Is PAC Analysis a mixed methods research?

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名前:
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平和的手段による紛争転換NGO
トランセンド研究会

JRAPS
心理科学研究会

JISD Japan IsraAID

2015年

R192 安氏洋子・いとうたけひこ (2015). 保育者の死生観を育む表現教育の実践的研究３：鑑賞と作詞・作曲活動の学生アンケートのテキストマイニング　福岡女学院大学紀要, 16,55-63. (PDF) (リポジトリ)

R190 いとうたけひこ (2015). テキストマイニングによる被災体験学（Disaster Experience Research）への混合研究法アプローチ：死に関する表現と心的外傷後成長（PTG）　東西南北2015：和光大学総合文化研究所年報, 104-116.(ITO Takehiko　Disaster Experience Research: A Posttraumatic Growth Perspective. Tozai Nanboku: Bulletin of the Wako Institute of Social and Cultural Sciences 2015. (PDF)

R189 Ito, T. & Goldstein, K. (2015). Tohoku stories: Identifying happy themes of disaster relief Journal of International Society of Life Information Science, 33(1), 70-75. (PDF)

2

What is PAC Analysis?

- Personal Attitude Construct (PAC) Analysis was proposed by Tetsuo Naito (1993, 1997)

- as a method to seek the individual structure of attitude

- using visualization (dendrogram) and a dialogical interview.

PAC分析実施法入門
［改訂版］
「個」を科学する新技法への招待

内藤哲雄 著

ナカニシヤ出版
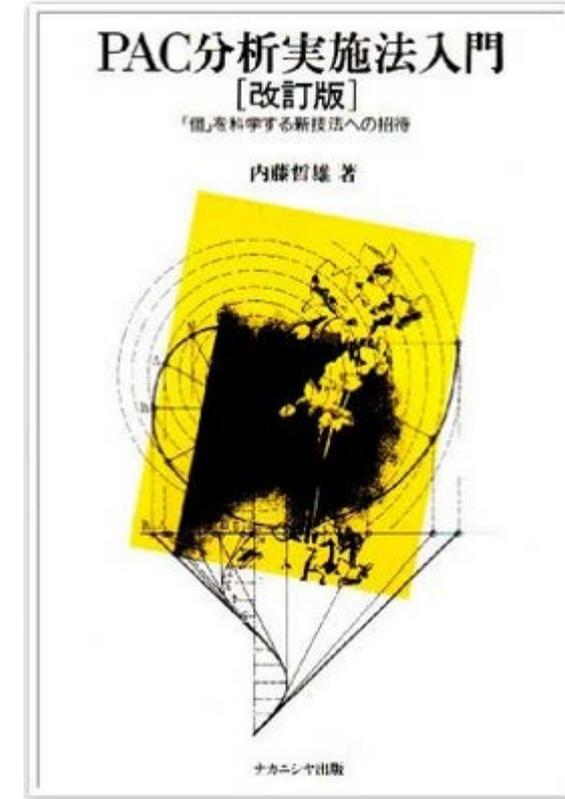
Two unique research methods
made in Japan often referred as qualitative research methods

- PAC Analysis

(個人別態度行動分析)

- Trajectory Equfinality Approach

（複線径路等至性モデル）
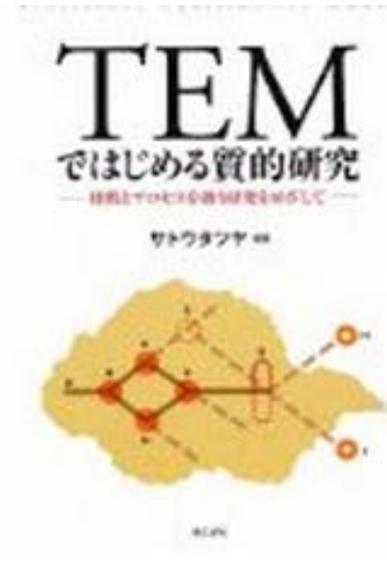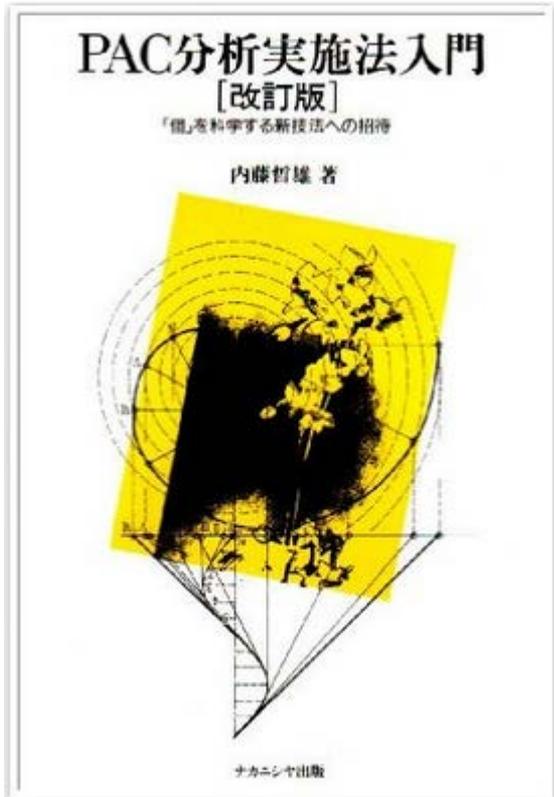
Is PAC Analysis a qualitative research or a mixed methods research?

- Inoue and Ito (2011) argued that the PAC Analysis is one of multiplied mixed methods(乗算的ミックス法),

- while the mixed methods research is usually referred to not multiplicative（かけ算的）but additive combination（足し算的）of qualitative and quantitative approaches.

PAC分析研究・実践集〈2〉
哲雄, 内藤、 たけひこ, いとう

Purpose of my presentation

- The purpose of the present research is to characterize PAC Analysis from the perspective of mixed methods research.

- PAC分析は質的研究か？　混合研究法か？
- QUAL？ or MMR ？

Creswell and Fetters' Workshop
at MMIRA Conference in Boston College, 2014

The Science of Mixed Methods

John W. Creswell, Ph.D. University of Nebraska-Lincoln

Michael D. Fetters, MD, MPH, MA University of Michigan

Workshop Presented at the MMIRA International Conference,
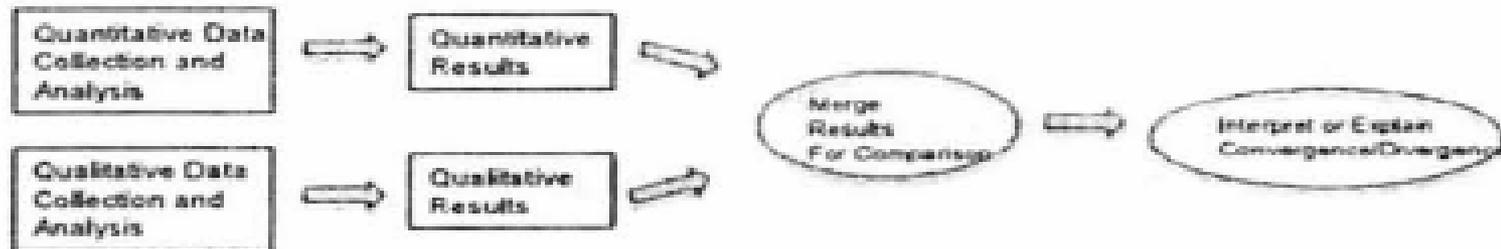Boston College, Boston, USA June 29, 2014

What I learned：３ types of basic MMR
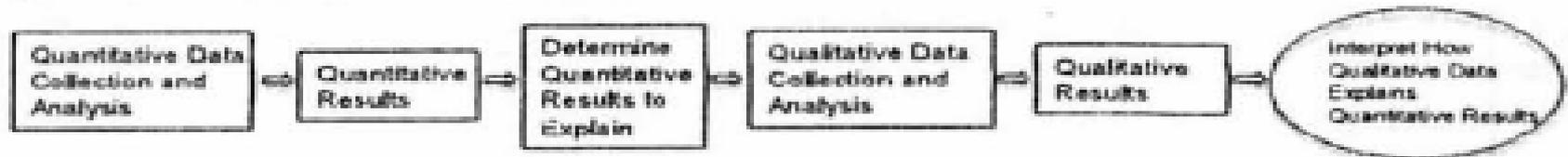# ①収斂型　②順次説明型　③順次探究型
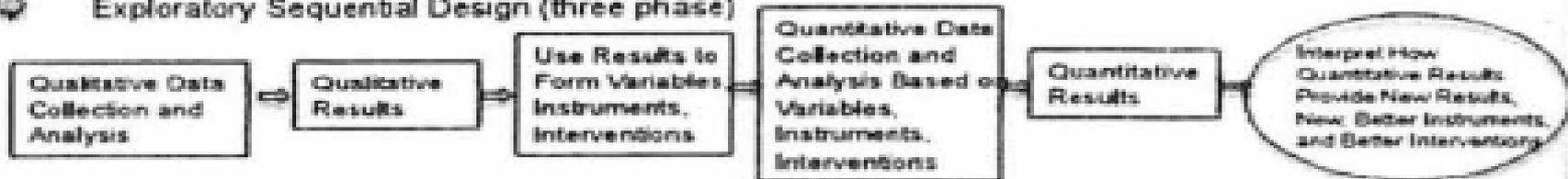

Basic Mixed Methods Designs

Convergent Parallel Design (one phase)

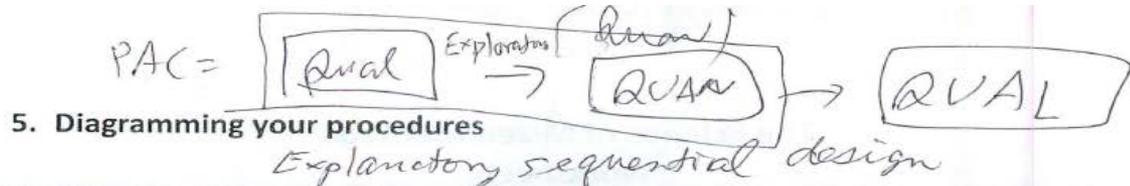Quantitative Data Collection and Analysis → Quantitative Results →

Qualitative Data Collection and Analysis → Qualitative Results →

Merge Results For Comparison → Interpret or Explain Convergence/Divergence

Explanatory Sequential Design (two phase)

Quantitative Data Collection and Analysis → Quantitative Results → Determine Quantitative Results to Explain → Qualitative Data Collection and Analysis → Qualitative Results → Interpret How Qualitative Data Explains Quantitative Results

Exploratory Sequential Design (three phase)

Qualitative Data Collection and Analysis → Qualitative Results → Use Results to Form Variables, Instruments, Interventions → Quantitative Data Collection and Analysis Based on Variables, Instruments, Interventions → Quantitative Results → Interpret How Quantitative Results Provide New Results, New Better Instruments, and Better Interventions

My worksheet (2014): Phase, Procedure, and Product of PAC Analysis

Today (I year and 3 month later)

PAC Analysis as an Explanatory sequential design (Takehiko Ito: JSMMR Sep. 20, 2015)

	Phase	Procedure	Product	Fig. & Table
	Experiment	Stimulus sentence(n=1) →	· Associated word items	
QUAL	Qualitative data Collection	· Word association		
quan	Qualitative data Quantification	· Paired-words → numeral rating	· Distance Matrix	
quan	Quantitative data Analysis	· Cluster Analysis (or MDS) →	Dendrogram (Constellation)	
QUAL	**Interview** Qualitative data Collection based on Quantitative results	· Asking the meaning of each cluster and higher clusters →	· Dialogue narrative · Cluster name and Cluster meaning	
	Qualitative data Interpretation	· Cooperative Dialogue to final interpretation →	· Explained dendrogram	
	Qualitative Interpretation	· Categorization →	· Summarized category table	
	Integrated Interpretation	· Interpretation & holistic explanation →	· Results and Discussion	

Japanese version

順次的説明的デザインとしてのPAC分析（いとうたけひこ：take@wako.ac.jp）

段階	手続き	結果	図表

QUAL 質的データ — 実験：連想語のクラスター分析
- 質的データの収集 ← 質問文(n=1) ・言語連想法 → ・連想語

quan 量的データ — 質的データの数値化 ← ・連想語間の距離の数値化 → 連想語間の距離行列

quan 量的データ — 量的データの量的分析 ← ・クラスター分析（または MDS）→ デンドログラム（樹形図）（MDSによる布置図）

QUAL 質的データ — 面接：対話による現象学的理解
- 量的分析に基づく質的データの収集 ← ・それぞれのクラスターとより高次なクラスターの意味を聴く → ・対話的語り ・クラスターの名前 クラスターの意味

- 質的データの解釈 ← ・デンドログラム（樹形図）の現象的解釈を対話により共同で行う → ・物語られた（記述された）デンドログラム

- 質的な解釈 ← ・カテゴリー化をおこなう → 要約されたカテゴリー化表

- 総合的解釈 ← ・解釈と全体的説明 → ・結果と考察の記述

Phase ① QUAL （open-ended questions）
Procedure: By stimulus sentence (n=1),
Word association (語連想)produces
Product: An associated word (or sentence) item list

Table 1 連想項目一覧

想起順	内　　　容	重要順
1	テレビの放送が終った時	⑭
2	パーティーの後	⑪
3	誰かに片想いしている時	②
4	信じていた人に裏切られた時	①
5	絶望する	⑯
6	自分の居場所がない	⑥
7	泣く	③
8	音楽を聞く	⑩
9	誰かに電話をする	⑤
10	アルバムを見る	⑮
11	遠くにいる人に手紙を書く	⑫
12	日記を書く	⑦
13	周囲に人がたくさんいるのに知ってる人がいない	⑬
14	独り言を言う	④
15	花を買う	⑧
16	お酒を飲む	⑨

Phase ② quan (closed-ended questions)
Procedure: Paired-words rating of distance
Product: Distance Matrix

Table 2　連想項目間の類似度距離行列

（行列の○内の番号は各項目の重要順位）

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
①	0															
②	4	0														
③	1	1	0													
④	3	3	2	0												
⑤	2	2	4	6	0											
⑥	1	3	3	2	5	0										
⑦	2	2	6	1	3	2	0									
⑧	6	1	6	4	3	1	5	0								
⑨	1	6	2	2	3	6	3	5	0							
⑩	5	3	1	2	3	3	1	1	5	0						
⑪	7	1	6	2	6	7	5	7	3	4	0					
⑫	2	5	4	1	1	3	1	7	3	7	6	0				
⑬	3	3	2	6	1	1	6	2	4	2	6	2	0			
⑭	7	6	4	2	6	4	6	7	5	4	1	6	6	0		
⑮	2	2	5	2	2	2	6	5	6	3	3	2	2	6	0	
⑯	1	3	6	6	6	2	6	7	6	6	7	7	7	7	5	0

Phase ③ quan (multivariate analysis)
Procedure: Cluster Analysis by Ward Method
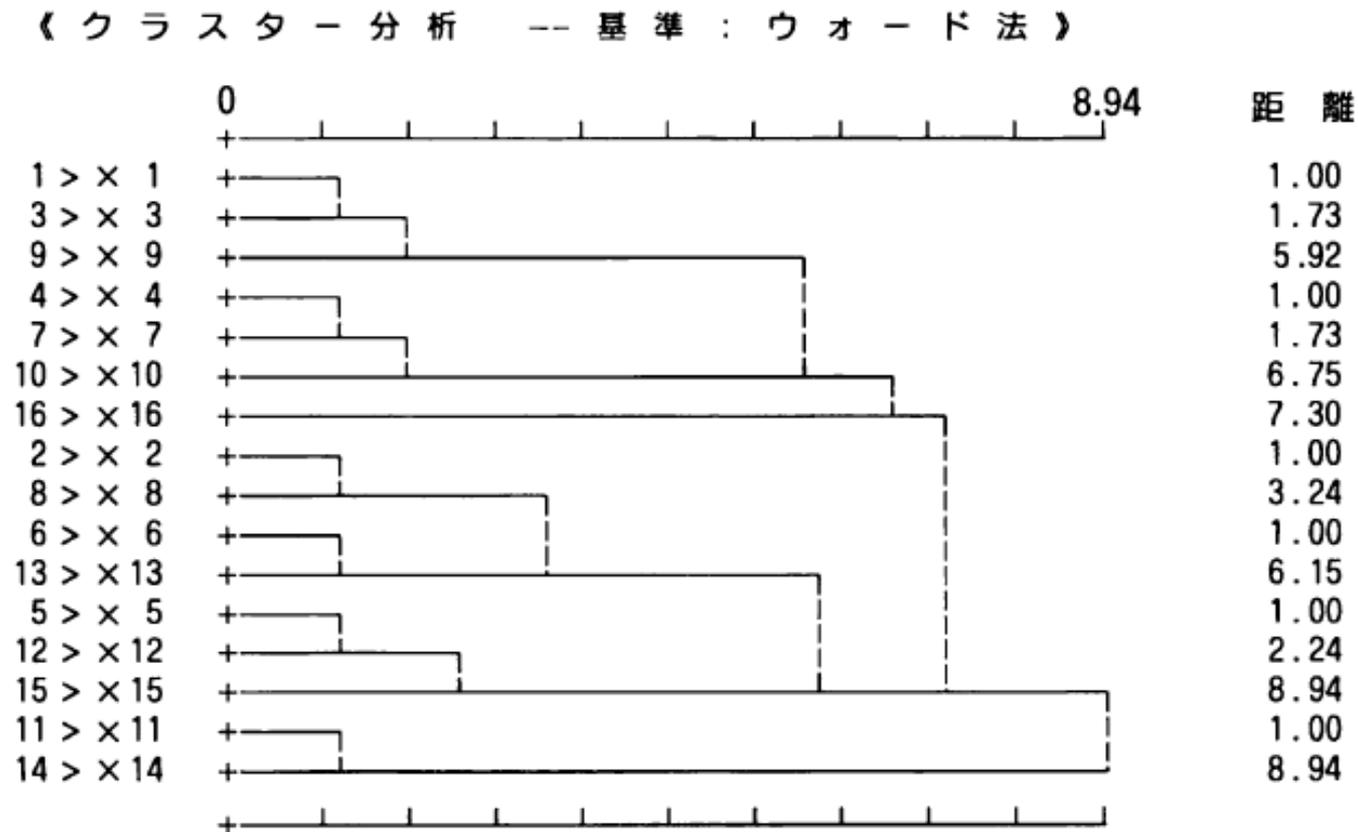# Product: Dendrogram (樹形図)

Fig. 7 デンドログラム

Phase ④ quan → QUAL (open-ended questions)
Procedure: Ask the meaning of each and higher clusters
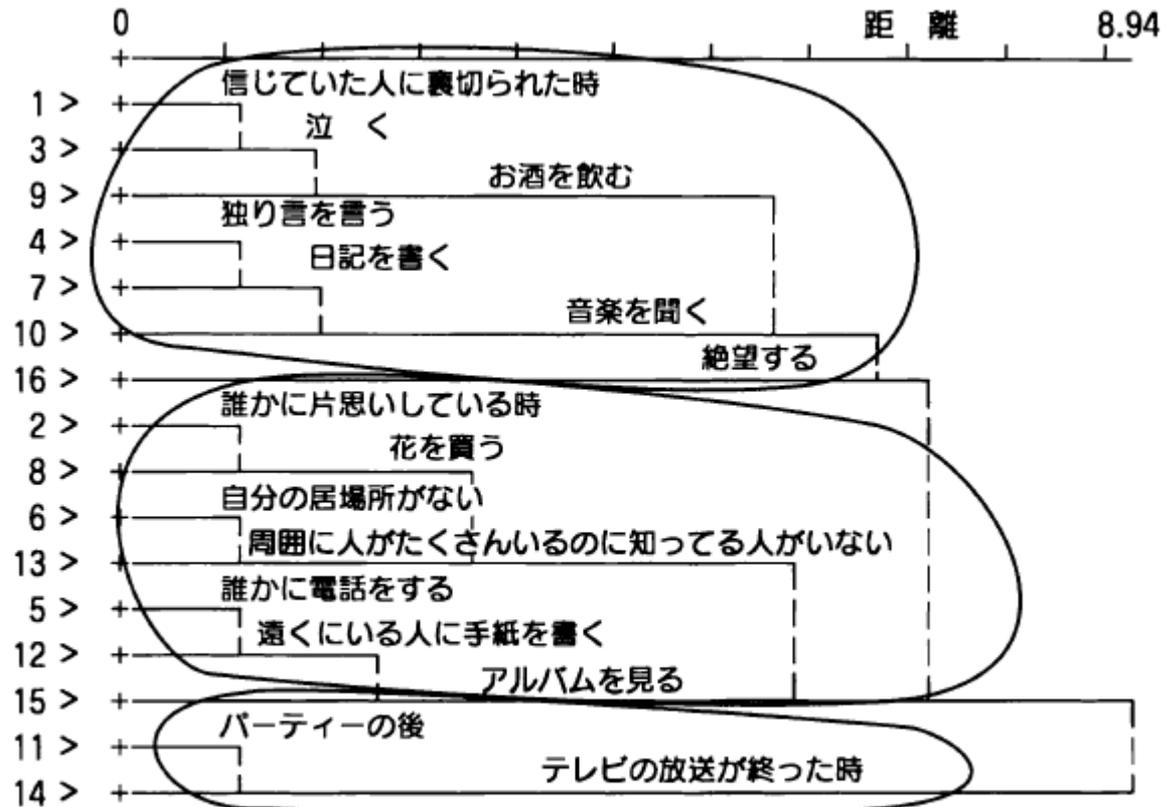Product: Dialogue narrative & cluster name (=meaning)

Fig. 9 実験者によるクラスター分割の原案
1)左の数値は重要順位

Phase ⑤: Interpretation(open-ended questions)
Procedure: Cooperative dialogue to final interpretation
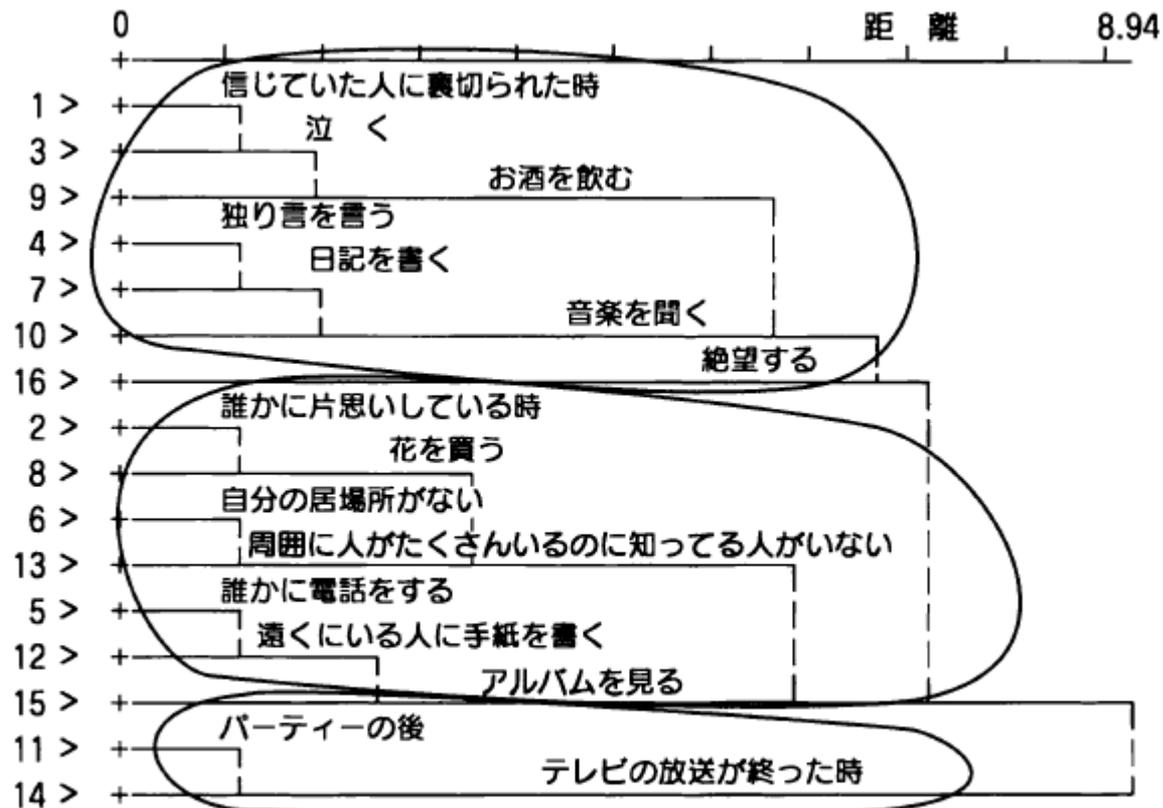Product: cluster name (=meaning) &
        fully explained dendrogram

Fig. 9 実験者によるクラスター分割の原案
1)左の数値は重要順位

Phase ⑥ (for dialogue with non-PACA users)
Procedure: Categorization of clusters
Product: Summarized Category Table

内海裕里花・内藤哲雄・七海隆之（2014）コンパニオンアニマルへのフラストレーションと攻撃行動：飼い猫を対象としてのPAC分析　PAC分析学会第8回大会プログラム・発表抄録集, 17-21.
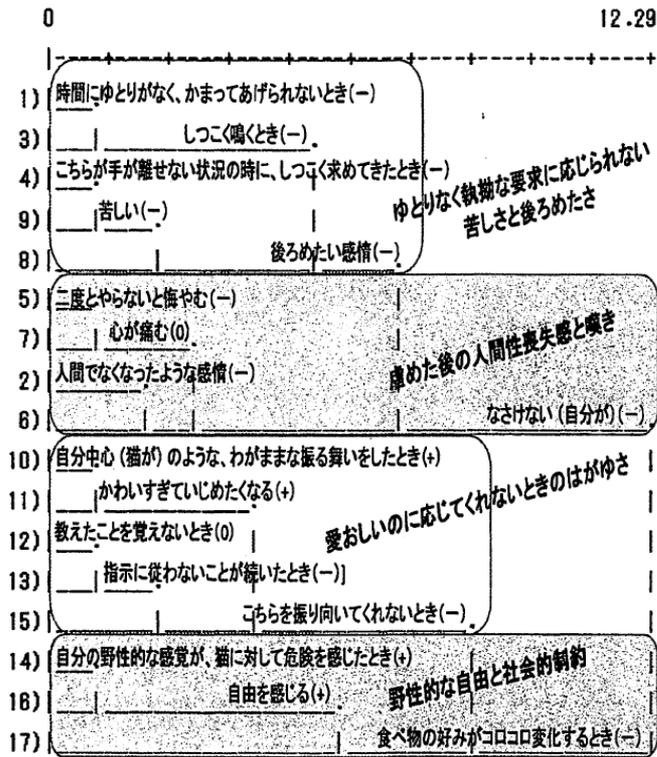
Fig.1　被検者 A のデンドログラム
1)　左の数値は重要順位
2)　各項後ろの（　）内の符号は単独でのイメージ

テーマ	2 Clusters	3 Clusters	4 Clusters	17 Items
フラストレーション	コントロール可能	苦しいとか心が痛むような重苦しいモヤモヤした感情	ゆとりなく執拗な要求に応じられない苦しさと後ろめたさ	
			いじめた後の人間性喪失感と嘆き	
	コントロール不可能	可愛さとままならぬこととの矛盾	愛おしいのに応じてくれない時の歯がゆさ	
		わがままだが野性的な力強さ	野性的な自由と社会的制約	

Phase ⑦: Interpretation
Procedure: Integrated holistic explanation
Product: Discussion & Conclusion

DISCUSSION

t was a Chinese female gradu-
Cluster analysis clarified her
terpretation of the characteris-
se interpersonal relationships.
ister, labeled "group activity
ue of modesty," involved posi-
The second cluster, labeled
personal relationships and ac-
," revealed self-alienation. The

personal structui
should be measu
personal cognitiv
accessed items a
ual. This single
student's schema
relationships is th
scientific operat
analysis, and the
cability of PAC ar
personal relation:

Discussion:

- According to the characteristics of its procedures, PAC Analysis can be identified as a mixed methods research by sequentially combining QUAL and QUAN data collection and analysis.

- PAC Analysis as *Explanatory sequential design*
  (or is it **Exploratory** sequential design?)
  (or a qualitative approach with visualization?)

Discussion (2)

- PAC Analysis method is a powerful approach as a research and counseling tool (Inoue, 1997, 1998).

- Its advantages are:

- (1) visualizing an individual's inner world,

- (2) analyzing shared words and their meanings based on narrative, and

- (3) conducting an evidence-based case study.

Thank you. Comments are welcome

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WELCOME!!

いとうたけひこ研究室へようこそ！

ハートネットTV：沖田×華：発達障がいの 漫画家　NHK にリンクしました。(2015年5月21日)

file6　弱点を笑い飛ばす

付録１：質的研究法としてのPAC分析 as a Semi-Automatic Thematic Analysis

- Thematic Analysis (Boyatzis, 1998): = A process to be used with qualitative information. It is not a another qualitative method but a process that can be used with most, if not all qualitative methods (methods of data collection).

- Thematic analysis is a process for encoding qualitative information.

- 'A research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns' (**Hsieh & Shannon, 2005**)

- PAC Analysis =Thematic Analysis + Relational Analysis (Ito, 2014)

付録２：Thematic Analysisの結果の表示例
Bicquelet(2014)の資料より

Themes	Category	Sub-category	Statements
A. The causal explanati-ons of the overweight	1. Internal	Diet	P: ..I can easily see how it's our diet...
		Exercise	P: He doesn't move at all...
		Psychology	C: when I am done crying, then for some reason I always feel that I deserve something because I feel sorry for myself, and then I get hungry too
	2. External	Genetic explanations	P: they say that you inherit it from your family, just like my mother, she is fat, I am fat,
		Previous illness	P: Then she had an operation and had them out and since then she's been like yeast that grows and grows..."
		Incomprehensible	P:...all of a sudden at the age of three, things started going the other way
B. Motivating for lifestyle modification	1.Short perspective	Avoid bullying	C: ...so no one will tease me and, uh, and because I have seen other children being teased with 'Fatty, fat sow'
		Looks	C: Because then I can wear a cropped top
		Physical	C: I want to be able to run fast
	2. Long term per-spective	Health	P: ...Embolism and stuff.
		Before puberty	P: ...in 2 years, when you want to be attractive and wear make up and the boys will be interesting and so on....
C. Problem location - Assigning responsibility within the family	1. Whole family	All family	P: We could both use some exercise
		Some members	P: Because I'm probably the one who does not really give any thought to the fact that there shouldn't be fatty stuff in the food ... So it's probably me".
	2. Child	Different	P: If she starts here, if she exercises more, then she will lose weight. 'Coz we're not changing food or anything, we're not doing that
		Just the child	P: ...that the food mum and dad serve is fine, but if you don't get out there and exercise...

C = child, P = parent