Research Notes:
The Personal Involvement Inventory: Reduction, Revision, and Application to Advertising

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The conceptualization of the Personal Involvement Inventory was a context-free measure applicable to involvement with products, with advertisements, and with purchase situations. The empirical work to develop this measure was mainly validated with respect to product categories. This paper extends the construct validation of the PII to involvement with advertisements and also demonstrates that the PII may be reliably reduced from twenty items to ten items. There is some indication the revised PII may then be broken into two subscales representing a cognitive and affective grouping.

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In conceptualizing involvement, Zaichkowsky (1986) and Bloch and Richins (1983) viewed involvement as having three major antecedent factors. The first factor related to the characteristics of the person, the second factor related to the characteristics of the stimulus, and the third factor related to the characteristics of the situation. One or more of these factors could affect the level of involvement with the stimulus in context of involvement with products (e.g., Hupfer and Gardner 1971) with advertisements (e.g., Krugman 1965, 1967) or with purchase situations (e.g., Clarke and Belk 1978). The conceptual meaning of the term involvement did not differ across these three domains as the reference was always being personally relevant to the stimulus object (e.g., Petty and Cacioppo 1981; Clarke and Belk 1978).

With this conceptualization in mind, Zaichkowsky (1985) developed a context-free 20 item scale called the Personal Involvement Inventory, (PII) which measures the motivational state of involvement. The reason the PII measures the state of involvement rather than involvement as a stable trait is that the antecedents may cause involvement to change. This is in contrast to the Consumer Involvement Profile measure by Laurent and Kapferer (1985) which measures the antecedents of involvement. Although the initial scale development and item generation focused on all three domains of products, advertisements, and purchase decisions, the majority of the validation procedures used consumer responses to product categories. As a result, researchers interested in using the scale to measure involvement with advertising sometimes doubted the validity and robustness of the PII to accurately reflect involvement with distinctly affective or cognitive based advertisements (e.g., Park and McClung 1986). However, other researchers (e.g., Murry, Lastovicka, and Singh 1992) found the PII to work well in measuring involvement levels for advertising.

A second criticism of the PII is that some of the 20 items are redundant, hence the full scale is not needed (e.g., Munsen and McQuarrie 1987; Lichtenstein et al. 1988). These researchers selected subsets of the PII which they believed best represented involvement.

In light of these concerns, the paper intends to meet three goals:

1) show that the PII is applicable to advertising;

2) show that the PII can be reduced by half without significantly reducing reliability; and

3) demonstrate that the PII can capture emotional and cognitive types of involvement.

Achieving these goals would give researchers more confidence in using the PII as a simple tool to covary out the effects of advertising involvement. It would also provide a useful segmenting tool for researchers wanting to group consumers low or high involved with respect to advertisements.

Conceptual Issues in Revising the PII

Some researchers have recently conceptualized involvement with advertising as an internal state of arousal based on (1) intensity and persistence and (2) direction (Andrews et al. 1990). Others have focused on how to manipulate message involvement in advertising by measures of (1) degree to which message points are attended and (2) individual's processing strategies: brand versus nonbrand evaluation (Laczniak et al. 1989). The PII starting point is more general, as is explained by the following literature.

Affective Versus Cognitive Involvement: In their classic review of *Audience Involvement in Advertising,* Greenwald and Leavitt (1984) conceptualize four levels of involvement, all with the basis of personal relevance to the viewer to the ad. They focus on the notion that the audience acquires knowledge from the ad and conclude that audience involvement is the allocation of attention to a message source, as needed to analyze the message at one of a series of increasingly abstract representational levels. Their review does not touch on any feeling or emotional responses to advertising that Holbrook (1978) pointed out as being critical to the evaluation of advertising communication.

Involvement is a motivational construct which partly relies on the antecedent factor of the person's values and needs (Zaichkowsky 1986). This definition does allow for an affective component, because self-reliance, per se, is affective. When something touches the "self," it is, almost by definition, at least somewhat emotional. In this sense, then, activating a value may automatically elicit an affective response. Affective involvement stresses a person's feelings and achievements of certain emotional states and is used to describe all emotions, moods and feelings evoked by an object (McGuire 1974). Cognitive involvement stresses the individual's informational processing activities and the achievement of idealization states.

These two views of involvement were best defined by Park and Young (1986) as (1) cognitive involvement: the degree of personal relevance of message contents or issue based on the brand's functional performance (utilitarian motive) and (2) affective involvement: the degree of personal relevance of a message based on emotional or aesthetic appeals to one's motive to express an actual or ideal self-image to the outside world (value-expressive motive). Whether the utilitarian and/or value-expressive motive is evoked depends on the interaction of the stimulus and the person. It is possible they could occur together.

The measurement of cognitive and affective approaches to advertising involvement might be captured simultaneously due to the interaction between the person and the object. Whether the view of advertising is primarily cognitive, primarily affective or some combination of the two, the mental activity and investment involved in processing any given advertisement is likely to be fragile and fleeting (Allen and Madden 1987). The measurement task must be simple and yet allow for the view that emotion and cognition can occur together. If they can occur together, then measuring them together is the simplest solution. In other words, a highly involving feeling ad might score the same as a highly involving thinking ad. The cognitive/affective distinction becomes most important when an ad scores high on cognitive involvement and low on affective involvement or vice versa.

A person can be emotionally as well as cognitively involved with an advertisement and the definition of involvement focusing on personal relevance does not change. These emotions or feelings exist in the antecedents of involvement, namely within the person or the situation, and are brought out when they interact with the stimulus object. Therefore, to measure only thinking without feelings when referring to involvement may lead to omissions in capturing the relevance of the object to the individual (Vaughn 1980, 1986).

Scale Length

The average reported Cronbach Alpha of the 20 item PII with respect to products is about .95 to .97 (e.g., Celsi and Olsen 1988). Reports in the literature with respect to the 20 item PII applied to advertising is also in this range (.96 in Murry et al. 1992). Although this level of reliability may seem high, Nunnally (1978) reports reliability in the .90's is to be expected for bipolar adjective scales which are meant to measure one construct. Given the minimal acceptable level of .9 reliability, the formula for reducing

the scale based on a prior average reliability of .95 suggests the PII scale can confidently be reduced by half (from 20 to 10 items) and still theoretically maintain an excellent reliability of .9 for applied research (Nunnally 1978). The issue is which ten items should be kept and which ten items should be eliminated.

Construct Definition

The definition of involvement stays the same: "A person's perceived relevance of the advertisement based on inherent needs, values, and interests" (Zaichkowsky 1985). This definition does cover both the affective and cognitive relevance (Mandler 1975); recognizes past initial definitions of involvement with advertising (Krugman 1962, 1967; Wright 1973); and easily encompasses the cognitive and affective advertising involvement applications (Park and Young 1986).

Content Validity of the Individual Items

Originally, 168 word-pairs were judged as to their representativeness of involvement by three consumer behavior Ph.D. students over the three domains of advertisements, products, and purchase situations. This initial judging left 45 word-pairs that were clearly or somewhat representative of involvement over the three domains. Five new judges rated 35 of the 45 word-pairs as clearly or somewhat representative of involvement with advertisements 80 percent of the time. Therefore, 35 of the original word-pairs were used as the starting point for revising the PII.

Internal Reliability

While the main goal of this paper is to apply the PII to advertisements, the original concept of the PII included products and purchase situations. Therefore, two product categories, one purchase situation, and two television advertisements were used as stimuli to measure the internal consistency of the 35 items. Fifty-four senior undergraduate business students rated personal computers, soft drinks, purchasing a personal computer for their own use, TV advertisements for Pepsi Cola and IBM personal computers during class time. The order of the rating was rotated across subjects.

Item-to-total correlations were averaged over the five stimuli. Eight items with relatively low (below .6) average item-to-total correlations were dropped. Item-to-item correlations were also averaged across the five stimuli. They ranged from .28 to .81. When inter-item correlations are high, then the item is measuring close to the same thing as another item and is perhaps redundant (Nunnally 1978). Five items were eliminated with average inter-item correlations above .75. Therefore, 22 items remained giving relatively high Cronbach Alphas (.9) over the five stimuli.

Test-Retest Reliability

The stability of the 22 items across time was then checked. A fresh sample of fifty-two business students rated a print ad for Lean Machine Exercise equipment, a radio ad for Pepsi Cola, and a television ad for Edy's ice cream. The order of administration was rotated across subjects. These ads were chosen to reflect different media and products to further test the robustness of the scale. All ads were pulled from company sources and were ads the subjects had not previously seen or heard. Three weeks later, the same ads were shown to the same subjects. On the second administration, subjects were also asked to rate the product categories of exercise equipment, soft drinks, and ice cream on the 22 items, as well as answer other questions about the ads and products. Five subjects were lost to attrition.

Test-retest correlations for each item over time for the three ads were averaged and ranged from .27 to .79. Theory and empirical evidence (Krugman 1967) suggests that viewers' involvement to the same ad may vary over repeated exposures. However, since the exposures were only the first and second, that difference in involvement is likely to be less than say the first and fifth exposure. Given that complete learning should occur after three to five exposures, we may think it reasonable to expect a person to interact similarly over the first and second exposure to a new commercial, especially since three weeks passed between each exposure. Therefore, nine items which were below .6 in average test-retest correlations were deleted.

At this time, the average inter-item correlations of time one and time two exposures were examined and three more items with relatively high inter-item correlations were dropped. The test-retest correlations of the remaining ten items, as a whole, for the three ads were .77, .84, and .73. The only new item to the revised PII was involving-uninvolving. Most problems the original PII had with item redundancy should now be eliminated.

The Cronbach Alphas of the ten-item PII ranged

from .91 to .95 over the advertisements and .94 to .96 for the products. The scale scores now range from 10 to 70, with 10 being the anchor for low involvement, 70 being the anchor for high involvement and 40 being the midpoint of the scale. The revised Personal Involvement Inventory is listed in Appendix A.

Discrimination between products and ads: The PII correlations between involvement with the product category and involvement with the specific ad showed that only the product of exercise machines and the ad for Lean Machine were significantly correlated (r = .46). The products of ice cream and colas showed a .16 and a .17 correlation with the ads. Therefore, one does not necessarily have to be involved with the product category to be involved with an ad for any product. Other non-product aspects of the ad (e.g., music, scenery, or message) may raise the level of involvement with the ad because of their relevance to the viewer. The peripheral route to persuasion may be at play when the viewer has more involvement with the ad than with the product category.

Content Validity of the Total Scale in Advertising

Just as different people are low to high involved with the same products (Zaichkowsky 1985), different people are differently involved with the same advertisements. This is an important concept which demonstrates the variability in involvement due to the person, rather than the ad. After completing the scales for the radio, print and TV ad at time one of the previous data collection, the 52 subjects answered the following open-ended question:

> Now we would like you to state, in your own words, *why* you rated each ad as you did.

Two expert judges (professors published in advertising and involvement) were asked to read through each response and categorize the respondent as being either low, medium, or high involved with each advertisement. Involved was defined as "how personally relevant the subject found the ad as it related to their own values, needs, or interests." These judges did not see or hear any of the ads. Their categorization was only based on their interpretation of the subject's written response to each advertisement. Interjudge agreement was 87 percent for the Pepsi radio ad, 77 percent for the Edy's ice cream television ad, and 75 percent for the Lean Machine print ad, giving an average reliability of .8. Correcting for non-

random assignment and three coding categories, the estimated reliability may actually be closer to .84 (Perreault and Leigh 1989).

Classifications on which the two expert judges did not agree were resolved by the author. The open-ended responses were then categorized by simple thirds of the shortened PII scale: 10-29, 30-50, and 51-70. Examples of the responses for each ad appear in the Exhibit. The categories of responses, as grouped by the scale scores, were compared to the categories of responses as grouped by the expert judges. The results are presented in Table 1. These data indicate a significant relationship between the scale scores and the judges' perceptions of the open-ended responses as to why the subjects completed the scale as they did, again adding some validity to the scale for measuring involvement with advertisements.

Scale Dimensionality

Factor analyses of the ten item scale across the ads at time one and time two, as well as the products of exercise equipment, soft drinks, and ice cream, were carried out (see Table 2). The items were factor analyzed using varimax rotation with squared multiple correlations in the diagonal for factor extraction (Lee and Comrey 1979). The general pattern of results showed one general factor and one minor component.

The grouping of certain items seems stable over both the general factor and minor component, even though the two groupings may flip between two factors. Interesting, appealing, fascinating, exciting, and involving represent one grouping. This agrees with other researchers' perception of involvement based on relevant emotions (Nelson, Duncan, and Frontczak 1985) and represents half of the scale items. The other five items might be described as more rational or cognitive in nature: important, relevant, valuable, means a lot to me, and needed. Thus, the ten item PII might be divided into two subscales representing a cognitive aspect and an affective aspect. The scores on the subscales across the print ad, radio ad and TV ad are presented in Table 3. Generally, the scores were stable in the test-retest reliability. Cronbach Alphas for the subscales ranged from .86 to .95. The correlations between the two subscales ranged from .58 to .70. Therefore, the two components are far from independent but may be useful in diagnosing the level of each type of involvement elicited from any advertisement.

Table 1
Relationship Between the Scale Scores and the Open-Ended Responses

Scale Scores	Judges' Ratings				Collapsed for Chi-Square		
	Low	Medium	High	(Total)	Low	Medium	High
Pepsi Ad							
Low	24	10	0	(34)	24	10	
Medium	1	13	2	(16)	1	17	
High	0	1	1	(2)			
(Total)	(25)	(24)	(3)	(52)	$\chi^2 = 20.2 \quad p < .001$		
					d.f. = 1		
Lean Machine							
Low	4	1	0	(5)			
Medium	19	14	3	(36)	23	15	3
High	0	4	7	(11)	0	4	7
(Total)	(23)	(19)	(10)	(52)	$\chi^2 = 9.3 \quad p < .01$		
					d.f. = 2		
Edy's Ice Cream							
Low	4	0	0	(4)			
Medium	4	14	2	(20)	8	14	2
High	0	13	15	(28)	0	13	15
(Total)	(8)	(27)	(17)	(52)	$\chi^2 = 17.7 \quad p < .001$		
					d.f. = 2		

Further Investigation of Two Subscales

The third goal of this study was to have the PII equally applicable to emotional and informational advertising. To test this premise, two different types of ads for the same brand of beer, an informational or rational ad (three pieces of objective information) and a non-informational, musically-based ad (no informational cues about the product) were selected to represent cognitive and affective types of advertising. The product category of beer was used because we sought advertisements for products that student subjects would find relevant. A description of the ads follows:

High Information: An actor walks through a cow pasture explaining why the company's beer is not pasteurized. He walks into a barn, gets a beer out of the fridge and opens it. The brand's attributes of quality, taste and pasteurization (unique selling point) are discussed by the spokesperson.

Low Information: People from several cities in the south and east are shown drinking beer and having fun. A song entitled "Best of the Rockies" is sung throughout the commercial. The brand's availability is portrayed in the commercial, but not in an explicit way.

The ten-item PII was administered to 79 business undergraduate students who judged the ads against the scale. One group of 37 students saw the upbeat musical ad first, while the second group of 42 students viewed the informational ad first. These ads were obtained from company reels and were 'new' ads to the subjects, although both ads had been aired previously in different markets. Both ads scored below the midpoint on the revised PII and there was no

Exhibit
Open-Ended Responses On Content Validity

Pepsi Cola Radio Ad

1.   Low involvement
        Score 23, Subject 7. This is not my type of music and therefore the ad was unappealing. The music was not very original and therefore was not very exciting (even boring)! Since I'm not a big cola drinker (prefer Diet Pepsi), I don't have much use for this ad.
2.   Medium involvement
        Score 32, Subject 5. I hate colas. What I did like was the creative aspects of the ad, but otherwise it meant nothing to me because I never drink the stuff.
3.   High involvement
        Score 60, Subject 1. This ad was inspiring with the upbeat tempo. It was very cool and refreshing that it makes me feel like getting a cola now.

Edy's Ice Cream Television Ad

1.   Low involvement
        Score 10, Subject 11. I just found the ad too boring.
2.   Medium involvement
        Score 43, Subject 6. I enjoyed the gentle humor of this ad, the background song and the whole feeling. If I was going to buy ice cream (which I almost never do), I would certainly consider this brand.
3.   High involvement
        Score 66, Subject 4. I though this was an excellent ad. Very innovative and creative. The ad was appealing in that it portrayed people as happy — something everyone enjoys seeing. Because of the ad's attributes, people were interested in watching and listening, a prerequisite for product awareness.

Lean Machine Print Ad

1.   Low involvement
        Score 23, Subject 12. I related it as uninteresting, unimportant, unappealing because there are many similar kinds of machines. This is only one of them. There are other ads which are more appealing. Moreover, there are many other ways to help keep fit other than buying this machine.
2.   Medium involvement
        Score 40, Subject 1. This advertisement was not very appealing due to the fact that I do not exercise at all. The ad caught my attention with the 2 physically fit people standing beside the lean machine.
3.   High involvement
        Score 57, Subject 2. This ad is very relevant to me personally since I have often considered purchasing exercise equipment. My attention was attracted very quickly to the woman's body, and this made the ad pleasant to look at. Upon evaluating the product, I decided it may well be a very useful piece of equipment, due to its flexibility (i.e., ability to be used for a range of exercises).

Table 2
Factor Analysis of the RPPI

	Edy's Ice Cream Ad				Lean Machine Ad				Pepsi Cola Ad			
	N = 52 time 1		N = 47 time 2		N = 52 time 1		N = 47 time 2		N = 52 time 1		N = 47 time 2	
	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2
1. important	.21	.81	.17	.88	.21	.64	.13	.57	.38	.75	.45	.80
2. relevant	.41	.82	.26	.68	.10	.85	.35	.86	.29	.87	.49	.72
3. means a lot to me	.37	.84	.32	.90	.32	.87	.31	.82	.38	.87	.22	.84
4. valuable	.46	.79	.42	.72	.43	.46	.46	.64	.50	.58	.41	.70
5. interesting	.88	.34	.84	.36	.80	.40	.86	.24	.87	.26	.95	.25
6. exciting	.85	.34	.76	.41	.85	.30	.95	.25	.93	.20	.93	.22
7. appealing	.85	.39	.86	.29	.82	.33	.83	.36	.77	.36	.89	.29
8. fascinating	.83	.26	.78	.20	.81	.30	.76	.34	.77	.33	.83	.31
9. needed	.30	.73	.29	.64	.27	.70	.33	.84	.13	.78	.05	.77
10. involving	.68	.49	.68	.19	.52	.03	.55	.31	.58	.24	.68	.23
eigen value	6.8	1.1	5.7	1.3	5.2	1.2	5.9	1.1	5.9	1.3	6.2	1.4
% variance explained	68.2	10.8	57	12.7	52	12	59.1	11.5	59.3	12.6	62.3	14.3
	α = .95 X̄ = 50		α = .92 X̄ = 52		α = .91 X̄ = 43		α = .93 X̄ = 39		α = .93 X̄ = 31		α = .94 X̄ = 32	

	Ice Cream		Exercise Equipment		Soft Drinks
	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1
1. important	.90	.23	.93	.19	.91
2. relevant	.88	.29	.82	.43	.91
3. means a lot to me	.76	.52	.85	.40	.93
4. valuable	.69	.39	.77	.30	.87
5. interesting	.24	.77	.34	.83	.71
6. exciting	.48	.69	.23	.96	.81
7. appealing	.38	.69	.44	.78	.89
8. fascinating	.38	.75	.37	.76	.80
9. needed	.72	.44	.79	.43	.88
10. involving	.24	.82	.52	.23	.67
eigen value	6.4	1.0	6.6	1.2	7.1
% variance explained	63.7	9.6	66	11.6	71
	α = .94 X̄ = 44		α = .95 X̄ = 47		α = .96 X̄ = 38
					Solution not rotated

α = Cronbach Alpha for 10 item scale, X̄ = mean score on involvement, range is 10 to 70.

significant difference between the two scores: 35.8 for the musical ad and 32.8 for the informational ad. Therefore both ads were low involving to the subjects. The equality of scores for the two different ads demonstrates that the ten-item scale is not biased toward informational or non-informational advertising appeals. The informational ad was perceived to be more informational than the non-informational ads by the subjects (4.6 vs. 2.8), t(77)=5.77 p<.001. However, both ads were perceived to be appropriate for the product category (3.9 vs. 4.6) N.S.

The PII was then divided into two subscales: five items representing affective involvement and five items representing cognitive involvement. It was thought the informational ad should score higher on the cognitive involvement items and the non-informational musical ad should score higher on the affective involvement items. However, both ads scored significantly higher on the affective component than the cognitive component (see Table 3). This might be due to beer as a low involving affective product category (Vaughn 1980) and the product category may be driving the overall perception of the ads. In summary, this study had two different types of ads for the same product with similar overall levels of audience involvement.

Latent Structure Analyses

One question that arises is the confirmation of the PII as having a cognitive and affective component as a better fit than the simple one factor structure. Through the data collected in the preceding study, the competing models of one and two factors can be analyzed. The responses from the high informational ad were analyzed as a one factor model and then again as a two factor model with a .9 correlation between the affective and cognitive subscales. The Bentler-Bonnett (1980) normed fit index was .83 (chi-square=152, d.f.=35, p<.001) for the one factor model and .92 (chi-square=76, d.f.=34, p<.001) for the two factor model. The two factor maximum likelihood model with the better fit had an actual correlation of .85 between the affective and cognitive component. The chi square change between the one and two factor models was 76, 1 d.f. p<.001. This indicates the two highly correlated subscales fit the model better than the one factor solution for these data.

Validation Study Number Two

The purpose of this study was to determine if the PII could differentiate between advertisements se-

lected or rejected for television airing. This is an important contribution of the scale to those researchers and practitioners who are interested in doing comparisons between produced advertisements. Two ads were selected from a reel of 20 drinking and driving ads. A description of each ad follows:

> **The rejected ad.** "Two young adults are jogging in the park. The announcer explains that many people do a lot of things to stay healthy and looking good, but the biggest threat to your health, looks and life is Drinking and Driving. The message is don't take that chance, counterattack drinking and driving."
>
> **The accepted ad.** "The police and an ambulance are at the scene of an accident. A man sits on the side of the road. He had been drinking and driving and as a consequence a school-aged boy who had been walking down the road lays dead."

Subjects in this second study were two new matched samples of business students who participated during class time. One group of 28 subjects viewed the ambulance ad and another 25 subjects viewed the jogging ad. As most drinking and driving is done by young adults, these ads were suitable stimulus to the student sample. Subjects were told they were participating in a study of advertising measurement. They viewed the ad, then were asked to rate the ad on the ten-item PII.

The mean score on the PII for the ad representing drinking and driving by jogging was 36.7, while the score for the ambulance ad was 51.2. The difference in scores corresponded to the decision that the ambulance ad would be much more involving. The Cronbach Alpha for the ten-item PII on the jogging ad was .68, and it was .92 for the ambulance ad.

The ten-item PII was then divided into two subscales representing affective and cognitive involvement. Both ads scored significantly higher on the cognitive component than the affective component. Furthermore, the Cronbach Alpha for the cognitive component of the jogging ad was very low (.39). It appears the subscale did not hold together for this rejected ad. The ad scored very high on the importance item, but relatively low on the other four items representing cognitive involvement, i.e., irrelevant, means nothing, worthless, and not needed. The correspondence of the low reliability and rejection of the jogging ad may confirm this ad had no involvement rather than low involvement.

Summary

The purpose of this series of studies was three-fold:

Table 3
Cognitive and Affective Involvement Scores

DATA COLLECTION ONE

| | Print Ad | | Radio Ad | | Television Ad | |
	CInv	AInv	CInv	AInv	CInv	AInv
First Exposure (mean)	21.1	21.9	13.5	17.7*	22.4	27.3*
Cronbach Alpha	.86	.89	.92	.95	.95	.95
Correlation	.58		.63		.70	
Second Exposure (mean)	19.5	19.4	13.6	18.1*	23.6	28*
Cronbach Alpha	.90	.92	.92 .	95	.90	.92
Correlation	.63		.60		.59	

DATA COLLECTION TWO

| | Musical Ad | | Informational Ad | |
	CInv	AInv	CInv	AInv
(mean)	16.6	19.2*	14.2	18.2*
Cronbach Alpha	.96	.87	.95	.94
Correlation	.81		.80	

DATA COLLECTION THREE

| | Ambulance Ad | | Jogging Ad | |
	CInv	AInv	CInv	AInv
(mean)	28.7	22.9*	21.5	15.2*
Cronbach Alpha	.93	.75	.39	.83
Correlation	.81		.23	

* significantly different, p < .001
CInv = important, relevant, means a lot, valuable, and needed. (range = 5-35)
AInv = interesting, exciting, appealing, fascinating, and involving.
(range = 5-35)

first, to reduce the number of items on the PII from twenty to ten; second, to demonstrate that one could use the PII to measure involvement with advertising; and third, to try to develop affective and cognitive subscales of the PII. Over a heterogeneous set of advertisements, the twenty-item PII was reliably reduced to 10 scale items. The internal scale reliability of the ten-item PII seems to be still quite acceptable (over .9). Since all but one item is found on the original PII, there should be no trouble in quickly adapting the new scale to present research.

Establishing validity is an ongoing process. This research shows that the PII is successful in terms of discriminating different subjects' reactions to the same

ad. This is a segmenting application of the PII. Secondly, two different ads for the same message can receive different scores. Therefore, one might discriminate between advertisements using the PII.

Relation of the PII to Advertising Scales

There are many scales used to measure consumer response to advertising, e.g., Wells' ten-item R scale (1986), Wells' Reaction Profile (1964), Leavitt's Multidimensional Profile (1970), and Schlinger's Viewer Response Profile (1979) to name just a few. These scales were explicitly designed to measure consumers' responses to advertising. The PII was not specifically designed for measuring effectiveness of advertising, but rather was theoretically developed as a tool for academic research — a tool researchers could use to measure and account for individual variation in level of involvement, or use as a manipulation check for experimental work.

It is important to recognize the similarities of the PII to other published scales. For example, Wells' (1964) 26 item Reaction Profile breaks out into three major factors named attractiveness, meaningfulness, and vitality. Included in attractiveness are the items of appealing, fascinating, interesting, and exciting. It is these items plus involving which group together affectively on the PII. Meaningful and important, two of the more cognitive involvement items, load on the meaningfulness factor. Therefore, six items found on the PII are also found on Wells' Reaction Profile. The Reaction Profile, therefore, includes aspects of involvement in its measure of advertising effectiveness.

Wells' (1986) R (relevance) scale most certainly seems to correspond to the cognitively labelled PII items. Although the R scale is made up of statements to which the respondent replies on a Likert scale, there are some of the PII items found in his phrases. For example, needed, important, and meaningful are all mentioned in both scales. The R scale seems to focus on the brand, the product, and the message of the ad. The PII is far more general and there is no attempt when measuring involvement with the ad, to break out brand, product, or message reactions. The R scale does not touch on the emotional or affective parts of the advertising response.

Other differences of the scales developed by Wells (1964), Leavitt (1970) and Schlinger (1979) are discussed by Zinkhan and Burton (1989). They point out these scales were built in an exploratory fashion, using principal components as the data reduction tech-

nique. The PII used different scale development techniques based on content validity, item-to-total correlations, item stability, and inter-item correlations. The Wells (1964) scale was explicitly developed for print ads, the Leavitt (1970) and Schlinger (1979) scales for television ads. The PII is a broader measure for all types of advertisements. Clearly, the objective of the researcher should be clearly defined before selecting a tool to use to measure the consumers' responses to the advertisements.

Limitations and Future Research: It is clear more work needs to be done on validating the PII as having an affective and cognitive component. The ability of the PII to capture levels of involvement as well as types of involvement might be explicitly tested in future experimental designs. Researchers need to know what effects are due to the product category rather than the appeals used in the advertisements. In the present paper it appears the object of the ad might be more important than the appeal. In other words, beer as a low involving hedonistic type of product might have driven the involvement with the ad. Also the drinking and driving ads might be interpeted as more cognitively involving, perhaps due to the message of the consequences of drinking and driving. The validity of the PII as having distinct subscales cannot be confirmed by these studies. It is not clear that affective and cognitive types of involvement can be separated.

Future research should also test the convergent and discriminant validity of the PII as it relates to other advertising scales (cf., Wells 1964, 1986; Leavitt 1970; Schlinger 1979). These scales may all be correlated, but the major question is, "Do they predict different outcomes with respect to advertising attitudes, acceptance, and persuasion?" If the various scales do predict different outcomes, then researchers need to know which scale should be most suitable for their needs. If the scales predict the same outcomes, then researchers may be guilty of re-inventing theoretical wheels.

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Appendix A
Revised Personal Involvement Inventory

To me (object to be judged) is:

1.	important	___:___:___:___:___:___:___	unimportant*
2.	boring	___:___:___:___:___:___:___	interesting
3.	relevant	___:___:___:___:___:___:___	irrelevant*
4.	exciting	___:___:___:___:___:___:___	unexciting*
5.	means nothing	___:___:___:___:___:___:___	means a lot to me
6.	appealing	___:___:___:___:___:___:___	unappealing*
7.	fascinating	___:___:___:___:___:___:___	mundane*
8.	worthless	___:___:___:___:___:___:___	valuable
9.	involving	___:___:___:___:___:___:___	uninvolving*
10.	not needed	___:___:___:___:___:___:___	needed

* indicates item is reverse scored.