Reid et al., 2008; Schneiders et al., 2007).

Overall, the current study successfully contributes to the literature with findings replicating the association between SES and adolescent problem behaviours. The results of the present study simply indicate that there is a great need for further adolescent behavioural research to be carried out, especially in regards to protectors of adolescent problem behaviour at all frequencies. Without such research, it is impossible to conclude upon strategies that will be most effective in the vital prevention or intervention of risky behaviours during adolescence, and save youth from engaging in behaviour that could potentially have a serious impact upon the rest of their lives. This study also gives vital insight into the use of experience sampling methodology with adolescents, and how it can effectively ascertain high levels of problem behaviour involvement amongst youth.
References


Moore, L. (2011). *After Six Years...: An Examination of the Effectiveness of the AboveTheInfluence Campaign on Its Initial Target Audience*. Master’s Thesis, East Carolina University, Greenville, N.C.


Instructions for Authors

This thesis was prepared for: *Journal of Research on Adolescence*

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Page limit: 40 pages double-spaced (including references, tables and figure). Papers longer than 40 pages will be asked to revise for length to meet this limit. Authors are also strongly encouraged to submit concise and focused papers in the 25-30 page range.

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- Manuscript is organized in the following order
  - Title page (blinded for peer-review)
  - Abstract
  - Body Text
  - Appendices
  - References
  - Tables
  - Figures
- A running head is supplied
- Abstract is 120 words or fewer
- Method section contains demographic information about participants, particularly age information
- NO footnotes or endnotes are used
- NO underlining in the body text
- All uses of slash (/) in abstract and body text are removed or edited per APA style (does not apply to references, tables or figures)
- Statistics appear in APA style
- Please update your references to include articles from the last five years. We encourage you to look at papers that appear in the early view sections of journals online to find up-to-date research.

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The *Journal of Research on Adolescence* welcomes high quality manuscripts that present original research findings on all topics related to development during adolescence, including articles focused on the transitional periods preceding and following adolescence. Although we encourage research using longitudinal data, innovative cross-sectional and qualitative studies will be considered. In addition, we encourage submission of integrated, critical review articles that synthesize and expand on existing research or challenge existing lines of research. We also will continue to publish brief empirical reports that highlight methods and findings.
In looking forward, the editorial team particularly encourages studies that build linkages between research and practice by addressing real-world problems and concerns of adolescents and others involved in their development (families, schools, agencies, etc.), and that include multi-method research. We encourage authors to present findings from translational research or discuss the translational implications of their work, as well as the connections between theory and practice. By translational we mean the multi-phased process by which research-generated knowledge of adolescent development is used to inform public policy and practice and vice versa. We also hope to expand the presence of articles from our international colleagues, and will make a focused effort to encourage submissions related to adolescence in developing countries. To increase the accessibility of the journal for diverse audiences, we will publish brief lay summaries of all articles. We also hope to expand the number of pages in the journal and increase on-line and early access to accommodate these new directions.

**Audience**

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Empirical Articles comprise the major portion of the journal. To be accepted, empirical articles must be judged as being high in scientific quality, contributing to the empirical base of adolescent development, and having important theoretical, practical, or interdisciplinary implications. Reports of multiple studies, methods, or settings are encouraged, but single-study reports are also considered. Longitudinal studies are encouraged, but important and novel studies using cross-sectional data will be considered.

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longer descriptions of methods and results, authors should use the empirical article format.

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Reviews focus on past empirical and/or on conceptual and theoretical work. They are expected to synthesize or evaluate a topic or issue relevant to adolescent development, should appeal to a broad audience, and may be followed by a small number of solicited commentaries.

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The corresponding author for a manuscript must, in an accompanying cover letter, warrant that all co-authors are in agreement with the content of the manuscript and that the study was conducted in accordance with the ethical standards of the American Psychological Association. Authors should also state that the findings reported in the manuscript have not been published previously and that the manuscript is not being simultaneously submitted elsewhere.

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The Journal of Research on Adolescence seeks to complete a full review of all submissions within 90 days of their submission. Our Board of Editors is vested with control over manuscript review and publication. Manuscripts are reviewed by the Editor and the Board of Editors and by invited reviewers with special competence in the area represented by the manuscript. Articles and reviews must
be judged to be of substantial importance to the broad, multidisciplinary readership of the journal as well as meet a high level of scientific acceptability. A first level of review determines the importance and appropriateness of submissions to the journal readership at large in conjunction with scientific merit; on this basis, the Board of Editors decides whether the manuscript will be reviewed further.

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Appendix A

How Do You Feel?
Young and Well, Cooperative Research Centre
2014

ID Number

Demographics
(Youth Activity Participation Study)

Date of Birth (dd/mm/yy)

What year are you in at school?
- Year 8
- Year 9
- Year 10
- Year 11
- Year 12

What is your gender?

How would you describe your family background? (Tick all that apply)
- Caucasian (Anglo-Australian, European or American)
- Aboriginal/Torres Strait Islander
- Asian
- Middle Eastern
- African
- Other (please specify)

Are your parents?
- Married and living together all the time
- Married and living together but one works away a lot of the time (fly in-fly out)
- Living together in a marriage-like relationship
- Divorced
- Single/sole parent (never married)
- Widowed/widower (parent(s) passed away)
Separated

What education has your mother completed?
(Please tick the highest qualification)

- Did not finish High School
- Finished High School
- Finished University
- Do not know

Does your mother work for pay?
- Yes
- No

What education has your father completed?
(Please tick the highest qualification)

- Did not finish High School
- Finished High School
- Finished University
- Do not know

Does your father work for pay?
- Yes
- No

Are your grades in school mostly? (please tick one)

- A’s
- A’s and B’s
- B’s
- B’s and C’s
- C’s
- C’s and D’s
- D’s
- D’s and E’s

Pubertal Timing
(Youth Activity Participation Study)
Teenagers’ bodies change a lot as they grow up, this is referred to as your physical development. Do you think your physical development has started much later, a little later, around the same time, a little earlier or much earlier than other people your age?

<table>
<thead>
<tr>
<th>Much Later</th>
<th>A Little Later</th>
<th>Around the Same</th>
<th>A Little Earlier</th>
<th>Much Earlier</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Technology Use/What
Which of the following technologies do you use on a more or less daily basis (please choose as many as apply to you)

<table>
<thead>
<tr>
<th>Technology</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>A smart phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A mobile phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A tablet (e.g. iPad)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A laptop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A desktop computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A games console or portable gaming device (e.g. Playstation, Xbox, Wii, PSP, DS, Gameboy)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other handheld portable devices (e.g. MP3 player, iPod Touch)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A television</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None of the above</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Activity/Purpose/Why

Please choose from the following list all the things you have done online in the past month:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessed chatrooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessed health information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessed online virtual worlds (e.g. SecondLife)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessed Social Networking Sites (e.g. Facebook, Twitter)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checked email</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gambled</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Place of access

(Young & Well CRC National Survey, 2013).

**Where do you most commonly access the Internet/go online?**

- [ ] Anywhere via my smart phone
- [ ] School, TAFE or University
- [ ] At a friend’s home
- [ ] Work
- [ ] At a relative’s home
- [ ] Don’t know
- [ ] Other public place (e.g. library, shopping center, café or internet café)
- [ ] In living room (or other public room) at home
- [ ] In my bedroom (or other private room) at home
- [ ] Other (please specify) 

### Technology use/wellbeing

(EU Kids Online)
In the past 12 months have you seen or experienced something on the internet that has bothered you in some way? For example, made you feel uncomfortable, upset, or feel that you shouldn’t have seen it.

- No
- Don’t know
- Prefer not to say
- Yes
  ➔ If you answered yes, how often have you seen or experienced something on the internet that has bothered you in the past 12 months?

- Every day or almost every day
- Once or twice a week
- Once or twice a month
- Less often
- Don’t know

**Technology use/wellbeing**
*(Young & Well CRC National Survey, 2013)*.

How true are these for you? Please tick one box on every line.

<table>
<thead>
<tr>
<th></th>
<th>Not True</th>
<th>A Bit True</th>
<th>Mostly True</th>
<th>Completely True</th>
</tr>
</thead>
<tbody>
<tr>
<td>I find it easier to be myself on the internet than when I am with people face to face</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I talk about different things on the internet than I do when speaking to other people face to face</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On the internet I talk about private things which I do not share with people face to face</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I go online more frequently on weekends than I do on a regular school or work day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When I am going through a difficult time, I go online more often</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When I am going through a difficult time, going online makes me feel better</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Technology use/wellbeing**
(EU Kids Online)

In the past **12 months**, how often have these things happened to you?

<table>
<thead>
<tr>
<th></th>
<th>Very Often</th>
<th>Fairly Often</th>
<th>Not Very Often</th>
<th>Never/ almost never</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have gone without eating or sleeping because of the internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have felt bothered when I cannot be on the internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have caught myself surfing when I’m not really interested</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have spent less time than I should with either family, friends, or doing schoolwork because of the time I spend on the internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have tried unsuccessfully to spend less time on the internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**When do you spend the most time online** *(using, for example, a mobile phone, computer or tablet to communicate with others, look for information or to entertain yourself)* on a typical school or work day?

- [ ] early morning (5am - 9am)
- [ ] mid-morning (9am - 12noon)
- [ ] early afternoon (12noon - 3pm)
- [ ] mid-afternoon (3pm - 6pm)
- [ ] evening (6pm - 11pm)
- [ ] night time (11pm - 5am)
- [ ] I am online pretty much all the time

**How many days a week do you go online after 11pm at night?**

- [ ] 0
- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
- [ ] 5
- [ ] 6
- [ ] 7
- [ ] Don’t know
Social Networking
(Youth Activity Participation Study)
Have you ever created your own profile online that others can see, like on a social networking site like Facebook, MySpace, or Bebo? (This does not include MSN/Yahoo chat)

☐ Yes  ✧ What is the main reason why you have a profile?

✧ ______________________

☐ No  ✧ What is the main reason why you don’t have a profile?

✧ ______________________

What is the profile you use, or update most often?

✧ ______________________

How many friends do you have on your profile? ✧ ______

What is the main way you usually access your social networking site?

☐ Computer at home
☐ Computer at school
☐ Computer at friends/family house
☐ Your own mobile phone
☐ Your parents/brother/sister mobile phone
☐ Your friends mobile phone
☐ Other ______________________

Cyber-aggression
(Youth Activity Participation Study)

About how often in the last 6 months has a student or group of students told lies or made fun of you using the Internet (email, instant messaging, text messaging, or websites)? (Circle one answer)

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

About how often in the last 6 months has a student of group of students used put-downs or told lies about you using the internet (email, instant messaging, text messaging, or websites)? (Circle one answer)
Sport & Activity Participation
(Youth Activity Participation Study)

Do you play sport?
☐ No
☐ Yes
What sport(s) do you play? (List all)

Do you participate in any non-sport activities or clubs? (e.g., Music, Cadets, volunteering, Drama, School Committee etc)
☐ No
☐ Yes
What non-sport activity do you do? (List all)

Physical Health
(APLUS Study)

How would you rate your overall physical health?

<table>
<thead>
<tr>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Very Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Do you have an illness/disability that makes you sick or gets in the way of your activity every day or sometimes?
☐ No
☐ Yes – what is it? ______________________

Conscientiousness & Sensation Seeking [IPIP]
Please read each item carefully and circle the answer that best corresponds to your agreement or disagreement:

I am always prepared.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

I carry out my plans.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

I love excitement.
<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I seek adventure.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I don’t see things through.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I make plans and stick to them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I do just enough work to get by.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I love action.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I act wild and crazy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I pay attention to details.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I avoid my responsibilities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I am willing to try anything once.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Self-Esteem (Rosenberg)**
Please rate how much you agree or disagree with the following statement.

**I like the way things are going for me.**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**At times, I think I am no good at all.**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**I feel that I have a number of good qualities.**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**I am able to do things as well as most other people.**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**I feel I do not have much to be proud of.**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**I certainly feel useless at times.**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**I feel that I’m a person of worth, compared to others.**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**I wish I could have more respect for myself.**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**All in all, I tend to feel that I am a failure.**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**I take a positive attitude towards myself.**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Emotion Regulation (Gross & John, 2003)
Please read each item carefully and circle the answer that best corresponds to your agreement or disagreement:

**When I want to feel happier I think about something different.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Half and Half</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**I keep my feelings to myself.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Half and Half</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**When I want to feel less bad (e.g., sad, angry or worried), I think about something different.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Half and Half</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**When I am feeling happy, I am careful not to show it.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Half and Half</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**When I’m worried about something, I make myself think about it in a way that helps me feel better.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Half and Half</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**I control my feelings by not showing them.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Half and Half</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**When I want to feel happier about something, I change the way I’m thinking about it.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Half and Half</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**I control my feelings about things by changing the way I think about them.**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Half and Half</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
When I’m feeling bad (e.g., sad, angry, or worried), I’m careful not to show it.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Half and Half</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

When I want to feel less bad (e.g., sad, angry, or worried) about something I change the way I’m thinking about it.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Half and Half</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Resilience** (Brief Resilience Scale, Smith, Dalen, Wiggins et al., 2008 & Connor-Davidson Resilience Scale, 2003)

Please indicate the extent to which you agree with the following statements (Circle one).

I tend to bounce back quickly after hard times.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

I have a hard time making it through stressful events.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

It does not take me long to recover from a stressful event.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

It is hard for me to snap back when something bad happens.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

I usually come through difficult times with little trouble.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

I tend to take a long to get over set-backs in my life.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

I can deal with whatever comes.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>
Disagree 1 2 3 4 Agree

Coping with stress strengthens me.

Strongly Disagree

Disagree 1 2 3 Agree 4 Strongly Agree 5

I like challenges.

Strongly Disagree

Disagree 1 2 3 Agree 4 Strongly Agree 5

When things look hopeless, I don’t give up.

Strongly Disagree

Disagree 1 2 3 Agree 4 Strongly Agree 5

Peer and Family Support (Zimet et al, 1988)
Please read each item carefully and circle the answer that best corresponds to your agreement or disagreement:

My family really tries to help me.

Strongly Disagree

Disagree 1 2 3 Agree 4 Strongly Agree 5

I get the emotional help and support I need from my family.

Strongly Disagree

Disagree 1 2 3 Agree 4 Strongly Agree 5

My friends really try to help me.

Strongly Disagree

Disagree 1 2 3 Agree 4 Strongly Agree 5

I can count on my friends when things really go wrong.

Strongly Disagree

Disagree 1 2 3 Agree 4 Strongly Agree 5

I can talk about problems with my family.

Strongly Disagree

Disagree 1 2 3 Agree 4 Strongly Agree 5

I have friends whom I can share my joys and my sorrows.

Strongly
<table>
<thead>
<tr>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**My family is willing to help me make decisions.**

<table>
<thead>
<tr>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**I can talk about problems with my friends.**

<table>
<thead>
<tr>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Resistance to peer influence** *(Modecki, 2008).*

How much does this describe you? *(Circle one)*

**Some people go along with their friends just to keep them happy.**

<table>
<thead>
<tr>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Some people think it’s more important to be an individual than to fit in with the crowd.**

<table>
<thead>
<tr>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**For some people, it’s pretty easy for their friends to get them to change their mind.**

<table>
<thead>
<tr>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Some people would do something that they knew was wrong just to stay on their friends’ good side.**

<table>
<thead>
<tr>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Some people hide their true opinion from their friends if they think they will be made fun of because of it.**

<table>
<thead>
<tr>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Not at all like me Somewhat like me Sort of like me Very much like me

Some people will not break the law just because their friends would.

Not at all like me

Some people change the way they act so much when they are with their friends that they wonder who they “really are”.

Not at all like me

Some people take more risks when they are with their friends than they do when they are alone.

Not at all like me

Some people say things they don’t really believe because they think it will make their friends respect them more.

Not at all like me

Some people think it’s better to be an individual even if people will be angry at them for going against the crowd.

Not at all like me

Behaviour Choices

Youth Activity Participation Study

The following questions ask you about behaviours that may be considered risky, if you are uncomfortable answering any of the questions feel free to leave them blank. (Circle one answer)

About how often in the last 6 months have you drunk alcohol?

none once 2-3 times 4-6 times 7-10 times 11-20 times 21-30 times 31 or more times
About how often in the last 6 months have you had more than 5 standard alcoholic drinks on one occasion? (1 standard drink = 1 middy of full-strength beer, or a 100ml glass of wine, or a nip of spirits)

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

About how often in the last 6 months have you been drunk?

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

About how often in the last 6 months have you had alcohol combined with an energy drink (such as 'Red Bull') or a pre-mixed alcohol-energy drink (such as 'Pulse')?

<table>
<thead>
<tr>
<th>never</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

About how often in the last 6 months have you used drugs?

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

About how often in the last 6 months have you skipped school without parent permission?

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

About how often in the last 6 months have you used put-downs or told lies about your peers using the Internet (email, instant messaging, text messaging, or websites)?

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

About how often in the last 6 months have you done something you knew was dangerous just for the thrill of it?

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

About how often in the last 6 months have you ridden with a friend who was drunk?

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

About how often in the last 6 months have you had contact with police for something you did or something they thought you did?

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

About how often in the last 6 months have you done some pretty risky things because you thought it was a kick?
### Adolescents' Problem Behaviours

**About how often in the last 6 months have you gotten in a physical fight with another person?**

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

**About how often in the last 6 months have you cheated on an exam, or copied someone else’s homework?**

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

**About how often in the last 6 months have you made fun of or told lies about your peers using the Internet (email, instant messaging, text messaging, or websites)?**

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

**About how often in the last 6 months have you not used your seatbelt in a car?**

<table>
<thead>
<tr>
<th>none</th>
<th>once</th>
<th>2-3 times</th>
<th>4-6 times</th>
<th>7-10 times</th>
<th>11-20 times</th>
<th>21-30 times</th>
<th>31 or more times</th>
</tr>
</thead>
</table>

### Risk Involvement Perceptions (Youth Activity Participation Study)

For each of the following behaviours, circle the number that best matches how many advantages or benefits you think there are of doing that behaviour.

<table>
<thead>
<tr>
<th>Not at all Beneficial</th>
<th>Slightly Beneficial</th>
<th>Moderately Beneficial</th>
<th>Very Beneficial</th>
<th>Extremely Beneficial</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Binge drinking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Shoplifting</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Using illegal drugs</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Riding with a drunk driver</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Stealing a car for a joyride</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

| 4                   | 5                   | 6                   | 7                   | 8                   |
|                     |                     |                     |                     |                     |

|                    |                     |                     |                     |                     |
|                    |                     |                     |                     |                     |
|                    |                     |                     |                     |                     |
|                    |                     |                     |                     |                     |
|                    |                     |                     |                     |                     |
|                    |                     |                     |                     |                     |
For each of the following behaviours, circle the number that best corresponds to how risky or dangerous you think it is to engage in that behaviour.

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binge drinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shoplifting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using illegal drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riding with a drunk driver</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stealing a car for a joyride</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying a knife or weapon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Life Stressors (Compas, 2000).
Please tick whether you have had each of these experiences in the past 6 months.

<table>
<thead>
<tr>
<th>Experience</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fight with or problem with a friend</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death of a family member</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting into trouble or being suspended from school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure or expectations from parents (parents wanting you to do something or be a certain way)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems or arguments with parents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative feelings or worrying about appearance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent loses a job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents getting divorced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friend(s) move away or you moved away from friends</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospitalization of a family member or relative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial troubles or worries about money</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Social Decision Making (Guerra, 2009).
Think about the decisions you make when you are with your friends and other people. How often are these true for you? (Circle one for each).

When I am making up my mind about something I think about all the things that could happen.

1 Never  2 Sometimes  3 Most of the time  4 Always
I think of all the bad things that could happen before I make up my mind about something.

1
Never
2
Sometimes
3
Most of the time
4
Always

I consider different choices before making up my mind about something.

1
Never
2
Sometimes
3
Most of the time
4
Always

I think about how the things I do will affect me in the long run (in the future or down the road).

1
Never
2
Sometimes
3
Most of the time
4
Always

Sometimes I will take chances just for the fun of it.

1
Never
2
Sometimes
3
Most of the time
4
Always

When making up my mind about something I like to collect a lot of information.

1
Never
2
Sometimes
3
Most of the time
4
Always

When I make a decision, I focus more on the good things that could happen than the bad.

1
Never
2
Sometimes
3
Most of the time
4
Always

All and all, I am a good decision maker.

1
Never
2
Sometimes
3
Most of the time
4
Always

**Automatic versus controlled processing** *(Modecki & Guerra, 2013).*

Which of the following describes how you make decisions about doing things your not supposed to do? *(Circle one for each).*

1. Slow............................................................................or......................... Fast

2. Think about it a lot .................................................or.......................... Not think about it at all

3. Right away ..............................................................or............... Take my time
### Social Anxiety
*(Social Anxiety Scale for Children and Adolescents, LaGrecka, 1998)*

How often are the following statements true for you?

**I’m afraid others will not like me.**

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**I worry about what others think of me.**

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**I worry about what others say about me.**

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**I worry that others don’t like me.**

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**I worry about being teased.**

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**I feel that others are making fun of me.**

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**I feel that peers talk about me behind my back.**

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**If I get into an argument, I worry that the other person will not like me.**

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**I get nervous when I talk to peers I don’t know very well.**

<table>
<thead>
<tr>
<th>Not at all</th>
<th>All the time</th>
</tr>
</thead>
</table>
I feel shy around people I don’t know.
Not at all  All the time  
1 2 3 4 5

I get nervous when I meet new people.
Not at all  All the time  
1 2 3 4 5

I feel nervous when I’m around certain people.
Not at all  All the time  
1 2 3 4 5

I worry about doing something new in front of others.
Not at all  All the time  
1 2 3 4 5

I only talk to people I know really well.
Not at all  All the time  
1 2 3 4 5

It’s hard for me to ask others to do things with me.
Not at all  All the time  
1 2 3 4 5

I’m afraid to invite others to do things with me because they might say no.
Not at all  All the time  
1 2 3 4 5

I’m quiet when I’m with a group of people.
Not at all  All the time  
1 2 3 4 5

I feel shy even with peers I know very well.
Not at all  All the time  
1 2 3 4 5

Sharing things with an important adult
(‘New Beginnings’ Codebook, Wave 5, developed in house-adapted).
The following 5 questions ask about your interactions with an important adult in your life. First think of an important adult in your life, such as
your mum/dad/aunty etc, and then think about only this person when answering the questions below.

My important adult is: _______________________

You found that it really made things better when you told your important adult about your problem.

<table>
<thead>
<tr>
<th></th>
<th>Disagree a lot</th>
<th>Disagree a little</th>
<th>Neither agree or disagree</th>
<th>Agree a little</th>
<th>Agree a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>When you told your important adult about a problem, she/he helped you solve it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>When you told your important adult about a problem, he/she really wanted to understand.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>When you told your important adult about a problem, she/he knew why you felt the way you did.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>When you told your important adult about a problem, he/she did things to help solve it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Brief-COPE (Carver, 1997) - adapted to technology use**

Please rate how much you do the following things when you experience stressful events.

**To get emotional support from others I use technology such as Facebook, instant messaging and SMS**

- I haven’t been doing this at all
- I’ve been doing this a little bit
- I’ve been doing this a medium amount
- I’ve been doing this a lot

**To get advice from other people I use technology (like Facebook, YouTube, Google)**

- I haven’t been doing
- I’ve been doing
To take my mind off things I turn to technology like Facebook, YouTube and streaming music

<table>
<thead>
<tr>
<th>I haven’t been doing this at all</th>
<th>I’ve been doing this a little bit</th>
<th>I’ve been doing this a medium amount</th>
<th>I’ve been doing this a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

I take action to make stressful situations better using technology like Facebook, YouTube, Google.

<table>
<thead>
<tr>
<th>I haven’t been doing this at all</th>
<th>I’ve been doing this a little bit</th>
<th>I’ve been doing this a medium amount</th>
<th>I’ve been doing this a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

To get comfort and understanding from someone I use technology such as Facebook, instant messaging and SMS

<table>
<thead>
<tr>
<th>I haven’t been doing this at all</th>
<th>I’ve been doing this a little bit</th>
<th>I’ve been doing this a medium amount</th>
<th>I’ve been doing this a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

To do something about the stressful situation I am in I use technology like Facebook, YouTube, Google

<table>
<thead>
<tr>
<th>I haven’t been doing this at all</th>
<th>I’ve been doing this a little bit</th>
<th>I’ve been doing this a medium amount</th>
<th>I’ve been doing this a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

To avoid thinking about stressful things I use technology to ‘game’ like online games, WoWC, Facebook games, apps, etc.

<table>
<thead>
<tr>
<th>I haven’t been doing this at all</th>
<th>I’ve been doing this a little bit</th>
<th>I’ve been doing this a medium amount</th>
<th>I’ve been doing this a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Life Satisfaction**

**Students (Global) Life Satisfaction Scale (SLSS)**

How often are the following statements true for you?
I like the way things are going for me.

<table>
<thead>
<tr>
<th>Never</th>
<th>Almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

My life is going well.

<table>
<thead>
<tr>
<th>Never</th>
<th>Almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

I would like to change many things about my life.

<table>
<thead>
<tr>
<th>Never</th>
<th>Almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

I have a good life.

<table>
<thead>
<tr>
<th>Never</th>
<th>Almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

I feel good about what’s happening to me.

<table>
<thead>
<tr>
<th>Never</th>
<th>Almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Friend Satisfaction**

*(Huebner)*

Please answer the following questions about your friends.

**My friends treat me well**

<table>
<thead>
<tr>
<th>Not at all true for me</th>
<th>Very true for me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**I wish I had different friends**

<table>
<thead>
<tr>
<th>Not at all true for me</th>
<th>Very true for me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
My friends are great.

Not at all true for me

True for me

Very true for me

1 2 3 4 5

My friends are nice to me.

Not at all true for me

Very true for me

True for me

1 2 3 4 5

Family satisfaction

(Huebner)

Please answer the following questions about your family. (Circle one number)

I enjoy being at home with my family.

Not at all true for me

Very true for me

True for me

1 2 3 4 5

My family gets along well together.

Not at all true for me

Very true for me

True for me

1 2 3 4 5

I like spending time with my parents.

Not at all true for me

Very true for me

True for me

1 2 3 4 5

My parents and I do fun things together.

Not at all true for me

Very true for me

True for me

1 2 3 4 5

End of Survey - Thank you for your participation 😊
Appendix B

ESM Questions - Final Version

The following questions formed the experience sampling entries sent to the participants five times per day.

Completed at every measurement point:
Q1–4 based on (plus additional ESM research not listed) the following ESM research articles:
Csikszentmihalyi & Hunter, 2003; Schneiders, Nicolson, Berkhof, Feron, van Os, & deVries, 2006;
Kauer, Reid, Sanci, & Patton, 2009; Reid, Kauer, Dudgeon, Sanci, Shrier, & Patton, 2009; Silk,
Steinberg, & Morris, 2003)

Q1) Where are you? (select one option)

At home
At school
At a friend’s house
At a family member’s house (not home)
In a public place (shops/café etc.)
Going somewhere (in a car/bus/walking etc.)
At work
At sport
Other_________________________________

Q2) Just when you were messaged, what were you doing?
Note: Previously this was an open ended question. We collapsed responses into categories based on open ended responses.

Personal care (dressing, toileting, showering, getting ready for school or bed)
Eating/Drinking
Talking/hanging out
Watching TV
On YouTube
Facebook/Tumblr or other Social Networking Site
Texting/Instant Messaging
Gaming
Cleaning/chores/work
Schoolwork
Commuting/travelling
Other _________________________________

Q3) Who is with you? (pick all that are correct)

Nobody
A friend
A number of friends
Family
Boyfriend/Girlfriend
A Teacher
Other _______________________________
Q4) How are you feeling right now? (pick a number for each feeling).

Note; we removed several emotion, based on feedback from students in the pilot study.

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Very much</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bored</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excited</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jealous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lonely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worried</td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

Q5) Since the last message, did something:

Good happened to you? Yes

No Go to Question 6.

What was the good thing that happened to you?______________________

Did this happen online? Yes No

Think about the good thing that happened on a 1-10 scale. How good was it?

1 2 3 4 5 6 7 8 9 10
Not very Good Very Good

Q6) Since the last message, did something:

Bad happened to you? Yes

No Go to Question 7.

What was the bad thing that happened to you? _________________

Did this happen online? Yes No

Think about the bad thing that happened on a 1-10 scale. How bad was it?

1 2 3 4 5 6 7 8 9 10
Not very Bad Very bad

Q7) Since you were last messaged, have you?

Yes No

1 2
Used the Internet (like Facebook, YouTube, Google)
Sent or received a text message 1 2
Made or received a phone call 1 2
Played a video game 1 2
Listened to music 1 2

Q8) Were you interacting with anyone on the Internet? If yes, who?
Note: we collapsed ‘mum’ and ‘dad’ into ‘parents’ and ‘sister/brother’ into other family.

Friends I see in-person (e.g., school or work friends, team mates, etc.)
Someone I met on-line
Girlfriend/Boyfriend
Parents
Other family
Other ______________________

Q9) About how many minutes have you been on the Internet since the last message?
(Jelenchick, Eickhoff, & Moreno, Journal of Adolescent Health in Press; Moreno, Jelenchick, Koff, Eikoff, Diemnyer, & Christakis, 2012; Colley & Maltby, 2008; Cotton & Jelenewicz, 2006; Judd & Kennedy, 2010).
Note: this used to be an open-ended question. We have collapsed the response format based on pilot survey data to make this easier for students to answer.

☐ 0-10
☐ 11-19
☐ 20-30
☐ 31-59
☐ 1-2hours
☐ More than 2 hours but less than 5 hours
☐ 5 hours or more

Q10) Since the last message did you think about doing anything risky or dangerous?
Yes /No

Q11) Right now, if someone asked you to do something fun but dangerous, how much would you think about the rewards or benefits of doing it?

1  2  3  4  5  6  7  8  9  10
Not at All

Q12) Right now, if someone asked you to do something fun but dangerous, how much would you think about the costs or risks of doing it?

1  2  3  4  5  6  7  8  9  10
Not at All

Alot
Q13) Since the last message, **did you** tell lies, make fun of someone in a hurtful way, or do something else mean to someone, using the Internet, like Facebook and YouTube, or by text message?

Yes/No

Q14) Since the last message, **did anyone** tell lies, make fun of you in hurtful way, or do something else mean to you, using the Internet, like Facebook and YouTube, or by text message

Yes/No

Q15) Since the last message, **did you** do anything risky or dangerous?

Yes/No

Q16) Sometimes we have to wait for things we want right away. If you were asked right now to wait a few days for something you really wanted, **how hard would it be for you to wait for it?**

1 2 3 4 5 6 7 8 9 10
Not very hard

Additional Questions for Night (last of day) Survey:

NQ1) Thinking about the bad things that happened to you today, how much did you:

Use technology like Facebook, YouTube or music downloads to make you feel better about it?

1 2 3 4 5
Not at All

Search for information to help you by Googling it, going to websites, forums or blogs?

1 2 3 4 5
Not at All

Use technology like Facebook, Instant messaging and text messaging **to get support** from someone.

1 2 3 4 5
Not at All

NQ2) Today, what is the best thing that happened to you?

___________
Appendix C

THE PRINCIPAL
SCHOOL
ADDRESS

Dear Principal

RE: Investigating Adolescent Behaviour, Emotion, and Technology
Use with iPhones.

We are contacting you with an invitation for your school to be involved in a project being run by researchers from the School of Psychology and Exercise Science at Murdoch University. Our research aims to investigate how students are using technology and the Internet during the day, and how their use influences their mood and well-being throughout the day. This project is funded by the Young and Well Cooperative Research Centre: (http://www.yawcrc.org.au) and is being conducted by myself, Dr. Kathy Modecki, Professor Bonnie Barber (co-investigator), Corey Neira, and Bep Uink (PhD candidate), from the School of Psychology and Exercise Science at Murdoch University. This is the third part of our project. The first part of the project was a series of focus groups with young people which were conducted at the end of Term 3 2012. The second part of our project was a Pilot Study about students technology use and wellbeing using iPhones, conducted at during Term 4 2012.

We would like to invite Warnbro Community High School to take part in this third part of the project. Warnbro Community High School is currently the only school in Western Australia invited to participate in this part of the study.

What does participation in the research project involve?

In order to understand how technology use influences well-being due to different experiences throughout the day, we plan to provide 6 groups of 25 students (over a two week periods at a time in November, 2013, early 2014 and again in November, 2014— one week per group) with an iPhone 5 in order to prompt the students to complete a short survey (approximately 3-5 minutes), five times per day (before school, lunch-time, after school, evening, and before bed), for seven consecutive days. Students will be surveyed once per school day, and only during lunch-time, so participation will not interfere with their usual daily schedule at school. They will not be prompted during classes to complete the survey. Each morning when they arrive at school, they will be asked to leave their iPhone with Bep Uink, the on-site researcher, whom, permitting your agreement will be at the school for each week the study is running at the school. It is a priority of our research team that we
create as little additional work for your staff as possible, and therefore having a researcher from our team on-site during the study should result in little to no additional time commitments from your staff. During lunch-time, students will be asked to visit Bep once in order to complete a lunch-time survey. Students will then be asked to collect their iPhone prior to going home for the day. The iPhone students will receive will come with pre-paid credit already applied to their account, as access to the survey via the phone will require an Internet connection. This will provide them with access to 500 Megabytes of data for Internet access, unlimited standard national SMS (text messages) to Australian Mobiles, and 450 minutes of standard voice calls to standard national numbers. If students run out of data before the end of the survey period, additional data will be added to the account in order for the student to continue to complete the surveys, however restrictions will then apply to high data use websites (for example YouTube). If they run out of phone call minutes, no additional minutes will be added. *Parents/legal guardians will be ultimately responsible to ensure that their child is not accessing or downloading illegal content on their iPhones.*

The iPhone survey will ask each student where they are and what they are doing at the time of the survey, what technology they have been using and what they were using it for since they were last surveyed, who they were interacting with, how they feel and if they had been involved in any risky behaviour and cyber-bullying during the day.

Each student will also be asked to complete a paper survey, which will take approximately 40 minutes on the day that they receive their iPhone, and a slightly shorter survey seven days later when they return their iPhones. This will occur during a school class nominated by Warnbro Community High School. This survey will measure physical health, mood, self-esteem, life, friends, and family satisfaction, resilience, anxiety, risk behaviour, peer influence. In addition, the survey will ask for background information such as gender, ethnicity, school grades, social networking site use, cyber-bullying and victimisation, and extra-curricular activity participation.

Bep’s role on-campus at Warnbro Community High School is to be available and accessible to students for the duration of the study, should they experience any technical issues with the iPhone or any emotional issues that arise during the survey. At the commencement of the study we will provide students with the name and contact details of Warnbro Community High School’s School Psychologist and contact details for external counselling agencies (Kids Helpline and Beyond Blue). In addition, in the evening of each day during the 7-day period, Bep will text each student with this information, and will ask them if they require any assistance with the iPhones or any other possible issues they may be experiencing as a result of participating in the research project.
We intend to keep Warnbro Community High Schools involvement in the administration of the research procedures to a minimum. However, it will be necessary for Warnbro Community High School staff to distribute and collect parent information and consent letters to the school classes selected to be involved (following our discussion and your opinion) and to provide access to a space for Bep to use while she is on-campus.

**To what extent is participation voluntary, and what are the implications of withdrawing that participation?**

Participation in this research project is entirely voluntary. Students’ participation in this study is entirely voluntary and students do not have to take part if they feel uncomfortable. They are free to withdraw consent from participation at any time and you or their parents may withdraw the student’s participation in the research at any time.

If any student decides to participate and then later changes their mind, they are able to withdraw their participation at any time. If a student (or parent) decides that they wish to withdraw their consent during participation or after their participation is complete, their data will be deleted.

There will be no consequences relating to any decision by an individual or Warnbro Community High School regarding participation, other than those already described in this letter. Decisions made will not affect the relationship with the research team or Murdoch University.

**What will happen to the information collected, and is privacy and confidentiality assured?**

Data collected during this study will be kept confidential and will not be released by researchers to a third party unless required to do so by law. Students will not be identifiable by name in any part of the research. Surveys will be kept securely for five (5) years after this study ends in a locked cabinet in my office. Upon completion of this research, findings may be published in academic journals.

The identity of participants and the school will not be disclosed at any time, except in circumstances that require reporting under the Department of Education *Child Protection* policy, or where the research team is legally required to disclose that information. Participant privacy, and the confidentiality of information disclosed by participants, is assured at all other times.

Consistent with Department of Education policy, a summary of the research findings will be made available to the participating site(s) and the Department. You
can expect this to be available upon completion of the study (2014), a hard-copy will be provided as well as online access via:
http://www.psychology.murdoch.edu.au/researchresults/research_results.html

Is this research approved?

This study has been approved by the Murdoch University Human Research Ethics Committee (Approval 2013/141). If you have any reservation or complaint about the ethical conduct of this research, and wish to talk with an independent person, you may contact Murdoch University’s Research Ethics Office (Tel. 08 9360 6677) or e-mail ethics@murdoch.edu.au). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome. This research has also met the policy requirements of the Department of Education as indicated in the attached letter.

Do all members of the research team who will be having contact with children have their Working with Children Check?

Yes. Under the Working with Children (Criminal Record Checking) Act 2004, people undertaking work in Western Australia that involves contact with children must undergo a Working with Children Check.

Who do I contact if I wish to discuss the project further?

If you would like to discuss any aspect of this study with a member of the research team, please contact me on the number provided below.

How do I indicate my willingness for Warnbro Community High School to be involved?

If you have had all questions about the project answered to your satisfaction, and are willing for Warnbro Community High School to participate, please complete the Consent Form on the following page.

This information letter is for you to keep.

Dr Kathy Modecki
Lecturer, School of Psychology
Murdoch University
90 South Street, Murdoch WA 6150
Phone: (08) 9360 2986
Email: K.Modecki@murdoch.edu.au
Appendix C (cont.)

Consent Form

- I have read this document and understand the aims, procedures, and risks of this project, as described within it.

- For any questions I may have had, I have taken up the invitation to ask those questions, and I am satisfied with the answers I received.

- I am willing for Warnbro Community High School to become involved in the research project, as described.

- I understand that participation in the project is entirely voluntarily.

- I understand that Warnbro Community High School is free to withdraw its participation at any time, without affecting the relationship with the research team or Murdoch University.

- I understand that if any student decides to participate, and then later changes their mind, they are able to withdraw their participation at any time. If a student (or parent) decides that they wish to withdraw their participation during or after their involvement, their data will not be analysed or included in the research.

- I understand that this research may be published in an academic journal provided that the participants or the school are not identified in any way.

- I understand that Warnbro Community High School will be provided with a copy of the findings from this research upon its completion.

Name of Site Manager (printed):
________________________________________

Signature: ____________________________ Date:   /   /

________________________________________
Appendix D

STUDENT CONSENT FORM: Student Participation in Research

Project Title: Investigating Adolescent Behaviour, Emotion, and Technology Use with iPhones.

Dear Student,

The purpose of this study is to investigate how you are using technology and the Internet, and how your use influences your mood and well-being throughout the day. We are inviting you to take part in this important study.

What will happen in the study?
In order to understand how your use of the Internet influences your well-being due to experiences during the day, you will be provided with an iPhone 5 so that we can prompt you to complete a short survey (approximately 3-5 minute), 5 times per day (in the morning before School, at lunch-time, after school, in the evening and before bed), for a period of 7 days. You will not be prompted during classes to complete a survey. Each morning when you arrive at school, you will be asked to leave your iPhone with the researcher, who will be at the school for the duration of the week-long study. You will be surveyed once during school at the start of lunch-time; so that participation does not interfere with your usual daily schedule at school (the survey will not take your entire lunch break). Lunch-time participation will require you to meet with the researcher to complete the survey on your phone and then hand the phone back to the researcher. You will then be asked to collect your iPhone prior to going home for the day. The iPhone you will receive will come with pre-paid credit already applied to your account, as phone access to the survey will require internet connection. This credit will provide you with access to 500 megabytes of data for Internet access, unlimited standard national SMS (text messages) to Australian Mobiles, and 250 minutes of standard voice calls to standard national numbers. If you run out of data before the end of the survey period, additional data will be added to your account in order for you to continue to complete the surveys, however restrictions will then apply to high data use websites (for example YouTube). If you run out of phone call minutes, no additional minutes will be added. You are not to access or download illegal content using your iPhone.

The iPhone survey will ask you questions about where you are and what you are doing when you are prompted, what technology you have been using and what you were using it for since you were last prompted, who you were interacting with, how you feel and if you have behaved in a risky way, been bullied on the internet or bullied someone using the internet.

You will also be asked to complete a paper survey (approximately 40 minutes) on the day that you receive your iPhone and seven days later when you return your iPhone. This survey will measure physical health, mood, self-esteem, several types of satisfaction, anxiety, risk behaviour, and peer influence. In addition, the survey will ask for background information regarding gender, ethnicity, school grades, social network site use, cyber-bulling and victimisation, and extra-curricular activity participation. You are not required to have a Facebook account to take part in this study, but if you do, you must follow Facebook rules.
A researcher from the team will be at XXXX and accessible for the duration of the study, should you experience any technical issues with the iPhone or any other issues that may arise during the survey. You can text the researcher at any time and the researcher will call you as promptly as is possible. In the event of you experiencing an emotional issue, the researcher will provide you with the name and contact details for the School Psychologist and contact details for external counseling agencies (Kids Helpline and Beyond Blue). In addition, at the end of each day, the researcher will text you to ask you if you have experienced any issues with the iPhones, giving you the opportunity to talk through any issues that have come up during that day.

**Do you have to take part?**
Participation in this survey is completely voluntary and written consent is required by you and your parent or guardian before you can complete the survey. There are no expectations held by either myself or your school that you will participate, it is entirely your choice. When completing the surveys you may skip any questions that you feel uncomfortable with and would prefer not to answer. You may also skip any of the daily surveys that you do not wish to complete.

**What happens if you change your mind?**
You are free to withdraw from the survey at any time, without giving a reason, regardless of your signed consent.

**Will anybody else know what you tell us?**
The survey is completely confidential; your survey answers will not be made available to your parents, peers or teachers. Participating in this research will not affect your grades. The data is stored securely in locked cabinets and password protected computers at Murdoch University and can only be accessed by research officers. The findings of this study will be reported in academic journals; however, no identifying information will be included.

In order to protect your privacy, personal information (such as text messages, stored contact details, etc) on your iPhone will not be accessed by researchers. However, to ensure uninterrupted access to the online surveys the volume of internet use will be monitored in order to provide further data download if you need it. To further protect your privacy, your iPhone will come pre-loaded with an iPhone tracking application. If you lose your iPhone, we will use this application to find out the location of the phone, and if we cannot find the phone, we can send a signal that will destroy the software, so everything that is on the phone will be deleted, this will make sure that your information protected from other people who might find the phone. This application will not be used to see where you are.

At the end of your participation in the study, we will destroy the SIM card that you were using and restore the factory settings on the phone – these two procedures will remove all the information you may have created and stored on the phone during the 7 days of the project (you can save your pictures etc to a computer first if you want to), and further protects your privacy.

**Is this research approved?**
The research has been approved by Murdoch University Human Research Ethics Committee and the Department of Education and Training.

**What to do if you wish to talk about the project further:**
If you have any questions about this project please feel free to contact Professor Bonnie Barber, Chair of Psychology at Murdoch University on 9360 2879. She would be happy to discuss with you any concerns you may have about how this study has been conducted.

Please keep this letter for your information, and fill out and return the attached consent form if you are happy to participate in this study.

Kind Regards,

Professor Bonnie Barber  
Chair of Psychology  
Murdoch University

This study has been approved by the Murdoch University Human Research Ethics Committee (Approval 2013/141). If you have any reservation or complaint about the ethical conduct of this research, and wish to talk with an independent person, you may contact Murdoch University’s Research Ethics Office (Tel. 08 9360 6677 or e-mail ethics@murdoch.edu.au). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Appendix D (Cont.)

STUDENT CONSENT FORM

Project Title: Investigating Adolescent Behaviour, Emotion, and Technology Use with iPhones.

- I have discussed this with my parent(s) or guardian(s) and they have allowed me to participate in the project.
- I would like to be involved in this project.
- I am happy to complete a questionnaire.
- I am happy to receive an iPhone for the duration of the study and acknowledge that I must return it when my participation in the study is complete.
- I am happy to complete the paper survey at the beginning and end of my participation in the study.
- I acknowledge and am happy to respond to a maximum of 5 short surveys during the day, each day for 7 days.
- I understand that I am free to stop and withdraw from this project at any time.
- I understand that if I decide to stop participating during or after the study I can have all of my survey responses removed and deleted from the study if I wish to.
- I understand that my responses will not be given to anyone else and my responses will not be linked to me unless required by law.
- I understand that I will need to write my name in the space below before I can participate in this project.

Your Name: ____________________________

Today’s Date: __________________________
Appendix E

Parent Consent Form: Student Participation in Research

Project Working Title: Investigating Adolescent Behaviour, Emotion, and Technology Use with iPhones.

Dear Parent,

My name is Bonnie Barber from Murdoch University. The Young and Well Cooperative Research Centre have provided funding for my team to undertake a project investigating the role of technology use in young people’s well-being.

The study: The purpose of this study is to investigate how students are using technology and the Internet during the day, and how their use influences their mood and well-being throughout the day. We are inviting students to take part in this important study. In order to understand how their use influences their well-being due to different experiences throughout the day, your child will be provided with an iPhone 5 so that we can prompt them to complete a short survey (approximately 3-5 minutes), five times per day (before school, lunch-time, after school, evening, and before bed), for seven consecutive days. Your child will be surveyed once per school day, and only during lunch time, so participation will not interfere with their usual daily schedule at school. They will not be prompted during classes to complete a survey. Each morning when they arrive at school, they will be asked to leave their iPhone with the on-site researcher, who will be at the school for the duration of the week-long study. At lunch, they will be asked to visit the researcher once in order to complete a lunch-time survey. They will then be asked to collect their iPhone prior to going home for the day. The iPhone your child will receive will come with pre-paid credit already applied to their account, as access to the survey via the phone will require Internet connection. This will provide them with access to 500 Megabytes of data for Internet access, unlimited standard national SMS (text messages) to Australian Mobiles, and 250 minutes of standard voice calls to standard national numbers. If they run out of data before the end of the survey period, additional data will be added to the account in order for your child to continue to complete the surveys, however restrictions will then apply to high data use websites (for example YouTube). If they run out of phone call minutes, no additional minutes will be added. As the parent/legal guardian, it will be your responsibility to ensure that your child is not accessing or downloading illegal content on their iPhones.

The iPhone survey will ask your child where they are and what they are doing at the time of the survey, what technology they have been using and what they were using it for since they were last surveyed, who they were interacting with, how they feel and if they had been involved in any risky behaviour and cyber-bullying during the day.

Your child will also be asked to complete a baseline survey, which will take approximately 40 minutes, on the day that they receive their iPhone, and a shorter survey seven days later when they return their iPhones. This will occur during a
school class nominated by Warnbro Community High School. This survey will measure physical health, mood, self-esteem, resilience, friends, and family satisfaction, anxiety, risk behaviour, peer influence. In addition, the survey will ask for background information such as gender, ethnicity, school grades, general internet use, social network site use, cyber-bulling and victimisation, and extra-curricular activity participation.

**Risks and benefits:** A researcher from the project team will be at Warnbro Community High School and available to your child for the duration of the study, should they experience any technical issues with the iPhone or any emotional issues that arise during the survey. They can text the researcher at any time and the researcher will call them as promptly as is possible. At the commencement of the study your child will be provided with the name and contact details of the School Psychologist and contact details of the external counselling agencies (Kids Helpline and Beyond Blue). In addition, at the end of each day during the 7-day period, the researcher will text your child with this information, and will ask them if they require any assistance with the iPhones or any other possible issues they may be experiencing as a result of participating in the research project. Should you notice that your child is experiencing emotional distress, you can also call Kids Helpline (1800 55 1800) or Beyond Blue (1300 22 4636) for support.

**Compensation:** The Ethical Guidelines of the Department of Education states that compensation for student participation in research projects is prohibited.

**Confidentiality:** Your child’s participation in this survey is completely confidential – personal information and responses from individual surveys will not be made available to your child’s school and only aggregated data collected will be published. The data will be stored securely in locked cabinets and password protected computers at Murdoch University and can only be accessed by research officers. The data will be stored for a minimum period of 5 years.

In order to protect your child’s privacy, personal information (such as text messages, stored contact details, etc) on their iPhone will not be accessed by researchers. However, to ensure uninterrupted access to the online surveys the volume of internet use will be monitored in order to provide further data download if required. Researchers will not be monitoring the websites your child visits and will not be monitoring any potentially risky or illegal behaviour. To further protect your child’s privacy, each iPhone will come pre-loaded with an iPhone tracking application. In the event of your child misplacing their iPhone, we will employ this application to track the location of the phone, and in the event that we cannot locate the phone, we can remotely make the phone unusable in order to protect your child’s/your privacy. Because your child’s survey information is never stored on the phone, anyone who may gain unauthorised access the phone will not have access to the information you child provides in the survey. This application will not be used to track your child.

At the end of your child’s involvement in the study, we will destroy the SIM card that they were using and restore the factory settings on the phone – these two procedures will remove all the information you child may have created and stored on the phone during the 7 days of the project, and further ensures your child’s privacy.
Voluntary Participation & Withdrawing Participation: Participation in this study is voluntary and written consent is required from both yourself and your child before the study is undertaken. There are no expectations held by myself or your child’s school that your child will participate. Your child is free to withdraw from the study at any time should they decide to, regardless of signed consent forms. In order to examine the long-term benefits and consequences of different kinds of technology, students may be contacted to ask if they would like to participate again next year. If they participate this year, they are under no obligation to participate next year. Should we receive more consents to participate than we are able to accommodate in this longitudinal part of the study, we will instead include your child in the cross-sectional study (identical to this study, but will only occur once) which will be conducted during Term 1 or 2 of next year.

It is expected that the study will take place during the weeks starting 2nd December, 2013, 9th Dec, 2013 and 16th Dec, 2013.

Study Feedback: Upon completion of the study, a summary of the research findings will be made available at: http://www.psychology.murdoch.edu.au/researchresults/research_results.html

Consent to Participate: If you are willing to allow your child to participate in this study, please discuss with your child what it means to participate in this research. Then, complete the attached “Parent Consent Form” and supervise your child while they complete the attached “Student Consent Form”, and return both to your child’s school. If you have any questions about this project please feel free to contact me, Bonnie Barber, Professor of Psychology at Murdoch University, on 9360 2879.

I am happy to discuss with you any concerns you may have on how this study has been conducted, or alternatively you can contact Murdoch University's Human Research Ethics Committee on 9360 6677.

Thank you for taking the time to consider your child’s involvement in this important study.

Kind Regards,

Professor Bonnie Barber
Professor of Psychology
Murdoch University

This study has been approved by the Murdoch University Human Research Ethics Committee (Approval 2013/141). If you have any reservation or complaint about the ethical conduct of this research, and wish to talk with an independent person, you may contact Murdoch University’s Research Ethics Office (Tel. 08 9360 6677 or e-mail ethics@murdoch.edu.au). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Appendix E (cont.)

PARENT CONSENT FORM

**Project Title:** Investigating Adolescent Behaviour, Emotion, and Technology Use with iPhones.

- I have read and understood the information letter about the project, or have had it explained to me in language I understand.
- I have taken up the invitation to ask any questions that I may have had and am satisfied with the answers I received.
- I understand that participation in the project is entirely voluntary.
- I understand what it means for my child to participate in this project.
- I understand it is my responsibility to ensure my child does not access or download illegal content on the iPhone provided for this study.
- I understand the project requires my child to complete a maximum of 5 short surveys per day, for 7 days, using an iPhone supplied by the project; and, my child will be required to complete a longer paper survey both prior to and following use of the iPhones.
- I have discussed participation in this research with my child, who has agreed to participate as indicated by their signed consent form.
- I understand that both my child and I are free to withdraw that participation at any time without affecting the family’s relationship with my child’s teacher or my child’s school.
- I understand that if I or my child decide to withdraw their participation during or after participation in the project, their input will not be included in the study and their data will be deleted.
- I give permission for the contribution that my child or I make to this research to be published in a Journal, provided that my child, the school and I are not identified in any way.
- I understand that I can request a summary of findings after the research has been completed.
- I understand that my child may be invited to participate again next year but that there is no obligation for further participation.
- I understand that if my child is not involved in the longitudinal project (due to the maximum number being reached) they will be included in the cross-sectional project that is occurring in Term 1 and 2 in 2014.

**Consent for my child to participate in the research project**

- I am willing for my child to become involved in the project, as described.

Name of Child (printed): ____________________________ Year at School_______

Signature of Child

Name of Parent/Carer (printed): _____________________________

Signature of Parent _____________________________ Date: / /