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Hope in psychiatry: A Review of the Literature

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Hope in psychiatry: A Review of the Literature

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Abstract

Introduction: Hope has long been considered an important therapeutic factor in medicine, nursing and mental health and recently received attention as a central component of recovery. However, conceptual clarity, applicability and the predictive value of hope remain unclear. This review aims to define hope, review current approaches to assessment, and outline research evidence linking hope with effectiveness.

Method: We conducted a comprehensive review of publications on the conceptualisation and measurement of hope, and on its use as a predictive variable specifically in mental health patients.

Results: Forty-nine definitions of hope were identified, which were grouped into seven emergent dimensions. Thirty-two measurement tools were identified, though few have been used in research involving mental health patients. Eleven studies investigated hope as a predictive variable for differing outcomes, with inconclusive results.

Conclusions: Many conceptual frameworks for hope have been proposed, but empirical evidence on its predictive power in mental health is lacking.

Keywords: hope, recovery, measurement, evidence, qualitative analysis

Summations

- Reviewing the literature on hope from across health areas allows an integrative definition to be identified which is applicable to mental health research and clinical practice.
- Measurement tools are recommended covering the proposed definition: (i) the Miller Hope Scale, (ii) a combination of the Herth Hope Index and the Snyder State Hope Scale. Consistent application of the concept and measures is the first necessary step for the development of useful and comparable normative data and clinical interventions.
- While cross-sectional research indicates possible variables affected by hope, there is a lack of prospective research using appropriate and comparable measures investigating the relationship between hope and other outcome domains. Longitudinal research is needed to clarify why and how hope is central to mental health recovery.

Considerations

- Despite the broad search strategy, studies may have been missed due to a possible lack of reliability reviewing a generic term using scientific databases.
- Excluding grey literature may also have led to a loss of information since hope – with its relevance for recovery – may be prominently discussed in such sources.
- Heterogeneity in the identified prospective studies using hope as a predictive variable meant meta-analysis was not possible.

INTRODUCTION

The concept of hope has gained relevance in the field of positive psychology as well as psychiatry and nursing research since the 1950s (*e.g.* 1-3). Hope instilling strategies and working practices have received attention especially in the nursing literature, where hope was suggested to play an important therapeutic role for severely and terminally ill patients and their relatives. In this context hope was, for example, reported to be important for effective coping, decision making, psychosocial adjustment, quality of life and even for the promotion of healing in these patients (e.g. 13, 16, 20, 29, 35, 41, etc).

In psychiatric research, hope was shown to contribute to therapeutic efficacy while loss of hope to predict suicide. It was also found to be associated with personal resilience or variance in symptomatology after traumatisation and connected to placebo and halo effects (22). In recent decades, hope received increasing attention in the context of recovery in psychiatry. Hope is consistently identified as a key component within this concept (e.g. 4, 5), considered to be both a trigger of the recovery process and a maintaining factor (6-8). It is suggested that staff should become 'holders of hope' (9), and hope inspiring relationships between workers and clients were called for (10).

Since hope is a commonsense notion, like normalcy, disease or recovery, one view might be that it does not need further elaboration. Nonetheless, these concepts and their implications for psychiatric practice in recent times have attracted attention from mental health professionals and philosophers (e.g. 11). Although several measurement tools have been developed recently, the concept of recovery is still being criticised for its lack of clarity and insufficient evidence base. Similarly, despite the wealth of existing measurement tools for the concept of hope, the concept itself and the way it should be measured remain contested (12). An essential step is to provide a precise, clear and useful definition of hope and recommend suitable measurement tools on the basis of this definition. We aimed to approach this task by systematically reviewing the current literature.

The aim of this review was to inform the use of the concept of hope within mental health services. The specific goals were: (i) to identify definitions of hope proposed in the health literature and propose an emergent definition for use in mental health; (ii) to identify assessment scales for hope suitable for use in mental health research; and (iii) to summarise the existing evidence for associations between hope and clinical outcomes in mental health patients.

MATERIAL AND METHODS

A review of the available literature on hope was undertaken applying a systematic predefined search approach.

Search strategy

The following databases were searched from inception to June 2008: PsycINFO, Medline, EMBASE, International Bibliography of the Social Sciences (IBSS), and The

British nursing index and archive. In addition, trial registers searched were the UK National Research Register, the Research Findings Electronic Register, Current Controlled Trials Ltd, ClinicalTrials.gov, and the US National Library of Medicine.

From the databases, all studies relating to 'mental health', 'mental disorder', 'mental disease', 'psychiatry' or 'psychol$' (identified from title, abstract, keywords, or medical subject headings (MeSH)) in combination with the word 'hope' in their title or abstract, keyword or MeSH were identified. The search had to be adapted for the different electronic databases. For example, MeSH were only available in MEDLINE, PychINFO and EMBASE, 'hope' as a MeSH was only available in PychINFO and EMBASE. The Research Findings Electronic Register, Current Controlled Trials Ltd, ClinicalTrials.gov and the US National Library of Medicine were searched using only the term 'hope' in order not to miss any relevant studies. The UK National Research Register was searched with the term 'hope' in combination with 'mental', 'psychiatric', 'psychological' and 'scale' respectively, as well as with hope in title and as keyword. No language restrictions were employed in any search. Duplicates of all identified articles were removed using Reference Manager, Version 11 for Windows (Thomson ResearchSoft). The references of all included articles were hand searched for additional relevant papers. In a second step, articles quoting the references of all identified hope scales were searched using the Web of Science Cited Reference Search.

The review was undertaken between May and June 2007 and updated in June 2008. The number of publications matching initial search criteria for each database are shown in Table 1.

Insert Table 1 about here

Inclusion and exclusion criteria

Identified articles were eligible for inclusion if they explicitly dealt with the conceptualisation of hope, or with the development or validation of a measurement tool for hope, or if they reported the assessment of hope in mental health patients. From the trial registers only completed trials were considered for inclusion. From the reference lists only citations of published works were considered. All articles in English or German were included, as were articles in other languages where an English or German language abstract was available. Dissertations were included if an abstract in English or German was available. When a journal article was published on the basis of a dissertation, only the journal article was included.

Four types of articles were excluded: (i) philosophical and religious considerations of hope; (ii) opinion papers discussing the possible values of hope or commenting on other authors' hope concepts; (iii) articles conceptualising hope from a "human science" perspective, describing it in abstract terms not intended for operationalisation or measurement; and (iv) book chapters, conference presentations and other not publicly available sources.

Selection of studies and data extraction

The titles of all publications identified were read to identify those with possible relevance. From these, the abstracts were reviewed, and where they appeared to meet the inclusion criteria the full publication was obtained and read, following which a decision was made as to its inclusion.

Concepts and key dimensions of hope

Three different types of studies were identified: (i) pure concept descriptions, (i) presentations of scales without an explication of the underlying concept, and (iii) combinations of the above. Elements from both concept descriptions and scale items were synthesised. Where more than one article referred to the same concept or scale description, the one providing the most detailed concept description was used. Emergent key dimensions of hope were inductively clustered according to the principle of continuous comparison. Deviant dimensions not matching the emergent framework for hope are discussed separately.

Assessment scales for hope

For each identified scale, published evidence on reliability, validity and sensitivity to change was recorded as a dichotomous variable. Longitudinal measurement of hope with a specific scale was regarded as evidence on sensitivity to change. The number of papers applying each scale to mental health patients was recorded.

Predictive value of hope

From papers using hope as a predictive variable in prospective mental health research the participant numbers, mental health problems, types of interventions and/or of follow-up times, as well as the outcomes related to hope were recorded. Meta-analysis was not possible due to heterogeneity in outcomes.

RESULTS

Study selection is shown in Figure 1.

Insert Figure 1 about here

Definition of hope

Forty-nine definitions of hope were identified, from which seven emergent dimensions were identified. Dimensions and their constituent elements are shown in Table 2.

Insert Table 2 about here

Most definitions were developed using either qualitative research methods or selective literature reviews. Specific definitions of hope included: an essentially positive phenomenon (35); an attribute of the individual (21); a state of mind (45); an inner power (19, 33); an energy (54); a dynamic life force (17, 47); a motivational/emotional state (58); an emotional attitude (59) or a positive emotion

(34), a belief (56), an anticipation (52, 53), a component of empowerment (49), a measure of optimism (40), and, most frequently, an expectation (32, 36, 51, 57). The emergent dimensions from the identified definitions are shown in Table 2.

Two definitions differed from the others, in disaggregating the concept of hope. Hinds identified degrees of hopefulness which can be experienced in stages (41). Kim and colleagues identified different patterns of hope, defined as attributes of the individual, which include the above key dimensions but not conceptualised as necessarily co-occurring (26).

The consensus across the definitions was that hope is a dynamic and changeable variable, future referenced (possibly linked to present negative conditions as a stimulus and to past experiences *e.g.* of successful coping), concerned with the attainment of individually valued positive goals, outcomes or states, and judged by the individual as being at least potentially possible.

Cross-cutting themes include personal activity and individual attributes (*e.g.* energy, motivation, positive emotions, humour, optimism, pride, courage, endurance, patience, lightheartedness, self-esteem, pride, and ego strength), environmental factors, health status and, most consistently, relations (*e.g.* family, friends, professional care, and religion or spirituality), especially where relationships were associated with meaning, purpose, trust or confidence.

Elements from the identified definitions which were not captured in the seven emergent dimensions include: the notion of hope being life sustaining or essential for life (19-20, 29, 31, 41, 47, 55); cognitive or mental abilities, education, competence and/or efficacy (33, 37, 45, 47, 54, 46) the importance of being of use or supportive to others and of perceived self-worth (24, 34, 37-39, 43, 46); being able to pursue day-to-day activities or simply keeping up one's mobility (19, 30, 38-39); the presence of hope objects or special places possessing a significant positive meaning (29, 33-34, 39, 46); information (28, 45), positive joyous emotions (29, 34, 38, 39, 56); legacy (28) avoidance of absolutising (52); equality and justice (34), freedom and faith (54), peace and serenity (27, 46). It is also suggested that hope may be potentially harmful (38-39), a form of denial (29) or a burden (31) and that it comes with the possibility of being disappointed or hurt (23, 59). It may not only be a warrant for action but also an excuse for inaction and a justification for actions or beliefs (31). Hope may also be closely related to cultural meaning or personal values and goals (38, 59).

Assessment of hope

Thirty-two scales for assessing hope were identified. Most were based on the definitions presented in Table 1. Table 3 lists these scales in descending order of usage in mental health populations, and summarises the evidence for their psychometric properties. The full list of references included in the review of hope scales can be requested from the authors.

Insert Table 3 about here

Hope and outcome

Eleven studies were identified which used hope as a predictive variable in mental health settings. These are summarised in Table 4.

Insert Table 4 about here

Patients groups, interventions and outcome measures all varied widely, making aggregation inappropriate. Overall, no negative effects of hope were identified. Hope had a positive or neutral effect on depressive symptoms, anxiety, distress, coping, wellbeing, health expenditures and immune response.

DISCUSSION

This comprehensive review of the literature on hope across all health areas identified 49 definitions. Seven key dimensions of hope were identified (Table 2), which allow an integrative definition and four components of hope to be proposed for use in mental health research and practice.

According to the synthesised dimensions of hope identified we define hope as **a primarily future-orientated expectation (sometimes but not always informed by negative experiences such as mental illness) of attaining personally-valued goals, relationships or spirituality, where attainment: (a) will give meaning; (b) is subjectively considered realistic or possible; and (c) depends on personal activity or characteristics (*e.g.* resilience, courage) or external factors (*e.g.* resource availability).** Hope comprises four components: **affective** (*e.g.* trust, confidence, humour, positive emotions); **cognitive** (*e.g.* reflecting on past experiences, goal-setting, planning, assessing the likelihood of success); **behavioural** (*e.g.* motivation, personal activity); and **environmental** (*e.g.* availability of resources, health care, relationships).

This definition (and particularly the connection between hope and meaning) is concordant with the philosophical understanding of hope. In human existence, the meaning of phenomena is generated by a synthesis involving past, present and future (62). The meaning of an experience is set within a temporal dynamic that is highly *non-linear*: not only past experiences (retentional meanings) has influence on the future (protentional ones), but also what is expected affects the meaning of past experiences, since “protentions motivate retentions, for what is protended affects what is retained” (63, p. 360). Hope, as a future-oriented attitude, is integral to protention and as such a pre-requisite for attributing new meanings to one’s own past. The process of recovery in mental health is often based on restoring meaningfulness or attributing new meanings to one’s past experiences, and it is in this sense that hope is a prerequisite for recovery.

In addition to the 49 concept definitions, 32 different measures of hope were identified, some of which had been used in the 11 published empirical studies of hope and outcome in mental health patients. However, no single measure has been widely used in prospective research studies.

Limitations

The review did not include books, conference presentations, or grey literature. The high number of publications which were identified by searching the references of included papers points to the difficulty of reliably reviewing a generic term using scientific databases. Publications were only included when they explicitly dealt with the conceptualisation of hope as one of their aims. Papers delineating the concept of hope in an introductory paragraph of some other kind of article were not included, which may have led to a loss of information. For example, many articles focussed on recovery include a hope-related element, including some with novel definitions. One aim of this review was to identify a definition of hope from the literature, which inevitably necessitates the application of qualitative methodology. Hence, the requirement for a systematic review to address a distinct pre-specified research question could not be met. Inter-rater agreement was established according to the method of constant comparison applied as appropriate in qualitative analysis (see *Methodological implications*).

Methodological implications

In this study, we applied qualitative analysis. This entails systematic but flexible interrogation of initially unstructured phenomena selected for their close relationship to the problem under investigation. The aim was generating dense conceptual development. A dialectical process between phenomena and emergent conceptualizations was implied. Phenomena were tentatively grouped together according to constant comparison and active theoretical sampling (99). Constant comparison is a task of separating and comparing the elements gathered according to their similarities in order to generate the basic theoretical property of a given group of phenomena. When disagreement between researchers emerged, e.g. on emergent dimensions of hope, divergent views were thoroughly discussed. Disagreement was not seen as a shortcoming (e.g. lack of inter-rater reliability), but heuristically as a source for dialectical development of new conceptualisations. The aim was to deepen the emergent understanding of hope, rather than solely to develop generalisable hypotheses (100).

Clinical implications

Hopelessness is both a direct, symptomatic consequence of mental illness and also an indirect result of the associated stigma and discrimination (101), and it has important consequences e.g. in terms of suicidality (102). Hope as a trans-diagnostic concept may therefore have particular applicability to mental health, suggesting that clinical interventions to re-introduce and sustain hope are needed.

Most definitions of hope assume an undesirable baseline situation to be a necessary, or at least important, component of hope as a predictor for a better future. This may reflect clinical preoccupations with deficits and need. An alternative perspective is the possibility of hope being a means of *maintaining* a good life or existing positive well-being. Given the suggested importance of hope, it is essential to avoid discounting these strengths in any intervention to promote hope. Endeavours to reinforce hope should build on positive aspects as well as ameliorate deficits. For example, there is a developing body of knowledge in the academic discipline of positive psychology, in which “hope theory” is being empirically investigated in relation to optimism, self-efficacy, self-esteem and problem-solving ability (1). The main focus in these studies has been academic attainment, athletic achievement, physical well-being and

psychological adjustment. It is perhaps a central challenge for psychiatric practice to incorporate more knowledge about what creates and keeps well-being, as a complement to existing expertise about illness.

Interventions to promote hope are most likely to be effective when targeted at all four identified components: cognitive, behavioural, affective and environmental. Therefore traditional therapeutic interventions such as education, goal-setting, problem-solving and cognitive-behavioural therapy (103) need to be augmented with other types of action by professionals. Such hope instilling interventions may be a specific "add-on" to usual treatment targeted at hope, or interventions diffused within other therapies (104) or, as repeatedly called for in the nursing and recovery literature, within usual working practice (10, 32, 105).

There is a need to foster existing and new relationships, including with the person's immediate social network, their identity and their experiences. This can involve work with informal carers to enhance and promote caring relationships, or supporting the person in developing their spiritual or cultural identity, or responding positively to attempts by the person to find meaning in their experiences (106-107). This last element presents challenges for mental health professionals, since it may involve moving beyond an attempt to impose a single explanatory (illness) model, to a stance where other frameworks for understanding the experience, *e.g.* as a spiritual or cultural or existential crisis, are accepted and valued (108-110). It may also challenge basic clinical models – for example, the application of chronic disease models to mental illness may inadvertently lead to a loss of hope (111).

Finally, a better understanding of the environmental factors which impact on hope is needed. The development of peer support and peer-led services can address the hope-destroying invisibility of role models for people with long-term mental health problems. The hope-reducing and counter-therapeutic nature of many mental health acute in-patient units has been recognised (*e.g.* 112), and the growth in residential alternatives provides an opportunity to focus instead on the promotion of hope (113). Improving access to mainstream community resources gives access to many 'normal' sources of hope. Respecting unique limitations and taking into account personal characteristics (114) ensures that goals are personally valued. Such integrative strategies, although undoubtedly challenging in practice, are likely to be more effective than interventions focussed solely on traditional clinical preoccupations.

Research implications

Thirty-two measures for hope were found in the literature. Most measures were developed for physically ill patients, with limited use in mental health. The two measures which were most frequently used in mental health and showed the most robust psychometric properties were the Dispositional Hope Scale (64) and State Hope Scale (65). Both measures are based on Snyder's hope theory, which includes a complex interaction of emotions, outcome values, goals, outside stressors and even surprise events. His scales, however, measure only the perceived capability to derive pathways to desired goals and motivate oneself via agency thinking to use those goals (60). Other frequently used and evaluated scales are those proposed by Gottschalk *et al* (40), Miller *et al* (54), Herth (66) and Nunn *et al* (67) which all prominently include relational components such as interconnection with others, help, meaning, purpose or spirituality, along with individual components such as inner strength or self worth, making them markedly different from the above. All of these,

except for the Miller Hope Scale, lack questions on goal-setting and/or goal-pursuit. Hence, measuring hope with different well evaluated scales may still mean that entirely different constructs are captured.

The scale most consistent with the definition proposed above is the Miller Hope Scale (54). It includes questions reflecting future planning, goal-setting, motivation, energy, flexibility, and perceived ability to reach goals, as well as questions on relationships, support, love, and meaning. In addition, it allows hope to occur not only with reference to improvement but also to the continuation of an already good state. It is theoretically based and has been used in patients with mental health conditions, as well as being adapted for use with patients' relatives. This suggests it is feasible for use in mental health research. For routine clinical use a combination of the short, concise, and psychometrically robust Herth Hope Index (66) and Snyder State Hope Scale (65) may also be a viable option, since in combination they cover most of the suggested components of hope.

Only eleven prospective studies were identified which related hope to various outcomes in mental health. These provided non-aggregable and diverse data. They examined hope in relation to diverse outcomes, used mainly small sample sizes, included only three randomised controlled trials, and had inconclusive results. Studies defining hope as a state variable involving goal-directed thinking found it to predict anxiety symptoms, whilst they were inconclusive in regards to predicting depressive symptoms. None of the studies used a measure or a combination of measures that adequately cover all components of the definition of hope proposed in this paper.

In cross-sectional studies applying the Miller Hope Scale (54), associations were found between hope and perception of self, self-efficacy, subjective health, and global quality of life variables, but no significant correlation was found between hope and symptom severity in individuals with schizophrenia (115-117). Depression, social network size, perceived stigma, and schizophrenia symptoms were also found to explain variance in hope (116). Cross-sectional research can indicate possible outcome variables that may be affected by hope, but cannot address several key questions.

The wealth of existing qualitative and cross-sectional studies involving hope points to the generally assumed importance of this concept. In order to develop an increased understanding on why, and how, hope is central to mental health outcomes several specific research goals can be identified.

First, the development of a consensus around the most applicable measure of hope for use in people with mental illness is needed. This will ensure that the concept is being applied consistently between studies, and will maximise the possibility of developing clinically useful normative data. It will require the development of a cross-culturally valid measure, a feature which was notably absent from consideration in most identified studies. This review is intended to contribute to this goal.

Furthermore, although there is widespread recognition of the importance of working in a hope-promoting way (*e.g.* 118), there is a paucity of clinical trial evidence about what this means in practice. However, before interventions to promote hope can be developed and evaluated, repeated measures studies are needed carefully

investigating the causal relationship between hope and other outcome domains in mental health.

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Table 1: Electronic databases used for the literature review and number of publications from each database matching initial search criteria

Name of database	Brief description	Search engine[1]/web address	Search dates	Number found
Primary sources				
PsycINFO	Psychological literature	Ovid version 10.5.1	1950 – 2008 June week 2	3,159
Medline	Health and medical database	Ovid version 10.5.1	1950 – 2008 June week 2	1,782
International Bibliography of the Social Sciences (IBSS)	Social science database	Ovid version 10.5.1	1950 – 2008 June week 2	46
British nursing index and archive	Nursing and midwifery database	Ovid version 10.5.1	1985 – June 2008	61
EMBASE	Biomedical and pharmacological research	Ovid version 10.5.1	1980 – 2008 week 24	1,992
Trial registers				
National Research register 2007 issue 1	UK National Health Service	http://www.nrr.nhs.uk	June 2008	287
Research Findings Electronic Register (ReFeR)[2]	UK National Health Service	http://www.info.doh.gov.uk/doh/refr_web.nsf/Home?OpenForm	May 2007	16
Current Controlled Trials Ltd	*meta*Register of Controlled Trials	www.controlled-trials.com	June 2008	212
ClinicalTrials.gov (US national Institute of Health)	Clinical research register	www.clinicaltrials.gov	June 2008	329
US National Library of Medicine	Health Services Research Projects in Progress	http://www.nlm.nih.gov/hsrproj	June 2008	57
Web of Science				
Cited Reference Search	Retrieves articles citing previously published papers	http://portal.isiknowledge.com	June 2008	1,039

[1] Update June 2007 to June 2008 using Ovid version UI 01.01.02
[2] Not available for update

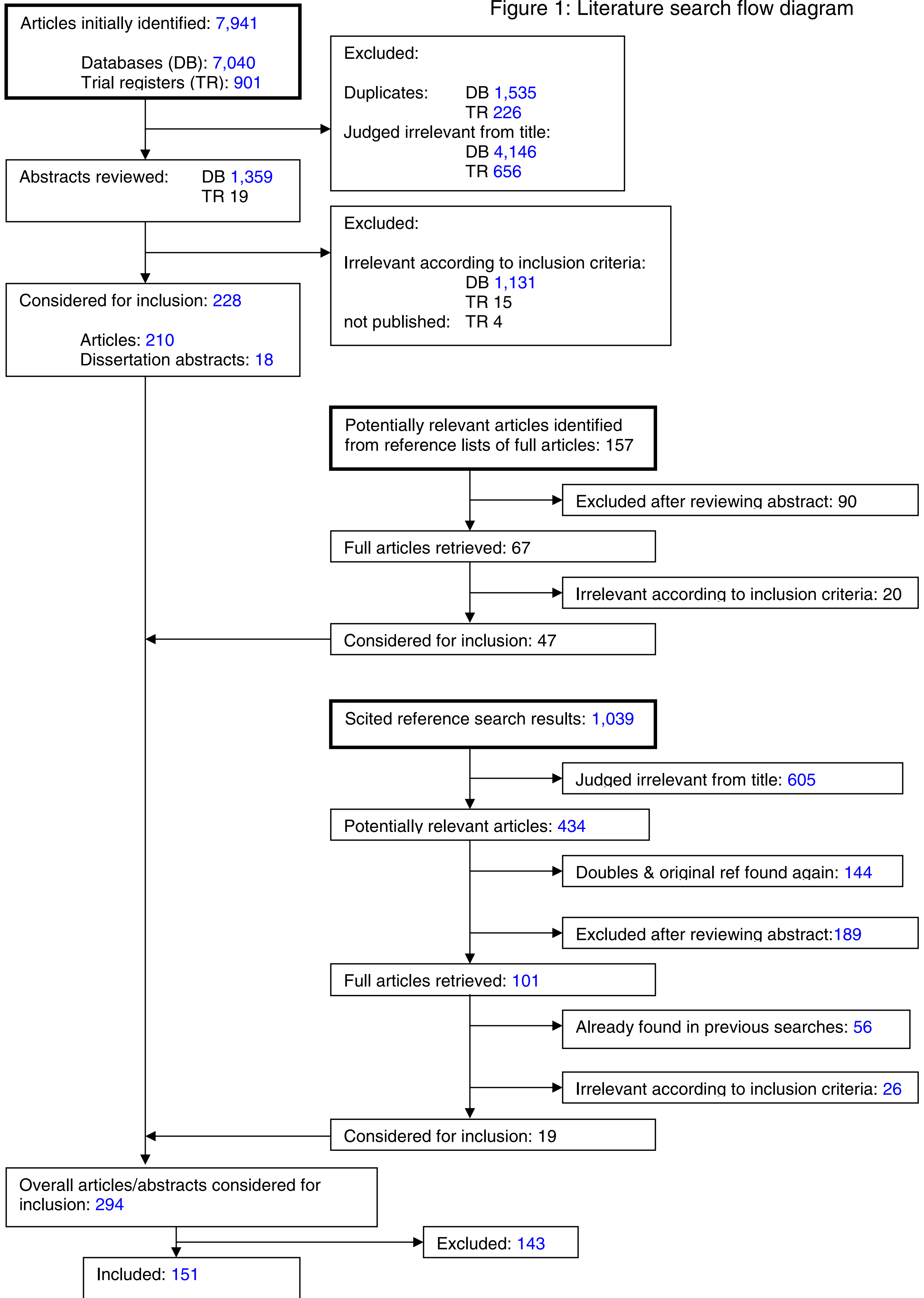

Figure 1: Literature search flow diagram

Table 2: Emergent dimensions from proposed definitions (n=49) of hope

DIMENSIONS \ TARGET POPULATION		Severely, chronically, and/or terminally physically ill patients																	Elderly			Mentally ill						
	Reference Number	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
TIME	Future reference	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Past experiences, memories	x	x	x						x							x	x	x	x	x				x			
UNDESIRABLE STARTING POINT	Undesirable baseline necessary or implicit		x	x	x		x		x	x	x	x	x	x	x		x		x	x		x			x		x	x
	Undesirable baseline possibly important	x				x												x										
GOALS	Goals (nature unspecified)			x		x					x					x	x	x			x	x						x
	Specific goal	x	x		x		x		x			x	x	x	x				x	x			x		x	x	x	
	General broad outcomes	x	x		x		x		x	x		x	x	x	x				x	x			x	x	x	x	x	
	Personal significance of outcome	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
LIKELIHOOD OF SUCCESS	Probability / possibility assessment	x	x		x	x	x	x	x		x				x	x			x	x	x	x	x	x				
	Reality reference	x	x	x	x	x	x				x	x	x	x	x			x	x	x		x		x	x			
	Perceived reality / probability is subjective	x	x					x	x				x			x		x	x			x	x	x				
LOCUS OF CONTROL	Personal activity / control	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x		x	x	x
	Environmental / contextual circumstances	x	x	x	x	x	x	x	x		x	x	x	x		x			x	x	x	x	x	x	x		x	
	Importance of health status			x	x				x	x	x	x	x		x		x	x	x	x	x		x	x	x		x	
RELATIONS	Interconnection / relationships	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x
	Outside help / care / medical treatment	x	x		x		x	x	x	x			x	x	x	x	x	x		x	x			x	x			x
	Spirituality / religion	x	x	x	x	x			x		x		x		x		x	x	x	x	x						x	
	Meaning / sense / purpose				x			x		x		x		x	x		x	x	x	x	x			x	x		x	x
	Trust / confidence / comfort	x	x			x		x	x	x		x		x			x							x	x			
PERSONAL CHARACTERISTICS	Inner strength, power, energy, motivation		x	x		x	x			x		x	x	x	x		x	x		x	x			x			x	x
	Individual attributes	x								x	x	x		x	x					x	x			x			x	

DIMENSIONS	TARGET POPULATION	Combination of physically & mentally ill		Professional and family carers for physically or mentally ill patients					Healthy adults, partly distressed					No specific population									
	Reference Number	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61
TIME	Future reference	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Past experiences, memories						x								x	x	x					x	
UNDESIRABLE STARTING POINT	Undesirable baseline necessary or implicit			x	x	x	x	x		x								x	x	x			x
	Undesirable baseline possibly important		x								x			x		x	x						
GOALS	Goals (nature unspecified)												x	x		x	x		x	x			x
	Specific goal	x	x	x	x	x	x	x		x	x	x			x			x			x	x	
	General broad outcomes	x	x	x	x	x	x	x			x	x			x			x					
	Personal significance of outcome	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x
LIKELIHOOD OF SUCCESS	Probability / possibility assessment	x	x	x	x	x	x		x	x		x		x	x	x			x	x	x	x	
	Reality reference		x	x	x	x	x			x								x	x		x		x
	Subjectivity of reality perception		x											x	x	x				x	x		x
LOCUS OF CONTROL	Personal activity / control	x	x		x		x			x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Environmental / contextual circumstances	x	x	x	x			x	x	x	x	x		x	x			x		x	x	x	x
	Importance of health status			x	x	x	x	x											x				
RELATIONS	Interconnection / relationships	x		x	x		x	x	x	x	x	x	x		x	x	x	x	x	x			x
	Outside support / care / medical treatment	x		x	x	x	x	x	x	x						x	x	x					x
	Spirituality / religion	x		x	x	x		x	x		x							x		x			x
	Meaning / sense / purpose			x	x			x		x	x					x			x	x			
	Trust / confidence / comfort	x	x					x				x				x							
PERSONAL CHARACTERISTICS	Inner strength, power, energy, motivation			x						x	x	x	x	x		x	x	x	x	x		x	
	Individual attributes	x		x	x				x	x				x		x	x						

Table 3: Hope assessment scales (n=32)

Scale name	Definition paper (Ref. No.)	Psychometrics paper (Ref. No.)*	Published psychometric evidence			Number of papers applying the scale to MH populations
			Reliability	Validity	Sensitivity to change	
Dispositional Hope Scale	60	64	Yes	Yes	Yes	16
State Hope Scale	60	65	Yes	Yes	Yes	11
Miller Hope Scale	54	54	Yes	Yes	Yes	8
Gottschalk Hope Scale	40	40	Yes	Yes	Yes	7
Herth Hope Index	14	66	Yes	Yes	Yes	7
Hunter Opinions and Personal Expectations Scale (HOPES)	35	67	Yes	Yes	No	5
Children's Hope Scale	60	68	Yes	Yes	Yes	5
Hope Scale	51	69	Yes	Yes	No	3
Expected Balance Scale	53	53	Yes	Yes	No	2
Nowotny Hope Scale	17	17	Yes	Yes	Yes	1
Herth Hope Scale	14	14	Yes	Yes	No	1
Hope Differential-Short (HDS)	19	70	No	Yes	No	1
Hope Numerical Rating Scale	No	71	No	No	No	1
Herth Hope Index Swedish Version	14	72	Yes	Yes	No	0
Nowotny Hope Scale Norvegian Version	17	73	Yes	Yes	No	0
Multidimensional Hope Scale	20	20	Yes	Yes	No	0
The Hope Scale	34	34	Yes	Yes	Yes	0
The Hopefulness Scale for Adolescents	41	74	No	Yes	No	0
Hope Index Scale	47	75	Yes	Yes	No	0
Hope Index	53	76	Yes	Yes	Yes	0
Hope for the Patients' Future	54	77	No	No	No	0

Scale						
Domain Specific Hope Scale	60	78	Yes	Yes	No	0
Health Condition-Specific Hope Scale (for anal fissure)	60	79	Yes	Yes	No	0
Work Hope[21]	60	80	Yes	Yes	No	0
Interpersonal Hope Scale (Japanese)	60	81	Yes	Yes	No	0
Trait Hope Scale Slovak Version	60	82	Yes	Yes	No	0
Stoner Hope Scale	No	83	Yes	Yes	No	0
State-Trait Hope Scale	No	84	Yes	No	No	0
Hopefulness Scale	No	85	No	Yes	No	0
Hope Visual Analogue Scale	No	70	No	No	No	0
Test of Hope-Hopelessness (Spanish)	No	86	No	Yes	No	0
HOPETOT	No	87	No	No	No	0

[*] Only one main reference is given for each scale. Further references for papers on scale evaluation and all studies applying the respective scale can be requested from the authors.

Table 4: Studies investigating the relationship between hope and outcome in mental health patients (n=11)

Ref.	Patient group and diagnoses	Number of Participants	Design	Intervention	Hope measure used	Results
88	Out-patients with depressive and anxiety disorders	32	RCT	Hope based group therapy (8 weekly 2-hour sessions) vs. waiting-list control	State Hope Scale	Pre-treatment hope scores and hope change from pre- to post-treatment were predictors of post-treatment depressive and anxiety symptoms.
89	Psychotherapy clients with depression and distress	Not stated	Uncontrolled psychotherapy outcome study	6 counselling sessions	State Hope Scale	Clients' level of hope prior to treatment predicted clients' reduction in psychological distress, but not reduction in depression.
90	Psychotherapy clients with various diagnoses (mainly depression)	98	RCT	Motivational orientation group vs. waiting list followed by a 12 week individual therapy	State Hope Scale Dispositional Hope Scale	Baseline hope predicted subjective well-being and symptom reduction but not functioning or emotional regulation after 11 therapy sessions Specific baseline hope sub-scores were associated with positive changes in clinical variables in early and later therapy sessions.
91	Young adults with remitted major depression	65	18-months follow-up	None	Dispositional Hope Scale	Cognitive and interpersonal variables (including hope, dysfunctional attitudes and personal problems) did not predict recurrence of depression.
92	Out-patients with dysthymic disorder	20	Controlled clinical trial	3 month Ludiomil vs. no medication (both groups got psychotherapy)	Gottschalk Hope Scales	Pre-drug hope scores correlated positively with improved post-drug immune response.

93	Vietnam combat veterans with PTSD	72	Uncontrolled therapy outcome study	6 to 22 weeks inpatient treatment for PTSD	Dispositional Hope Scale	Baseline hope scores did not differ between completers and drop-outs. Hope scores were positively related with a higher number of coping measures at discharge than at admission. The authors conclude that hope confers a beneficial effect once veterans undergo treatment for combat-related PTSD.
94	Combat veterans with PTSD	Not stated	Uncontrolled therapy outcome study	In-patient PTSD treatment	Dispositional Hope Scale	Hope was not found to have an effect on the level of improvement in PTSD or quality of life.
95	Moderately to severely disturbed children, partly organically impaired	62	Uncontrolled therapy outcome study	Standard day-psychiatric treatment for an average of 2 years (follow-up until 1.5 years after treatment termination)	Gottschalk Hope Scale	Hope scores were a modest predictor of improvement either during day-psychiatric treatment or within 1 to 1.5 years after treatment ended. Children with high Hope Scores at entry to day treatment had higher change scores in Rare Deviance at termination. The organically impaired group's Hope scores were positively correlated with change in Neuroticism scores from treatment entry to termination.
96	People in supported community group homes with chronic mental health conditions	214	RCT	weekly health education vs. empowerment education groups for 1 year (follow-up at 1.5 years)	Cantril self-anchoring ladder*	The Educational Group who at baseline rated low hope for the future had higher per person annual expenditures for health services at 1.5 years, and a 13% (i.e. far higher than average) increase in their Global Life Satisfaction by 1.5 years.
97	Psychotherapy clients	Not stated	Uncontrolled psychotherapy study	5 psychotherapy sessions	Dispositional Hope Scale	No relation was found between hope at pre-treatment and premature termination or readiness for change.

98	Counselling clients	124	Uncontrolled psychotherapy study	3 counseling sessions	Not stated	Hope at therapy intake was the best predictor when outcome was measured in terms of symptom distress, compared with Personal Growth Initiative which best predicted outcome in terms of well-being.

* The Cantril Self-anchoring Ladder rates present, past and anticipated future satisfaction with life. In the paper (83) the latter was regarded as "hope for the future".