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**FACTORS RELATED TO WELL-BEING IN IRISH ADOLESCENTS**

**Sheila Nevin, HSE, Midland Area**

**Alan Carr, UCD, Dublin**

**Mark Shevlin, University of Ulster**

**Barbara Dooley, UCD, Dublin**

**and Carmel Breaden, HSE, Midland Area**

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**Correspondence address:** Professor Alan Carr, Director of the Clinical Psychology Training Programme, School of Psychology, UCD, Dublin 4, Ireland.

**email:** [alan.carr@ucd.ie](mailto:alan.carr@ucd.ie) / **Phone:** +353-1-716-8740

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**ABSTRACT**

294 Irish adolescents were profiled after being classified as having high, moderate or low subjective well-being on the basis of their scores on the Oxford Happiness Inventory, the Satisfaction With Life Scale and the General Health Questionnaire –12. Compared with the low well-being group, the high well-being group reported fewer family and personal stressful life events, more task-focused and less emotion-focused coping. They had greater personal strengths (adaptive problem-solving, self-esteem, and optimistic attributional style) and greater social resources (perceived social support and adaptive family functioning). The profile of the moderate well-being group fell between that of the high and low well-being groups. Gender differences favouring girls were found for optimism, perceived social support and family functioning. A structural equation model which explained the relationship among the variables in these profiles was developed in which increased personal strengths were associated with better subjective well-being and fewer stressful life events; and increased social resources were associated with better task-focused coping.

## INTRODUCTION

The present study aimed to establish the profiles of Irish adolescents with high, moderate and low levels of subjective well-being and to identify a model that explained the relationships between factors that contribute to subjective well-being. Much of the research on adolescent well-being is concerned with negative (rather than positive) outcomes, such as anxiety, depression, and problem behaviour (Lerner and Steinberg, 2004). Middle adolescence, spanning the ages 15 to 18, is an important period not only because the rates of substance abuse, conduct disorder and depression increase dramatically but also because the rate of depression for girls rises to double that for boys during this developmental stage (Carr, In Press). In contrast to research on negative outcomes conducted within the developmental psychopathology tradition, the focus on well-being in the present study is inspired by the emerging tradition of positive psychology (Carr, 2004; Diener and Seligman, 2002).

### Theoretical models

Psychological adjustment in adolescence is influenced by multiple personal and contextual factors (Carr, In Press). There is a growing theoretical consensus that it may be useful to conceptualize the way in which adolescents adapt to stressful life events as being influenced by the way they cope with such events, and to conceptualize these coping processes as occurring within the context of both personal and social resources. A variety of theoretical models have been proposed to explain how these broad categories of factors are interrelated (e.g., Rice, Herman, and Petersen, 1993; Seiffge-Krenke 1995). Similar models of the stress and coping process in adulthood have been developed. Of these, Billings and Moos' (1982) model of adult psychosocial functioning and depression is one of the most coherent and best validated. For this reason, an adaptation of Billings and Moos'

(1982) model has been used in the present study for conceptualizing the multiple factors related to well-being in adolescence. The broad categories of Billings and Moos' (1982) model have been used as a framework within which to organize a number of the more frequently cited variables in other multifactorial theories and empirical studies of adolescent adjustment. Within this model, given in Figure 1, an adolescent's personal strengths and social resources are viewed as directly determining subjective well-being, and as indirectly contributing to subjective well-being in the face of stressful life events, through their association with coping resources. Personal strengths refer to factors such as social problem-solving skills, self-esteem, and optimism. Social resources refer to factors such as social support and adaptive family functioning. Coping refers to the use of specific adaptive strategies to address stressful life events. Subjective well-being refers to personal happiness, satisfaction with life and the absence of psychological distress.

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Insert Figure 1 about here

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### **Empirical evidence**

In a systematic computer search supplemented with a manual literature search of major recent reviews (e.g., Steinberg and Sheffield Morris, 2001; Lerner and Steinberg, 2004) covering the past 25 years we found that remarkably few studies have evaluated factors related to subjective well-being in adolescence with a view to establishing or testing multifactorial conceptual models. The computer search covered the period 1980 to 2004. Key words in this search were: life events, stress, well-being, happiness, satisfaction with life, psychological adjustment, depression, distress, positive affect, negative affect, self-esteem, locus of control, attributional style, social problem solving, coping, social support,

family climate, and family functioning. In addition, the term 'adolescence' was paired with every other term and combination of terms. Papers were selected for review if they described empirical studies of adolescents; if a measure of life events or stress was used; if at least one of the following psychosocial variables was included: locus of control, self-esteem, attributional style, social problem solving, coping, social support, and family climate; and if well-being, happiness, satisfaction with life, depression, psychological adjustment or distress was included as an outcome measure. Studies where the main outcome variable was a psychiatric diagnosis were excluded. Using these criteria eleven studies were selected for review. Details of these studies are give in Table 1.

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Insert Figure 1 about here

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From table 1 the following conclusions may be drawn. Exposure to stressful life events or an accumulation of minor daily stresses in adolescence leads to a reduction in well-being or an increase in depression or distress. Across studies, stressful life events account for about 10% of the variance in depression or well-being. In some, but not all circumstances the availability of social support from family, friends and school and a positive family climate reduces the impact of life stress on well-being or depression. In some, but not all circumstances personal resources such as an internal locus of control, self-efficacy, self-esteem, an optimistic attributional style, and social problem solving skills reduce the impact of life stress on well-being or depression. Task-focused coping (but not emotion-focused or avoidant coping) reduces the impact of life stress on well-being and depression.

### **Rationale for the current study**

The empirical literature confirms associations between some of the factors in the model given in Figure 1. The present study set out to test all aspects of this model in a single study. A second reason for conducting the current study was to develop a profile of adolescents who report a high level of well-being. Within the field of positive psychology, Diener and Seligman (2002) profiled adults with high, moderate and low levels of subjective well-being and found that those with high levels of subjective well-being had greater personal strengths and social resources and so were better equipped to cope with stressful life events. There is a dearth of profiling studies of adolescents with differing levels of subjective well-being and the present study aimed to address this gap in our knowledge.

## **METHOD**

### **Participants**

294 adolescents (M = 16 years and 4 months; SD = 6 months; Range = 15 to 18 years) participated in this study. Of these 40% (n = 119) were boys, 88% lived with both parents, and 72% had 1-3 siblings. 92% of fathers and 72% of mothers were employed full time. Based on paternal occupational status, using the Irish census-based social class scale (O'Hare, Whelan, and Commins, 1991) 61% were in the higher or lower professional categories; 21% were in the non-manual non-professional or skilled manual categories; and 10% were in the semiskilled or unskilled manual categories.



## **Instruments**

The assessment protocol contained the instruments listed below, all of which have adequate psychometric properties.

### **Happiness**

Happiness was measured using Argyle's revised Oxford Happiness Inventory (OHI; Argyle, 2001). This 29 item questionnaire is modelled on the Beck Depression Inventory. All items have four forced choice response options. The OHI yields a single happiness score, with high scores indicating greater happiness. In the current study the alpha reliability coefficient for the OHI was .93, a finding consistent with other reliability studies. The OHI has good criterion validity and has been found to correlate positively with other measures of well-being and negatively with measures of psychological distress.

### **Satisfaction with Life**

Life satisfaction was assessed using Diener's Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen and Griffin 1985). This 5-item self-report questionnaire in which responses ranging from 1=strongly agree to 7=strongly disagree are given on 7-point Likert scales, yields a single life satisfaction score, with high scores indicating greater happiness. In the current study the alpha reliability coefficient for the SWLS was .85, a finding consistent with other reliability studies. The SWLS has good criterion validity and has been found to correlate positively with other measures of well-being and negatively with measures of psychological distress. A single factor solution has been found in factor analytic studies of the SWLS.

### **Psychological Distress**

Psychological distress was evaluated using The General Health Questionnaire-12 (GHQ-12, Goldberg and Williams, 1988). This 12-item questionnaire, in which responses are given on four-point scales, yields a single psychological distress score. Higher scores indicate greater distress. In the current study the alpha reliability coefficient for the GHQ-12 was .84, a finding consistent with other reliability studies. The test re-test reliability of the scale is .73. The GHQ-12 has good criterion validity and has been found to correlate positively with other measures of psychological distress and to distinguish between clinical and non-clinical cases with a high level of sensitivity and specificity (Banks, 1983).

### **Stressful Life Events**

Stressful life events were assessed using the 46 item Life Events Checklist (LEC; Brand and Johnson, 1982; Johnson and McCutcheon, 1980). For each item respondents indicated whether the event had occurred within the past year; whether the event was appraised as good or bad; and the impact of the event rated on a 4 point scale. Four LEC scores were computed in this study: the number of negative uncontrollable negative events (items 0-18); the number of negative events related to family life (items 1, 2, 4-9, 11, 12, 14-19, and 31); the number of negative events related to the self (items 3, 10, 13, 24-26, 30, 33-35, 37- 42, and 46); and the number of negative events related to peers (items 13, 22, 35, 38, and 44). For all four of these scales, higher scores indicate greater stress. In the present study, the alpha reliability coefficients for these subscales were low and ranged from .40 to .49. The LEC has a test-retest reliability of .72.

### **Coping Style**

Coping style was assessed using second edition of the adolescent version of the Coping Inventory for Stressful Situations inventory (CISS; Endler and Parker, 1996). This 48-item dispositional coping questionnaire yields scores for task-focused coping, emotion-focused coping and avoidant coping. For each item, respondents indicate the frequency with which they cope with stressful situations in the way specified in the item on a five-point Likert scale. Higher scores indicate greater use of coping strategies. In the current study the alpha reliability coefficients for the 3 subscales ranged from .80-.89, a finding consistent with other reliability studies. Validity studies have consistently found a three factor structure. Task focused coping has consistently been associated with better adjustment while emotion focused coping is associated with poor adjustment.

### **Social Problem Solving**

Social problem solving was measured using the revised short form of the Social Problem Solving Inventory (SPSI; D'Zurilla, Nezu and Maydeu-Olivares, 2002). Responses to all 25 items of this instrument are given on five point Likert scales. The SPSI yields scores on adaptive and dysfunctional problem-solving dimensions, with higher scores indicating greater use problem solving styles. In the current study the alpha reliability coefficient for the adaptive and dysfunctional problem-solving dimensions were .79 and .82 respectively, a finding consistent with other reliability studies. Test re-test reliabilities of .71-.88 have been found for the SPSI. The SPSI has good criterion validity, with adaptive problem solving associated with better adjustment and dysfunctional problem solving associated with poorer adjustment.

### **Self-esteem**

Self-esteem was assessed with form AD of the second edition of the Battle's Culture Free Self-Esteem Inventory (CFSEI; Battle, 1992). On this 40 item instrument yes/no response formats are used for all items. It yields a total self-esteem score and subscales scores for general, social, and personal self-esteem. In this study, because results for the 3 subscales and the total score were similar, only analyses of total scores are reported. Higher scores indicated greater self-esteem. In the current study the alpha reliability coefficient for the CFSEI was .88, a finding consistent with other reliability studies. The CFSEI has good criterion validity and has been found to correlate positively with other measures of psychological adjustment and negatively with measures of psychological distress.

### **Attributional Style**

Attributional style was measured using the Children's Attributional Style Questionnaire (CASQ; Seligman, Peterson, Kaslow, Tanenbaum, Alloy and Abramson, 1984). For each of this instruments 48-items, a self-related hypothetical event is described, and respondents select one of two possible explanations for why the event occurred. For each event, half of which are positive and half of which are negative, one causal dimension (internality, globality, or stability) is varied while the other two are held constant. In this study an overall optimism score for the CASQ was computed by subtracting the sum of negative item scores from the some of positive item scores. Higher scores indicate greater optimism and reflect attributing positive outcomes to internal, global, stable factors such as ability. In the current study the alpha reliability coefficient for the CASQ was .59. This finding of moderate internal consistency reliability replicates similar findings in other

studies (Hankin, Abramson and Siler, 2001; Southall and Roberts, 2002). The CASQ has good criterion validity and has been found to correlate positively with measures of psychological adjustment and negatively with measures of psychological distress.

### **Perceived Social Support**

Perceived social support was measured with the Multidimensional Scale of Perceived Social Support (MSPSS; Dahlem, Zimet and Walker, 1991; Zimet, Dahlem, Zimet and Farley, 1988). This 12-item self-report inventory, in which responses are given on 7 point Likert scales, yields an overall social support score and subscale scores for social support from family, friends and a significant others. In this study, because results for all 3 subscales and the total score were similar, only analyses of total scores will be reported. High MSPSS scores indicate greater perceived social support. In the current study the alpha reliability coefficient for the MSPSS was .9, a finding consistent with other reliability studies. The MSPSS has good criterion validity and has been found to correlate positively with measures of psychological adjustment and negatively with measures of psychological distress.

### **Family Functioning**

Family functioning was evaluated using the general functioning scale of the Mc Master Family Assessment Device (FAD; Epstein, Baldwin and Bishop, 1983). The 12 item general functioning scale of the FAD contains items with 4 point response formats which inquire about problem solving, communication, roles, affective responsiveness, affective involvement, and behaviour control within the family. The FAD yields a single score and higher values indicate greater dysfunction. In the current study the alpha reliability coefficient for the general functioning scale of the FAD was .90, a finding consistent with

other reliability studies. The FAD has good criterion validity and has been found to correlate positively with measures of psychological distress and negatively with measures of psychological adjustment (Kabacoff, Miller, Bishop, Epstein and Keitner, 1990).

### **Procedure**

This research was conducted with ethical approval of involved institutions. 294 participants were recruited from a total pool of 515 transition year students in 11 secondary schools in the Counties of Longford and Westmeath, in the HSE Midland Area of the Republic of Ireland. The response rate was therefore 57%. The pool of 515 students constituted all those enrolled in transition year programmes in the geographic area studied. The transition year programme is for youngsters in mid-adolescence who are making the transition from junior to senior high school academic programmes. Through consultation with school principals, parental and student information letters and consent forms were distributed to all 515 potential participants. Parental and adolescent consent forms were returned for 330 students of whom 294 returned complete data sets. Data collection, which was carried out on a school class group basis, took place over a 4-week period during April and May 2003. A group-based question and answer debriefing followed each data collection session, and participants were given written information on healthy psychological functioning. 6% of participants were judged to be at risk for clinically significant psychological problems. Parents of these 13 girls (7%) and 5 boys (4%) were contacted and offered the option of having their son or daughter referred to the community care psychology service. Of this group, 30% asked for the referral to be initiated.

## RESULTS

Data were entered on an item-by-item basis into the Statistical Package of the Social Sciences (SPSS) and verified by checking actual against possible ranges. Mean substitution was used to deal with missing values and in no case were more than 10% of data missing for a given item.

### **Profiles of adolescents with high, moderate and low levels of SWB**

Cases were classified into high, moderate and low subjective well-being (SWB) groups in the following way. Cases were classified as having high SWB if they reached two of these three criteria: (1) scored one standard deviation above the mean on the OHI, (2) obtained a score of one standard deviation above the mean on the SWLS, (3) scored one standard deviation below the mean on the GHQ-12. Cases were classified as having low SWB if they reached two out of these three criteria: (1) scored one standard deviation below the mean on the OHI, (2) obtained a score of one standard deviation below the mean on the SWLS, (3) scored one standard deviation above the mean on the GHQ-12. Remaining cases were classified as having moderate levels of SWB.

The statistical significance of inter-group differences on continuous demographic and psychosocial dependent variables was evaluated using a series 3 X 2, SWB (High, moderate, low) X Gender (boys, girls) ANOVAs with Scheffe post-hoc tests for unequal N designs. Because of the large number of dependent variables (N=16) in this study, the p-value for statistical significance in the ANOVA's was set at .01 rather than .05 to reduce the probability of type 1 error (accepting chance differences as significant).

On the demographic variables of age, socioeconomic status, number of siblings and single parent family, there were no significant gender differences. Also, the demographic

profiles of boys and girls in the three SWB groups did not differ significantly for age, socioeconomic status, number of siblings or membership of one or two parent families.

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Insert Table 2 about here

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From Table 2 it may be seen that the three SWB groups had distinctive psychosocial profiles, across all domains assessed: stressful life events, coping, social problem-solving, self-esteem, optimistic attributional style, social support and family functioning. Furthermore, distinctive gender related profiles occurred for attributional style, perceived social support and general family functioning. However, there were no significant SWB X Gender interactions and so these F values are omitted from Table 2.

For stressful life events the three groups differed in the number of family and self-related stressful life events, but not the number of peer-related or uncontrollable stressful life events. Boys and girls in the high SWB group reported significantly fewer family-related stressful life events than those in the moderate SWB group, who in turn reported significantly fewer family-related stressful events, than boys and girls in the low SWB group. In addition, boys and girls in the high SWB group reported significantly fewer personal stressful life events than those in the low SWB group.

For coping, boys and girls in the high SWB group reported significantly more task-focused and less emotion-focused coping than the other two groups. The moderate SWB group reported significantly less emotion focused coping than the low SWB group, although these two groups did not differ in levels of task-focused coping. All groups reported similar levels of avoidant coping.

For social problem-solving, boys and girls in the high SWB group reported more adaptive and less dysfunctional social problem-solving than the other two groups. In



contrast, boys and girls in the low SWB group reported less adaptive and more dysfunctional social problem solving than the other two groups. The moderate SWB group occupied a position on the adaptive and dysfunctional social problem-solving dimensions intermediate between the high and low SWB groups.

For self-esteem, optimism, perceived social support and general family functioning scores for those in the high SWB group reflected significantly better functioning than those in the moderate SWB group, whose scores, in turn, reflected significantly better functioning than those in the low SWB group. (When interpreting FAD data in Table 2, lower scores indicate more adaptive functioning).

For optimism, perceived social support and general family functioning, scores for girls reflected significantly better functioning than those for boys.

### **Structural equation model of factors related to SWB in adolescence**

A structural equation model was developed on the basis of the conceptual model in Figure 1. Eleven variables were used to specify the structural equation model which is shown in Figure 2. For this model, the scoring of the Family Assessment Device was reversed so that lower scores indicated greater levels of dysfunction. This was done to make higher scores on the Social resources latent variable indicate more social resources.

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Insert Figure 2 about here

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In the structural equation model the latent variables, or factors, are represented as circles and are measured by observed variables represented as boxes. The arrows leading from the circles to the boxes are factor loadings, indicating how well the latent variables are measured by the observed variables. The arrows connecting the latent

variables are regression coefficients, or slopes: they indicate the strength of linear association between the latent variables. For diagrammatic simplicity the error variances associated with each observed variable have been omitted.

A covariance matrix of the scores on the eleven variables was computed using PRELIS 2.3 (Jöreskog and Sörbom, 1999) and the parameters of the model were estimated by LISREL 8.52 (Jöreskog and Sörbom, 2002) using maximum likelihood. Following the guidelines suggested by Hoyle and Panter (1995) the goodness of fit for each model was assessed using the chi-square, the Goodness of Fit Index (GFI: Jöreskog and Sörbom, 1981), the Incremental Fit Index (IFI: Bollen, 1989), and the Comparative Fit Index (CFI: Bentler, 1990). A non-significant chi-square, and values greater than 0.90 for the GFI, IFI and CFI are considered to reflect acceptable model fit. In addition, the Root Mean Square Error of Approximation (RMSEA: Steiger, 1990) was reported, where a value less than 0.10 indicates reasonable fit (Browne and Cudeck, 1989). The standardised root-mean-square residual (SRMR: Jöreskog and Sörbom, 1981) has been shown to be sensitive to model mis-specification and its use recommended by Hu and Bentler (1999). Values less than .08 are considered to be indicative of acceptable model fit.

The fit indices suggested that the original model was not an acceptable fit ( $\chi^2=197$ ,  $df=36$ ,  $p<.05$ ;  $GFI=.87$ ;  $IFI=.86$ ;  $CFI=.86$ ;  $RMSEA=.14$ ;  $SRMR=.08$ ). The fit of the model was improved significantly by incorporating two correlated errors. The first correlated error was between the Task Coping (CISS-TC) and the Adaptive Problem Solving (SPSI-A) variables. The second was between the Family Assessment Device (FAD) and the Life Events Checklist-Family related (LEC-F) variables. Clearly there is conceptual overlap in each pair of variables. The first both relate to problem-solving and the second to family issues. The fit of the model after the inclusion of these two correlated errors was adequate

( $\chi^2=96$ ,  $df=34$ ,  $p<.05$ ;  $GFI=.93$ ;  $IFI=.95$ ;  $CFI=.95$ ;  $RMSEA=.08$ ;  $SRMR=.05$ ). All of the factor loadings were statistically significant.

The standardised regression coefficients between the Personal strengths and Subjective well-being latent variables was very strong, positive and statistically significant ( $\beta=.97$ ,  $p<.05$ ) indicating that increased personal strengths is associated with improved subjective well-being. Personal strengths also predicted the Stressful life events latent variable. The regression coefficient was moderately strong and negative ( $\beta=-.55$ ,  $p<.05$ ) indicating that increased personal strengths was associated with fewer stressful life events. The Social resources latent variable positively predicted the Coping resources latent variable ( $\beta=.41$ ,  $p<.05$ ) indicating that increased Social resources was associated with greater task-focused coping.

## DISCUSSION

The present study aimed to establish the profiles of boys and girls with high, moderate and low levels of subjective well-being. We found that compared with the low SWB group the high SWB group reported fewer family and personal stressful life events, more task-focused and less emotion-focused coping. They had greater personal strengths, specifically: adaptive problem-solving, self-esteem and an optimistic attributional style. They also had greater social resources, specifically: more perceived social support, and more adaptive family functioning. The profiles of the moderate well-being group fell between that of the high and low well-being groups. Gender differences favouring girls were found for optimism, perceived social support and family functioning.

The profiles identified in this study are broadly speaking, consistent with results of empirical studies detailed in Table 1 insofar as higher levels of well-being and better

adjustment have been found in these studies to be associated with lower levels of life stress, greater personal strengths and greater social resources. High levels of well-being were found to be associated with low life stress in studies by Burke and Weir (1978a, 1978b), Burt, Cohen and Bjorck (1988), Cauce, Hannan and Sargeant, (1992), Dumont, and Provost (1999), Frye and Goodman (2000), Gore and Aseltine (1995), Herman-Stahl and Petersen (1996), Southhall and Roberts (2002) Spence, Sheffield and Donovan (2002), Windle (1992), and Ystgaard, Tambs and Dalgard (1999). High levels of well-being have been found to be associated with a variety of personal strengths including an internal locus of control (Cauce, Hannan and Sargeant, 1992); self-efficacy (Herman-Stahl and Petersen, 1996); self-esteem (Dumont, and Provost, 1999; Southhall and Roberts, 2002); optimism (Herman-Stahl and Petersen, 1996; Southhall and Roberts, 2002; Spence, Sheffield and Donovan, 2002); task focused coping (Dumont, and Provost, 1999); and adaptive coping (Gore and Aseltine, 1995). High levels of well-being have been found to be associated with greater social resources including high levels of social support (Burke and Weir, 1978a, 1978b; Cauce, Hannan and Sargeant, 1992; Gore and Aseltine, 1995; Windle, 1992; and Ystgaard, Tambs and Dalgard, 1999) and a positive family climate (Burt, Cohen and Bjorck, 1988),

A structural equation model which explained the relationships among the variables in these profiles was developed. In this model increased personal strengths was associated with better subjective well-being and fewer stressful life events; and increased social resources was associated with better task-focused coping. The model is an adaptation of that proposed by Billings and Moos (1982) for adult adjustment and depression and builds on related models proposed by Rice et al. (1993) Seiffge-Krenke (1995).

The primary limitations of the study are its cross-sectional nature, exclusive reliance on self-report measures and use of a relatively narrow age range of adolescents. As a cross-sectional study, directional causal inferences may not validly be made. All that may be said with confidence, is that significant associations between variables were observed. As a self-report study, we can say with confidence that our results reflect adolescents' self-perceptions, but not that independent observers would reach similar conclusions. As a study of youngsters in mid-adolescence, results may not validly be generalized beyond this population.

From a clinical perspective, our results point to the importance of interventions that enhance personal resources (social problem-solving, self-esteem, and optimism) and social resources (social support and adaptive family functioning) to increase SWB in distressed adolescents (Carr, In press). For youngsters with psychological problems, individually focused interventions, especially those developed within the cognitive behavioural tradition are particularly effective in helping adolescents develop personal resources, while family based interventions and those that target the wider social system are particularly effective in promoting social support (Carr, 2000a,b). Our results support the practice of developing multisystemic intervention programmes that aim to enhance deficits in distressed adolescents personal and social resources and tailoring such programmes to suit youngsters' unique profiles (Carr, In press).

From a policy development perspective, our results suggest that for any policy that affects adolescents in areas such as education, recreation or prevention of physical and mental health problems, a critical question is the extent to which the policy enhances adolescents' personal resources (social problem-solving, self-esteem, and optimism) and social resources (social support and adaptive family functioning) (Carr, 2004). Empirically supported interventions for the prevention of major problems in adolescence such as

bullying, drug abuse and risky sexual practices all share a common focus on enhancing both personal resources (such as social problem-solving) and social resources (such as social support) (Carr, 2002), findings which are fully consistent with the results of this study.

From a research perspective, it is essential that the profiles and model reported here be replicated across the full age span of adolescence and within the context of longitudinal studies.

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