Psychology International Conference (PSYCIC)

Available online at: **www.sicash.sliit.lk**

Translation and Psychometric Evaluation of the Difficulties in Emotion Regulation Scale-Short Form among Sri Lankans

Sakuni Amanda Weerasinghe[1]*, Yong Goh[1], Zahra Izadikah[1], Grace Wang[1,2], Michael J. Ireland[1,2]

[1]*School of Psychology and Wellbeing, University of Southern Queensland, Queensland, 4305, Australia*
[2]*Centre for Health Research, University of Southern Queensland, Queensland, 4300, Australia*

Corresponding author*: sakuni.weerasinghe@unisq.edu.au

Abstract

The Difficulties in Emotion Regulation Scale-Short Form (DERS-SF) is a widely used measure to assess six areas of difficulties in emotion regulation. However, the psychometric properties of the scale have not been evaluated in the Sri Lankan population. This study aimed to evaluate the psychometric properties, specifically the reliability and factor structure of the scale, to establish relevance to Sinhalese speaking Sri Lankans. Following the translation, data was gathered online from a convenience sample of 101 participants. The DERS-SF showed excellent reliability (Cronbach's α = .93; Omega Total ω_T = .93). A confirmatory factor analysis revealed that a five-factor structure excluding the awareness subscale had better fit indices, reflecting cultural differences in how emotion regulation difficulties are conceptualised. This structure appeared more suitable for use in future research and screening for emotion regulation difficulties in the Sri Lankan population. Additionally, high scores of the DERS-SF, particularly among the younger participants compared to the older participants, underscored the need for programs to teach strategies of emotion regulation.

Keywords: Emotion regulation, difficulties in emotion, regulation scale, DERS-SF, psychometrics

Introduction

Adaptive regulation of emotions involves, a) an awareness and understanding of emotions, b) acceptance of emotions, c) ability to control impulses and behave according to selected goals despite a negative emotional experience(s), and d) ability to flexibly use context-appropriate emotion regulation strategies (Gratz & Roemer, 2004). Difficulties in adaptive emotion regulation is recognised as a transdiagnostic marker of psychopathology, including depression (Visted et al., 2018), and anxiety (Cisler & Olatunji, 2012). Interventions targeting emotion regulation, such as specific affect regulation training that have small beneficial effects on reducing negative affect and improving wellbeing in patients with depression, further support its link to clinical conditions (Garke et al., 2025). These findings underscore the need for comprehensive tools to assess difficulties in emotion regulation. This will enable, a) identification of individuals at risk of psychological conditions and b) early, targeted interventions to improve emotion regulation skills.

The Difficulties in Emotion Regulation Scale-Short Form (DERS-SF; Kaufman et al., 2016) is a brief version of the 36-item Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004). The

https://doi.org/10.54389/BGSL3828

DERS-SF as an 18-item self-report measure evaluates difficulties across six areas: non-acceptance of emotional responses (Non-Acceptance), difficulties engaging in goal-directed behaviour (Goals), impulse control difficulties (Impulse), lack of emotional awareness (Awareness), limited access to emotion regulation strategies (Strategies), and lack of emotional clarity (Clarity). Its items are rated on five-point Likert scale from 1 (almost never) to 5 (almost always), with scores ranging from 18 - 90 and higher scores reflecting greater difficulties. The scale has good psychometric properties, with Cronbach's alpha coefficients for the subscales ranging from .78 to .91 in adolescent and adult populations (Kaufman et al., 2016). Additionally, the DERS and DERS-SF total and subscale scores shared 83-96% and 81-94% of variance in the adolescent and adult population respectively. The near-identical results compared to the full version despite a 50% reduction in the number of items supports DERS-SF as a suitable alternative for measurement of emotion dysregulation.

The DERS-SF has been translated and validated for several populations including Spanish (Carrascal et al., 2021), Portuguese (Gouveia et al., 2022), and Indonesian (Danasasmita et al., 2024). Cronbach's alpha indicated good internal consistency for the full scale (0.83 to 0.90). However, concerns about the awareness subscale have been highlighted across several studies (Carrascal et al., 2021; Danasasmita et al., 2021). A five-factor structure excluding the awareness subscale has been supported in an Indonesian sample, suggesting a cultural difference in the way emotional awareness is perceived (Danasasmita et al., 2024). In Sri Lanka, the experience and expression of emotions, usually negatively valenced, are restricted and often suppressed (Dissanayake et al., 2020). For instance, it is considered inappropriate to experience and express anger. Given these cultural norms, it is useful to translate and adapt the DERS-SF to the Sri Lankan context, to examine the extent to which cultural differences affect the expression and measurement of emotion regulation difficulties.

In Sri Lanka, the need for reliable and culturally relevant assessment tools that can facilitate early detection and intervention of psychological conditions is particularly urgent. A recent meta-analysis reported a 19.4% prevalence of depression, with the highest rates observed in young persons (Alwis et al., 2024), while the World Health Organisation (WHO, 2024) reports a steadily rising suicide mortality rate from 12.4 in 2020 to 14.7 in 2021, reflecting an escalating crisis. Despite this, there remains no validated tools to assess difficulties in emotion regulation in the Sinhalese language. This is a considerable barrier to effectively identify individuals at risk to provide targeted treatment. Therefore, this study aims to translate and culturally adapt the Difficulties in Emotion Regulation Scale-Short Form (DERS-SF), and to evaluate its psychometric properties, with particular attention to the performance of the Awareness subscale.

Methods

Translation process

The guidelines presented by Douglas and Craig (2007) were followed for the translation of the DERS-SF into Sinhalese. In place of back translation, a collaborative and iterative alternative, which includes: 1) Parallel translation, 2) Review meeting, 3) Pretesting, and 4) Refining the translation was used. First, two independent translators translated the DERS-SF into Sinhalese language, ensuring both linguistic and conceptual equivalence. Next, an expert panel consisting of two registered clinical psychologists in Sri Lanka reviewed both versions, and the version that was pre-tested was finalized in a review meeting with an independent reviewer, a registered clinical psychologist. Next, five items that received poor responses and deemed obscure were reviewed by the first author and an independent academic reviewer, who is a senior lecturer, to form the final iteration of the DERS-SF which underwent the validation described in this paper.

Procedure

Ethical approval was obtained from the Human Research Ethics Committee of the University of Southern Queensland to conduct the study. A minimum sample of 90, based on the recommended 5:1 respondent-to-item ratio, was sought using convenience sampling. Sri Lankan participants who are proficient in the Sinhalese language, with access to the internet were recruited online using flyers shared on social media. Data collection was completed through the university's online survey tool. Consenting participants were required to submit their responses to a survey that included a 14-item sociodemographic questionnaire assessing age, gender, ethnicity, marital status, and educational status among other variables and the translated DERS-SF.

Data analysis

Descriptive data analysis was completed using SPSS Version 28, and reliability and factor analysis was completed using R Studio (Version 4.4.3), with psych, Lavaan, and semPlot packages. Total DERS-SF scores were obtained after reverse scoring items of the Awareness subscale and summing up all subscale scores. Additionally, separate subscale scores were computed by summing up their respective items. Expectation-Maximisation was used to impute missing data. Due to deviations from normality across all DERS-SF items, Kruskal-Wallis tests were conducted to compare differences in the total and subscale DERS-SF scores across age groups.

Internal consistency of the instrument was evaluated using Cronbach's alpha and McDonald's Omega Total values for the total and subscales of DERS-SF. Confirmatory factor analyses (CFA) were conducted on two factor structures: 1) correlated six-factor model and 2) correlated five-factor model after removal of the 'Awareness' subscale. Model fit was assessed using multiple indices: the Comparative fit index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardised Root Mean Square Residual (SRMR).

Results

Descriptive statistics of the study sample

The sample consisted of 101 participants. A majority (45.5%; N = 46) of the participants were between the ages 26 and 35. Only seven participants (6.9%) were aged 55 years and above. Females represented 63.4% (N = 64) of the sample, whereas 36.6% (N = 37) were males. Ninety five percent (N = 96) participants were of Sinhalese ethnicity, whereas four percent (N = 4) participants were Tamil or Muslim in ethnicity. Majority of the sample (49.5%; N = 50) were married whereas 44.6% (N = 45) of the sample were unmarried. Forty participants (39.6%) hold a bachelor's degree, followed by 19 participants (18.8%) who have completed their Advanced Levels (Year 12 certification). Fifty-three participants (52.5%) were engaged in a full-time job, whereas nineteen (18.8%) participants were students. Ninety-eight (97%) participants were daily users of the internet.

Descriptive statistics of the DERS-SF and its subscales

The total DERS-SF mean score was 43.24 (*SD* = 13.82). Significant and moderate differences across age groups (18-25, 26-35, 36-45, 46-55, and 55 & above) were observed in the total DERS-SF score and three of the six subscales, as presented in Table 1. Post hoc comparisons using Dunn's method with the Bonferroni correction revealed significant differences between the 18-25 and 46 -55 age group across the total DERS-SF (*Mdn* = 53.18 vs 34.00, $p = .015$) and two subscales: limited strategies (*Mdn* = 8.50 vs 5.00, $p = .010$), and goal-directed behaviour difficulties (*Mdn* = 12.00 vs 6.00, $p = .003$). The 18-25 age group (*Mdn* = 12.00) also had significantly greater difficulty engaging in goal-directed behaviour

compared to the 36-45 age group (*Mdn* = 7.00, *p* = .042). Despite significant omnibus test results for impulse control difficulties, no pairwise comparisons reached significance after correction (*p* = .056).

Table 1: Kruskal-Wallis test results for age group differences in emotion regulation difficulties

Total/ Subscale of DERS-SF	H (4)	p	η^2	Effect size
Overall emotion regulation difficulties	13.52	.009**	.10	Moderate
Limited access to strategies	11.88	.018*	.08	Moderate
Impulse control difficulties	9.97	.043*	.06	Small
Goal-directed behaviour difficulties	18.00	.001**	.15	Strong
Non-acceptance of emotions	8.10	.088	-	-
Lack of emotional awareness	2.28	.684	-	-
Lack of emotional clarity	5.48	.242	-	-

Note: p< .05, p< .01***

Reliability

The DERS-SF had excellent internal consistency (α = .93; ω_T = .93). The subscales, impulse (α = .90; ω_T = .90) and goals (α = .90; ω_T = .91) had excellent internal consistency, whereas the subscales of strategies (α = .79; ω_T = .79), non-acceptance (α = .75; ω_T = .79), awareness (α = .77; ω_T = .78) and clarity (α = .70; ω_T = .75) had acceptable internal consistency.

Model fit

The CFA conducted with the correlated six-factor model demonstrated adequate fit to the data χ^2 (120) = 215.28, *p* < .001, *CFI* = .910, *TLI*= .885, *RMSEA* = .089 (90% *CI* [0.070, 0.107]), *SRMR* = .077. The five-factor model demonstrated a similar fit, χ^2 (80) = 153.503, *p* < .001, *CFI* = .921, *TLI*= .897, *RMSEA* = .095 (90% *CI* [0.073, 0.117]), *SRMR* = .074. The Path Diagram for the Five-Factor Model is presented in Figure 1.

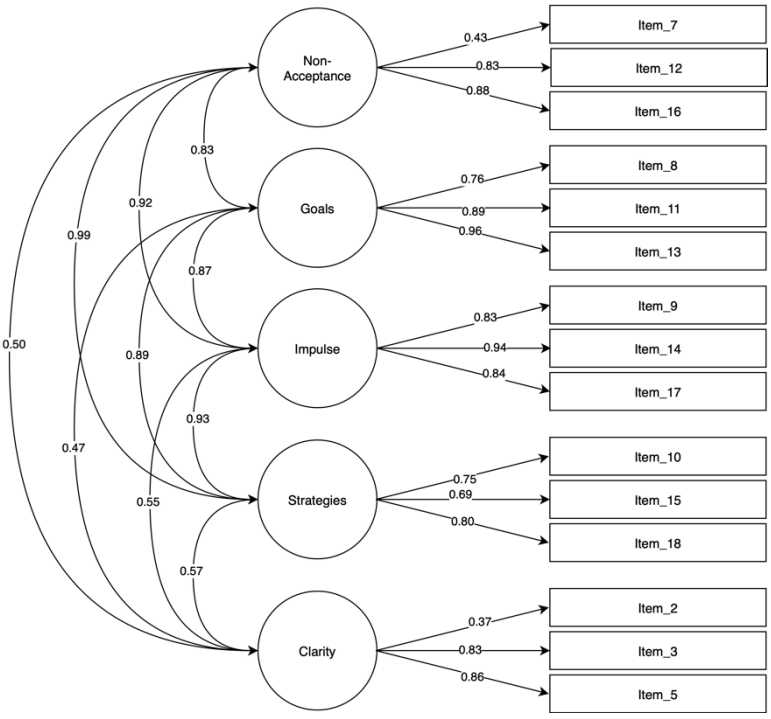

Figure 1: Path diagram for the five-factor model

A scaled chi-square difference test indicated that the five-factor model fit significantly better than the six-factor model, $\triangle\chi^2$ (40) = 61.826, p = .015. While only slight improvements were observed in the fit indices, the five-factor model demonstrated a better fit and presents a more parsimonious representation of the data.

Discussion

The present study aimed to translate the DERS-SF into Sinhalese language and evaluate its psychometric properties among a general Sinhalese population. The findings indicate that the mean score of the total DERS-SF scale among the participants was 43.24. This score is lower than the reported mean of 49.23 of the Indonesian sample (Danasasmita et al., 2024), but higher than the reported mean of 38.59 in a Portuguese sample (Gouveia et al., 2022), and 21.76 of a Norwegian sample (Visted et al., 2023). The high scores seen in the present sample may reflect poorer mental health states relating to the sustained effects of the country's socio-economic instability (Alwis et al., 2023).

The patterns of difficulties with emotion regulation can also be understood by looking at the significant differences of overall DERS-SF and subscale across age groups. The younger age group (18-25 years) appeared to struggle greatly with overall emotion regulation, limited strategies for regulation, and difficulty engaging in goal-directed behaviour compared to the older age group (46-55 years). This finding is consistent with available literature that shows no differences in younger and older adults in acceptance and awareness of emotions, but greater emotion regulation difficulties in younger participants (Orgeta, 2009). Additionally, cultural influences such as restricted expression and emotional suppression (Dissanayake et al., 2020), which suggests that there's little that can be done to regulate emotions when upset, can explain these high scores. In the absence of strategies to regulate emotions, continued emotional suppression can increase vulnerability to impulsive behaviours, potentially explaining the high rates of suicide in this population (WHO, 2024). Therefore, focused efforts are needed to teach emotion regulation strategies to enable access to a wider range of coping tools.

The findings indicate excellent internal consistency of the total DERS-SF scale, which is consistent with other studies (Carrascal et al., 2021; Danasasmita et al., 2024). Consistent with certain previous findings (Gouveia et al., 2022), the current study indicates acceptable reliability of the awareness scale, which can perhaps be explained by cultural factors. Majority of the sample (95%) were Sinhalese, likely practising Buddhism, a religious philosophy that promotes introspection (Keerthirathne, 2016). These norms might have influenced the sample to respond more consistently to the awareness subscale items. Its inability to reach the threshold of excellence is likely due to method effects like measurement issues arising from reverse-scored items (Weijters & Baumgartner, 2012). Future research can explore whether refining the items on the translated subscale could further improve its reliability and fit within the framework of emotion dysregulation.

Two models were tested through the CFA, the original six factor model and the five-factor model excluding the awareness subscale. Consistent with previous findings from a non-Western sample (Danasasmita et al., 2024), the five-factor model had a better fit with improved CFI. In cultures prioritising introspection where emotional awareness is a skill on its own, it may not be viewed in relation to emotion regulation difficulties. Therefore, the inclusion of the awareness subscale may contest a valued capacity, limiting the cross-cultural validity of the subscale. Hence, future researchers can specifically explore emotional awareness as a distinct construct in this population.

A key strength of this study is its use of rigorous psychometric analyses to offer a translation of a tool for reliable identification and treatment of individuals with emotional dysregulation concerns. Moreover, it offers a varied conceptualisaton of emotion dysregulation grounded in the Sri Lankan cultural context and presents an age-stratified analysis that highlights the need to teach emotion regulation strategies to Sri Lankan youth. However, several limitations impact the interpretation of findings, such as the sample comprising of internet-users as the data collection was done online, and

the small sample size limiting the stability of the analysis models. Despite the findings aligning with other studies, replication in larger and more representative samples of Sri Lankans are necessary to confirm the robustness of the five-factor structure.

Conclusion

The present study involved a translation of the DERS-SF to Sinhalese and a psychometric evaluation of its reliability and validity. The overall DERS-SF has excellent reliability and a five-factor model excluding the awareness subscale has been supported by the data. The findings indicated the need for improved access to emotion regulation strategies, particularly for the youth. The study findings confirm the utility of the Sinhalese DERS-SF to identify individuals experiencing difficulties in emotion regulation to provide targeted intervention.

Acknowledgments

We thank Dr. Kanthi Hettigoda, Ms. Achini Karunarathna, Ms. Thilakshi Fernando, Ms. Nathalia Fernando, and Ms. Kasuni Moragolla for their support in developing the Sinhalese DERS-SF.

References

Alwis, I., Baminiwatta, A., & Chandradasa, M. (2024). Prevalence and associated factors of depression in Sri Lanka: a systematic review and meta-analysis. *Social psychiatry and psychiatric epidemiology, 59*(2), 353–373. https://doi.org/10.1007/s00127-023-02495-z

Carrascal, O.N., Restrepo-Ochoa, D. A., Rommel, D., Ghalaret, J. & Fleury-Bahi, G. (2021). Validation of a brief version of the Difficulties in Emotion Regulation Scale with a Spanish speaking population (DERS-S SF). *CES Psicología, 14* (2), 71-88. https://doi.org/10.21615/cesp.5360

Cisler, J. M., & Olatunji, B. O. (2012). Emotion regulation and anxiety disorders. *Current psychiatry reports, 14*(3), 182–187. https://doi.org/10.1007/s11920-012-0262-2

Danasasmita, F. S., Pandia, V., Fitriana, E., Afriandi, I., Purba, F. D., Ichsan, A., Pradana, K., Santoso, A. H. S., Mardhiyah, F. S., & Engellia, R. (2024). Validity and reliability of the Difficulties in Emotion Regulation Scale Short Form in Indonesian non-clinical population. *Frontiers in psychiatry*, *15*, 1380354. https://doi.org/10.3389/fpsyt.2024.1380354

Dissanayake, M.P., Halberstadt, A.G., and Kalat, J. W. (2020). Emotional Experiences and Expressions of Individuals in the Sri Lankan Context: The Roles of Gender, Culture and Religion. *Open University of Sri Lanka Journal, 15*(1), https://doi.org/10.4038/ouslj.v15i1.7455

Douglas, S. P., & Craig, C. S. (2007). Collaborative and Iterative Translation: An Alternative Approach to Back Translation. *Journal of International Marketing*, *15*(1), 30-43. https://doi.org/10.1509/jimk.15.1.030

Garke, M. Å., Hentati Isacsson, N., Kolbeinsson, Ö., Hesser, H., & Månsson, K. N. T. (2025). Improvements in emotion regulation during cognitive behavior therapy predict subsequent social anxiety reductions. *Cognitive behaviour therapy*, *54*(1), 78–95. https://doi.org/10.1080/16506073.2024.2373784

Gouveia, P., Ramos, C., Brito, J., Almeida, T. C., & Cardoso, J. (2022). The Difficulties in Emotion Regulation Scale - Short Form (DERS-SF): psychometric properties and invariance between genders. *Psicologia, reflexao e critica : revista semestral do Departamento de Psicologia da UFRGS*, *35*(1), 11. https://doi.org/10.1186/s41155-022-00214-2

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in

emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment, 26*(1), 41–54. https://doi.org/10.1023/B:JOBA.0000007455.08539.94

Keerthirathne, W. K. D. (2016). An analytical study of "introspection" in Buddhist and western psychology. *International Journal of Humanities and Social Science Innovation*, *5*(5), 43-47.

Kaufman, E. A., Xia, M., Fosco, G., Yaptangco, M., Skidmore, C. R., & Crowell, S. E. (2016). The Difficulties in Emotion Regulation Scale Short Form (DERS-SF): Validation and replication in adolescent and adult samples. *Journal of Psychopathology and Behavioral Assessment, 38*(3), 443–455. https://doi.org/10.1007/s10862-015-9529-3

Orgeta V. (2009). Specificity of age differences in emotion regulation. *Aging & mental health*, *13*(6), 818–826. https://doi.org/10.1080/13607860902989661

Visted, E., Vøllestad, J., Nielsen, M. B., & Schanche, E. (2018). Emotion Regulation in Current and Remitted Depression: A Systematic Review and Meta-Analysis. *Frontiers in psychology, 9*, 756. https://doi.org/10.3389/fpsyg.2018.00756

Weijters, B, & Baumgartner, H. (2012) Misresponse to reversed and negated items in surveys: A review. *Journal of Marketing Research*, 49(5), 737–47. https://doi.org/10.1509/jmr.11.0368

World Health Organisation (2024*). Suicide Mortality Rate (per 100 000 population).* https://data.who.int/indicators/i/F08B4FD/16BBF41