Creation of Exhaustive Item Banks: The Role of the Health Sciences Librarian



Mary Lou Klem, Ester Saghafi, Rebecca Abromitis*, David Kupfer, Daniel Buysse, Jill Cyranowski, Mary Amanda Dew, Anne Germain, Frank Ghinassi, Victoria Grochocinski, Douglas Moul**, Sue Eisen†, Thomas Rudy‡ and Paul Pilkonis** *Health Sciences Library System, University of Pittsburgh, **Department of Psychiatry, University of Pittsburgh †Center for Health Quality, Outcomes and Economics Research, EN Rogers Memorial Veterans Hospital ‡ Pain Institute, University of Pittsburgh Medical Center



An asterisk (*) indicates searches tha were limited to article in which the MeSH

reflected a primary focus of the article.

Search terms 1 through 15 are Medical Subject Headings (MeSH).

Search terms 17 through

multiple places within each citation record to

find occurrences of the

INTRODUCTION

An exhaustive search for all known instruments is the critical first step in the development of IRTbased CAT applications (Fries, Bruce, and Cella, 2005).

Health sciences librarians can effectively and efficiently assist investigators in the successful completion of this critical first step, because they have extensive

- knowledge of selection of appropriate information resources, (most suitable sources containing instruments)
- knowledge of database characteristics, such as content, structure, controlled vocabulary, and
- expertise in searching multiple databases This poster describes a successful collaboration between health sciences librarians and PROMIS investigators seeking to develop exhaustive item banks of questionnaires designed to assess emotional distress.

METHODS

Librarians identified and prioritized electronic and print resources from which terms could be derived and used to search for self-report measures of emotional distress (anxiety, depression, sleep, substance use, anger). Resources included:

- well known databases (e.g., MEDLINE, PsycINFO)
- lesser known but highly relevant resources (e.g., Health & Psychosocial Instruments [HaPI], The Contemporary Thesaurus of Search Terms and Synonyms, National Library of Medicine subject headings/classification)

A list of literature search terms was developed using the following iterative process:

- · Librarians harvested controlled vocabulary and selected keywords from the resources they identified
- Vocabulary terms were chosen to reflect three aspects of the search request:
 - emotional domain of interest,
 - concept of assessment or measurement,
 - concept of self report

METHODS (continued)

- Terms were entered into an Access database and forwarded to investigators
- Investigators voted to retain or exclude terms, and had the option to suggest additional search
- A final list of search terminology was developed by librarians based on
 - Vote summaries
 - Expert knowledge of database content/organization
 - Identification and removal of problematic terms (e.g., exceedingly broad terms that could skew search results)

Librarians selected three databases deemed most likely to produce high numbers of relevant instrument citations

- MEDLINE.
- PsycINFO,
- Health and Psychosocial Instruments (HaPI)

Librarians utilized expert search techniques:

- Search statements were extensive lists of terms (Table 1)
- Initial searches were refined by
 - limiting to studies that utilized adults (excluding studies of children or adolescents)
 - limiting to citations in which the relevant emotional domain was a major focus of the original journal article
 - limiting to English language journals
 - using expert judgment to selectively add or delete search terms based on preliminary search results

Each set of results was then submitted for review to PROMIS investigators.

RESULTS

Initial number of search terms harvested from print/electronic resources	3651
Final number of terms approved by librarians and investigators for literatur searches (across all five emotional domains)	2829 re

RELEVANT CITATIONS RETRIEVED

Domains of emotional distress	PsycINFO	MEDLINE	HaPI Health and Psychological Instruments	TOTAL	Instrument Identified
Anxiety	762	553	423	1738	145
Depression	293	547	364	1204	75
Sleep	61	136	338	535	78
Substance Use	195	680	540	1415	64
Anger	105	285	887	1277	25
	1416	2201	2552	6169	387

CONCLUSIONS

Collaboration between PROMIS investigators and librarians led to comprehensive searches for existing measures of emotional distress, and identification of numerous potentially relevant instruments for inclusion in item banks.

IMPLICATIONS

Development of IRT-based CAT applications must include identification of existing measures of the constructs of interest. Inclusion of librarians, as expert searchers, in this process insures that literature searches will be effective (on-target and comprehensive) and efficient.

REFERENCES

Fries JF, Bruce B, Cella D. The promise of PROMIS: using item response theory to improve assessment of patient-reported outcomes. Clin Exp Rheumatol. 2005 Sep-Oct;23(5 Suppl 39):S53-7.

Supported by the National Institutes of Health through the NIH Roadmap for Medical Research, Grant U01 AR052155. We would like to acknowledge the constributions of all Pittsburgh PROMIS co-investigators and staff.

Table 1 Council statements read to identify m

٦		MEDLINE	PsycINFO	
П	1	1 "mood disendent or "affective disendent, psychoticl or "bipolar disender! or "sylathymic disender! or "deparative disender! or "deparative perspannation" adaptaseive disender, najori or "dysthymic disender! or "automal affective disender! 2 "affective symptoms!	Action of the Lang	١
П		Toward and a control of the con	3 Adaptive Tecting/ 4 Adult Animales/ 5 Adult Mills (1)	1
П		3 *departion/ 4 *adjustment disorders/	A Account Management A Account Management A Account Management B BBA CORE B BBA CORE C Compare Account Tenger C C C C C C C C C C C C C C C C C C C	1
Ш	\mathcal{A}	5 orli-4 6 Realth Status Indicators/ 2 Octobre Assessment (Health Count)	8 ATTITUDES/ 9 REHAVIOR/	
	/)	8 Predictive Value of Texts/ 9 PSYCHOMETRICS/	10 Rehavior Analysis/ 11 Rehavioral Assessment/	Т
П	/	10 QUESTIONN/ARES/ 11 Reproducibility of Results/	12 Clinet Attinutes! 13 Computer Assistand Testing!	Т
1	′	12 BOC Curve! 13 Sensitivity and Specificity!	15 Consumer Surveys/ 15 Consumer Surveys/ 16 Consumer Surveys/	Т
П	(14 Psychological Tests/ 15 exp treatment oncome/	17 Coping Behavior 18 Criterion Referenced Texts/	Т
_	1	17 "Series person narrative" mp.	19 Catting Scotts/ 20 Data Collection/	Т
		10 "patient discy" rep. 20 "patient disclosus" rep.	10 Rehmand Autonome 11 Compan Constant Touring 12 Compan Constant Touring 13 Comman Marrier 14 Comman Marrier 15 Comman Marrier 16 Comman Marrier 16 Comman Marrier 17 Comman Marrier 18 Comman	Т
		21 "patient inventory". 22 "patient journal".mp	10 STATE AND	Т
		23 "perional monitolog" rep. 24 "perional manutive" rep	26 Geriatic Accounted 27 Group Texting	Т
		26 "personal account" mp. 27 "personal accountment" mp	25 Health Aminade/ 29 Health Robanical 30 IS or 15 or 17 or 17 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 25 or 27 or 28 or 29	Т
		28 *perional diary*.mp. 29 *perional disclosure*.mp.	30 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 31 Health Screening!	Т
		30 "personal estimate".mp. 31 "personal avaluation".mp	33 Individual Testing/ 34 INTERVIEWS/	Т
1		32 "personal investory" mp. 33 "personal journal" mp. 34 "mensonal mostlerrine" mp.	15 INVENTORIES/ 16 ham Response Theory/	Т
	J	35 "personal menerobrances" mp. 36 "personal seport" mp.	37 Liker Scales/ 38 Magnitude Estimation/	Т
	一(37 "raif account".mp 38 "raif analysis".mp.	JB Maid Sulveys 40 MEASUREMENT/ 41 Moderal Teamorie/	Т
		39 "call according" mp 40 "call declorate" mp	42 Mathdamonional Scaling/ 43 Neuropsychological Assessment/	Т
		42 "salf estantion".mp. 42 "salf estantion".mp. 43 "salf invance" mp.	44 Nonprojective Personality Measures 45 Pain Measurement/	Т
_		64 "call knowledge".mp 45 "call monitoring".mp.	12 Later Calcar	Т
		46 "salf namnive".mp. 47 "salf perception".mp.	49 Pancality Macazas/ 50 Pancality Macazas/	Т
		48 "salf provinceion".mp. 49 "salf recollection".mp.	51 physical illness (attitudes toward)/ 52 POSTTESTING/	Т
		50 "sall import" imp. 51 "sabjective assessment" imp. 52 "sabjective assessment" imp.	53 Profession Manuses/ 54 PREFERENCES/	
		53 'subjective disclosum' mp. 54 'subjective inventory' mp.	55 PRETESTING/ 56 Profiles (Measurement)/	1
	- (55 "cabjective narrative", mp. 56 "cabjective recellection", mp.	57 Psychiatric Evaluation 58 PSYCHOERAGNORIES	- \
		57 "sabjective report".mp. 58 or17-57		
		59 S and 16 and 58 60 Emit 59 to (humans and english language) 61 Emit 60 to (humans and english language) 61 Emit 60 to (humans and english language)	62 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 63 Quality of Life?	-
		years)* or "newborn infact (birth to I month)* or "infact (I to 23 months)* or "provided child (2 to 5 years)* or "child (6 to 12 years)* or "adolescent (I3	64 Quality of Work Life/ 65 QUESTIONN AIRES/	1
		to 18 years)*) 62 60 not 61	66 RATING/ 67 Rating Scales/	1
			1	ı
			71 RESPONSES/ 72 Scaling (Testing)	Т
			73 Scoting (Testing)/ 74 SCRENING/	Т
			75 Sall Care Stiller	Т
			79 Standard Scores / 79 Standard Scores /	Т
			90 Structured Clinical Interview/ 81 SURTESTS/	Т
			82 SURVEYS/ 83 Sympton Checklists/	Т
			50 Samuraci Canal Baranasi 51 Samuraci Canal Baranasi 52 Samuraci Charles 53 Samuraci Charles 54 Samuraci 55 Samuraci 56 Samuraci 57 Samuraci 57 Samuraci 57 Samuraci 57 Samuraci 57 Samuraci 58 Samur	Т
			10	Т
			99 Text Reliability/ 90 Text Scome/	Т
			90 Text Standardization/ 92 Text Validity/	Т
			90 TESTING/ 94 Treatment Effectiveness Evaluation/	Т
			10 Treatment Oriconnect/ 96 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 97 25 or 20 or 80 or 91 or 92 or 93 or 94 or 95 or 95 or 97 or 98 or 98 or 98 or 98 or 93 or 93 or 93 or 94 or 95	Т
			98 30 or 46 or 62 or 77 or 96 or 97 99 Affective Exceeding	Т
			100 Affective Psychocis/ 101 Assolitie Depression/	Т
			102 ANREDONIA/ 103 Ripolar Disorden/	Т
			104 Cyclothymia Parconality 105 Deprecion (Emotion)	Т
				Т
			100 Involutional Department 110 Major Department	Т
			111 MANIA 112 Postpartus Depussion 1	
			113 Reactive Depression/ 114 SADNESS/	1
			100 Institution Department	1
			118 Tourness Recistant Department 119 Recurrent Department	/
			120 60 or 100 or 100 or 102 or 102 or 103 or 104 or 105 or 106 or 100 or 100 or 100 or 110 or 111 or 112 or 113 or 115 or 115 or 117 or 117 or 112 or 113 or 115 or 117 or	or 114
			121 Inst person naturation sup. 122 parisant account sup. 123 parisant disay, sup.	_
			The state of the s	
			124 prices dictiones up. 25 prices (excloses up. 25 prices) proximation. 27 (prices and remainment and control of the control	
			128 (perconal adj.) accounts, mp. 129 (perconal adj.) accordinates, mp.	
			131 (perconal adj i delikomat) mp. 122 (perconal adj i estimat) mp.	
			120 pressmal adj. access constraints	+
			125 (perconal adj i journal5) mp. 136 (perconal adj i monitor5) mp.	
			155 (percunal da) junculify np. 167 (percunal da) manufely np. 177 (percunal da) amendrely np. 178 (percunal da) manufely np. 178 (percunal da) nportici np. 178 (percunal da) nportici np. 178 (internal percunal paper)	
			199 (perconal adj 1 minositrance5) sap. 140 (perconal adj 1 mpor5), mp.	
			141 (solf ad l accounts) mp. 142 (solf ad l analysis) mp. 143 (solf ad l accounts) mp.	
			1-0 (colf adj 2 accessments) rap. 1-14 (colf adj 2 discionents) rap. 1-15 (colf adj 2 colimants), rap. 1-16 (colf adj 3 colimants), rap. 1-17 (colf adj 3 known loop) rap.	
			146 (salf adj l isvostoch), mp 147 (salf adj knowledge), mp.	
			148	
			101	
			153 trablaction and Sectionary ma	

Search terms 1 through 119 and 159 through 162 are PsycINFO subject headings.

Search terms 121 through 157 are keywords, i.e., the searches examined multiple places (title, abstract, subject headings table of contents, key concepts) within each citati record to find

"Adj1" requires "Adj1" requires
that the search
terms occur within
one word of each
other, and the
truncation symbol
(\$) picks up
multiple terms with
the same prefix.
Thus, this command will identify records that contain phrases such as: personal narrative, personal narratives,

personal narrating narrating per narrating of personal.

or subject areas by using PsycINFO classification codes