CRF: Examples
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UNIVERSITY: Victoria University of Wellington, New Zealand

DEPARTMENT: Psychology

PROFESSIONAL YEAR OF STUDY: PHD candidate (year one)

PROPOSED STUDY TITLE: How does gender role, sense of control and coping styles affect depression in children?

Proposed Start Date: 01.09.04 Proposed Completion Date: 01.02.05

females ruminate more than males as they enter adolescence. That is, I anticipate that it is the reduced sense of control that prompts females to ruminate in response to stress, and consequently experience depression at greater rates than males. I expect that the relationships among sense of control, rumination and depression will intensify as children approach adolescence, and be especially potent for females who identify strongly with the female gender role.

This research builds on control theory in a number of ways, firstly by assessing the control profiles of preadolescent populations. Secondly this research assesses how control profiles interact with coping strategies (rumination), stress and gender to influence depressive symptoms in children. Thirdly, this study will contribute to the area of control research by adapting the SCI to be appropriately used with children (9-13 years). We know of no research using the SCI with preadolescent populations, and anticipate that this measure will illuminate the complex dynamics that prompt the gender difference in depression.

Method. Subjects will be 500 children between the ages of 9-13 years and their parents from a variety of schools throughout the Wellington region. To obtain the data, the principal researcher will attend participating schools and administer a self-report questionnaire including measures assessing sense of control (SCI), coping strategies (e.g. rumination), gender role identification, stress and depressive symptoms. Also included in this questionnaire will be a set of stressful scenarios that children commonly experience (e.g. not being invited to a birthday party, having fights with their siblings) depicted in cartoon strip. These scenarios will assess how children expect others, and themselves to respond to stressful situations, and how much control others, and themselves would have in particular situations. Identical scenarios will be sent to the children's parents to assess how much control parents consider their children to have in various situations, and how parents would recommend their children to respond. Currently the School of Psychology ethics committee (SOPHEC) at Victoria University of Wellington is reviewing this project, and data collection will begin on approval. Data collection is expected to
Proposal for funding from the “Control Trust”

How does gender role, sense of control and coping styles effect depression in preadolescence?

Introduction. One of the most robust epidemiological findings in the current literature on depression is that females report depression at up to twice the rate of males after age 13. However, why this occurs is yet to be explained. The response styles theory (RST; Nolen-Hoeksema, 1987; 1991) asserts that females experience depression more frequently than males because they tend to ruminate (passively focus on the causes, consequences and symptoms of their depression) in response to negative affect. My research critically evaluates the predictions of RST, and extends it by examining how sense of control relates to rumination and depression in a preadolescent population (9-13 year olds). My chief hypothesis predicts that females ruminate more than males because they experience a reduction in perceived control as they enter adolescence. That is, I anticipate that it is the reduction in their sense of control that prompts females to ruminate in response to stress, and consequently experience depression at greater rates than males. I expect that the relationships among sense of control, rumination and depression will intensify as children approach adolescence, and be especially potent for females who identify strongly with the female gender role.

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Control trust report: How does gender role, sense of control and coping styles effect depression in preadolescence?

This study examined how gender, stress, coping strategies, and perceived control relate to depression in preadolescence (9-12 years). Specifically, we tested the hypothesis of the response styles theory (RST; Nolen-Hoeksema, 1987; 1991) that females become more depressed than males as they enter adolescence because they ruminate more. This study also extended RST by examining the role sense of control plays in the development of depression.

Two hundred and twenty-five children and their parents from a range of schools in the Wellington region participated in this study. A MANOVA was performed to test for gender and age differences on perceived control, stress, rumination and depression. There was a significant main effect for gender on sense of control; females had lower perceived control than males. The gender x age interaction was significant for stress, rumination and depression; as expected stress, rumination and depression increased for females at age 12, and there was no increase for males in this sample. Moderation analyses were performed to examine whether stress interacts with rumination or perceived control to predict depression. As expected, rumination moderated the relationship between stress and depression; when stress was high rumination intensified depression, however when stress was low rumination’s impact on depression was minimal. Control also moderated the relationship between stress and depression; when stress was high, perceived control buffered against depression, however when stress was low, perceived control’s impact was minimal.

A key objective of this study was to adapt the SCI for use in a preadolescent population. In order to do this we made four modifications to the SCI. First, we simplified the language of the items to ensure children could understand the scale. Second, we created new items for the negative sense of control scale so that the positive and negative scales had an equal number of items. Third, we modified the “domains of control” scale to better reflect the domains of preadolescents. And last, we shortened the domains of control scale from 25 to 15 items. A copy of the modified SCI is appended.

Overall, results suggest that the modification of the SCI was successful. Internal reliability for all control scales in this sample were high; positive sense of control, $\alpha = .85$; negative sense of control, $\alpha = .77$; overall sense of control, $\alpha = .86$; domains of control $\alpha = .82$. The results of an exploratory factor analysis (PCA with Oblimin rotation) on the overall sense of control scale suggest that there is a two factor structure, explaining 42% of the variance. As expected, the positive scale items all loaded on the first factor and the negative scale items all loaded on the second factor. These two scales were negatively correlated $r = -.54$. The results of a second exploratory factor analysis (PCA with Oblimin rotation) on the domains of control scale suggest a two factor structure, explaining 39% of the variance. The first factor related to external domains, e.g., “physical exercise”, the second factor related to internal domains, e.g., “sadness”. The item “homework” loaded on the internal factor however this item was deleted due to its lack of conceptual fit, and because subsequent reliability analyses indicated that dropping the item would increase the alpha from .71 to .72.

In sum, our results supported and extended the RST by showing that rumination and sense of control moderate the relationship between stress and depression. Importantly, our results show that these vulnerability characteristics (rumination, stress, and perceived control) are more prevalent in females than males as the gender difference in depression develops. However, future studies using longitudinal designs are required to examine the causal directions among these
variables. Lastly, this study extends control research by successfully adapting the SCI for use in pre-adolescent populations.
**Sense of Control**

I am interested in how much control you think you have over your life in general. By control I mean how much influence you have over the events and people in your life. For each sentence, please tick the box that best represents what you think. I am interested in how much control you actually think you have, NOT how much control you think you **should** have.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
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<th>Always</th>
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</thead>
<tbody>
<tr>
<td>1. I am in control of my life.</td>
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<td>2. If I decide to, I can make changes to get more control over my life.</td>
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<td>3. I am able to act assertively to change what I want.</td>
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<td>4. I am able to make decisions about important things in my life.</td>
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<td>5. I am able to set clear goals.</td>
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<td>6. I am aware of my own feelings and recognise how they affect me.</td>
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<td>7. I make enough effort to reach my goals.</td>
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<td>8. I have the skills and abilities to reach my goals.</td>
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<td>9. I have the right amount of self-control.</td>
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<td>10. I lose control of myself.</td>
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<td>11. I lack control over other people.</td>
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<td>12. Others have too much control over me.</td>
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<td>13. I have less control than I used to.</td>
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<td>15. I cannot make important decisions about my life.</td>
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<td>16. I am unable to make changes to get more control over my life.</td>
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<td>17. I lack control of my feelings.</td>
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<td>18. I cannot set clear goals for myself.</td>
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begin in late September 2004, and be completed by December 2004. Data analysis will be conducted between December 2004 and January 2005.

Data analyses will include a variety of methods; firstly, I will test whether children identify with their respective gender roles at increasing rates as adolescence approaches. Secondly, I will test for differences in styles of coping, sense of control, and depression across age and gender (gender role identification) using multivariate analysis of variance. I expect that females (especially who identify with the feminine gender role) will exhibit more depression, less control and more rumination than males, and this gender difference will increase as children approach adolescence. Thirdly, I will test whether parents, and other children perceive female protagonists to have less control, and expect them to ruminate in response to the stressful scenarios compared to male protagonists. Lastly, using structural equation modeling I will conduct path models to assess whether rumination, stress and sense of control have direct effects on depression, and/or if sense of control is a mediating factor in the relationship between rumination and depression.

Results. I anticipate the results of this study will be very informative by demonstrating that a) females ruminate more, are more stressed, and have a lowered sense of control than males b) these differences increase as adolescence approaches and c) these differences have direct and/or indirect effects on depression. Theoretically, if sense of control is found to mediate the relationship between rumination and depression the explanatory power of RST will have been increased by including control theory. Clinically, these results will encourage treatment/preventative programs that reduce rumination and increase sense of control in at risk children. Control therapy may be an appropriate method of increasing sense of control in preadolescents; thus, future research could work towards adapting control therapy to be used with preadolescent populations. Lastly, I hope that the results of this study will inspire other researchers to conduct control related and/or rumination research with this age group to help understand the onset of adolescent depression.

Finances. The money will be used primarily to purchase statistical software to perform structural equation modeling, which will illuminate causal pathways from rumination and/or control to depression. This software will also enable me to perform confirmatory factor analyses to examine conclusively the factor structure of the SCI. Specifically, LISREL 8.5 will be purchased from Scientific Software International (SSI) http://www.ssicentral.com at the cost of US $445, plus US$130 for the LISREL manuals.

The remaining money will be used for recruitment of parents to participate. To encourage parents to participate in this study we will donate US$1.95 (NZD$3) in book vouchers to the library of their child's school for each questionnaire returned. Thus, the remaining US $425 will go towards the costs of book vouchers for school libraries. This remaining money will cover reward costs for 215 parents.
Name: Kirsty Weir

Title: How does gender role, sense of control and coping style affect depression in preadolescence?

Review Date: 10/20/04

Overall Significance/Relevance – After age 13, females report depression at twice the rate of males. However, the reasons for this remain poorly understood. One theory is that females are more likely to engage in ruminative (passively focusing on the causes, consequences and symptoms of their depression) in response to negative affect. This study proposes to test the theory that females ruminate more than males because they experience a reduction in perceived control as they enter adolescence. The applicant hypothesizes that the reduction in perceived control increases the likelihood that females will ruminate in response to stress and as a result experience depression at greater rates than men.

Does Study Test the Multidimensional Aspects of Control Theory & Research – The study will assess control profiles of subjects, examine how control interacts with coping (i.e., rumination), stress, and gender to influence depression. In addition, the study proposes to add to control theory/research by adapting the SCI for use with 9-13 year olds.

Methodology – Subjects will be 500 children (9-13) and their parents. Along with questionnaires assessing control, coping, gender role identification, and depressive symptoms, children (and parents) will also be given pictorial scenarios to assess children’s perceived control in stressful situations. Structural equation modeling will be used to test whether rumination, stress, and control have direct effects on depression, and whether sense of control mediates the relationship between rumination and depression.

Overall Comments/Suggestions –
1. This represents a very creative, well thought through design that holds promise for adding significantly to our understanding of depression and its relationship to coping strategies and control. The only limitation in the current proposal which we would like to see addressed prior to funding is that the way in which the applicant proposes to modify the SCI for use with children is not specified and this needs some clarification since it is quite central to the study’s success.
Modification of the SCI measure for children

This study utilises three scales from the original SCI measure: positive sense of control, negative sense of control and the domains of control scales. To our knowledge this scale has only been tested with individuals aged 13 years and above, yet our sample ranges between 9-13 years old. Thus, we have adapted this scale in a number of ways to make its application to children more suitable. It is important therefore, to highlight that this study should be considered (in part) as a pilot study for adapting these three subscales to be used with children.

Our adaptation involved firstly simplifying the vocabulary and length of the items in all three scales to promote a better understanding of what the questions are tapping into for the children. Some examples include, changing “I make the appropriate amount of effort and have sufficient discipline to reach my goals” to “I make enough effort to reach my goals”; changing “I feel I am losing control in areas where I once had control” to “I have less control than I used to”; and “I have the right degree of self-control” to “I have the right amount of self-control.

With regards to the domains of control scale, we omitted or changed certain domains to more appropriately reflect the lives of children. For example we deleted items such as gambling, relationships with significant other, drug usage and sexuality and included domains such as classmates, homework, problems in my life and how much I weigh. We also reduced the domains down to 15, compared to the 25 in the original SCI.

To examine the psychometric properties of the modified SCI, I will employ a number of methods. Firstly, using Cronbach’s alpha I will test the internal reliability of the positive and negative sense of control scales. To test that the factor structure of the overall sense of control scale falls into two factors (positive and negative) I will employ an exploratory factor analysis. If I am successful at collecting a large sample size (400 or above) I will also perform a confirmatory factor analysis (using LISREL). However, if my sample size is smaller than expected (200-400), I will limit the analysis to the former technique, in which case I can perform a confirmatory factor analysis using the data from my next sample, which will include a similar age range. Lastly, I will assess the predictive validity of the scale by examining whether all three scales predict depressive symptoms using regression analyses.
From: "John Astin" <john@integrativearts.com>
Subject: Re: Control Trust Report
Date: Sun, April 10, 2005 12:45 pm
To: "Kirsty Weir" <weirkirs@student.vuw.ac.nz>
Cc: "Deane H. SHAPIRO" <dhshapir@uci.edu>

Dear Kirsty,

Congratulations on the completion of your fascinating study. You are to be commended. Also, very good news on your upcoming poster presentation at APS. Regarding your question, I will not be there myself.

We are very pleased to have been able to offer some support to you in the conduct of this important work and we look forward to staying abreast of your research in the future.

All the best,
John Astin

> From: "Kirsty Weir" <weirkirs@student.vuw.ac.nz>
> Date: Thu, 7 Apr 2005 10:53:25 +1200
> To: john@integrativearts.com
> Subject: Control Trust Report
> 
> Dear Dr. Astin
> 
> Thank you for your interest in my research. I have carried out the study which was supported by the control trust and am now preparing further projects. I found the SCI to be a very useful measure and hope you are interested in the results. I am planning to use this measure again in further research. I have recently been accepted for a poster session to present my findings from this project at APS later this year, I would love to hear from you if you are attending this conference. Please find attached a short report on my findings. If you have any questions or feedback please feel free to contact me anytime.
> 
> Kind regards
> 
> Kirsty Weir
> 
> Visit the student portal @ http://www.studentvuw.vuw.ac.nz

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