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Instrument Review - SF-12® Health Survey (Version 1.0) for use in Australia

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SF-12[®] Health Survey (Version 1.0)

Title: SF-12[®] Health Survey (Version 1.0)
for use in Australia
(also known as the Short-Form 12-Item Health Survey).

Abbreviations: SF-12

Author(s) Name: John E. Ware, Jr.

Author(s) Address: QualityMetric Incorporated
640 George Washington Highway
Lincoln, RI 02865
USA

www.qualitymetric.com

Supplied by: QualityMetric Incorporated
640 George Washington Highway
Lincoln, RI 02865
USA

In Australia, SF-12[®] Health Survey manuals can be obtained from the:

Australian Health Outcomes Collaboration (AHOC)
c/- Centre for Health Service Development
University of Wollongong
NSW 2522
Phone: 02 4221-4411

Cost: An annual license fee applies for the use of the SF-12[®] Health Survey.

Survey users are required to register with QualityMetric Incorporated and obtain a quote for the annual license fee that applies to their project.

The license charge will depend upon whether users require a commercial or research license.

Register online at www.qualitymetric.com. Information on the SF group of instruments can also be found at <http://www.sf-36.com/>

SF-12[®] manuals can be purchased in Australia from AHOC by contacting Laura Willmott at willmott@uow.edu.au or by telephone on 02 4221-4411.

For technical questions about using the SF-12[®] Health Survey in



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Australia (including latest developments and research advice) contact Jan Sansoni at jansan@netspeed.com.au or by telephone on 02 6291-7271 or 02 6205-0869.

- Training requirements:** Nil training is required for those professionals with qualifications and experience in psychometrics and statistics. For those professionals without these qualifications basic training is required in survey administration and the characteristics of the SF-12[®] Health Survey. The AHOC provides training workshops for the SF-12 and other instruments.
- Purpose:** A shorter version of the SF-36[®] Health Survey designed to reproduce the Physical Component Summary (PCS) and the Mental Component Summary (MCS) scores.
- Administration time:** 2 minutes.
- Instrument Type:** Self-report Questionnaire.
- Structure:** The SF-12[®] Health Survey includes 12 questions from the SF-36[®] Health Survey (Version 1). These include: 2 questions concerning physical functioning; 2 questions on role limitations because of physical health problems; 1 question on bodily pain; 1 question on general health perceptions; 1 question on vitality (energy/fatigue); 1 question on social functioning; 2 questions on role limitations because of emotional problems; and 2 questions on general mental health (psychological distress and psychological well-being).
- Scoring:** Scoring of individual items is identical to the SF-36[®] Health Survey. Scoring algorithms are then applied to produce the PCS and MCS scores.
- Developed for:** Those who need an even shorter generic measure of perceived health status.
- Normative Data:** The SF-12[®] Health Survey was developed using normative data for the SF-36[®] Health Survey in the United States.¹ [See Ware, Kosinski & Keller (1994)² and Ware, Kosinski, Bayliss, McHorney, Rogers & Raczek (1995)³] Wilson, Tucker & Chittleborough (2002)⁴ and Sanderson & Andrews (2002)⁵ have conducted local equivalence studies and found the SF-12 suitable for use in Australia.

Population health data using the SF-12 can be found in the 1997 Australian National Survey of Mental Health and Well-Being, the 2000 Mental Health Status of South Australian Population Study,⁶ the 2002 Longitudinal Investigation of Depression Outcomes (LIDO) Study⁷ and the 2003 Australian Gulf War Veteran's Health Study.⁸



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Clinical Data:

A few clinical studies are listed below:

Arthritis: Gandhi, Salmon, Zhao, Lambert, Gore & Conrad (2001).⁹

Back Pain: Luo, Lynn George, Kakouras, Edwards, Pietrobon, Richardson et al. (2003).¹⁰

Diabetes: Siddique, Ricci, Stewart, Sloan & Farup (2002).¹¹

Elective Surgery: Derrett, Devlin, Hansen & Herbison (2003).¹²

Heart and Stroke Patients: Lim & Fisher (1999).¹³

Homeless Persons: Larson (2002).¹⁴

Myocardial Infarction: McBurney, Eagle, Kline-Rogers, Cooper, Mani, Smith et al. (2002).¹⁵

Older Adults in a retirement community: Resnick & Nahm (2001).¹⁶

Retinal Diseases: Globe, Levin, Chang, Mackenzie & Azen (2002).¹⁷

Applications:

In choosing between the SF-12[®] and the SF-36[®] Health Surveys users should consider the trade-off between test taker burden (ie. number of questions, time to complete) and the precision of scores (ie. how reliable does the obtained score need to be). Ware et al. (1996)¹ reports that there is a 10% loss in the SF-12's ability to distinguish between different disease groups as compared to the SF-36 and that the SF-12 less accurately reproduces the eight scale profile of the SF-36. Therefore it is recommended that the SF-36 be used for smaller studies (less than n = 500). A recent paper by Rubenach, Shadbolt, McCallum & Nakamura (2002)¹⁸ highlights this important distinction for clinical research studies.

Sanderson & Andrews^{5,19,20,21} have done considerable work in utilising the SF-12 (MCS) as a disability measure for mental health disorders (especially anxiety and depression). Salyers et al. (2000)²² have utilised the SF-12 (MCS) for severe mental illness.

The SF-12 has been administered using interactive voice recognition technology²³ and in computerised format²⁴ Telephone vs. mail-out administration has also been compared.²⁵

An acute (1 week) version of the SF-12[®] Health Survey is also available. Like the SF-36[®] Health Survey, the SF-12[®] Health Survey has been recently updated by QualityMetric Incorporated. The new version is known as the SF-12v2[™] Health Survey (Version 2). However, this update of the SF-12 has yet to be field tested in Australia for equivalence



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or new norms developed for the Australian Population.

See also the Instrument Review on the SF-36[®] Health Survey.

RELIABILITY	Studies reported Yes / No	References	Adequacy Weak/ Adequate/ Good	Comment
Internal consistency	NA	NA	NA	The important issue here is how well the SF-12 reproduces the PCS and MCS scores of the SF-36.
Test – retest	Yes	Ware et al. (1996) ¹ Salyers et al. (2000) ²² Lenert (2000) ²⁴ Resnick & Parker (2001) ²⁶	Adequate	Test-Retest Reliability - PCS = 0.89; MCS = 0.76.
Inter – rater	NA	NA	NA	The SF-12 is a self-report measure.



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VALIDITY	Studies reported Yes / No	References	Adequacy Weak/ Adequate/ Good	Comment
Discriminatory Power	Yes	Ware et al. (1996) ¹ Sugar et al. (1998) ²⁷ Sanderson et al. (2001) ¹⁹ Sanderson & Andrews (2002) ²⁰	Adequate	See also the references in the Construct Validity section.
Correlation with other measures	Yes	Ware et al. (1996) ¹ Johnson & Coons (1998) ²⁸ Lundberg et al. (1999) ²⁹ Burdine et al. (2000) ³⁰ Marcan et al. (2003) ³¹	Good	
Construct	Yes	Ware et al. (1996) ¹ Jenkinson & Layte (1997) ³² Gandek et al. (1998) ³³	Good	The SF-12 PCS and MCS scores correlate 0.95 and 0.96 with there SF-36 counterparts.
Criterion	Yes	Ware et al. (1996) ¹ Jenkinson & Layte (1997) ³² Gandek et al. (1998) ³³	Good	The criterion is how well the SF-12 reproduces the PCS and MCS scores of the SF-36 (see above).



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RESPONSIVENESS	Studies reported Yes / No	References	Adequacy Weak/ Adequate/ Good	Comment
Sensitivity to change	Yes	Jenkinson et al. (1997) ³⁴ Sugar et al. (1998) ²⁷ Lenert et al. (2000) ³⁵ Riddle et al. (2001) ³⁶ Luo et al. (2001) ¹⁰	Adequate	

Cultural Applicability and Cultural Adaptations:

Jenkinson, Chandola, Coulter & Bruster (2001)³⁷ in the United Kingdom have made a useful contribution in this area. However, in Australia, little research has been reported on the use of SF-12 with people from a non-English speaking background and Aboriginal and Torres Strait Islanders.

Gender Appropriateness: Normative data is available for males and females.

Age Appropriateness: 14 years and over.

Summary: The SF-12[®] Health Survey is a suitable measure for large group epidemiological studies (greater than n = 500) where information on the SF-36[®] Health Survey Summary Scores (PCS + MCS) is required.

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With additional comments by Jan Sansoni

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