Self-Esteem, Depression and Risk-Taking Behaviour in Adolescent Girls.

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Self-esteem has typically been conceptualised as a global, unidimensional construct. However, recent research has focused on the multi-dimensionality of self-esteem (Crocker & Wolfe, 2001). The current research examines the relationship between this proposed multi-dimensionality and psychosocial health in adolescent girls. A survey of 166 female adolescents (age range: 12 – 19 years, $M = 14.91, SD = 1.57$), examined the degree to which psychosocial wellbeing is dependent on an individual’s contingencies of self-worth and global self-esteem. Analyses indicate that external contingencies of self-worth have a strong significant association with global self-esteem. Furthermore, global self-esteem is strongly associated with depression, whereas specific external aspects of self worth are related to risk taking behaviour. The results of this study may explain the lack of efficacy in existing prevention/intervention programs aimed at reducing risk-taking behaviours in young girls, by focusing on global rather than specific aspects of self-esteem.

The concept of self occupies a place of fundamental importance in everyday life (Gray-Little, Williams & Hancock, 1997; Rosenberg, Schoolder, Schoenbach & Rosenberg, 1995). As the evaluative component of self-concept, self-esteem is one of the most frequently measured constructs (Blascovich & Tomaka, 1991; Gray-Little et al., 1997; Overholser, Adams, Lehnert & Brinkman, 1995). Self-esteem forms the fundamental underpinnings of the subjective experience, greatly influencing the affective component of one’s quality of life (Crocker & Wolfe, 2001; James, 1890/1950; Rosenberg et al., 1995).

Whilst self-esteem is universally accepted as an attitude (Blascovich & Tomaka, 1991; Rosenberg et al., 1995; Savin-Williams & Jaquish, 1981), its conceptualisation has been, and continues to be the subject of much debate (Blascovich & Tomaka, 1991; Gray-Little et al., 1997; Hoge & McCarthy, 1984; Marsh, 1986; Pelham, 1995a, 1995b; Pelham & Swann, 1989). Self-esteem has typically been delineated either as a global uni-dimensional construct or as multifaceted (Gray-Little et al., 1997; Greenier et al., 1999; Hoge & McCarthy, 1984; Marsh, 1986; Rosenberg, 1965; Rosenberg et al., 1995). Traditionally, theorists have focused predominantly on global self-esteem – the general attitude towards the self as a totality (Marsh, 1986; Rosenberg et al., 1995). However, the past decade has seen a resurgence of empirical and theoretical research into the specific facets of self-esteem, and its multi-dimensional nature has been emphasised (Crocker, Luhtanen & Bouvrette, 2001; Crocker, Sommers & Luhtanen, 2001; Crocker & Wolfe, 2001; Hoge & McCarthy, 1984; Marsh, 1986; Rosenberg et al., 1995).

Evidence of the multi-dimensionality of self-esteem can be sourced from its classification as an attitude. For attitudes may be ascribed to an object as a whole or to specific aspects of an object (Rosenberg et al., 1995). Illustrating this, Rosenberg et al. (1995) contended that whilst a student holds a general attitude towards their university as a whole, they also have attitudes towards the many different aspects of their university – specific departments, the food in the café or the content of a particular subject. Similarly, when the object is the self, one possesses an attitude towards the self in its entirety and differentially to each of the many
facets of the self (Rosenberg et al., 1995). Additionally, attitudes typically involve the evaluation of an object based on information from three dimensions: affect, cognition and behaviour (Sternberg, 1998; Taylor, Peplau & Sears, 2000). Affect and cognition, two of the trichotomous components of an attitude, combine to form the complex underpinnings of self-esteem. The affective component is delineated by the fact that self-esteem is both directional (negative or positive) and variant in its intensity, whilst, the underlying thought process towards the self – either specifically or in totality – form the cognitive components of self-esteem (Pelham & Swann, 1989; Rosenberg et al., 1995).

An attitude generally has a fundamental influence over the behaviour related to the object of the attitude (Taylor et al., 2000). As an attitude, self-esteem has recurrently been invoked as a contributing or explanatory factor for a multitude of diverse behaviours (Rosenberg et al., 1995). Theoretical and correlational analyses have yielded tenuous associations between low self-esteem and socially problematic behavioural outcomes, (i.e., risk taking behaviours such as restrictive or dysfunctional eating, substance abuse, aggression, poor school achievement and teenage pregnancy) (Dawes, 1994; Mecca, Smelser & Vasoconcellos, 1989; Overholser, et al., 1995).

The inception of the self-esteem movement was based on the presupposition that low self-esteem leads to negative behavioural outcomes (Crocker, et. al., 2001; Crocker & Wolfe, 2001; Mecca et al., 1989). Operating under this assumption and propelled by the self-esteem movement, educational interventions aimed at raising children’s and adolescent’s levels of global self-esteem were introduced into schools across America. These interventions were anticipated to not only enhance overall school performance but also contribute to the amelioration of future socially problematic behaviours (Crocker, et. al., 2001; Crocker & Wolfe, 2001; Dawes, 1994; Rosenberg et al., 1995). Yet, in-school interventions have met with little success on either front and as a result the self-esteem movement has been the subject of much criticism from academic, educational and public forums (Crocker, et. al., 2001; Crocker & Wolfe, 2001; Dawes, 1994).

Crocker and Wolfe (2001) attributed both the lack of efficacy in these educational interventions and the critique of the self-esteem movement, to overly simplistic conceptualisations of self-esteem. Similarly, Rosenberg et al. (1995) contended that many of the weak relationships found in previous self-esteem studies could be ascribed to employing the incorrect type of self-esteem in relation to the dependent variable. In his seminal paper on self-esteem, James (1890/1950) postulated that self-esteem could be conceptualised as both a trait – which is relatively stable – and a state, which is contextually based and subject to fluctuation. As “direct and elementary endowments of our nature” (James, 1890/1950, p. 43), the general affective tone of trait self-esteem is largely independent of objective and contradictory exogenic interference, whereas state self-esteem fluctuates in response to subjective perceptions of success or failure. However, James (1890/1950) contended that not all successes and failures had the same impact on state self-esteem. The significance of successes and failures in one’s life is largely subjective and fundamentally dependent on the domains, attributes or abilities in which an individual has staked their sense of self-worth. Consequently, he believed that global self-esteem was an aggregate of trait self-esteem and the daily interaction between events, experiences, situations and the domains in which one’s self-worth resides (James, 1890/1950). Interestingly, Marsh (1986) argued that whilst specific self-esteem and global self-esteem may be highly related, they are not interchangeable. This
research has operated under the assumption that global self-esteem is more important than specific self-esteem.

This Jamesian perspective is in direct opposition to current practice of summing specific self-views to obtain an overall measure of global self-esteem (Hoge & McCarthy, 1984; Marsh, 1986, 1995; Pelham, 1995; Pelham & Swann, 1989; Rosenberg et al., 1995). Marsh (1986) believes this may be a misnomer and a substantial weakness of previous studies.

Building directly on the Jamesian suppositions, Crocker and Wolfe (2001) recently developed a model of global self-esteem and contingencies of self-worth that facilitated the explication of the relationship between the two related, yet conceptually distinct phenomena.

In accordance with James (1890/1950), Crocker and Wolfe (2001) contended that self-esteem can be conceptualised both as a global reflection of self-feeling or self-worth, and more specifically as domain-specific evaluations of the self. The central tenet underlying Crocker and Wolfe’s (2001) model is that domain-specific self-esteem is highly differential, varying from one individual to the next. Consequently, only attributes, abilities or domains in which individuals have staked their self-worth contribute to or impact on one's global self-esteem (Crocker et al., 2001; Crocker & Wolfe, 2001; James, 1890/1950; Marsh, 1995; Pelham, 1995). An individual is not limited to one contingency of self-worth. Moreover, contingencies may be grounded externally, relegated largely beyond the individual’s realm of control, such as physical appearance and others’ approval; internal (e.g., virtue and God’s love); or simultaneously positioned under the influence of the self and others, and multiply determined as in the case with competitiveness and academic competence (Crocker & Wolfe, 2001). According to this model, disappointments, failures, successes and stressors only have an impact on global self-esteem when they occur in the domains in which self-worth is contingent (e.g., Crocker et al., 2001; Crocker, et al., 2001; Crocker & Wolfe, 2001).

As noted previously, self-esteem has been implicated in a multitude of socially problematic and negative behavioural outcomes (e.g., Dawes, 1994; Mecca et al., 1989; Overholser, et al., 1995). However, past research has concentrated primarily on the level of global self-esteem, with little regard to specific self-esteem (e.g., Greenier et al., 1999; Kernis et al, 1993; Kernis, Grannemann & Barclay, 1989, 1992; Marsh, 1986; Kernis & Waschull, 1995; Rosenberg et al., 1995). Indeed, more recent research indicates that the domains in which self-esteem is contingent are more indicative of behavioural outcomes, than whether global self-esteem is high or low (Crocker et al., 2001; Hoge & McCarthy, 1984; Marsh, 1986, 1995; Pelham, 1995; Rosenberg et al., 1995).

The presupposition that specific self-esteem or contingencies of self-worth possess greater predictive value in determining behavioural outcomes than global self-esteem finds theoretical support in Ajzen and Fishbein’s (1980) Theory of Reasoned Action (Rosenberg, et al., 1995). This model postulates that the intention to engage in a particular behaviour is a combined function of the attitude towards the behaviour and subjective social norms. The predictive power of the model is primarily determined by how closely the attitude is related to the behaviour (Ajzen, 1987; Ajzen & Fishbein, 1980). Consequently, the domains in which self-esteem is contingent should provide a better measure of predicting specific behaviours than global self-esteem (Rosenberg, et al., 1995).
Whilst contingencies of self-worth may have a highly motivating effect on behaviour, Crocker and associates (i.e., Crocker et. al., 2001; Crocker & Wolfe, 2001) contend that they may also impact negatively. As individuals constantly strive to heighten, maintain and protect their self-esteem, the domains in which individuals stake their self-worth have a significant influence on the behaviour one chooses to engage in (Crocker et. al., 2001). Crocker and associates attribute this to the self-regulatory function of contingencies of self-worth. In a study of over 600 first year college students, they found that contingencies of self-worth predicted the type of organisations or clubs students joined and subsequently dictated the activities and events they engaged in. Students who staked their self-worth in appearance were more likely to join sororities and fraternities, spend their time grooming, shopping, exercising or partying and engage in negative behavioural outcomes, such as substance abuse and disordered eating. In comparison, students spent less time partying if their self-worth was contingent upon God’s Love and they had affiliated themselves with religious organisations (Crocker et. al., 2001).

Rosenberg et al. (1995) asserted that whilst contingent self-esteem may be related to affect or other determinants of psychological wellbeing (e.g., depression, anomie, resentment, irritability, anxiety-tension and life satisfaction), global self-esteem provides a better measure of prediction. By its very definition, the principal characteristics of global self-esteem are general feelings of self-respect, self-acceptance or self-worth (Blascovich & Tomaka, 1991; Crocker & Wolfe, 2001; Rosenberg et al., 1995). As such, Rosenberg et al. (1995) suggested that global self-esteem may be predominantly affective in nature, in comparison to specific self-esteem, which appears to be primarily cognitive.

To date, very few studies have actually comparatively examined global and contingent self-esteem and their relationships to behaviour and psychosocial wellbeing. Furthermore, of the handful of studies that have been conducted, the emphasis has typically centred on one specific domain. For instance, in a study exploring the aforementioned variables, Rosenberg et al. (1995) used academic contingent self-esteem as their sole measure of specific self-esteem. Similarly, Crocker, et al. (2001) examined the role of academic contingent self-esteem on global self-esteem and affect in relation to acceptances and rejections into graduate school. The present study attempts to address this limitation by examining the proposal that the contingencies in which one is currently cognitively invested are important in determining one’s subsequent behaviour, whilst one’s overall global self-esteem is predictive of one’s sense of well being. Specifically, it was predicted that specific contingencies of self-worth would be significantly associated with risk taking behaviours, whereas one’s global self-esteem would predict depression.

Methodology

Participants
The sample included 166 female adolescents enrolled in years 7 to 12, at an independent girls college in Melbourne, Australia. They ranged in age from 12 to 19 years ($M = 14.91, SD = 1.57$). In consultation with the director of Students, nine classes were selected from years 7 to 12. To obtain a more representative stratified convenience sample, religious education was selected, as it was a compulsory core subject throughout the school.
Instruments

Contingencies of Self-Worth Scale (CSW: Crocker, Luhtanen, Cooper & Bouvrette, 2001)
The CSW is a 35-item self-report questionnaire developed to assess seven contingencies in which individuals may stake their self-worth: academic competence, appearance, competition, family support, God’s love, others’ approval and virtue. In the present study, the subscale ‘God’s love’ was omitted. Each item was scored on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree (Crocker, Luhtanen, Cooper et al., 2001).

In accordance with confirmatory factor analyses, each subscale is scored in mutual exclusivity and not summed to provide an overall uni-dimensional measure. Internal consistencies (Cronbach’s alpha) ranging from .82 to .96 were found for each of the seven subscales. Over a period of 8.5 months, test-retest reliability yielded correlation coefficients of .51 to .96 (Crocker et al., 2001; Crocker & Wolfe, 2001).

Rosenberg Self-Esteem Scale (RSE: Rosenberg, 1965)
The RSE is a frequently employed, easy to administer, measure of global self-esteem. The 10-item scale was originally developed to explicitly assess the uni-dimensional component of global self-esteem in adolescents. Each item is scored on a 5-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. To control for acquiescence response-set bias, five items are positively framed (i.e. “I feel that I have a number of good qualities”) and five negatively (i.e. “I certainly feel useless at times”).

The RSE has demonstrated high internal consistency ($r = .88$) (Fleming & Courtney, 1984). Reliabilities based on test-retest methodology have ranged from $r = .50$ (Hoge & McCarthy, 1984), $r = .82$ (Fleming & Courtney, 1984) over 1 year and 1 week, respectively. Fleming and Courtney (1984) reported moderately high negative correlations between the RSE and constructs typically associated with low self-esteem ($r = -.64$ with anxiety and $r = -.54$ with depression).

Reynolds Adolescent Depression Scale (RADS: Reynolds, 1987)
The RADS is a 30-item, 4-point summated rating scale used to assess depressive symptomatology in adolescents aged from 12 to 18 years. Scores ranged from 30 to 120, with higher scores indicating greater levels of depressive symptoms. To control for acquiescent responses, 23 of the items are positive psychopathological indicators of depressive disorder (i.e., “I feel sad”), whilst the remaining 7 items are inconsistent with depressive symptomatology (i.e., “I feel happy”) and are reverse coded accordingly (Reynolds, 1987).

The RADS was validated on an ethnically diverse sample of 2,460 adolescents from the Midwestern United States. Providing strong evidence for convergent validity, the RADS has been found to correlate highly with the Beck Depression Inventory ($r = .73$), the Centre for Epidemiological Studies – Depression Scale ($r = .75$), the Zung Self-Rating Depression Scale ($r = .72$), the Children’s Depression Scale ($r = .73$) and the Hamilton Depression Rating Scale ($r = .83$) (Atlas & DiScipio, 1992; Nezu, Ronan, Meadows & McClure, 2000; Reynolds, 1987; Reynolds & Mazza, 1998).
Considerable reliability has been established with alpha internal consistency coefficients ranging from .91 to .94 and according to the Spearman-Brown correction formula split-half reliability was .91. Furthermore, test-retest reliability for 6 weeks, 3 months and 1 year yielded respective coefficients of .80, .79 and .63 (Nezu et al., 2000; Reynolds, 1987; Reynolds & Mazza, 1998).

Adolescent Risk-Taking Questionnaire (ARQ: Gullone, Moore, Moss & Boyd, 2000)

The ARQ was designed as a comprehensive self-report measure of adolescent risk-taking behaviour. Developed from adolescent nominated behaviours, the 22-item questionnaire requires the respondent to nominate the frequency with which they engage in each of the behaviours according to a Likert scale, ranging from 1 = never done to 5 = done very often.

Evaluated on a sample of 925 adolescents, Gullone et al. (2000) demonstrated that the ARQ has sound psychometric properties. Employing Cronbach’s alpha internal consistency was computed for each subscale, gender, two age groupings (younger and older adolescents) and the entire sample. Aside from the antisocial subscale (.66 to .79), internal consistency coefficients typically exceeded 0.8. Test-retest reliability assessed over a period of one week (n = 156) revealed adequate stability, and evidence for construct validity was established via the robust factor structure of the four subscales (Gullone et al., 2000).

Under the direction of “other”, a section was provided at the end of the ARQ for respondents to list any other risk-taking behaviours they may engage in. Respondents were then requested to indicate the incidence rate of their nominated behaviours.

Procedure

Following ethical clearance, a brief letter explaining the purpose of the study and a parental consent form were distributed to each of the students in the nine religious education classes via their homeroom teachers, for completion by their parents. The homeroom teachers collected the returned parental consent forms and recorded the students who were given parental consent to partake in the study. Of the 227 consent forms distributed, only 61 parents/guardians withheld their consent or did not return the completed form. All of the students granted parental permission voluntarily participated in the study, resulting in an overall response rate of 73%.

Where the parental consent form was not returned or where parental consent was denied, students were asked to go on with private study. During the classes, students with parental consent were given a concise letter outlining the research, a consent form and a referral resources list. Before engaging in the study, students were required to read the plain language statement and sign the consent form. It was verbally reiterated that participation was completely voluntary and to ensure confidentiality all questionnaires would be completed anonymously. Consent forms were then collected and the questionnaires were distributed to the students who wished to participate in the study. Participants completed the questionnaires under the supervision of the experimenter, who was present to answer any queries. Questionnaires took approximately 30 minutes to complete.

Results
For the purposes of analyses missing values in the data set were replaced with mean scores. In order to examine the stability of constructs measured (i.e., global self-esteem, depression, contingencies of self-worth and risk-taking behaviours) analysis of variance with these constructs as the dependent variable and year level as the independent level were conducted. To examine proposed relationships between global and specific self-esteem with depression with risk-taking behaviour, Pearson’s Product-Moment Correlation Coefficients, multivariate analysis of variance (MANOVA), and hierarchical regression analysis were conducted. Data was analysed using SPSS (10.0).

Stability of Constructs

In order to examine the stability of the constructs: self-esteem, contingencies of self worth, depression and risk-taking behaviour across year levels, a comparison of means between year levels was performed for each variable. As shown in Table 1, the mean distribution of self-esteem, depression and risk-taking behaviours appears to vary across year levels. A series of three one-way ANOVA’s with year level as the independent variable and self-esteem, depression or risk-taking behaviour as the dependent variables indicated that these differences were significant at the .05 level ($F_{(5, 160)} = 3.31, p < .05; F_{(5, 160)} = 3.93, p < .05; F_{(5, 160)} = 7.72, p < .001$ respectively).

### Table 1: Means and Standard Deviations for Self-Esteem, Depression and Risk-Taking Behaviour by Year Level

<table>
<thead>
<tr>
<th>Year</th>
<th>Self-Esteem M</th>
<th>Self-Esteem SD</th>
<th>Depression M</th>
<th>Depression SD</th>
<th>Risk-Taking Behaviour M</th>
<th>Risk-Taking Behaviour SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>36.31</td>
<td>7.71</td>
<td>51.54</td>
<td>13.96</td>
<td>34.38</td>
<td>4.68</td>
</tr>
<tr>
<td>8</td>
<td>36.64</td>
<td>8.20</td>
<td>59.27</td>
<td>16.19</td>
<td>34.91</td>
<td>5.15</td>
</tr>
<tr>
<td>9</td>
<td>31.94</td>
<td>6.27</td>
<td>69.08</td>
<td>15.54</td>
<td>40.00</td>
<td>7.41</td>
</tr>
<tr>
<td>10</td>
<td>34.58</td>
<td>6.08</td>
<td>63.93</td>
<td>16.13</td>
<td>41.20</td>
<td>9.59</td>
</tr>
<tr>
<td>11</td>
<td>31.21</td>
<td>7.45</td>
<td>69.90</td>
<td>15.40</td>
<td>44.56</td>
<td>7.83</td>
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<tr>
<td>12</td>
<td>36.72</td>
<td>6.79</td>
<td>61.00</td>
<td>15.71</td>
<td>43.28</td>
<td>8.85</td>
</tr>
<tr>
<td>Total</td>
<td>34.21</td>
<td>7.34</td>
<td>63.80</td>
<td>16.38</td>
<td>40.27</td>
<td>8.50</td>
</tr>
</tbody>
</table>

Scheffé post hoc analyses that self-esteem levels did not differ significantly between year levels. However, statistically significant differences were noted between depression and year level ($Mean\ diff = 18.36, p < .05$), with Year 11 students had significantly higher depression scores than the year 7 students. Similarly, Scheffé post hoc analysis yielded four statistically significant pairwise comparisons between risk-taking behaviour and year level. Year 10 ($Mean\ diff = 6.30, p < .05$), year 11 ($Mean\ diff = 9.65, p < .05$) and year 12 students ($Mean\ diff = 8.37, p < .05$) all scored significantly higher in risk-taking behaviour than year 8 students. Year 11 students ($Mean\ diff = 10.18, p < .05$) also had statistically higher mean scores than year 7 students on the risk-taking behaviour measure. These findings indicate that risk-taking behaviour and depression levels, as reported by the students, were higher in the older year levels than the younger.

The mean levels for contingencies of self-worth (refer Table 2) were also found to vary significantly by year level. A five factor (year level) MANOVA with the six contingencies of...
self-worth as the dependent variables indicated that there was a significant multivariate effect for year level (Wilks Lambda = .601, F(30, 622) = 2.813, p < .001). Univariate analysis indicated that this effect was significant for five of the contingencies of self-worth: family support (F(5, 160) = 4.099, p < .01), competition (F(5, 160) = 2.966, p < .05), appearance (F(5, 160) = 4.331, p < .001), academic competence (F(5, 160) = 4.650, p < .001) and others’ approval (F(5, 160) = 4.077, p < .01).
Table 2: Means and Standard Deviations for Contingencies of Self-Worth by Year Level

<table>
<thead>
<tr>
<th></th>
<th>Family Support</th>
<th>Competition</th>
<th>Appearance</th>
<th>Academic Competence</th>
<th>Virtue</th>
<th>Others’ Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>M(1)</td>
<td>M(2)</td>
<td>M(3)</td>
<td>M(4)</td>
<td>M(5)</td>
<td>M(6)</td>
</tr>
<tr>
<td></td>
<td>SD(1)</td>
<td>SD(2)</td>
<td>SD(3)</td>
<td>SD(4)</td>
<td>SD(5)</td>
<td>SD(6)</td>
</tr>
<tr>
<td>7</td>
<td>19.92</td>
<td>3.18</td>
<td>15.30</td>
<td>17.10</td>
<td>13.69</td>
<td>4.17</td>
</tr>
<tr>
<td>8</td>
<td>21.15</td>
<td>3.45</td>
<td>18.46</td>
<td>18.49</td>
<td>15.96</td>
<td>3.62</td>
</tr>
<tr>
<td>9</td>
<td>17.95</td>
<td>3.05</td>
<td>17.35</td>
<td>18.02</td>
<td>15.95</td>
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<td>10</td>
<td>19.64</td>
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<td>18.46</td>
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<td>15.95</td>
<td>3.56</td>
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<tr>
<td>11</td>
<td>20.42</td>
<td>2.77</td>
<td>20.45</td>
<td>19.67</td>
<td>18.20</td>
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<tr>
<td>12</td>
<td>20.11</td>
<td>3.24</td>
<td>18.39</td>
<td>17.89</td>
<td>17.17</td>
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<tr>
<td>Total</td>
<td>19.97</td>
<td>3.42</td>
<td>18.23</td>
<td>18.26</td>
<td>16.99</td>
<td>3.58</td>
</tr>
</tbody>
</table>

With alpha at .05, Scheffé post hoc analyses revealed there was a significant difference between all of the contingencies of self-worth and year level, except for virtue. Specifically, Scheffé post hoc analyses indicated a significant difference between family support and year level amongst year 8 and year 9 students (Mean diff = 3.20, p < .05) and also between year 9 and year 11 students (Mean diff = 2.47, p < .05). Scheffé post hoc analysis found one pairwise comparison to be statistically significant between competition and year level (Mean diff = 4.14, p < .05), indicating that year 9 students staked their self-worth on competition more so than students in year 7. Similarly, Scheffé post hoc analysis yielded two statistically significant pairwise comparisons between appearance and year level. Year 11 students rated themselves higher on the appearance contingency than both year 7 (Mean diff = 4.53, p < .05) and year 8 students (Mean diff = 3.71, p < .05). Both year 10 (Mean diff = 3.18, p < .05) and year 11 students (Mean diff = 4.37, p < .05) placed a significantly stronger emphasis on academic competence than year 7 students, as revealed by Scheffé post hoc analysis. Finally, Scheffé post hoc analysis indicated that year 11 students place a higher stake in other’s approval than year 8 students (Mean diff = 4.65, p < .05).


In order to examine the relationship between the self-esteem, self-worth, depression and risk taking behaviours, a series of Pearson’s Product-Moment Correlation Coefficients were calculated. There was a significantly strong inverse correlation between global self-esteem and depression (r = -0.76, p < .01), indicating that these two constructs were strongly interrelated. In contrast, the weak correlations between risk-taking behaviour and global self-esteem (r = -0.20, p < .01) and risk-taking behaviour and depression (r = 0.33, p < .01), indicate that although related, they were distinct constructs.

Pearson’s Product-Moment Correlation Coefficients between the contingencies of self-worth and global self-esteem, depression and risk-taking behaviour indicated that taking one’s self-worth on external contingencies, such as appearance and others’ approval has significant though negative associations with lower levels of global self-esteem and moderate positive
associations with depressive symptomatology (refer Table 3). Significant correlations were also found between the two contingencies under the simultaneous control of the self and others (academic competence and competition) and depression. Significant correlations were also found between competition, appearance and risk-taking behaviour. Finally, a weak inverse relationship was revealed between family support and risk-taking behaviour.

![Table 3](https://example.com/table3)

<table>
<thead>
<tr>
<th></th>
<th>Self-Esteem</th>
<th>Depression</th>
<th>Risk-Taking Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>-0.078</td>
<td>0.205**</td>
<td>0.053</td>
</tr>
<tr>
<td>Competition</td>
<td>-0.073</td>
<td>0.226*</td>
<td>0.200**</td>
</tr>
<tr>
<td>Virtue</td>
<td>0.036</td>
<td>-0.015</td>
<td>-0.106</td>
</tr>
<tr>
<td>Family</td>
<td>0.035</td>
<td>-0.029</td>
<td>-0.168*</td>
</tr>
<tr>
<td>Appearance</td>
<td>-0.483**</td>
<td>0.440**</td>
<td>0.308**</td>
</tr>
<tr>
<td>Others’ Approval</td>
<td>-0.551**</td>
<td>0.477**</td>
<td>0.073**</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

In order to examine the significance of the relationships noted between self-esteem and contingencies of self worth with manifest behaviors such as depression and risk taking behaviours, a MANCOVA, with risk-taking behaviours and depression as the dependent variables, year level as a covariate and self esteem and contingencies of self worth as the independent variables indicated that there was a significant multivariate effect for self-esteem ($F = 7.47$, $df = 3, 134, 155, p < .00$), approval from others ($F= 4.40$, $df = 3,134, 155, p < .01$), appearance ($F = 5.73$, $df = 3,134, 155, p < .05$) and year level ($F = 9.97$, $df = 3,134, 155, p < .01$). Univariate analysis indicated that these effects were significant for self-esteem with depression ($F = 8.64$, $\beta = -0.45$, $t = -3.88$, $df = 1,136$, $p < .01$), approval with risk taking behaviour ($ F = 8.64$, $\beta = -4.69$, $t = -2.9$, $df = 3, 136$, $p < .01$), appearance and risk taking behaviour ($F = 11.50$, $\beta = 0.58$, $t = 3.39$, $df = 3, 136$, $p < .01$) and year level with risk taking behaviour ($F = 19.6$, $\beta = 1.68$, $t = 4.13$, $df = 3, 136$, $p < .01$).

Hierarchical regression analysis, with risk taking behaviour as the dependent variable and year level, self-esteem, depression and contingencies of self worth as the predictors, indicated that these variables significantly predicted over 31% of the variance in behaviours for adolescent girls ($adj R^2 = .312, f = 8.19, df = 9,134, p < .000$). Of these variables however only year level (change $R^2 = .19$, $F = 34.26$, $df = 1,142$, $p < .000$, $\beta = .37$, $t = 5.04$, $p < .001$); three contingencies of self worth (change $R^2 = .102$, $F = 3.32$, $df = 6,135$, $p < .000$, competition: $\beta = .17$, $t = 2.29$, $p < .05$; appearance: $\beta = .17$, $t = 2.29$, $p < .05$; approval from others $\beta = -.25$, $t = -2.47$, $p < .05$) and depression (change $R^2 = .05$, $F = 9.69$, $df = 1,134$, $p < .012$, $\beta = .35$, $t = 3.11$, $p < .01$); independently and additively contributed to this explanation in variance.

Further regression analysis, with depression as the dependent variable, year level, self-esteem and contingencies of self worth as the predictor variables indicated that although year level
was independently predictive of a small amount of depression in the cohort of girls (adj R² = .05, F = 8.77, df = 1, 142, p < .05, β = .24, t = 2.96, p < .05), when all variables were entered only self esteem was found to independently and significantly contribute to the explained variance in adolescent girls depression scores (adj R² = .59, F = 26.40, df = 8,135, p < .001, β =-.68.24, t = -9.56, p < .001). Overall, more than 59% of variance was explained by this construct.

**Discussion**

The findings of this study indicated that there is a very strong significant, inverse relationship between global self-esteem and depression. Indeed, global self-esteem was found to significantly predict almost 60% of the variance in depression scores. The findings further indicated that risk taking behaviours were associated with depression, with depression contributing 5% of the explanation to variance in risk taking behaviours, accounting for 5% of the variance. Importantly, global self-esteem was not found to be strongly associated with all of the contingencies of self-worth. Rather, the results indicated that of the contingencies of self-worth, only the external contingencies (i.e., appearance and others’ approval) showed moderate significant relationships to global self-esteem. Risk-taking behaviours were also found to be strongly and significantly associated with externally premised contingencies of self-worth. These factors contributing a further 10% to the explained variance in risk taking behaviour scores.

In the present study, global self-esteem did not fluctuate significantly as a result of age. This is consistent with the data of Chubb et al. (1997), who found that global self-esteem remained relatively stable over the high school years. Similarly, examining the stability of global self-esteem in year nine and ten high school students, Savin-Williams and Demo (1984) determined that global self-esteem was stable and trait-like in its characteristics.

Unlike global self-esteem, a significant difference was found between year level and specific contingencies of self-worth, with all of the contingencies of self-worth except virtue fluctuating across the year levels. Moreover, these multiple domains appear to follow different trajectories in relation to their import at different ages. Investment in the two external contingencies (appearance and others’ approval) and academic competence, increased with age until year 11, where it peaked. The family support domain followed a slightly more vacillating path, decreasing significantly after peaking in year 8, only to rise again in year 10 students. Finally, year 9 students appeared to stake their self-worth in competition more so than any other year level. The function of age on several of these contingencies seems commonsensical, for instance, one would naturally assume that adolescents would have a higher degree of investment in academic competence as they near the completion of their studies.

Of interest, global self-esteem and external contingencies (appearance and others’ approval) were found to be significantly associated with each other, whilst internal contingencies appeared to be independent. As noted by Crocker and associates, contingencies that are excessively reliant upon the actions or attitudes of others are particularly difficult to satiate, as they are largely beyond the control of the individual (Crocker et. al., 2001; Crocker & Wolfe, 2001). Consequently, individuals who base their self-worth in external contingencies are more likely to feel that their self-worth is under relentless attack (Kernis et al., 1998; Kernis & Waschull, 1995). As such, individuals who are high in these fragile domains are
prone to greater expressions of anger and hostility when they perceive their sense of worth is threatened or subjected to failures or setbacks (Crocker et. al., 2001; Crocker & Wolfe, 2001; Kernis & Waschull, 1995).

As noted in the findings of this study, the external contingencies of self-worth, rather than global self-esteem, were found to be strongly associated with and predictive of engagement in risk-taking behaviours amongst this cohort of adolescent girls. It is possible that what we are observing is one step in a cyclical process of affective response to socialisation pressures, which lead some more vulnerable adolescent girls (i.e., depressed) to invest more highly in externally based contingencies of self-worth as a means of sustaining a positive sense of self.

The present study provides support for the assertion (e.g., Rosenberg et al., 1995; Hoge & McCarthy, 1984; & Marsh, 1986), that whilst specific self-esteem and global self-esteem may be interrelated, they are conceptually distinct phenomenon. These findings also support Crocker, et. al’s (2001) contention that only certain contingencies – namely those that are externally located – lead to negative behavioural outcomes.

Crocker, et. al., (2001) have offered several reasons for the negative influence of external contingencies on behavioural manifestations. They argue that the primary drive in this ostensibly destructive relationship is the fragility of external contingencies of self-worth, which being excessively reliant upon the attitudes or actions of others, are exceptionally vulnerable, requiring relentless vigilance and defence (Crocker et. al., 2001; Crocker & Wolfe, 2001).

The proposal that contingencies of self-worth would be significantly associated with levels of depression was also supported. Interestingly, it was externally focused contingencies that were associated with this construct. However, there was no indication of these factors being predictive of higher levels of depression. Age was found to have a significant effect on the level of depression. Relative to the young adolescents, older adolescents reported greater levels of depressive symptomatology. This reflects the findings of Brage and Meredith (1994) who reported higher levels of depression in the older adolescents in their sample of students. They suggested that the increase in depressive symptomatology as a function of age could be attributed to the escalating number of new experiences, stressors and feelings the adolescent is subjected to as they mature into early adulthood.

Consistent with previous literature (e.g., Battle et al., 1988; Brage & Meredith, 1994; De Man, 1999; Overholser et al., 1995; Rosenberg et al., 1995), the findings of this study supported the proposal that there is a significant and strong inverse relationship between global self-esteem and depression. Rosenberg et al. (1995) contended that global self-esteem provides a better measure of predicting psychosocial wellbeing than contingency-specific self-esteem. Similarly, although in the present study significant associations found between several of the contingencies of self-worth (appearance, others’ approval, academic competence and competition) and depressive symptomatology, as stated previously these relationships did not predict depressive symptomatology.

The cross-sectional sample, derived from a single cohort of school girls for this study, means that the findings are limited in their generalisability. Further research, incorporating a more
broad and diverse cohort of adolescent girls is required. The self-report methodology utilised in this study also has several limitations. Firstly, it assumes that participants can genuinely gauge their own internal thoughts and feelings, and are then willing to disclose them. In future studies, a social desirability scale could be incorporated into the questionnaire to detect responses that project social desirability.

It is important to acknowledge that the findings in regards to contingent self-esteem are peculiar to the six domains measured in this study. Given the highly differential nature of contingent self-esteem, one should be cautioned against generalising these results to other domains in which self-esteem may be contingent. Moreover, the nomothetic approach utilised by the CSW may not have accurately captured the contingencies in which the adolescents in this sample are most highly invested. Future studies adopting an idiographic methodological approach, requiring adolescents to nominate several domains in which they believe their self-worth resides would provide a more accurate reflection of the domains in which adolescents stake their self-worth.

The findings of the present study advocate the multi-dimensionality of the construct of self-worth. More specifically, the results suggest that individuals who have a high investment in external contingencies of self-worth and are feeling depressed, are more likely to engage in risk taking behaviours. This depression arising out of a potentially low level of self-esteem which itself is resultant of an over-investment in external contingencies may not be particularly gratifying. As such, interventions based on raising the level of global self-esteem as a means of eliminating or preventing the participation in risk-taking behaviours, will be largely ineffectual. Rather, it would appear important to identify those external contingencies which are over-invested in and attempt to de-emphasise their value.

In conclusion, the findings of this study support the proposal that global self-esteem is an affective based construct, whereas contingencies of self-worth are a cognitively derived construct. Importantly, the findings raise serious questions about the nature of global self-esteem, with the findings of this study indicating that this is heavily invested in external contingencies of self-worth. As such, what we find is that those girls who are highly invested in external contingencies engage in risk taking behaviours to maintain their self-worth. Therefore, whereas global self-esteem is a useful predictor of depression, future preventative behavioral programs need to develop a specific focus on socialisation processes (both of family and peers) as they relate to enforcing normative external ideology and the identification of those girls who are highly invested in this aspect of life, in order to reduce risk taking behavior in adolescent girls.

References


