

Enduring Involvement: An Introduction to the Concept, and its Measurement in Brazilian Portuguese

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Abstract

Despite the interest researchers on consumer behavior have had on the involvement concept, no instrument in Brazilian Portuguese to measure involvement has been properly validated to date. The involvement concept is important for researchers in consumer psychology, and very useful when it comes to discuss how knowledge structures and product information interact. The objective of this work is to describe the concept in a brief literature review, and report the first steps towards the validation of an enduring involvement scale prepared in Brazilian Portuguese. Results show that the final configuration of the scale displays a sound dimensional structure and is internally consistent. A test of construct validity is reported, and suggestions for future works and developments are made.

The nature of the involvement concept

Since the term “involvement” was first used in a marketing context, it refers to perception of relevance of an issue. In the seminal work by Krugman (1965), involvement was used to differentiate a person to whom advertising content is carefully analysed (the highly personally involved individual) from another who does not engage in such an intense cognitive activity (the non-involved person). In Krugman’s (1968) work, therefore, involvement refers to the intensity of cognitive activity with an issue. Foxall, Goldsmith & Brown (1998) mention the term “high involvement” when describing a consumer decision process where action is “preceded by a sequence of mental information processing” (p. 28). To approach the “low-involvement” end, Foxall *et alii* (1998) refer to the above mentioned work by Krugman (1965), stressing that “learning that result from watching televised commercials is, like the learning of things that are nonsensical or unimportant, *uninvolving*” (p. 30).

In this sense, it seems that involvement is a concept exclusively related to a personal state of awareness and motivation to engage in cognitive elaboration with a given issue. It is as if the process of evaluation / learning, or the outcomes of a purchase decision were the issues that mattered.

This view is consistent with the way the involvement concept has been manipulated in some social psychology research. There is, at least one fair reason for researchers to view involvement as such: involvement can be easily manipulated by creating a situation in which subject responses become somehow important. This way, involvement is not difficult to operationalise. Petty, Cacioppo and his cohorts, for instance, usually manipulate the involvement issue (which is a central topic in ELM research) by “boosting” the importance of the decision in the high-involvement treatment (Petty, Cacioppo & Schumann 1983; Petty & Cacioppo 1984; 1986).

One should ask, by now: Is involvement a product-related or an individual-related issue? What is involvement but motivation or commitment? The definition of involvement is in itself a problem considering the diversity of constructs with which the term *involvement* is related. Table 1 summarizes some of the concepts to which involvement has been linked.

Table 1: Concepts related to involvement

| Concept | Study |
|-------------------------------------|---|
| Commitment | Robertson 1976; Lastovicka & Gardner 1979 |
| State of arousal | Mitchell 1979, 1981 |
| Personal activation level | Cohen 1983; |
| Personal relevance | Laurent & Kapferer 1985; Petty & Cacioppo 1981b; Celsi & Olson 1988 |
| Motivation | Park & Mittal 1985; Johnson & Eagly 1989 |
| Importance | Laurent & Kapferer 1985; McQuarrie & Munson 1987, 1991; Bloch & Richins 1983; Petty & Cacioppo 1990 |
| Interest | McQuarrie & Munson 1987, 1991 |
| Importance + Interest mixed | Engel, Blackwell & Miniard 1993; Zaichkowsky 1985 |
| Risk perception | Laurent & Kapferer 1985 |
| Hedonic value | Laurent & Kapferer 1985 |
| Instrumentality | Bloch & Richins 1983; Engel, Blackwell & Miniard 1993 |
| Identification w/ customer's values | Lastovicka & Gardner 1979; Petty & Cacioppo 1990 |
| An extended problem-solving task | Lastovicka 1979; Engel, Blackwell & Miniard 1993 |

Despite the diversity of concepts related to involvement, it is easy to notice that all of them are related to the individual, and not the product. As such, it seems reasonable to say that there is a consensus among researchers that the involvement concept does not concern the product itself, but rather the consumer's emotional, attitudinal and behavioural responses towards this product category.

Enduring and situational involvement

Is involvement a permanent state or a transitory one? If it is transitory, what triggers involvement? If it is a permanent state, what feeds it? These issues can be better understood with Rothschild & Houston (1980) conceptualization of involvement, where it is divided in three categories: *situational*, *enduring*, and *response* involvement. Enduring involvement is the central issue in this work, and is better understood when compared with situational involvement.

Situational involvement is seen as a temporary relationship with an issue. According to Rothschild & Houston, "situational involvement is generally high when most people perceive the consequences of less-than-optimal behaviour in the situation as rather severe" (Rothschild & Houston 1980 pg. 655). Situational involvement can be triggered by perception of risk related to a decision (Bloch & Richins 1983) or a *temporary* perception of importance attached to an issue (Rothschild & Houston 1980). As a temporary personal state, it disappears after the situation that triggered it resolved.

Enduring involvement "deals with the on-going personal concern with an issue that is exhibited by the individual. High levels of enduring involvement result from considerable prior experience in dealing with an issue and/or a strong linkage of the issue to the individual's unique structure of values" (Rothschild & Houston 1980 pg. 655). Higie & Feick (1989) define enduring involvement as "an individual difference variable representing the arousal potential of a product or activity that causes personal relevance" (p. 690). Using the wine example, a "connoisseur" shows a high enduring involvement with wine. Product-

related enduring involvement is commonly associated with hobbies, or items involved with one's professional craft.

It is interesting to note that, while most of the concepts related to involvement and listed in Table 1 actually concern *enduring* involvement, its use in academic research is still unusual. At the same time, some studies that openly investigate the involvement concept seem to manipulate situational involvement instead (e.g. the works on involvement concept by Cacioppo, Petty and their cohorts). This is probably due to the difficulties on measuring enduring involvement on one side, and the relative flexibility of the situational involvement concept on the other. Measurement of enduring involvement depends on scales, and there is only one enduring involvement scale properly validated so far: Higie & Feick (1989). Situational involvement, on the other hand, can be easily manipulated by creating situations that boost the perceived importance of the event being investigated. It would not be inappropriate to say that while situational involvement, as an independent variable, seems to be a matter of control, enduring involvement should be measured. In experiments, for instance, while situational involvement is usually a treatment, enduring involvement should be better used as a covariate.

It is noteworthy that enduring and situational involvement are not mutually exclusive situations, and as such some interaction between them is expected to exist. More specifically, persons displaying high enduring involvement with some product might also feel temporarily involved due to situational variables (e.g. sales promotions or presence of significant others). In other words, situational involvement can overlay enduring involvement. Nevertheless, note that the end result, or *high involvement*, is likely to be the same.

Dimensionality of involvement

Considering the diversity of concepts related to involvement, it is not surprising that it is frequently operationalised as a multidimensional construct.

Lastovicka & Gardner's 1979 study seems to be one of the first attempts to build a scale to measure the involvement construct. Their study aims to confirm the multidimensional nature of the concept, and to confirm a specific dimensional structure. Building on works by Sherif and his colleagues (namely Sherif & Cantril 1947; Sherif, Sherif & Nebergall 1965), they suggest that involvement has two underlying dimensions: normative importance and commitment. In their own terms...

“Normative importance refers to how connected or engaged a product class is to an individual's values. Commitment seems best thought of as the pledging or binding of an individual to his brand choice. So, then, the low-involvement consumer not only thinks of the product class as trivial, but he further has little bond to his brand choice.” (Lastovicka & Gardner 1977 p. 68)

Two of the most influential papers on involvement were published in 1985: Laurent & Kapferer; and Zaichkowsky. The two works are very different in terms of involvement conceptualization. While Laurent & Kapferer (1985) see involvement as a multidimensional construct (with five dimensions), Zaichkowsky adopted a one-dimensional approach.

The five dimensions in Laurent & Kapferer's (1985) scale are *perceived importance of the product category (personal meaning)*, *perceived importance of negative consequences of a poor choice*, *perceived probability of making a poor choice*, *the symbolic or sign meaning attributed to the product class*, and *the hedonic value of the product / its emotional appeal / its ability to provide pleasure and affect*. Trying to summarise such a complex dimensional

structure, the authors had a few basic concepts in mind, which interact with Rothschild's enduring and situational involvement conceptualization. Laurent & Kapferer (1985) stress that, while product importance and hedonic value definitely seem to related to enduring involvement, perceived risk and product sign value seem to refer both to enduring and situational involvement depending on the product category and situation.

Zaichkowsky's (1985) scale, the "Personal Involvement Inventory", is unidimensional. Its 20 items tap on *perceived relevance* of an object. It is arguable that the scale simplicity (despite its 20 semantic-differential items) and the thoroughness of its validation work report have persuaded other researchers not only to adopt the scale to measure consumer involvement (e.g. Celsi & Olson 1988) but also to adapt the scale (e.g. McQuarrie & Munson 1987, 1991; Higie & Feick 1989).

Richins & Bloch (1986) and Bloch, Sherrell and Ridgeway (1986) used the scale developed by Bloch (1981). Dependent variables in the study were behavioral responses typical of high involvement situations: information search on media, information search from interpersonal sources, opinion leadership and product care.

Bloch, Sherrell & Ridgeway (86) used the scale developed by Bloch (1981). In this scale, enduring involvement is defined according to three dimensions: product interest, time spent thinking about the product, and average importance of the product to the performance of several social and career goals.

Higie & Feick (1989) state that the existing scales to measure involvement in general are not appropriate to measure enduring involvement in particular. They proposed the only enduring involvement scale proposed to date. Higie & Feick's (1989) scale is based on Zaichkowsky's PII (1985) and McQuarrie & Munson's RPII (1987). Higie & Feick's (1989) posit that the existing operationalizations of general involvement "fall short of adequacy measuring the motivating factors, the self-expression and the hedonic components" (p. 691). Their scale, this way, emphasizes two dimensions: hedonic value and self-expression value of the product.

McQuarrie & Munson published in 1986 a revision of Zaichkowsky's (1985) PII. This revision, called RPII (*Revised Personal Involvement Inventory*), hypothesized four significant dimensions, namely importance, risk, pleasure, sign value. Nevertheless, after exploratory factor, only three factors were retained in 14 items: Importance (5 items), Pleasure (6 items) and Risk (3 items). This scale was readdressed – and revised – in 1992. This new revision captures only two dimensions of involvement: *importance* (5 items) and *interest* (5 items). The new scale is sleeker than PII and the 1986 RPII, and shows improved construct validity. Due to its small size and sound dimensional structure, this final version of RPII was used as basis for the scale here proposed.

Method

Development of the enduring involvement scale in Brazilian Portuguese

It seems that no efforts have been made so far by Brazilian researchers to develop a scale to measure the involvement concept, be it general or enduring involvement. The only noteworthy work is Fonseca & Rossi (1998). Far from trying to build a scale adapted to the Brazilian environment, Fonseca & Rossi (1998) focus on the translation of Jain & Srinivasan's *New Involvement Profile* (1990). Their work does not show any validation results, which were still on course at the moment of publication.

This way, it was decided to adapt to the Brazilian Portuguese language and Brazilian culture a scale developed in English. The scale developed by McQuarrie & Munson (1992) was used as the basis to develop this new enduring involvement measure.

It was decided to use McQuarrie & Munson's 1991 RRPII, and not the enduring involvement scale by Higie & Feick's (1989), because they developed their scale based on the works by McQuarrie & Munson (1989) and Zaichkowsky (1985). Moreover, the works by McQuarrie & Munson (1989, 1992) have been better reported throughout the time than Higie & Feick's (1989).

It was necessary to revise the original RPII in order to measure *enduring* involvement and not simply *involvement* as McQuarrie & Munson's (1991) scale does. Drawing on the works by McQuarrie & Munson (1987, 1991); Higie & Feick (1988), Celsi & Olson (1988); Mittal (1988); Mittal & Lee (1989), the original dimensional structure was revised. Some items were added to tap information search, opinion leadership and self-expression. The scale tested had, at first, 21 items. Five dimensions were theoretically expected, namely *interest, importance* (5 items for each dimension, the original McQuarrie & Munson scale), *image and self-expression* (4 items), *information search and opinion leadership* (5 items), and *subjective knowledge* (2 items). The expected factor structure is presented in Table 2, along with translation of scale questions to Brazilian Portuguese (see section 2.2)

Scale translation - RPII

A translation of RPII to Brazilian Portuguese was prepared with the assistance of a bilingual translator. In order to translate not only the language but also the cultural meaning of the concepts present in the English version, prior to the translation process the items of the scale were discussed with an American English native speaker who is fluent in Brazilian Portuguese. After the translation was completed, a back-translation was made by a bilingual translator, who also adopted an ethnographic approach to ensure concept equivalence (Peng, Peterson & Shyi 1991; Samiee & Jeong 1994). The back translation has the objective of enhancing translation equivalence (Durvasula *et al* 1993).

The meaning of all adjectives was discussed in the pretest stage with an American fluent in Brazilian Portuguese and Brazilians fluent in English. The final translation was deemed to be very satisfactory: all adjective pairs were well understood according to the meanings in the original English version, which were considered quite meaningful for the Brazilian environment and culture.

A pilot study has been made in November / December 1986 to ensure the applicability of the translated items. At that time, the translation of some polar adjectives in the scale – e.g. “exciting - unexciting” and “dull - neat” – proved to be misleading. Despite a free translation of this item was used, the use of single adjectives was a burden. In order to improve clarity of the concepts, sentences were used instead of single adjectives, and tested again in June 1997. As the final sentences version seemed to be more precise than the adjectives version, the final scale was tested with sentences. The final set of original scale items and their translations can be observed in Table 2.

Table 2: Expected factor structure for Enduring Involvement

| Dimension | Question (English) | Questions – Brazilian Portuguese translation |
|-------------|---|---|
| Image | portrays an image of myself to others - do not portray an image of myself to others | <i>X não passa a minha imagem</i> para outras pessoas.- <i>X passa a minha imagem</i> para outras pessoas. |
| | says something about me – does not say something about me | <i>X diz aos outros</i> alguma coisa a meu respeito.- <i>X não diz nada</i> aos outros a meu respeito. |
| | is part of my self - image is not part of my self-image | <i>X não é</i> parte da <i>minha auto-imagem</i> .- <i>X é</i> parte da <i>minha auto-imagem</i> . |
| | is a way of self-expression - is not a way of self-expression | <i>X é</i> uma forma de <i>auto-expressão</i> .- <i>X não é</i> uma forma de <i>auto-expressão</i> . |
| Importance | is important - is unimportant | <i>X é</i> um produto <i>importante</i> .- <i>X é</i> um produto <i>sem importância</i> . |
| | means a lot to me - means nothing to me | <i>X significa muito</i> para mim.- <i>X não significa nada</i> para mim. |
| | matters to me - does not matter to me | <i>Xs importam</i> para mim.- <i>Xs não me importam</i> . |
| | ir relevant - is irrelevant | <i>X é</i> um produto <i>irrelevante</i> .- <i>X é</i> um produto <i>relevante</i> . |
| | concerns me - does not concern me | <i>X não tem nada a ver</i> comigo.- <i>X tem tudo a ver</i> comigo. |
| Information | I usually read about - I never read about | <i>Eu nunca leio revistas relacionadas com X</i> .- <i>Eu freqüentemente leio revistas</i> relacionadas com X. |
| | I spend a lot of time thinking about X - I spend not time at all thinking about X | <i>Eu passo muito tempo pensando</i> sobre X em geral.- <i>Eu não passo tempo nenhum pensando</i> sobre X em geral. |
| | I usually talk about X with other people - I never talk about X with other people | <i>Eu costumo conversar</i> sobre X.- <i>Eu nunca converso</i> sobre X. |
| | I usually give info about X - I never give info about X | <i>Eu nunca forneço informações</i> sobre X a ninguém.- <i>Eu costumo fornecer informações</i> sobre X a outras pessoas. |
| | I usually seek information about X with other people - I never seek information about X with other people | <i>Eu costumo procurar informações</i> sobre X com outras pessoas.- <i>Eu nunca procuro informações</i> sobre X com outras pessoas. |
| Interest | exciting – unexciting | <i>X é</i> um produto <i>empolgante</i> .- <i>X é</i> um produto <i>monótono</i> . |
| | neat – dull | <i>X é</i> um produto <i>bobo</i> .- <i>X é</i> um produto <i>legal</i> . |
| | fun - not fun | <i>Eu acho X</i> um produto <i>divertido</i> .- <i>Eu não acho X</i> um produto <i>divertido</i> . |
| | attractive – unattractive | <i>X me atrai</i> .- <i>X não me atrai</i> . |
| | Interesting – uninteresting | <i>X é</i> um produto <i>chato</i> .- <i>X é</i> um produto <i>interessante</i> . |
| Knowledge | I know a lot about – I know nothing about... | <i>Eu conheço bastante</i> sobre X.- <i>Eu não conheço nada</i> sobre X. |
| | I know about XXX more than my friends - I know less about XXX more than my friends | <i>Eu conheço mais</i> sobre X que a maioria de meus amigos.- <i>Eu conheço menos</i> sobre X que a maioria de meus amigos. |

Procedure

Following the format used by most scales formerly proposed, a semantic differential instrument was used here. Five hundred and one adults from Rio de Janeiro and São Paulo have responded the whole questionnaire at December 1997. Each subject responded questions about one single product category. Two product categories were tested at this stage: cars and beer. For the scale validation work, the whole sample of 501 records was pooled, where 240 subjects responded about “cars” and 261 “beer” answered questions about beer.

Of the whole sample, 47% were males and 53% females. Overall, around 70% of the respondents are aged between 18 and 29, and around 88% are between 18 and 34. Nevertheless, this seemingly young sample seems to be quite mature in terms of family life cycle. Only 7% of the sample still lives with their parents¹. Around 33% of the sample has children.

Purification of the scale consisted on an interactive process. This process included the following steps:

1. Analyze all records pooled.
2. Examine dimensional structure with exploratory factor analysis (EFA - principal axis with oblique rotation). Include all items at first.
3. Perform scree test to define how many factors to extract. Initially, criterion for factor extraction was the eigenvalue limit (1). After scree test and factor loadings plot, the number of factors to be extracted was defined based on theory. At the same time, items with significant loads (>0.3) in more than one factor were extracted, one by one.
4. Calculate alpha for the dimensions extracted.
5. After reaching a final “optimal” solution, analyse products separately with the final sets of items. Calculate alphas.
6. Perform a confirmatory factor analysis (CFA) on Lisrel VIII, all records pooled. Perform this analysis with each factor separately as well as with the whole scale. Test the final configuration of factors, as extracted in EFA. Remove the items with very low item reliability (<0.3), return to EFA to check the factor structure again.

To ensure construct validity of the scale, a brief comparison of enduring involvement dimensions scores for hobbyists vs. non-hobbyists was performed. It was expected that hobbyists display higher scores than non-hobbyists.

Results

Factor structure of enduring involvement scale – main study

As a first step, with records referring to cars and beer were pooled, exploratory factor analysis² (principal axis factoring) was run with all 21 items from the enduring involvement scale. The three factors extracted at first accounted for 55.3% of the total variance.

As a second step, purification of the measure was conducted by following the procedures described on page 7. Final results of exploratory factor analysis³ are displayed in Table 3. The three meaningful factors extracted accounted for 60.6% of the total variance of observed data. The three extracted factors can be interpreted as “Product importance and interest”; “Image and self-expression” and “knowledge and opinion leadership”. As the extracted dimensions are theoretically meaningful, this solution was deemed acceptable.

¹ It should be noted that it is not a habit in Brazil for young people to live apart from their parents while single.

² Bartlett's test of sphericity = 6034.75, $p=0.000$. Therefore, it is possible to run EFA (see Pedhazur & Schmelkin (1991) p. 596).

³ Bartlett's test of sphericity = 3448.76, $p=0.000$.

Table 3: Exploratory factor analysis on enduring involvement scale, final set of items – main study⁴.

| Question | Factor 1 Product importance / interest | Factor 2 Product symbolic value | Factor 3 Consumer knowledge and information search | Communality | Coefficient alpha: Item-to-total correlation |
|--|---|--|---|-------------|---|
| Cars are exciting. (unexciting) | 0.82 | | | 0.64 | 0.74 |
| Cars are dull.* (neat) | 0.81 | | | 0.62 | 0.73 |
| Cars are fun. (not fun) | 0.77 | | | 0.57 | 0.71 |
| Cars matter to me. | 0.75 | | | 0.61 | 0.75 |
| Cars are interesting.* (boring) | 0.74 | | | 0.57 | 0.71 |
| Cars are attractive. (unattractive) | 0.73 | | | 0.68 | 0.78 |
| Cars are important. (unimportant) | 0.73 | | | 0.55 | 0.71 |
| A car tells others about me. | | 0.85 | | 0.72 | 0.71 |
| A car is part of my self image.* | | 0.73 | | 0.65 | 0.68 |
| Cars portray an image of me to others.* | | 0.69 | | 0.49 | 0.64 |
| I know a lot about cars. | | | 0.81 | 0.65 | 0.68 |
| I know more about cars than most of my friends. | | | 0.80 | 0.71 | 0.7 |
| I usually read magazines about cars.* | | | 0.61 | 0.41 | 0.57 |
| * Inverted scoring | | | | | |
| Factor | 1 | 2 | 3 | | |
| Eigenvalue | 5.78 | 1.17 | 0.93 | | |
| Pct of Var | 44.50 | 9.00 | 7.10 | | |
| Cum Pct | 44.50 | 53.40 | 60.60 | | |
| coefficient alpha | 0.91 | 0.82 | 0.80 | | |
| | | | | | |
| Correlation between factors: | Factor 1 | Factor 2 | Factor 3 | | |
| Factor 1 | 1 | | | | |
| Factor 2 | 0.48 | 1.00 | | | |
| Factor 3 | 0.56 | 0.42 | 1.00 | | |

The two factors from McQuarrie & Munson's RPII (1992) were condensed in a single factor here, product importance / interest. The two factors present in the enduring involvement scale here reported, namely "product symbolic value" and "consumer knowledge and information search" are consistent with the literature concerning enduring involvement. Note that, as stated previously, McQuarrie & Munson's RPII (1992) did not aim to measure enduring involvement, but *involvement* instead. Therefore, the scale here reported seems to be more

⁴ Questions were presented in English for better comprehension of the table. Please see Table 2 for translations to Brazilian Portuguese.

adequate for the objectives of the present work, where a measure of *enduring involvement* is necessary.

Internal consistency of enduring involvement scale.

Internal consistency of a scale refers to the correlation between the items of the scale for all subjects (Bearden, Netemeyer & Mobley 1993). A high internal consistency means that the items of the scale are measuring only the dimensions they are meant to measure. In order to analyse internal consistency of the enduring involvement scale, along with Cronbach alpha, confirmatory factor analysis (CFA) was conducted in LISREL 8 (Jöreskog & Sörbom 1993).

Alpha coefficients for enduring involvement dimensions (495 valid observations) are 0.91 for product importance / interest, 0.82 for product symbolic value, and 0.80 for consumer knowledge and information search (see Table 2). Such values are above the acceptability threshold values of 0,70 proposed by Nunnally & Bernstein (1994).

Bearden, Netemeyer and Mobley (1993) suggest item-to-total correlations as a measure of internal consistency. Some authors (e.g. Zaichkowsky 1985; Shimp & Sharma 1987) suggest, as a rule of thumb, that item-to-total correlations be above 0.50. As Table 4.3 shows, all RPII items are above the threshold value of 0.50.

CFA results for the two versions of enduring involvement scale are presented in Table 4.

Table 4: Summary of confirmatory factor analysis indexes - enduring involvement scale

| Question | Confirmatory factor analysis (CFA) | | | | Coefficient alpha: | |
|---|------------------------------------|---------|------------------|-----------------------|---------------------------|-------------------|
| | Factor loading | t-value | Item reliability | Construct reliability | Item-to-total correlation | coefficient alpha |
| Cars are exciting. (unexciting) | 0.79 | 19.07 | 0.56 | 0.91 | 0.74 | 0.91 |
| Cars are dull.* (neat) | 0.76 | 19.53 | 0.58 | | 0.73 | |
| Cars are fun. (not fun) | 0.74 | 18.82 | 0.55 | | 0.71 | |
| Cars matter to me. | 0.79 | 20.46 | 0.62 | | 0.75 | |
| Cars are interesting.* (boring) | 0.76 | 19.35 | 0.58 | | 0.71 | |
| Cars are attractive. (unattractive) | 0.83 | 22.17 | 0.69 | | 0.78 | |
| Cars are important. (unimportant) | 0.75 | 19.07 | 0.56 | | 0.71 | |
| A car tells others about me. | 0.81 | 19.93 | 0.67 | 0.82 | 0.71 | 0.82 |
| A car is part of my self image.* | 0.81 | 19.62 | 0.65 | | 0.68 | |
| Cars portray an image of me to others.* | 0.71 | 16.72 | 0.50 | | 0.64 | |
| I know a lot about cars. | 0.80 | 19.31 | 0.63 | 0.81 | 0.68 | 0.80 |
| I know more about cars than most of my friends. | 0.86 | 19.31 | 0.63 | | 0.7 | |
| I usually read magazines about cars.* | 0.63 | 14.38 | 0.39 | | 0.57 | |
| * Inverted scoring ** Index of construct reliability (Hair et al 1992 p.450): $Construct\ reliability = \sum (\lambda_i)^2 / [(\sum \lambda_i)^2 + \sum \delta_i]$ where... λ_i = factor loading parameter (CFA) δ_i = error | | | | | | |

The results of confirmatory factor analysis on enduring involvement scale - before revision, with all 21 items; and after revision, with 13 items - are reported in Table 4. In order to assess how well the factor structure fits available data, GFI/AGFI (goodness of fit index / adjusted goodness of fit index) and RMR (Root Mean Square Residual) will be examined. Pedhazur & Schmelkin (1991) indicate 0.90 and 0.80 indicate good fit for GFI and AGFI respectively. Hair *et al* (1992) consider 0.075 an acceptable value for RMR (p.458).

Examining CFA results displayed in Table 4, GFI and AGFI are acceptable for both enduring involvement scales (the 21-item original scale and the 13-item revised scale), but only the 13-item scale has a GFI (0,92) above the threshold values indicated by Pedhazur & Schmelkin (1991). Based on the statistics provided, it is possible to believe that the revised 13-item scale fits available data better than the 21-item scale.

The RMR value for the 13-item scale, 0.039, is acceptable. It also indicates that the 13-item revised scale fits available data better than the original 21-item scale (0.058).

Item reliability measures from CFA output for all items show values ranging from 0.39 (for I10READ - "I usually read magazines about cars") to 0,69 (I18ATTR - "Cars are attractive").

Results for item reliability, item-to-total correlation and construct reliability are presented in Table 6.

Corroborating with encouraging results indicated by coefficient alpha, the index of construct reliability also reached acceptable levels: 0.91 for product importance / interest, 0.82 for product symbolic value and 0.81 for consumer knowledge and information search.

Table 6: CFA results - item reliability measures for enduring involvement scale¹.

| Question | Confirmatory factor analysis (CFA) | | | | Coefficient alpha: | |
|--|------------------------------------|---------|------------------|-----------------------|---------------------------|-------------------|
| | Factor loading | t-value | Item reliability | Construct reliability | Item-to-total correlation | coefficient alpha |
| Cars are exciting. (unexciting) | 0.79 | 19.07 | 0.56 | 0.91 | 0.74 | 0.91 |
| Cars are dull.* (neat) | 0.76 | 19.53 | 0.58 | | 0.73 | |
| Cars are fun. (not fun) | 0.74 | 18.82 | 0.55 | | 0.71 | |
| Cars matter to me. | 0.79 | 20.46 | 0.62 | | 0.75 | |
| Cars are interesting.* (boring) | 0.76 | 19.35 | 0.58 | | 0.71 | |
| Cars are attractive. (unattractive) | 0.83 | 22.17 | 0.69 | | 0.78 | |
| Cars are important. (unimportant) | 0.75 | 19.07 | 0.56 | | 0.71 | |
| A car tells others about me. | 0.81 | 19.93 | 0.67 | 0.82 | 0.71 | 0.82 |
| A car is part of my self image.* | 0.81 | 19.62 | 0.65 | | 0.68 | |
| Cars portray an image of me to others.* | 0.71 | 16.72 | 0.50 | | 0.64 | |
| I know a lot about cars. | 0.80 | 19.31 | 0.63 | 0.81 | 0.68 | 0.80 |
| I know more about cars than most of my friends. | 0.86 | 19.31 | 0.63 | | 0.7 | |
| I usually read magazines about cars.* | 0.63 | 14.38 | 0.39 | | 0.57 | |
| <p>* Inverted scoring</p> <p>** Index of construct reliability (Hair et al 1992 p.450):</p> $\text{Construct reliability} = \sum (\lambda_i)^2 / [(\sum \lambda_i)^2 + \sum \delta_i]$ <p>where...</p> <p>λ_i = factor loading parameter (CFA)</p> <p>δ_i = error</p> | | | | | | |

Enduring involvement levels for professionals and hobbyists – a measure of construct validity.

As mentioned earlier in this work, levels of enduring involvement are expected to be higher when there is some sort of professional or hobby relationship with the product category. In order to check this issue, means of enduring involvement dimensions for hobbyists were compared with that of non-hobbyists. Professionals were not included in this analysis because only 24 respondents declared to have this kind of relationship with the product for both cars and beer, 12 on each.

As can be examined in Table 7, means of all enduring involvement dimensions are significantly different for “hobbyists” vs. “not-hobbyists”. This means that the scale here presented

Table 7: Means of enduring involvement dimensions for hobby relationship

| | Car data | | Beer data | |
|--|---------------------|---------------|---------------------|---------------|
| | Hobby relationship* | | Hobby relationship* | |
| | No (n=161) | Yes (n=67) | No (n=205) | Yes (n=47) |
| Importance and interest | 40.0 | 43.3 | 30.2 | 40.9 |
| Image and self-expression | 12.0 | 14.5 | 7.8 | 11.4 |
| Knowledge and opinion leadership | 9.7 | 12.7 | 8.1 | 11.7 |
| Involvement overall score (sum of the three dimensions) | 61.6 | 70.4 | 45.9 | 64.0 |
| * Differences between all “no” and “yes” means on these columns are significant at 1% level. | | | | |

Conclusions

The scale here proposed is a first step towards a fully reliable enduring involvement scale in Brazilian Portuguese. Since the final configuration of the scale is quite different from McQuarrie & Munson’s (1987, 1992), it seems reasonable to say that this is a new scale, and not a translation of RPII. EFA, CFA and alpha coefficient results provide support to the dimensional structure and internal consistency. Construct validity has been briefly examined by comparing results from hobbyists vs. non-hobbyists.

As a cautionary note, construct validity still needs a better test which include affective and cognitive effects of enduring involvement. Moreover, as only two product categories were tested so far, it is advisable that the scale be tested on other product categories.

As suggestions for future works, it seems necessary to examine the relationship between enduring involvement and objective knowledge.

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ⁱ Questions were presented in English for better comprehension of the table. Please see Table 2 for translations to Brazilian Portuguese.