

Instrument Psychometrics Summary

On the Elder Mistreatment web site are fourteen elder mistreatment instruments. Those instruments include the Brief Abuse Screen for the Elderly (BASE), Caregiver Abuse Screen (CASE), Elder Abuse Suspicion Index© (EASI), Elder Assessment Instrument (EAI), Health Attitudes Toward Aging, Living Arrangements, and Finances (HALF) Assessment, Hwalek-Sengstock Elder Abuse Screening Test (H-S/EAST), Indicators of Abuse Screen (IOA), Partner Violence Screen (PVS), Questions to Elicit Elder Abuse, Screen for Various Types of Abuse or Neglect, Screening Tools (Actual Abuse Tool, Suspected Abuse Tool, and Risk of Abuse Tool), and the Vulnerability to Abuse Screening Scale (VASS).

In the names/titles of these instruments, different terms are used to convey the purpose and content of the instrument. Merriam-Webster's (<http://www.merriam-webster.com/>) definitions of those terms are provided:

- **Index:** a device that serves to indicate a value or quantity.
- **Instrument:** a measuring device for determining the present value of a quantity under observation.
- **Questionnaire:** a set of questions for obtaining statistically useful or personal information from individuals.
- **Screen:** a system for examining and separating into different group.
- **Test:** something (as a series of questions or exercises) for measuring the skill, knowledge, intelligence, capacities, or aptitudes of an individual or group.
- **Tool:** something used that is necessary in the practice of a profession.

Yet, what is important is the instrument measures what it purports to measure. To determine if an indicator (burned with a cigarette) represents a theoretical concept (elder physical abuse) accurately, two basic properties of empirical measurement must be examined. Those instrument psychometric properties are reliability and validity. Reliability is a statistical measurement of the reproducibility or stability of the data gathered by the survey instrument. It is important to know that if there has been no change, your measure will produce the same results each time. Types of reliability include test-retest, alternate-form, split-half, internal consistency, and inter-rater reliability. Validity is a measure of an instrument's accuracy. Types of validity include face, content, criterion, and construct validity.

Other important measures are sensitivity and specificity, statistics used to describe a diagnostic test, that is, how good a test is. Sensitivity is the probability of a positive test among patients with disease, that is, how many cases of a particular disease (elder abuse) can be found. Specificity is the probability of a negative test among patients without disease, that is, the number of cases of a particular disease (elder abuse) that are not found.

Brief Abuse Screen for the Elderly (BASE)

This screening tool is a one-page, five-item tool that was designed to be a quick (1 minute) assessment of the caregiver and/or the receiver of care. The screening tool is meant to be used only after extensive training on the topic of elder abuse. It does not include self-neglect. The authors collapsed the five point scale for question three into two categories: 1 & 2 were considered "abuse not likely," while 3, 4, & 5 were considered as "abuse likely." According to the authors, BASE reliability was supported by 86-90% interrater reliability on three BASE assessment and validity was supported by the agreement by various practitioners, significant correlations with other measurements; and expected differences in the correct direction between

abusive and non-abusive caregivers (Reis & Nahmiash, 1998).

Caregiver Abuse Screen (CASE)

CASE is an 8-item screening tool designed to assess caregivers for potential abuse. The questions were worded in a certain way in order to make them less confrontational so the caregivers will feel comfortable answering truthfully. This tool can be filled out by the caregiver and is probably best when used in conjunction with other screening tools. No training needs to be done in order to administer this tool. Answers are either “yes” or “no” and an answer of “yes” for a question equals one point. A score of four or more is considered “abuse likely,” but a score of one can also be that abuse is likely, depending on the question. The authors report that CASE has construct validity and convergent validity. The CASE scores for the abusers were found to be significantly higher than those for the non-abusers. A Cronbach’s alpha of 0.71 was reported for six out of the eight items (items 1-4, 6, & 8). CASE has been reported as being valid and reliable; the sample size for the study was 139 and it was done in the community setting, not the clinical setting. The higher the CASE scores (abuse) the more indicators of abuse were marked on the Indicators of Abuse checklist ($r = 0.41, p < 0.001$). Similar correlations were found with the CASE and the S-H/EAST responses and the Ryden verbal and physical aggression subscales. CASE factor analysis resulted in two factors: abuse and neglect (Reis & Nahmiash, 1995). A literature review did not find any additional data on validity or reliability at the time of this summary.

Elder Abuse Suspicion Index©

The Elder Abuse Suspicion Index (EASI) is a six-item screening questionnaire to raise a physician’s suspicion about elder abuse to the level that an evaluation by protective services is warranted. The EASI started with nine questions mined from a literature review and was reviewed by four focus group meetings of physicians, nurses, and social workers. Narrowed down to six questions, the instrument was tested in the practice setting with 663 subjects (Yaffee, Wolfson, Lithwick, & Weiss, 2008). Instrument sensitivity and specificity were conducted on individual questions and a social worker evaluation. Sensitivity and specificity of 0.47 and 0.75 were found when at least one question was positive. Sensitivity ranged from 0.03 to 0.28 and specificity ranged from 0.72 to 0.99 for the individual questions (Yaffee, 2008).

Elder Assessment Instrument (EAI)

In 1984 the Elder Abuse Assessment tool was initially developed from profiles of elder abuse victims and used in the emergency department for persons 70 years and older. An initial instrument of 35 items resulted from this one month pilot study (Fulmer, 1984). Later the instrument was revised to incorporate checklists and tested for 5 months with 484 individuals. Content validity index was reported at 0.83 (Fulmer, Street, & Carr, 1984). Test-retest reliability was reported as 0.83 (Fulmer & Wetle, 1986). No report on sensitivity or specificity is provided.

Health Attitudes Toward Aging, Living Arrangements, and Finances (HALF) Assessment

No psychometric properties are available for this questionnaire (Ferguson & Beck, 1983). The authors claim that the tool ‘has been useful in identifying aged persons who are at risk for abuse or actually being abuse’ with over 50 families or individuals. Except for such anecdotal evidence, there is no information on the psychometric properties of the H.A.L.F. (Kozma & Stones, 1995).

Hwalek-Sengstock Elder Abuse Screening Test (H-S/EAST)

The H-S/EAST originally began as a pool of over 1,000 items that were being used in abuse protocols across the United States (Sengstock & Hwalek, 1987). Through chi-squared analysis Hwalek and Sengstock found that nine of the fifteen questions (3-5, 7, 10, 12-15) showed a significant difference between the abused and the non-abused groups and had a Cronbach's alpha of 0.29 (Hwalek & Senstock, 1986). The authors claim the Cronbach's alpha is low due to the fact that different types of abuse are addressed in the instrument. Questionnaire responses regarding 108 cases from service providers were entered into factor analyses. One hundred 100 indicators were refined using three stages of discriminant function analyses to a list of 9 items that identified 94% accurately between abused (N = 50) and nonabused (N = 47) (Hwalek & Sengstock, 1986).

Through the use of various statistical methods the creators of the H-S/EAST claim that it has content, concurrent, and construct validity, noting more work needs to be done in order to prove predictive and convergent validity as well as inter-rater reliability (Neale, Hwalek, Scott, & Stahl, 1991). To further establish psychometric properties for this instrument, a 15-item H-S/EAST was developed through factor analysis having three conceptual categories: overt violation of personal rights or direct abuse, elder characteristics that make them vulnerable to abuse, and characteristics of a potentially abusive situation. The H-S/EAST is to be used to assess for risk of abuse, neglect, or exploitation. A score of 3 or greater indicates that the patient may be at a higher risk of being mistreated, but this should not be used to make accusations or substantiations. The purpose of this tool is to provide the opportunity for a discussion with a patient and indicate the need for further assessment.

Two more instruments have been created using the H-S/EAST as a beginning model. These are the Maine Partners for Elder Protection instrument (MePEP) (<http://www.umaine.edu/mainecenteronaging/pubandrep.htm#RSR>) and the Vulnerability to Abuse Screening Scale (VASS) (Schofield, Reynolds, Mishra, Powers, & Dobson, 2002).

Additional construct validity for the H-S/EAST was provided by a study of 100 elderly persons living in a housing unit who took the 15-item questionnaire (Moody, Voss, & Lengacher, 2000). Comparing the sensitivity and specificity of elder mistreatment screening instruments with 44 older persons, clients of adult protective services, the H-S/EAST instrument had a test-retest reliability of 0.855 and a Cronbach's alpha of 0.632 (Buri, Daly, & Jogerst, 2009). The receiver-operator characteristic (ROC) curve constructed for the H-S/EAST questions demonstrated the measure had no discriminating power for screening for elder abuse (Buri, Daly, & Jogerst, 2009).

Indicators of Abuse Screen

Findings from previous studies provided the indicators associated with caregiver and care receiver abuse. Problem indicators were developed and field tested with social service agency personnel. After revision, a preliminary 60-item (12 demographics and 48 indicators of abuse) checklist was generated. To determine which of the items formed a set to best discriminate abuse and non-abuse cases, discriminant function analysis was conducted for validation. A set of 29 indicators discriminated "likely abuse" and "likely non-abuse," reporting Canonical correlation = .80; Wilks' A = .36, $X^2 = 147.34$, and $p < 0.001$ for 166 agency cases. The screen discriminates likely abuse cases 84% of the time and likely non-abuse cases 99% of the time. A second discriminant function analysis on a subset of 70 cases was conducted and had similar results. Cronbach alpha was 0.92 (Reis & Nahmiash, 1998).

Partner Violence Screen (PVS)

The partner violence screen of three questions was tested individually and as a combined screen against the Index of Spouse Abuse and the Conflicts Tactic Scale (Feldhaus, Koziol-McLain, Amsbury, Norton, Lowenstein, & Abbott, 1997). Women who were positive for abuse on the partner violence screen had positive scores on the Index of Spouse Abuse and the Conflicts Tactic Scale. The Partner Violence Screen detected partner violence 65% of the time comparing to the gold standard of the Index of Spouse Abuse and 71% of the time comparing to the Conflicts Tactic Scale. The specificity for of the PVS with the Index of Spouse Abuse was 80% and with the Conflicts Tactic Scale was 84%. The positive predictive value was 51% and the negative predictive value was 88% for the PVS with the Index of Spouse Abuse. The positive predictive value was 63% and the negative predictive value was 89% for the PVS with the Conflicts Tactic Scale. There were 33 women with false negatives and 43 with false positives on the PVS. As a result of the false negatives an additional question is suggested by the authors to be added to the scale: “Are you here today due to injury or illness related to partner violence?”

Questions to Elicit Elder Abuse

No psychometric properties are available for this questionnaire (Carney, Kaha, & Paris, 2003).

Screen for Various Types of Abuse or Neglect

No reliability or validity measures were conducted on the American Medical Association (AMA) questions in the original publication (AMA, 1992). Comparing the sensitivity and specificity of elder mistreatment screening instruments with 44 older persons, clients of adult protective services, the AMA instrument had a test-retest reliability of 0.825 and a Cronbach’s alpha of 0.734. The receiver-operator characteristic (ROC) curve constructed for the AMA questions demonstrated the measure had no discriminating power for screening for elder abuse (Buri, Daly, & Jogerst, 2009).

Screening Tools and Referral Protocol (STRP)

The Actual Abuse Tool, Suspected Abuse Tool, and Risk of Abuse Tool are all part of a larger project that was put together based on the state laws of Ohio. The creators indicated that the materials were primarily designed for individuals who have limited knowledge and experience with elder abuse and domestic violence in later life. Along with the three tools, the creators generated a referral protocol that diagrams the steps that need to be taken and the agencies that need to be contacted if there is actual, suspected, or risk of abuse. The protocol was designed with Ohio laws in mind and would need to be revised for any other state that intends to use it. There are also “extended tools” and “Decision/Action Sheets” that are intended to accompany the tools; however, at this time we do not know what those additional tools include. As of 2007 there is no reliability or validity data on the STRP. A brief summary of each tool is below (Bass, Anetzberger, Ejaz, & Nagpaul, 2001).

Actual Abuse Tool

Provides a list of the major forms of abuse and neglect, but it is not an exhaustive list. For practical use the tool has been kept to one page. This tool is supposed to be accompanied by a Decision/Action Sheet. It also includes psychological forms of abuse.

Suspected Abuse Tool

Provides a list of the major signs and symptoms of abuse and neglect, but it is not an exhaustive list. For practical use the tool has been kept to one page. This tool is supposed to be accompanied by a Decision/Action Sheet. It also includes psychological forms of abuse.

Risk of Abuse Tool

Provides a list of risk factors for abuse and neglect, but the presence of risk factors does not necessarily indicate that abuse and/or neglect are taking place. This tool is supposed to be accompanied by “extended tools.”

Vulnerability to Abuse Screening Scale (VASS)

VASS is a screening measure to identify older women at risk for elder abuse. To develop the VASS, the H-S/EAST was used and 2 questions with high face validity were added: Has anyone close to you called you names or put you down or made you feel bad recently? Are you afraid of anyone in your family? Factor analysis was conducted and 5 of 17 items were deleted.

Thus, the VASS is a modified version of the H-S/EAST that contains 12 yes/no questions that are to be filled out by the client. It was originally tested in part of a larger study done on women in Australia. There were 12,939 women aged 70-75 that received surveys relating to violence/abuse.

The VASS is divided into four factors: vulnerability, dependence, dejection, and coercion. Each factor has three questions on the survey. A measure of sampling adequacy (MSA) for the 4 scales of 0.71 and Cronbach's alpha of 0.39-0.55 were reported (Schofield, 2002). Cronbach's alpha for the 4 scales were 0.74 for dependence, 0.44 for dejection, 0.45 for vulnerability, and 0.31 for coercion indicating moderate internal reliability (Schofield, 2004). Construct validity was good having significant positive correlations between factor scores and other variables. Significant correlations between the factors and life events demonstrated content validity. Sensitivity and specificity of the instrument was not tested. The instrument is also valid in predicting a decline in both physical and mental health outcomes over a three year period among older Australian women (Schofield & Mishra, 2004).

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