OFFICE OF SCALE RESEARCH

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How Much Commonality Exists Among A_{ad} Scales?

by

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HOW MUCH COMMONALITY EXISTS AMONG A_{ad} SCALES?

How brand choice behavior is influenced by advertising has been a primary concern of marketing practitioners and scholars for many years. Articles written by Mitchell and Olson (1981) as well as Shimp (1981) are generally credited with introducing and suggesting the importance of $\mathbf{A_{ad}}$ as a mediator of advertising's effects on brand attitude. Following Mitchell and Olson (1981), most researchers operationalize $\mathbf{A_{ad}}$ using semantic differential scales (Allen and Madden 1989). Although there have been general observations of the lack of commonality among these $\mathbf{A_{ad}}$ scales there has been no known detailed examination of the *degree* of the problem. This paper compares the variety of scales used in the study of $\mathbf{A_{ad}}$ and attempts to determine what, if anything, they have in common.

Background

One of the most thorough meta-analysis published in recent years in the field of advertising focused on studies of ad attitudes (Brown and Stayman 1992). Because significant variation across studies was found, a number of methodological variables were identified as potential moderators of the relationships found in $\mathbf{A_{ad}}$ research. A key methodological issue not given in-depth consideration was the diversity of conceptualization and operationalization of $\mathbf{A_{ad}}$. The possibility exists that the variety of instruments used over the years have not had as much in common as their names might suggest. Indeed, concern has been expressed over the last decade that researchers are not carefully specifying the domain of the $\mathbf{A_{ad}}$ construct and are not validating their measures (e.g., Allen and Madden 1989; Burton and Lichtenstein 1988; Wright 1986).

Despite these critical observations, a comprehensive review of the ways $\mathbf{A_{ad}}$ has been operationalized has not yet occurred. However, some preliminary understanding of the

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problem's depth can be gathered from other sources. For example, a review of advertising-related scales indicated that measures of $\mathbf{A_{ad}}$ were employed in far greater frequency that any other scaled measure (author 1993). Likewise, even a casual observer of the measures listed in the ***Marketing Scales Handbook*** (Bruner and Hensel 1992) can note that, with the possible exception of $\mathbf{A_b}$ scales, semantic differential measures of $\mathbf{A_{ad}}$ have been used more than any other scales in the whole field of scholarly marketing-related research. With further examination it is also clear that there has been a considerable lack of consistency in the items used to measure $\mathbf{A_{ad}}$. Researchers have produced a mélange of scales over time with little observable similarity among them all except that they are purported to measure something related to $\mathbf{A_{ad}}$.

Part of the reason why a variety of scales have developed is because there is no one accepted theory of attitude structure. Therefore, different views of $\mathbf{A_{ad}}$ have led to the development and/or use of different measures. Some of the scales have been described as global or evaluative measures of $\mathbf{A_{ad}}$ consistent with the single-component view of attitudes popularized by Fishbein (e.g., Fishbein and Ajzen 1975). In contrast, other researchers have viewed $\mathbf{A_{ad}}$ as being multi-dimensional following the thinking of Rosenberg (e.g., Rosenberg and Hovland 1960) and the more recent empirical support provided by Bagozzi (e.g., Bagozzi, Tybout, Craig, and Sternthal 1979).

The concern about different operationalizations is that it can affect the conclusions that are drawn regarding the presence of significant relationships with other variables of interest. There is certainly evidence of this in past research. For example, in several studies where multiple measures were used the conclusions drawn about the significant relationships of one measure are different from those drawn regarding the other measure (Olney, Holbrook, and Batra 1991; Okechuku and Wang 1988; Petroshius and Crocker 1989). Work by Burton has most particularly raised this issue (Burton and Lichtenstein 1988; Burton and Zinkhan 1987). Admittedly, these studies were attempting to measure different dimensions of $\mathbf{A_{ad}}$ so it may not be surprising that different sets of items have led to different conclusions. For many

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other studies, however, authors have simply stated that they were measuring **A**$_{ad}$ (or it is implied by other statements) without being explicit as to whether it was **A**$_{ad}$ in general they were attempting to capture or one of its components. When there is a lack of similarity in the sets of items used across these studies how can the reader know whether it was **A**$_{ad}$ in general that was measured or one of its components?

Purpose

Given the descriptions provided by scale users themselves it is reasonable to conclude that while all so-called measures of **A**$_{ad}$ are related in some way they may have little else in common as a group. The question that comes to mind then is, which of these studies are using similar enough scales that they are measuring essentially the same construct? Contrawise, which studies are using such divergent sets of bi-polar adjectives that they are likely to be tapping into different constructs or subconstructs? The statements of scale authors are a help but some more objective guide is necessary for those cases where little or no description of the scale and its intended domain have been provided.

It is not the aim of this study to offer yet another measure of **A**$_{ad}$ nor will the validity and value of individual measures be directly evaluated. Instead, this research will use a precisely specified domain of studies as well as a statistically rigorous analysis to examine the degree of item commonality among **A**$_{ad}$ scales. Although appearing to be a hodgepodge on the surface, some low level structure is anticipated of the data. Specifically, little or no commonality is looked for among the scales as a whole but some identifiable level of commonality is expected within subgroups of scales. It is likely that at least three subgroups will be distinguished: one composed of scales measuring the cognitive component of **A**$_{ad}$, one made up of scales tapping into the affective component of **A**$_{ad}$, and another comprised of global evaluative measures. It is also reasonable to assume that some scales may be unique enough to not fit in any of those groups. If strong evidence of scale groupings is found then it

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should influence how reviews are conducted in the future as well as how researchers select scales for use in empirical study.

Methodology

Scales included in the analysis were identified through a search of the ***Journal of Advertising, Journal of Advertising Research, Journal of the Academy of Marketing Science, Journal of Consumer Research, Journal of Marketing,*** and ***Journal of Marketing Research*** for the period from 1981-1991. This period was selected because it spans the decade that began with the publication of the articles which emphasized the importance of the $\mathbf{A_{ad}}$ construct (Mitchell and Olson 1981; Shimp 1981).

In general, the scales selected for inclusion were limited to those which measured $\mathbf{A_{ad}}$ using at least three sets of bi-polar adjectives, the items were known, and their authors considered them to be measures of **Aad**. Those scales that attempted to measure a behavioral component of $\mathbf{A_{ad}}$ were excluded (e.g., Okechuku and Wang 1988; Perrien, Dussart, and Paul 1985). Further, the analysis was limited to just those measures of $\mathbf{A_{ad}}$ where the ad itself was the object being evaluated (e.g., *The ad was good*) rather than those that focused on one's affective response to an ad (e.g., *The ad made me feel good*.) Finally, although intended to be a census within the defined domain, it is possible that some measures that met the criteria were simply overlooked among the more than 2000 articles that were reviewed.

Given the stated criteria, scale data from thirty-six articles composed the database. Information about each use of an $\mathbf{A_{ad}}$ scale was put into a spreadsheet generating a forty-six (scale uses) by 50 (items) matrix similar to what is shown in the Appendix.[1] In order to simplify the matrix somewhat judgment was used to combine similar items. For example,

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very positive/very negative was considered to be the same for the analysis as **positive/negative**. A list of the fifty semantic-differentials is provided in Table 1.

[Table 1 about here]

Each of the bi-polar adjectives was dummy coded to indicate its presence or absence in a particular scale. Cluster analysis was performed to help determine if there were some "natural" groupings among the sets of items employed to measure $\mathbf{A}_{ad}$. The FASTCLUS routine within SAS was used for the analysis and is based upon MacQueen's K-means algorithm (1967) and Hartigan's leader algorithm (1975). FASTCLUS is an effective means of identifying outliers and is considered to be one of the more popular of the nonhierarchial approaches (Hair, Anderson, and Tatham 1987, p. 332; SAS Institute 1988, p. 494).

Initial usage of FASTCLUS revealed that the nature of the data was greatly distorting the clusters. The numerous outliers made the optimal cluster solution difficult to detect. Given this, a multi-stage process for dealing with outliers was used (SAS Institute 1988, pp. 502). Briefly, this process amounted to performing a preliminary FASTCLUS with a large number of clusters, noting the number of clusters with very low membership, and then deleting the outliers from the development of cluster seeds. Thus, outliers were not allowed to influence the development of the final clusters but were ultimately grouped with the clusters they were closest to.

One of the problems one must deal with when conducting cluster analysis is how to determine the optimum number of clusters that exist in the data. Numerous tests have been proposed to help make this decision but the pseudo F statistic (Calinski and Harabasz 1974) has been found in comparative tests to outperform the other statistics (Milligan and Cooper 1985). The cubic clustering criterion (CCC), which also performed well in Milligan and Copper's tests, is routinely calculated by FASTCLUS and was used in combination with the pseudo F.

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Findings

The evaluative statistics of the FASTCLUS are shown in Table 2. The four cluster solution had the highest pseudo F and CCC. Further support for a four cluster solution came from the fact that the sets of cognitive and affective scales (as described by their users) were placed into different groups. Thus, consideration of the statistics and the reasonableness of cluster assignments led to the selection of the four cluster solution. Table 3 presents the fifty items and the four cluster solution.[2] The items have been ordered to give a sense of the cluster to which they are most closely linked. Further, the percentage of a cluster's scales that have an item in common are also given. The complete matrix of forty-six scale uses by fifty items and identification of outliers is provided in the Appendix.

[Table 2 & 3 about here]

Cluster 1 is the largest group with 22 scale members. Based upon the names given to these scales by their users this cluster clearly represents general evaluative measures of $\mathbf{A_{ad}}$. The three items that characterize most but not of the scales in this group are **good/bad**, **like/dislike**, and **interesting/uninteresting**.

There are nine members of cluster 2 and their names indicate they are related to the affective dimension of $\mathbf{A_{ad}}$. Seven of the scales were specifically described by their authors as measures of the affective component of $\mathbf{A_{ad}}$ although two of the scales were described more generally. The item **appealing/unappealing** is the most distinguishing feature of the group because it was used by all nine members of the cluster and not by any members of the other clusters. The majority of the scales also included the items **pleasant/unpleasant** and **attractive/ unattractive.**

The third cluster appears to be the most unique, contains eight scale uses, and relates to the cognitive dimension of $\mathbf{A_{ad}}$. Although fourteen different items have composed these scales, only two were used in the majority of studies: **informative/ uninformative** and **believable/unbelievable.** It is worthy to note that not one item is held in common by the members of clusters 2 and 3. They are the most distinct groupings of the four clusters as

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would be expected since most of their authors intended them to tap into different subconstructs.

Cluster 4 appears to be a hybrid group with less distinctiveness than the other clusters. Four of its seven members are outliers. The one thing all members have in common is the item **pleasant/unpleasant** although most have **good/bad** as well. The authors of some of these scales considered them to be measures of the affective dimension of **A$_{ad}$** while others appear to have considered their scales to be more general in scope.

Discussion

Ultimately, the groupings found among the **A$_{ad}$** scales were more complicated than originally expected. But, it does seem clear that in the domain examined that there were several similar measures of the affective component of **A$_{ad}$**, several similar measures of the cognitive component of **A$_{ad}$**, and several similar general evaluative measures of **A$_{ad}$**. Beyond that, some scales were outliers of one of the three main groups and there were others that were different enough that they should be viewed as distinct from those in the three main groups.

Except in name, there is a considerable lack of evidence to indicate that the **A$_{ad}$** scales examined in this study have anything in common *as a group*. There is enough commonality, however, in *subsets* of the scales that some "method to the madness" can be inferred. Comparison of each scale's expected group and the group it most closely resembled is provided in Table 4. The expected group is derived from description of the measures provided by their respective authors/users. The actual group refers to the cluster to which a scale was found to be most closely related in this study based upon the commonality of item content.

[Table 4 about here]

Nine of the 46 scales uses did not end up being in the group to which their name or description would lead one to believe it was most related to. A close examination

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reveals that none of the scales in cluster 1 were originally described by their users as anything other than a general measure of **A**$_{ad}$. Most of the scales in cluster 2 were described as measures of the affective component but in two cases they were simply referred to as "**A**$_{ad}$." All of the scales in cluster 3 were described by their authors in such a way that readers knew the measures focused on the cognitive dimension of **A**$_{ad}$. Finally, four of the scales in cluster 4 were described by their authors as simply "**A**$_{ad}$" but had little in common with the bulk of the more common evaluative measures of **A**$_{ad}$. Three of the members of cluster 4 were described as measuring the emotional or hedonic dimension of **A**$_{ad}$ yet they had more in common with evaluative measures than they did with the more typical measures of **A**$_{ad}$'s affective dimension.

Exact delineation of the domain of a construct is supposed to be an important first step in theory development and testing (Churchill 1979; Peter 1981) but it appears from this study that such is not happening in **A**$_{ad}$ research. In fact, only in four studies was information provided that came anywhere close to specifying the domain of the measure to the extent prescribed by Churchill (1979). Specifying the domain is much more than simply saying one is measuring **A**$_{ad}$; "the researcher must be exacting in delineating what is included in the definition and what is excluded" (Churchill 1979, p. 67). Without such specification readers can not have much confidence that a scale measures what an author says it measures nor that it has much in common with other scales of the same name.

Decisions about which scale to use in measuring **A**$_{ad}$ should be guided by the previous studies upon which a study is building. For example, if one desires to measure the affective dimension of **A**$_{ad}$ then it makes more sense to select from among those scales shown here to be in cluster 2 rather than 1. Further, the selection of a scale from within a cluster should be heavily influenced by the evidence provided about a measure's validity.

The strongest recommendation that can be made based on this study is that use of new and different items to measure **A**$_{ad}$ is probably uncalled for. Over half of the scales (25) had been used as a set only once. As Churchill (1979) warned, researchers should provide

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adequate justification for developing new measures when so many are already available because the use of different measures complicates the synthesis of findings. Instead of developing new measures, effort should be invested in evaluating the validity of presently accepted scales. This is not to say that a new and more valid measure could not be developed but that the unbridled proliferation of measures and "cherry picking" of items should be halted.

Summary & Conclusions

It is clear that there is still little consensus regarding the domain of the $\mathbf{A_{ad}}$ construct. Examination of a decade's worth of research published in five top marketing journals found forty-six multi-item measures of $\mathbf{A_{ad}}$ involving 50 different semantic differentials. Although some common content among the scales allowed them to be conveniently clustered into four groups, the fact remains that the majority of scales were unique and have been used only once. At best, this shows a tremendous amount of disagreement about what $\mathbf{A_{ad}}$ is and how it should be measured. At worst, it suggests that there has been too much disregard of previous research, at least as it pertains to measurement. Instead of building upon past measures it has been more typical to reinvent the wheel and create yet more unique measures that are used once and ignored thereafter.

The results of this research suggest that syntheses of findings across studies should be conducted carefully. Comparison within clusters, such as those identified here, may be safe. In contrast, comparison of findings across studies with scales from different clusters is not encouraged and may very well lead to erroneous conclusions. It is also suggested that a thorough comparison of the reliability and validity of these various measures of $\mathbf{A_{ad}}$ be conducted so as to further assist researchers in the important task of selecting the "best" tool for the job.[3]

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NOTES

1. The term "scale uses" is employed here since the term "studies" suggests a one to one correspondence between a scale and a study. In contrast, several of the studies reviewed here had two measures related to **Aad**.

2. Cluster solutions greater than five could have been conducted and reported here but would not have yielded different results from the four cluster solution. This is the case because a preliminary 15 cluster analysis indicated that there were only five clusters with three or more members, the minimum amount for the cluster seeds used in subsequent stages of the analysis.

3. See Bruner (1995) for a prelimary investigation of the psychometric quality of the **Aad** scales covered in this review.

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TABLE 1

BI-POLAR ADJECTIVES USED TO MEASURE A_{ad} SCALES

1. good/bad
2. like/dislike
3. irritating/not irritating
4. interesting/uninteresting
5. inoffensive/offensive
6. trustworthy/untrustworthy
7. persuasive/not persuasive
8. informative/uninformative
9. believable/unbelievable
10. effective/not effective
11. appealing/unappealing
12. impressive/unimpressive
13. attractive/unattractive
14. eye-catching/not eye-catching
15. clear/not clear
16. favorable/unfavorable
17. fair/unfair
18. pleasant/unpleasant
19. fresh/stale
20. nice/awful
21. honest/dishonest
22. convincing/unconvincing
23. complete/incomplete
24. well-structured/badly structured
25. agreeable/disagreeable
26. tasteful/tasteless
27. artful/artless
28. meaningful/meaningless
29. valuable/not valuable
30. important to me/not important to me
31. beautiful/ugly
32. positive/negative
33. satisfactory/not satisfactory
34. entertaining/not entertaining
35. original/unoriginal
36. dynamic/dull
37. refreshing/depressing
38. pleasing/irritating
39. enjoyable/not enjoyable
40. fun to watch/not fun to watch
41. helpful/not helpful
42. useful/not useful
43. fond of/not fond of
44. well made/poorly made
45. insulting/not insulting
46. sensitive/insensitive
47. soothing/not soothing
48. warmhearted/cold hearted
49. uplifting/depressing
50. affectionate/not affectionate

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TABLE 2

FASTCLUS STATISTICS

Number of Clusters	Psuedo F	CCC
2	7.08	4.70
3	6.73	4.99
4	7.77	8.02
5	6.28	5.26

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TABLE 4

USES OF A_{ad} SCALES, 1981-1991

Study	Description of Measure	Predicted Group	Actual Group
Buchholz & Smith (1991)	Aad	1	1
Burton & Lichtenstein (1988)	Aad (affective dimension)	2	2
Burton & Lichtenstein (1988)	Aad (cognitive dimension)	3	3
Chattopadhyay & Basu (1990)	Aad	1	1
Chattopadhyay & Nedungadi (1992)	Aad	1	1
Cox & Cox (1988)	Ad evaluation	1	1
Cox & Locander (1987)	Ad evaluation	1	1
Droge (1989)	Aad	1	1
Gardner (1985)	Aad	1	1
Hastak & Olson (1989)	Ad evaluation	1	1
Hill (1988)	Global Aad	1	1
Hill (1988)	Aad (emotional dimension)	2	4
Hill (1989)	Global Aad	1	1
Hill (1989)	Aad (emotional dimension)	2	4
Homer (1990)	Aad	1	1
Janiszewski (1988)	Ad evaluation	1	2
Kamins (1990)	Aad	1	4
Kamins, Marks, & Skinner (1991)	Aad	1	4
Keller (1987)	Aad	1	1
Keller (1991a)	Aad	1	1
Keller (1991b)	Aad	1	1
Kilbourne (1986)	Affective evaluation of ad	2	2
Kilbourne (1986)	Cognitive evaluation of ad	3	3
Kilbourne, Painton, & Ridley (1985)	Affective evaluation of ad	2	2
Kilbourne, Painton, & Ridley (1985)	Cognitive evaluation of ad	3	3
Machleit & Wilson (1988)	Aad	1	1
MacInnis & Park (1991)	Aad	1	1
MacKenzie & Lutz (1989)	Aad	1	4
Macklin, Bruvold, & Shea (1985)	Aad	1	4
Madden, Allen, & Twible (1988)	Ad evaluation	1	1
McQuarrie & Mick (1992)	Ad liking	1	1
Miller & Marks (1992)	Aad	1	1
Miniard, Bhatla, and Rose (1990)	Aad (overall evaluation)	1	1
Mitchell (1986)	Aad	1	1
Mitchell and Olson (1981)	Aad	1	1
Muehling (1987)	Aad	1	1
Muehling, Laczniak, & Stoltman (1991)	Aad	1	2
Okechuku & Wang (1988)	Aad (affective dimension)	2	2
Okechuku & Wang (1988)	Aad (cognitive dimension)	3	3
Olney, Holbrook, & Batra (1991)	Aad (hedonism component)	2	4
Olney, Holbrook, & Batra (1991)	Aad (utilitarianism component)	3	3
Perrien, Dussart, & Paul (1985)	Aad (affective dimension)	2	2
Perrien, Dussart, & Paul (1985)	Aad (cognitive dimension)	3	3
Petroshius & Crocker (1989)	Aad (affective dimension)	2	2

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Petroshius & Crocker (1989)	Aad (cognitive dimension)	3	3
Severn, Belch, & Belch (1990)	Aad	1	1
Yi (1990)	Aad	1	1
Zinkhan & Zinkhan (1985)	Affective response	2	2
Zinkhan & Zinkhan (1985)	Cognitive response	3	3

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Appendix
Item Composition of A_{ad} Scales

Scale Authors	Item Number																																																	
	1	2	3	4	5	6	7	8	9	10	11	12	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	40	41	42	43	44	45	46	47	48	49	50
Buchholz & Smith (1991)	1			1																																		1												
Chattopadhyay & Basu (1990)		1	1	1														1																																
Cox & Cox (1988)	1	1																1																																
Cox & Locander (1987)	1	1																1																																
Droge (1989)	1		1	1	1																																													
Gardner (1985)	1	1	1	1																																														
Hastak & Olson (1989)	1	1																1		1																														
Hill (1988)	1	1	1	1												1																																		
Hill (1989)	1	1	1	1												1																																		
Homer (1990)				1												1																1																		
Keller (1987)	1	1		1							1																																							
Keller (1991a)	1	1		1							1																																							
Keller (1991b)	1	1		1							1																																							
*Machleit & Wilson (1988)	1	1	1													1																							1				1	1	1					
MacInnis & Park (1991)	1	1									1					1																																		
Madden et al. (1988)	1	1		1														1								1	1																							
Miniard et al. (1990)	1	1	1	1						1																																								
Mitchell (1986)	1	1	1	1																																														
Mitchell & Olson (1981)	1	1	1	1																																														
*Muehling (1987)	1			1	1								1			1																1																		
*Severn et al. (1990)				1	1											1																		1	1															
Yi (1990)	1	1	1	1																																														
*Burton & Lichtenstein (1988)													1			1																															1	1	1	1
Janiszewski (1988)	1	1									1		1					1																																
Kilbourne (1986)											1	1	1																																					
Kilbourne et al. (1985)											1	1	1																																					
*Muehling et al. (1991)	1										1		1					1																		1	1		1											
Okechuku & Wang (1988)				1							1	1	1	1																																				
Perrien et al. (1985)				1									1					1							1																									
Petroshius & Crocker (1989)				1							1	1	1	1																																				
Zinkhan & Zinkhan (1985)											1		1					1													1																			
Burton & Lichtenstein (1988)							1	1	1										1			1																												
Kilbourne (1986)						1		1	1																																									
Kilbourne et al. (1985)						1		1	1																																									
Okechuku & Wang (1988)								1	1						1																																			
*Olney et al. (1991)								1																						1											1	1								
Perrien et al. (1985)								1							1								1	1																										
Petroshius & Crocker (1989)								1	1						1																																			
*Zinkhan & Zinkhan (1985)																						1						1	1	1																				
*Hill (1988)																		1		1						1																				1				

*Hill (1989)				1		1			1					1
Kamins (1990)	1			1				1		1				
Kamins et al. (1991)	1			1						1				
Mackenzie & Lutz (1989)	1	1		1										
*Macklin et al. (1985)	1		1	1	1	1	1							
*Olney et al. (1991)				1							1	1	1	

* An outlier for the cluster.

Table 3
Item Distribution By Cluster*

Cluster	Items																																															
	1	4	2	18	3	16	20	5	26	25	32	33	34	46	10	17	19	21	39	27	35	38	40	11	13	12	14	31	36	37	8	9	15	6	7	23	24	30	28	29	41	42	22	43	44	45	47	48
#1	19	17	17	10	7	5	4	3	2	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(22)	0.9	0.8	0.8	0.5	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#2	2	3	1	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	9	7	4	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
(9)	0.2	0.3	0.1	0.6	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.0	0.8	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
#3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	7	5	3	2	2	2	1	1	1	1	1	1	1	0	0	0	0	0
(8)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	.06	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
#4	4	0	0	7	0	1	3	0	2	1	0	2	1	2	0	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(7)	0.6	0.0	0.0	1.0	0.0	0.1	0.4	0.0	0.3	0.1	0.0	0.3	0.1	0.3	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	25	20	18	22	7	6	7	3	4	3	1	3	2	3	1	2	3	2	2	1	1	1	1	9	7	4	2	1	1	1	7	5	3	2	2	2	1	1	1	1	1	1	1	0	0	0	1	1

*The table should be read as follows: the top left entry indicates that 19 scales in cluster #1 used the ite*good/bad* .
The percentage below that shows 90% (19/22) of the cluster's members had that item. The shading indicates those items that are shared by more than 50% of a cluster's members.

49	50
0 0.0	0 0.0
1 0.1	1 0.1
0 0.0	0 0.0
0 0.0	0 0.0
1	1