

Outcome Measure	Craig Hospital Inventory of Environmental Factors (CHIEF)
Sensitivity to Change	Not enough evidence
Population	Adult
Domain	Family Environment
Type of Measure	Self-report scale
ICF-Code/s	e1-e5
Description	<p>The CHIEF is a self-rating scale with the aim of measuring perceived negative environmental influences; that is, the barriers “that keep people with disabilities from functioning within the household and community and from doing what they need or want to do”.</p> <p>The 25-item CHIEF contains five statistically derived subscales representing environmental barriers: (i) Physical and structural (6 items), (ii) Attitudes and support (5 items), (iii) Services and assistance (7 items), (iv) Policy (4 items), and (v) Work and school (3 items). A 12-item short form retains two to three items from each of the subscales.</p> <p>The CHIEF is to be completed from the perspective of the previous 12 months. Administration time is reported as 10 to 15 minutes. Item response uses a two-step procedure, First, each item is rated for frequency of occurrence on a 5-point scale: 0 (never), 1 (less than monthly), 2 (monthly), 3 (weekly), 4 (daily). Those items endorsed with a frequency from 1 to 4 are then rated dichotomously in terms of magnitude (1 = a little problem; 2 = a big problem). In order to circumvent items that are rated “not applicable”, the total score uses the mean score of endorsed items. The “frequency-magnitude product” results in a possible item score range from 0 to 8, with higher scores representing greater perceived environmental barriers. Subscale scores can also be calculated.</p>
Properties	<p>See Tate (2010) for full details.</p> <p>Most psychometric properties were examined in three samples by Whiteneck, Harrison-Felix, Mellick, Brooks, Charlifue, and Gerhart (2004b).</p> <p>Validity</p> <p><u>Construct validity</u>: part of a population-based, telephone survey in Colorado, USA in which data were collected from 2269 people, 481 identified themselves as disabled. The population survey had an internal consistency of .86 (subscale range .62-.74) and the disability sample of .93 (subscale range: .76-.81; 4/5 subscales < .80)</p> <p>A principal components analysis extracted 5 components (described above), accounting for 48% of the variance.</p> <p><u>Discriminant</u>: The same sample was used to determine discriminant</p>

	<p>validity. The authors found significant differences between disabled and non-disabled groups for the total score and all subscales.</p> <p><u>Convergent and divergent:</u> Convergent and divergent validity is available from the study of Whiteneck, Gerhart, and Cuisick (2004a). The sample was composed of 73 adults with TBI (at least 12 months post-trauma). Higher correlations were found between similar constructs (e.g., CHIEF Physical/structural with CHART Mobility: $r = -.33$) and lower correlations between dissimilar constructs (e.g., CHIEF Work/school with CHART Mobility: $r = -.18$).</p> <p>Reliability</p> <p><u>Test-retest:</u> 103 of a sample of 409 disabled people, of which 120 had TBI, completed the CHIEF twice with a 2 week interval - ICC was .93.</p>
Advantages	<ul style="list-style-type: none"> • One of the very few scales to assess environmental factors • A carefully developed scale, on large population bases, with TBI included in the developmental process • Multidimensional (physical/structural, attitudes/support, services/assistance, policy, work/school), yet only 25 items. • Quick and easy to administer; 12-item short form available
Disadvantages	<ul style="list-style-type: none"> • Only evaluates environmental barriers and does not also consider facilitators <ul style="list-style-type: none"> - An environmental scale that considers both barriers and facilitators is the Measure of Quality of the Environment, but it is very lengthy (109 items) • Like all self-report measures, need to give consideration to the validity of response in terms of the cognitive impairments of the respondent
Reviewers	Robyn Tate

References

- Tate, R. L. (2010). *A compendium of tests, scales, and questionnaires: The practitioner's guide to measuring outcomes after acquired brain impairment*: Psychology Press.
- Whiteneck, G., Gerhart, K., & Cusick, C. (2004a). Identifying environmental factors that influence the outcomes of people with traumatic brain injury. *Journal of Head Trauma Rehabilitation*, *19*(3), 191-204.
- Whiteneck, G. G., Harrison-Felix, C. L., Mellick, D. C., Brooks, C. A., Charlifue, S. B., & Gerhart, K. A. (2004). Quantifying environmental factors: A measure of physical, attitudinal, service, productivity, and policy barriers. *Archives of Physical Medicine and Rehabilitation*, *85*(8), 1324-1335. doi: <http://dx.doi.org/10.1016/j.apmr.2003.09.027>