The psychometric properties of the ‘Difficulties in Emotional Regulation Scale’ in people with schizophrenia and individuals with co-existing depression and substance use disorders

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STATEMENT OF ORIGINALITY

The thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to the final version of my thesis being made available worldwide when deposited in the University’s Digital Repository**, subject to the provisions of the Copyright Act 1968.

I hereby certify that the work embodied in this thesis is the result of original research

Signed ______________________________________________

Marianne Ayre

Date ________________________________________________
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THESIS OVERVIEW

Difficulties in emotional regulation are considered a core component in over half of the DSM-IV Axis I disorders, and all of the Axis II disorders (Linehan, 1993; Gross & Levenson, 1997; Briere & Gill, 1998; Gratz, 2003). Despite this there are few instruments that measure difficulties in emotional regulation. This has meant that many clinicians have had to use multiple measures that contain closely-related constructs in an attempt to capture the degree of difficulties in emotional regulation experienced by an individual.

One measure that reported sound reliability and validity is the ‘Difficulties in Emotional Regulation Scale’ (DERS) (Gratz & Roemer, 2004). Since the publication of the DERS, numerous studies have included the measure in research. However the majority of these studies have tended to employ student populations, or report on a small sample size. The few studies that have reported on the psychometric properties of the DERS have indicated problems with one or more of the subscales (Tull & Roemer, 2007; Weinberg & Klonsky, 2009; Bardeen, Fergus, & Orcutt, 2012). This indicates that a re-examination of the psychometric properties of the DERS is needed. It is generally recommended that a re-assessment of the psychometric properties of an existing measure be conducted in different samples under different circumstances and across cultures, to ensure that the measure maintains its robustness and generalisability (Floyd & Widaman, 1995; Haynes, Richard, & Kubany, 1995).

This thesis re-examined the psychometric properties of the DERS within three chapters (Chapters 3 to 5). It aimed to address two of the major limitations reported in the development of the DERS previously, namely, the use of a student sample and, secondly the retest on a small sample size (Gratz et al., 2004). To address these issues this thesis included clinical samples, and second, recruited a large sample for the test-retest reliability. Chapter 1 provided an overview of the literature, whilst Chapter 2 reports the DERS scores across five samples; a community or control sample (CS, n=198), a university student sample (n=264), and two clinical samples, one with a diagnosis of schizophrenia (n=129) and the second with a co-existing diagnosis of depression and substance abuse (n=231). The fifth sample was formed by combining the data from the CS, and the clinical groups (n=558). The rationale for combining the
samples was to reflect a sample that is representative of the general population and enabled this study to determine the most appropriate composition of the DERS subscales. An analysis of the total DERS mean scores revealed that the mean in the clinical samples was significantly higher than that of either the CS in this study and the mean score in the university sample reported by Gratz and Roemer (2004). This difference in mean scores indicated that the DERS might be able to detect differences between clinical and community samples and this was examined in Chapter 3.

In study one t-tests were used to compare the DERS total mean score of the CS (n=167) with total mean scores published in other studies, to determine if data from the CS reflected a different population group. Results indicated a statistically significant difference between all the published mean scores and that of the CS, with the CS sample reporting fewer difficulties in emotional regulation. A test of internal consistency of the DERS found the DERS to have high internal reliability and test-retest reliability indicated a minimal degree of change between scores from time one (α=.94) to time two (α=.96). Factor analysis was examined using a diverse sample (n=557) but contrary to expectations, the analysis did not replicate the original six factors of the DERS reported in literature previously. Rather, a principal component analysis with an oblimin rotation found a four factor solution was optimal. Item redundancy was explored and a shortened version of the DERS (DERS-Revised; DERS-R) to be used in an Australian population, was suggested.

A comparison of the DERS-R with existing instruments that are known to reflect a relationship with the construct of the DERS-R will provide further evidence of the validation of the instrument. Chapter 4 examined the construct validity of the DERS-R in two samples. The first sample consisted of clinical and non-clinical participants (n=260) and the second sample consist of university students (n=264). T-tests indicated a significant difference between the samples’ mean scores, with the university students reporting greater difficulties in emotional regulation compared to those individuals in the combined sample. To provide evidence for the construct validity of the DERS-R it was expected that the two samples, would report scores on the additional instruments in the same direction.
The Kessler 10 (K10) (Kessler et al., 2002) is a scale of psychological distress, depression and anxiety. It is expected to positively relate to high scores on the DERS-R. Correlations were conducted and both samples revealed a positive correlation in the expected direction between the DERS-R and K10 scores, indicating individuals who experienced greater difficulties in emotional regulation also experienced greater psychological distress. Further examination of the final four factors in both samples showed a statistically significant moderate to high correlation on all four factors of the DERS-R in the expected direction, and all four factors had statistically significant low to moderate correlations with each other in the expected direction.

The ‘Social Problem Solving Inventory-Revised’ (SPSI-R) (D’Zurilla, Nezu, & Maydeu-Olivares, 1998) was also administered to the combined population to further examine construct validity. SPSI-R reflects difficulties in problem solving in everyday life situations. Problem solving is viewed as an important coping strategy and has been linked with the levels of personal stress or distress a person is experiencing. The scale has two orientations: ‘positive’ and ‘negative’, with negative problem solving linked with greater distress. This study hypothesised that a negative relationship would exist between the SPSI-R ‘positive orientation’ and psychological distress, as measured by K10, and that the DERS-R would be able to reflect this. As predicted, correlation analysis revealed a significant moderate negative relationship between the DERS-R score and ‘positive orientation’ indicating that poor problem solving was associated with greater difficulties in emotional regulation. Analysis also detected a significant and strong relationship between SPSI-R ‘negative orientation’ and the DERS-R indicated that greater difficulty in emotional regulation was associated with greater inhibitive cognitive-emotional style, providing further evidence of construct validity.

The student sample was also administered the ‘Big 5 Personality Traits Scale’ (Goldberg, 1992). On this scale, the trait referred to as ‘neuroticism’ reflects an individual’s tendency to worry, feel insecure, feel nervous and be highly strung. It was hypothesised that someone who experienced greater difficulties in emotional regulation (reflected in the DERS-R) would score high on the ‘neuroticism’ trait. Analysis confirmed this hypothesis, with a significant high positive relationship on the
neuroticism trait associated with high scores on the DERS-R. The results presented in Chapter 4 provided evidence that the DERS-R has sound construct validity.

Chapter 5 examined whether the DERS-R will be effective in a clinical setting. To do this was necessary to determine if the instrument can detect change, post receiving an intervention. To examine this, a clinical sample who were diagnosed with coexisting depression and alcohol abuse (CDSA, n=103) were recruited, and administered the DERS-R and the Beck Depression Inventory-II (BDI-II) at baseline, 3, 6, and 12 month follow-up. Participants received a 12 week intervention that was designed to reduce alcohol consumption as opposed to specifically focussing on reducing difficulties in emotional regulation. Positive correlations between the DERS-R and the BDI-II were found at each time-period indicating that as individuals experienced greater difficulties in emotional regulation, they also reported greater depression scores.

A random effects model examined the association between BDI-II scores and DERS-R scores at each time period and indicated a significant high association suggesting that each one unit increase in the BDI-II is associated with a 0.89 unit increase in the DERS-R. Finally an examination of the association between the DERS-R and alcohol at each time period revealed a highly significant association, with each one unit increase in alcohol associated with an increase in the DERS-R. This is further evidence of convergent validity. Most importantly, it suggests the DERS-R is able to detect change that occurred as a result of treatment, making it a reliable and effective instrument to use in a clinical population.

The findings from this research have important implications for the measurement of emotional regulation in both the clinical treatment and research setting. The DERS-R was shown to have sound psychometric properties when used in an Australian population. Two major strengths in the DERS-R are that it is slightly briefer that the original DERS, with the DER-R having 29 items compared to the original 36 items. This makes the DERS-R slightly more attractive to clinicians who are required to score the data, and to the clients who are required to complete it, due to a reduction in the time required. Second, the DER-R ability to detect change over-time and post-intervention indicates that it can also be used as an outcome measure.