



A Review of Instruments on Cognitive Appraisal of Stress



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ABSTRACT

Purpose: The purpose of this paper is to present a review of theoretically based measures of cognitive appraisal, and discuss psychometric strengths and limitations.

Background: Understanding how an individual appraises stressful events becomes important when faced with alterations in mental health. Cognitive appraisals influence how an individual copes with stressful events and life crises that leads to changes in mental health. Measures on how an individual appraises a stressful event lack conceptual soundness and are limited by weak psychometric properties.

Data sources: Health and Psychosocial Instruments (HAPI) electronic database was searched using combinations of the key words cognitive appraisal, primary appraisal, secondary appraisal, appraisal of illness, appraisal of health, and stress appraisal. The quality of these instrument sources was assessed by published psychometric data in the primary source.

Results: Five instruments were found that measure cognitive appraisal as theoretically described: the Meaning of Illness Questionnaire, the Stress Appraisal Measure, the Appraisal of Illness Scale, the Cognitive Appraisal of Health Scale, and the Primary Appraisal/Secondary Appraisal scale. A description of each tool, including purpose, scoring, and psychometric support, is provided.

Conclusion: There are a limited number of instruments that measure cognitive appraisal as theoretically described. Theoretically sound instruments with established psychometric support are needed to make accurate inferences about the role of cognitive appraisal in the mental and physical health of individuals experiencing stress.

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Appraisals made by patients experiencing stress have been studied extensively in the health care literature. These appraisals have been cited mostly in studies that focus on health beliefs or utilize a stress and coping paradigm (Carpenter, 2005). Within these studies, appraisal is typically measured with instruments designed to assess an individual's cognitive appraisal of stress or the stressors that impact the psychosocial dimensions of an individual.

How an individual appraises stressful events impacts both mental and physical dimensions of health. The way an individual appraises alterations is likely to influence overall morale and psychological adjustment. It is proposed that appraisal of a stressful event may determine mental health outcomes of that event more than the actual stressful event itself (Lazarus & Folkman, 1984). This means that the person's appraisal, in the context of the environment, determines the degree to which the event will be perceived as stressful. Therefore, appraisal influences how an individual copes with stressful events and life crises. This appraisal may lead to overwhelming stress and resultant mental health problems, depending on the way the stress is appraised.

Research has demonstrated that cognitive appraisal is a modifiable psychosocial determinant of mental health (Bargiel-Matusiewicz, Trzciniecka-Green, & Kozłowska, 2011). Measures on how an individual appraises a stressful event lack conceptual soundness and are

limited by weak psychometric properties. The purpose of this paper is to present a review of theoretically based measures of cognitive appraisal and discuss psychometric strengths and limitations.

BACKGROUND

According to the Transactional Model of Stress and Coping, stress is defined as a relationship between the individual and the environment that is appraised in terms of relevance to well-being and in which personal resources are taxed or exceeded (Folkman & Lazarus, 1985). When an individual encounters a stressful situation, mediating processes are engaged by the individual that influence the immediate and long-term effects of the stressful situation. Mediating processes include cognitive appraisal and coping.

Cognitive appraisal is the process by which potentially stressful events are evaluated for meaning and significance to individual well-being (Lazarus & Folkman, 1984). Cognitive appraisal consists of two major forms of appraisal: a) primary appraisal, and b) secondary appraisal. In primary appraisal, an individual evaluates a potentially stressful situation with respect to well-being. The individual decides if the event is irrelevant (no significance for well-being), benign-positive (does not tax or exceed personal resources and signals only positive consequences), or stressful. Stressful appraisals include harm/loss, threat, and challenge. Harm/loss describes damage that has already occurred, threat describes anticipated (not taken place yet) harm/loss, and challenge describes a threat that can be met or overcome (potential

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for gain/growth). Primary appraisal is shaped by an array of personal and situational factors, such as personal beliefs and commitments. Secondary appraisal involves the evaluation of coping resources and options, and addresses the question of “What can I do?” Answering this question becomes very important when there is a primary appraisal of harm/loss, threat, or challenge. Potential coping resources include physical (such as an individual’s health, energy, and stamina), social (an individual’s social network and support systems), psychological (beliefs to sustain hope, skills for problem solving, self-esteem, and morale), and material assets (money, tools, and equipment) (Lazarus & Folkman, 1984). Secondary appraisals are assessed by determining the extent to which a situation can be changed, has to be accepted, requires more information, or requires holding oneself back (Folkman & Lazarus, 1980; Peacock & Wong, 1990).

Primary and secondary appraisals are distinguished for conceptual purposes, with neither being more important than the other, or that one occurs before the other. Both can occur at the same time. Furthermore, appraisal types are not mutually exclusive. It is possible for individuals to appraise a stressful event in more than one way at the same time, meaning that a person can have a mix of harm/loss, threat, and challenge appraisals to a stressful event at the same time.

Coping refers to the cognitive and behavioral efforts to master, reduce, or tolerate the demands that are created by a stressful event (Lazarus & Folkman, 1984). There are two major forms of coping: a) emotion-focused coping, and b) problem-focused coping. Emotion-focused coping deals with the regulation of emotions or distress. Problem-focused coping deals with the management of the problem that is causing the distress. Both forms of coping are used in most stressful encounters. However, the proportion of each form of coping used by the individual varies according to how the encounter is appraised.

Thus cognitive appraisal becomes a response accompanied by emotional and physical responses to a stressful event. As the stressful event unfolds, these responses shape continuing reappraisals and exchanges between the individual and the environment (Lazarus & Folkman, 1984).

Issues in measurement

Research has produced an abundance of tools that measure variables of cognitive appraisal. However, the majority of researchers have operationalized cognitive appraisal as only primary appraisal, or as only a dimension of primary appraisal (harm/loss, threat, challenge), or as a single-item scale measuring some degree of stress, resulting in measurement that fails to capture the multidimensional nature of primary appraisal. Furthermore, few researchers have measured secondary appraisals, and both primary and secondary appraisals at the same time (Kessler, 1998). Therefore, the aim of this paper is to provide a review of theoretically based measures of cognitive appraisal that capture measures of both primary and secondary appraisal.

THE REVIEW

This review was guided by the steps and strategies put forth by the Centre for Reviews & Dissemination (CRD). There are three stages involved in the CRD review method. Stage I involves planning the review, including identification for the need and development of a review strategy. Stage II involves conducting the review, where selection of studies, quality appraisal, and data synthesis are carried out. Stage III involves the reporting and disseminating of findings, where recommendations and implications are put forth.

Search method and outcome

To identify instruments measuring cognitive appraisal, Health and Psychosocial Instruments (HAPI) electronic database was searched using combinations of the key words cognitive appraisal, primary

appraisal, secondary appraisal, appraisal of illness, appraisal of health, and stress appraisal. Limits were set for primary sources, adults, English language, and dates from 1980–2015. This search yielded 622 sources for initial screening. After removal of duplicates, sources were screened for inclusion criteria. A source was included for screening and quality appraisal if it was the primary source for the instrument, measured cognitive appraisal as described by Lazarus and Folkman (1984), and contained at a minimum two dimensions of primary appraisal and at least one measure of secondary appraisal. A total of 29 sources met this inclusion criteria.

Quality appraisal

The quality of these instrument sources was assessed by published psychometric data in the primary source using standards described by Streiner and Norman (2003). Each instrument was independently assessed by two researchers knowledgeable of cognitive appraisal, measurement, and psychometric evaluation. This assessment resulted in a total of five sources to be included in this review.

Additional psychometric data for each instrument were collected. Using an iterative search strategy using the name of each instrument, the electronic data bases of Academic Search Complete, CINAHL, PsycINFO, and PubMed were searched. Due to the general language terms in the titles of these instruments, an additional search was conducted using the specific instrument name in Google Scholar. These search strategies produced a total of 42 sources for the five instruments.

RESULTS

Five instruments were found that measure cognitive appraisal as theoretically described: the Meaning of Illness Questionnaire (Browne et al., 1988), the Stress Appraisal Measure (Peacock & Wong, 1990), the Appraisal of Illness Scale (Oberst, 1991), The Cognitive Appraisal of Health Scale (Kessler, 1998), and the Primary Appraisal/Secondary Appraisal scale (Gaab, Rohleder, Nater, & Ehlert, 2005). Refer to Table 1. A description of each tool, including purpose, scoring, and psychometric support, will be provided. In addition, supporting psychometric evidence of additional use of the instrument in research will be included. Refer to Tables 2–6.

The Meaning of Illness questionnaire

The Meaning of Illness Questionnaire (MIQ) is a 33-item self-report questionnaire designed to describe the meaning of illness by quantifying cognitive appraisal of an illness situation (Browne et al., 1988). Each item on the MIQ is designed to elicit a discrete meaning a person gives an illness situation, thus the tool is not meant to give a total meaning score. Items are rated on 3-point or 7-point scales ranging from *no* or *not at all* to a *great deal*. Primary appraisal items address harm, threat, and challenge; secondary appraisal items address expectancy and controllability. Two additional open ended questions concern an individual’s previous and current life beliefs and commitments. From these two questions, responses are classified into twelve categories. Absence or presence of each category is scored. In addition, changing in rankings of these commitments from before the illness to present is also scored.

Initial psychometric evidence of the MIQ was provided by Browne et al. (1988). Tests for internal consistency are not applicable since items were designed to elicit a discrete meaning. Test-retest reliability kappas ranged from .45 to 1.00, with the majority falling between .60 and .77. Reliability testing for the classification categories of the two open-ended questions was done by a panel of nurse clinicians. Interrater agreement produced a generalized kappa of .64, and thus judged to be reliable. Validity testing using principle component analysis (PCA) produced five factors that support conceptual underpinning of the MIQ. These factors include impact of illness, negative stress (harm, loss, and threat), degree of stress/secondary appraisal, positive attitude

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