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Last updated: December 31st, 2024

Research Summary – Appraisals of Disability: Primary and Secondary Scale (ADAPSS) – Self Care and Daily Living

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
Russell et al. 2021 Retrospective study using ROC analyses and odds ratios to identify the clinical utility of the ADAPSS-sf. In addition, blocked hierarchical regression explored the ADAPSS-sf predictive characteristics for satisfaction with life beyond measures of emotional distress	Study participants were categorized into either "healthy adjustment" (n = 53) or "poor adjustment" (n = 37). **Healthy adjustment:** N = 53 Mean (SD) age 55.4 (13.3) years 50M, 3F Injury characteristics: Tetraplegia (AIS A, B, C) (n = 14), paraplegia (AIS A, B, C) (n = 25), AIS D (n = 14) Traumatic injury: Yes (n = 45), no (n = 8) **Poor adjustment:** N = 37 Mean (SD) age 55.7 (12.9) years 36M, 1F Injury characteristics:			The ADAPSS-sf is effective in identification of poor psychological adjustment, P < .001. Diagnostic odds ratios and ADAPSS-sf cut scores were selected to prioritize sensitivity (7.17, ≤ 11), specificity (68.25, ≥ 22), or a balance of the two (16.32, ≤ 19). Hierarchical regression indicated the ADAPSS-sf accounted for unique variance in life satisfaction beyond measures of emotional distress, (ΔR^2 = .20, β = -

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Veteran's Health Administration SCI Center in the Southwest continental United States	Tetraplegia (AIS A, B, C) (n = 2), paraplegia (AIS A, B, C) (n = 9), AIS D (n = 26) Traumatic injury: Yes (n = 28), no (n = 9)			.66, $t(89) = 6.54$, P < .001).
Deane et al. 2020 Telephone interview, longitudinal study	N=115 Age: 18 years or younger at time of SCI, initially interviewed at age 19 or older, and followed annually		ADAPSS-sf demonstrates strong test–retest reliability and internal consistency Correlations were positive, significant, and strong for Items 1, 2, 4, and 6 ($r = 0.55$–0.80, $p < 0.01$), positive, significant, and moderate for Item 3 ($r = 0.33$, $p = 0.02$), and only trending significance for Item 5 ($r = 0.33$, $p = 0.07$)	
Byra et al. 2020	N = 163 adults with SCI 100M, 63F	All subscales of appraisals of disability were negatively		

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cross-sectional study Community-dwelling people with T-SCI in Poland	Mean (SD) age: 39.6 (9.38) years Injury level: C1-C4 nonambulatory (n = 26), C5-C8 nonambulatory (n = 104), non-cervical, nonambulatory (n = 33). Mean (SD) time since injury: 12.05 (4.22)	associated with all the subscales of acceptance of disability (Multidimensional Acceptance of Loss Scale) and Forgiveness (Heartland Forgiveness Scale, HFS): r = -0.244 to -0.647; p < 0.01		
McDonald et al. 2018 Retrospective study	262 Veterans seen at a VA medical center for their annual SCI evaluations during 2011-2013 Age: median 59 years Male: 96% Traumatic SCI: 71% AIS D: 51% Paraplegia: 43% Low tetraplegia (C5-C8): 32% High tetraplegia (C1-C4): 25%	Concurrent validity was supported by the finding that the ADAPSS-sf was strongly correlated with measures of depression and life satisfaction	Internal consistency of ADAPSS-sf as measured by Cronbach's alpha was adequate (alpha = .73; N = 256). Correlations were positive, moderate in strength, and significant for items 1, 2, 4, and 6 (r = .41 to .66, p < .01), but were non-significant for items	**Mean (SD) scores:** • Full sample: ○ Total score: 16.32 ○ Catastrophic Negativity score: 9.14 ○ Determined Resilience score: 7.15 • White/Caucasian individuals: ○ Total score = 15.29 (6.67)

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			3 (r = -.02) and 5 (r = .25)	○ Catastrophic Negativity subscale score = 8.26 (4.26) ○ Determined Resilience subscale score = 7.00 (3.50) • Black/African American's: ○ Total score = 17.55 (6.87) ○ Catastrophic Negativity subscale score = 10.12 (4.59) ○ Determined Resilience subscale score = 7.39 (3.87) • Ethnic minority individuals ○ Total score = 17.42 (6.80).

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				○ Catastrophic Negativity subscale score = 10.02 (4.58) ○ Determined Resilience subscale score = 7.35 (3.82)
Eaton et al. 2018 Cross-sectional National Spinal Injuries Centre, UK	N = 371 participants with acute SCI 261M, 110F Mean age 53 years, ranging from 15 to 91 years Cause of injury: Traumatic and non-traumatic AIS A (n = 79), AIS B (n = 56), AIS C (n = 106), and AIS D (n = 130) Level of injury: Cervical (n = 179), Thoracic (n = 143), lumbar (n = 45), and sacrum (n = 4)	ADAPSS-SF total and both factors (resilience and loss) were significantly positively correlated to both the HADS subscales. See table 1. Principle Component Analysis with oblique rotation demonstrated a coherent two-factor structure of the ADAPSS- SF: resilience and loss.		
	Table 1. Pearson's correlations between ADAPSS-SF total, ADAPSS-SF factors (resilience and loss), HADS anxiety and HADS depression			

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<table>
<tr><th>Author Year Research Design Setting (country)</th><th>Demographics and Injury Characteristics of Sample</th><th>Validity</th><th>Reliability</th><th>Responsiveness Interpretability</th></tr>
<tr><td></td><td colspan="4"><table>
<tr><th></th><th>ADAPSS-SF factor 1 (resilience)</th><th>ADAPSS-SF factor 2 (loss)</th><th>HADS-anxiety</th><th>HADS-depression</th></tr>
<tr><td>ADAPSS-SF total</td><td>0.811**</td><td>0.864**</td><td>0.597**</td><td>0.633**</td></tr>
<tr><td>ADAPSS-SF factor 1 (resilience)</td><td>-</td><td>0.438**</td><td>0.398**</td><td>0.520**</td></tr>
<tr><td>ADAPSS-SF factor 2 (loss)</td><td>-</td><td>-</td><td>0.605**</td><td>0.597**</td></tr>
<tr><td>HADS-anxiety</td><td>-</td><td>-</td><td>-</td><td>0.649**</td></tr>
</table></td></tr>
<tr><td>Kennedy et al. 2016

21-plus years longitudinal, multiple-wave panel study

National rehabilitation center for SCI, UK</td><td>N = 44 (37M, 7F).
Mean age = 33.3 years.
Level of injury = 46% cervical, 34% thoracic, and 20% lumbar.
AIS level = 60% complete and 40% incomplete injuries.
Mean (range) time since injury = 23.1 (21-24) years.</td><td>ADAPSS subscales positively correlated with BDI:
Fearful despondency: r .660, p .001
Overwhelming disbelief: r .697, p .001
Determined resolve: r .814, p .001</td><td></td><td></td></tr>
</table>

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	22/44 participants were deceased. *Data was collected from both original data (collected by the authors for the current study), and secondary data (collected by and published in Kennedy et al. 2000).	• Negative perceptions of disability: *r* .509, *p* .016 • Personal agency: *r* .627, *p* .002). * Note that the correlations between depression and determined resolve/personal agency are also positive, because these constructs are negatively scored, meaning that higher scores on these subscales represent less agreement with these appraisals.		
Mignogna et al. 2014 Cross-sectional	N = 98 (94M, 4F) Mean age =18.3 (13.1) Injury characteristics: Tetraplegia (low): n=14 Tetraplegia (high, AIS A,B,C): n=6	ADAPSS-sf total score was negatively associated with life satisfaction (β = −0.72, *p* < .001), controlling for depressive symptoms (β = 0.05, *p* = .604) and		

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	AIS D: n=41 Traumatic injury: Yes (77) No (21) Inclusion Criteria: - Solely based on the completion of the ADAPSS-sf sample of outpatient Veterans with spinal cord injuries and disorders (SCI/D).	level of injury (β = 0.153, *p* = .051).		
Dean & Kennedy 2009 Cross-sectional (N=237) and test-retest (N=93)	Cross-sectional study: 237 SCI participants (68% male) Mean age: 47 years (range: 18-81) 56% reported paraplegic injuries 37% reported tetraplegic injuries 7% unknown	All six ADAPSS subscales were significantly positively correlated with measures of threat and loss appraisals and measure of anxiety via hospital and anxiety and depression scale; significantly negatively correlated	**Internal Consistency** Cronbach's alpha for Time 1: Fearful despondency: .85 Overwhelming disbelief: .83 Determined resolve: .74	

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	Test-retest study: 93 SCI participants (63% male) Mean age: 48 years (range: 22-65) 64% reported paraplegic injuries 33% reported tetraplegic injuries 3% unknown	with perceived manageability and challenge appraisals. Spearman's rho correlations between the Perceived Manageability Scale – Needs Assessment Checklist and ADAPSS subscales: Fearful despondency: -.597 Overwhelming disbelief: -.468 Determined resolve: -.599 Growth and resilience: -.345 Negative perceptions of disability: -.533 Personal agency: -.519 Spearman's rho correlations between the Hospital Anxiety and Depression Scale	Growth and resilience: .73 Negative perceptions of disability: .80 Personal agency: .70 Cronbach's alpha for test-retest: Fearful despondency: .86 Overwhelming disbelief: .86 Determined resolve: .77 Growth and resilience: .78 Negative perceptions of disability: .74 Personal agency: .74 **Test-retest, Inter-rater, Intra-rater** All 6 ADAPSS subscales displayed	

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		– Anxiety subscale and ADAPSS subscales: Fearful despondency: .649 Overwhelming disbelief: .597 Determined resolve: .347 Growth and resilience: .187 Negative perceptions of disability: .496 Personal agency: .393 all P<.01 The six ADAPSS factors were unrelated to current age and cause of SCI. However, respondents who were unemployed were more likely to endorse items on Fearful Despondency (z=–2.851, P< .01, two-tailed), Overwhelming	good internal reliability at Time 1 and test–retest (α>.70). Spearman's rho correlations for ADAPSS subscales between time 1 and time 2: Fearful despondency: .879 Overwhelming disbelief: .863 Determined resolve: .755 Growth and resilience: .828 Negative perceptions of disability: .814 Personal agency: .615 All P<.01	

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		Disbelief (z=–3.473, P<.001, two-tailed), and Negative Perceptions of Disability (z=–3.231, P<.001, two-tailed). Unemployed respondents were also less likely to endorse items on Determined Resolve (z=–2.911, P<.01, two-tailed). There was a significant difference between level of injury and scores on Determined Resolve and Negative Perceptions of Disability. The mean scores suggested respondents with a cervical injury were less likely to endorse Determined Resolve items and more likely to endorse Negative Perceptions of		

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		Disability items. Female respondents also appeared more likely to endorse Overwhelming Disbelief items. There was a weak significant positive correlation between age at time of injury and Negative Perceptions of Disability, suggesting respondents who endorsed items on this subscale were older when they were injured. A weak significant negative correlation between time since injury and Overwhelming Disbelief suggested respondents who endorsed items on this subscale had been injured for less time.		

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		Spearman's rho correlations between the Appraisal of Life Events (ALE) subscales (threat, loss, challenge) and the ADAPSS subscales: See table 1. All six ADAPSS subscales were significantly positively correlated with measures of threat and loss appraisals and significantly negatively correlated with perceived manageability and challenge appraisals. This suggests respondents who were more likely to endorse items on the Fearful Despondency, Overwhelming Disbelief, and		

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		Negative Perceptions of Disability subscales were more likely to appraise their injury in terms of loss and threat and to perceive their injury as unmanageable. They were also less likely to appraise their injury in terms of challenge. Respondents who were less likely to endorse items on the Fighting-Spirit, Growth and Resilience, and Personal Agency subscales were more likely to appraise their injury in terms of loss and threat and to perceive their injury as unmanageable. They too were less likely to appraise their injury in terms of challenge.		
	Table 1.			

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<tr><td></td><td>
<table>
<tr><td>Variable:</td><td>Fearful despondency</td><td>Overwhelming disbelief</td><td>Determined resolve</td><td>Growth and resilience</td><td>Negative perceptions of disability</td><td>Personal agency</td></tr>
<tr><td>ALE – Threat</td><td>.738</td><td>.712</td><td>.442</td><td>.287</td><td>.609</td><td>.361</td></tr>
<tr><td>ALE - Loss</td><td>.739</td><td>.721</td><td>.473</td><td>.310</td><td>.614</td><td>.458</td></tr>
<tr><td>ALE – Challenge</td><td>-.402</td><td>-.401</td><td>-.292</td><td>-.262</td><td>-.490</td><td>-.401</td></tr>
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</td><td></td><td></td><td></td></tr>
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