Blood-Injection-Injury Phobia in Children and Adolescents

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ABSTRACT

Blood-Injection-Injury (BII) phobia is a complex and debilitating condition that is associated with excessive fear and avoidance of seeing blood or injuries, receiving injections or invasive medical procedures (American Psychiatric Association (APA), 2013). It effects 3 to 4% of adults and 0.8 to 1% of children and adolescents, and can lead to serious health consequences as sufferers may avoid seeking assistance from health professionals or receiving medical treatments for diagnosed illnesses (Depla, ten Have, van Balkom, & Graaf, 2008; Essau, Conradt, & Petermann, 2000; Öst & Hellström, 1997). BII phobia has largely been neglected in the child and adolescent literature. To date the majority of the research relating to this disorder has been conducted with adults. From the adult literature it is evident that BII phobia has a complex clinical presentation that is characterised by a unique physiological (e.g., fainting) and emotional (e.g., disgust) response. Behavioural and cognitive behavioural therapies (CBT) have received the strongest empirical support for the treatment of adult BII phobia. The efficacy of CBT approaches with children and adolescents however is less clear, as these youth have been excluded from a number of the large randomised controlled trials (RCT) for childhood specific phobia (Ollendick et al., 2015; Ollendick et al., 2009), owing to their unique physiological response (e.g., fainting), difficulties associated with the delivery of treatment (e.g., the involvement of medical professionals) and their arguably poorer treatment response (Öst, Svensson, Hellstrom, & Lindwall, 2001).

This thesis consists of a series of four studies, which have been submitted for publication, and were designed to address the significant gap in the child phobia literature, thereby advancing our knowledge in relation to the clinical characteristics, assessment and treatment of BII phobia in youth. Based upon existing etiological pathways for child specific phobia and adult BII phobia, Study 1 proposed a cognitive behavioural model to guide case-formulation driven
approaches for the treatment for BII phobia in youth. Two children with a primary diagnosis of BII phobia (aged 8 years and 11 years) were involved in the study. The first child received a standard intensive CBT session known as a one session treatment (OST; Öst, 1989), while the second child received an individualised, case-formulation driven OST. The cases highlighted the unique challenges associated with treating BII in youth and the need for a modified approach. Modifications to standard OST included addressing the role of pain (e.g., psychoeducation, more graduated exposure steps), disgust (e.g., disgust eliciting exposure tasks), and fainting in the maintenance of children’s phobia. Moreover, it was recommended that parents be actively involved throughout treatment (e.g., education session prior to OST, contingency management training, guidance regarding planning exposure tasks following treatment) and for families to participate in a structured e-therapy maintenance program post treatment in order to maintain progress.

Study 2 extended upon Study 1 by systematically examining whether BII phobia (n = 27; 7-18 years) in youth presents with distinct psychological characteristics relative to youth with animal phobia (n = 25). The purpose of this study was to examine symptoms and maintaining mechanisms highlighted in the proposed cognitive behavioural model described in Study 1. Youth with BII phobia were found to have greater diagnostic severity and to experience greater impairment in their family, school and social life in comparison to those with animal phobia. Moreover, youth with BII phobia were also more likely to have a comorbid diagnosis of generalised anxiety disorder or a physical health condition. BII phobic youth also reported more exaggerated danger expectancies and tended to focus their fear on physical symptoms relative to youth with animal phobia.

The third study evaluated the effectiveness of the modified OST and e-therapy maintenance program (developed in Study 2) using a multiple baseline, controlled design. Twenty-four
children and adolescents (8-18 years) with a primary diagnosis of BII phobia were randomly assigned to a 1, 2 or 3 week baseline. BII symptoms were found to remain relatively stable during the baseline period; however, significantly improved following the OST with changes evidenced across multiple measures (e.g., child, parent and clinician). At post treatment, 33.33% of youth were BII diagnosis free. Treatment gains continued to improve across follow-up, with 58.33% of youth diagnosis free at 1-month follow-up and 62.5% by 3-month follow-up.

Finally, Study 4 examined patterns of response and remission following the modified OST for BII phobia in youth. Youth who participated in Study 3 were categorised into four responder groups (e.g., immediate responder/remitter, delayed responder/remitter, partial responder and non-responder) based upon defined criteria for remission. Characteristics of the different responder groups were examined to identify correlates of poorer response. Notably those in the immediate responders/remitter group were more likely to have a primary diagnosis of injection phobia, as opposed to a combined blood and injection phobia. Youth in the non-responder group reported significantly greater disgust sensitivity at baseline and were more likely to have a comorbid diagnosis of social phobia. Children and adolescents who were able to have a blood test during treatment were more likely to be in the immediate and delayed responder/remitters groups.

In summary, this thesis makes an important and valuable contribution to our knowledge and understanding of the clinical phenomenology, assessment and treatment of BII phobia in youth. Taken together these studies suggest that BII phobia in children and teenagers is a complex and debilitating disorder that requires an individualised and formulation driven approach to treatment. The studies provide preliminary evidence for the effectiveness of a modified OST including e-therapy maintenance program for children and adolescents.
DECLARATION OF ORIGINALITY

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

_____________________

Ella Lindsey Oar

June 12th 2015
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<td>ANOVA</td>
<td>Analysis of Variance</td>
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<td>APA</td>
<td>American Psychiatric Association</td>
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<td>BAT</td>
<td>Behavioural Approach/ Avoidance Task</td>
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<td>BII</td>
<td>Blood-Injection-Injury</td>
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<td>BISS</td>
<td>Blood-Injection Symptom Scale</td>
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<td>CAMS</td>
<td>Child/Adolescent Anxiety Multimodal Study</td>
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<td>Child Anxiety Sensitivity Index</td>
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RP  Reinforced Practice
SAD  Separation Anxiety Disorder
SCAS-C  Spence Children’s Anxiety Scale - Child Version
SCAS-P  Spence Children’s Anxiety Scale - Parent Version
SD  Systematic Desensitization
SMFQ-C  Short Mood and Feelings Questionnaire - Child Version
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Included in this thesis is a book chapter and papers (published or under review) in Chapters 1, 4, 5, 6 and 7, which were co-authored with other researchers. My contribution to each co-authored paper is outlined at the front of the relevant chapter. The bibliographic details for the book chapter and papers including all authors are as follows -

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Chapter 4

Chapter 5
Chapter 6


Chapter 7


Dr Ella Oar  12/06/15  Dr Lara Farrell  12/06/15

Dr Allison Waters  11/06/15  Dr Elizabeth Conlon  12/06/15

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