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AESTHETICS AND BRANDS
Cross-cultural Evaluation of Furniture Design

by

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Abstract

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Do aesthetics relate with brands? In this work, we try to find out if brands interfere with aesthetics, and we use experimental aesthetics in trying to develop a new brand. The brand will apply to the furniture of Álvaro Siza, a famous Portuguese architect, and our concern was consumer's assessment of it. We confront his *design* with the one of other relevant authors, and analyse how consumer's judgement varies in face of some basic factors. Our approach is market oriented, explores cultural differences, uses WMDS - Weighted Multidimensional Scaling, and we believe it brought us a preliminary, but fundamental understanding of consumers' opinion, as well as some evidence about such a relationship.

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To my wife, Maria José. Without her, this work would not be possible.

To my father.

To all who teach me in the previous MBA course and, in special, to Professors Paulo de Lencastre and Pedro Duarte Silva: their support and patience was decisive.

I n t r o d u c t i o n

In marketing, we want our products or services (physical attributes, characteristics, technology, etc.) to perfectly match consumer's characteristics (personality, behaviour, etc.), given a wide and constantly changing array of social phenomena (markets, prices, fashion, laws, etc.). Indeed a complex list of issues to master, to which we must add those coming from the communication process between all actors involved.

We want to facilitate trade, to sell, to please consumers, to understand them, and we realised, a long time ago, that brands are useful mechanisms to do it. Yet, in its broad sense, we have not *invented* [1] brands, nor brands have factual existence. We have *discovered* peculiar human phenomena, so useful for us (if producers) as for others (if consumers), found out that (many times) it "accept" our interference - for the best and for the worst - and *named* "the whole" of it. Such interference, however, is what builds *difference(s)* on the way consumers relates with objects and that we certainly need to master.

When can we say, then, that we are facing a brand, and what happens when we do want to interfere, as when we wish to develop a new brand? The number of questions involved, and of possible answers, is high, but we can only take some at a time.

In this work, I try to model a consumer basic experience, the one that usually happens when he visualises a product and commonly named as "aesthetic", and I attempt to consider how it relates with the concept of brand. "The aesthetic" of a product often starts consumer's judgement about it although, sometimes, previous information is present. Also frequently it stays, long after that, as a permanent mean of appraisal. However, and due to the enormous amount of differences we can find among people, we can raise difficult questions about it: Does it rests upon underlying rules? Which ones are they? How common are they? What is their relative importance? Do they depend

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[1] Throughout this work the following conventions will be used:

    - Italics (and occasionally underlining) in emphasis.

    - Brackets in simplified and metaphorical words, or expressions.

    - Brackets and Italics in citations.

    - Capitalised words in working concepts.

on context, for instance additional information? How they vary among individuals, whether geographically, with gender, age, etc? A vast universe of causes may have something to do with these questions, and marketing actions are probably among it. Thus, knowing something about this kind of judgements, and about its consistency among individuals and/or situations, can probably helps us to determine, or to change, how must we understand that product and, in particular, if (and how) a brand applies to it.

In trying to answer this, I use a simple approach, one that merely recognises that people differ in reality appraisal, not only in response bias but also in the perceptual or cognitive processes that generate the responses, as well as in affective processes involved. I start my questions considering two fields of inquiry: aesthetics and consumer behaviour. Later on, I consider the influence of another discipline: neural-biology. Perspectives differ, of course, but I believe that human behaviour necessarily crosses them all, and that brands in particular are better understood if we consider "the aesthetic" of it. In Chapter 1, then, I carry on this analysis, summarising main goals of this work (item 1.1), revisiting important perspectives on each field (items 1.2 and 1.4.1), and noting some unavoidable interference's between them (items 1.3 and 1.4.2). The order in presentation gradually emphasises "the aesthetic" as underlying much of all consumer behaviour.

In Chapter 2, then, I attempt the theoretic question of how to do it e.g., how to model such judgements, but a word of caution is useful: models often give us a Cartesian view of the world, but hardly the world *is* so, human minds in particular. We use models when too much complexity prevent us from using other means, what is being studied is inaccessible to our senses, we face a conceptually difficult question, or we find it puzzling (POOLE, 1995, p99). Still, although I believe that both "the aesthetic" and brands follow some of these rules, I also think that models can help us to "grasp" a piece of the true existing in the world we inhabit, even if a small one.

As there is no such thing as a consensus about what qualifies as "aesthetic", I take it on its sense of *Affect*. I consider "the aesthetic" as everything that consumers may *like* (or dislike) when they see an object, how much "good" or "bad" is what they *feel* about it, how much they are *pleased* (or not) by it, whatever they understand or think as deserving to be *enjoyed* (or not) on it. Taste [2] would be a similar concept and perhaps Attitude too. I see emotions and feelings as a "common ground" between fields, something that allows us to talk about what qualifies as aesthetic, as well as to

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[2] In the broad sense of our ability to enjoy beauty in objects, and to form judgments about it.

recognise a brand, because although we can say many more things about these concepts I can't imagine, both, without emotions and feelings involved. Accordingly, I adopt a perspective coming from neural-biologic science (items 2.1 and 2.2), which attributes to emotions and feelings a fundamental role on conscience.

In my view, however, to effectively address Affect we need to account, also, for consumer's Perception, because they are intimately connected. Therefore, in characterising "the aesthetic" through consumer's *judgements of value*, I believe we need to (simultaneously) model their *judgements of fact,* so that we reasonably account for context. In addition, as I am adopting a marketing approach, my concern is to find out if those judgements obey to some underlying "structure", or pattern, that can facilitate further actions to understand, and bring value, to consumers.

Furthermore, I consider that relations between people and objects may involve "levels" we can typify in the iconic, the indexing and the symbolic *mode(s) of reference.* Now, to be effective marketing actions usually introduce a "dynamic" over such modes of reference, which led me to question whether those judgements also reflect it. Accordingly, my understanding was that if judgement's (eventual) pattern is not stable, across different modes of reference, aesthetic judgements may be conveying *differences* which are themselves (part of) *the* brand, and which we may probably use – subsequently – to develop it (item 2.3).

I attempt the empirical question in Chapter 3. Accepting an opportunity initially brought up by ICEP [3], and related with the Portuguese foreign image, I develop an exploratory approach, market research oriented, about a (possible) new brand in the field of furniture design: a brand "by Álvaro Siza", the prominent Portuguese architect awarded in 1992 with the prestigious "Pritzker Prize" [4].

Design is inseparable form aesthetic judgements, and as proliferation of styles, in contemporary society, stresses object's form and symbolism to consumers, my attempt deals, essentially, with the following complementary questions:

- To identify common factors, criteria, or simplifying rules, that may come into play when consumers evaluate different styles of well-known objects, and which I presume can structure their appraisal of it; in other words, if consumers agree on something.

- To identify if differences exist, among them, concerning the way they understand and/or

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[3] ICEP – Investments, Commerce and Tourism of Portugal (Oporto Delegation): 1998

[4] The Hyatt Foundation, USA, annually grants the Pritzker Prize, usually considered as the Nobel Prize of architecture.

evaluate those objects, as well as if symbolism is already relevant to such appraisal. Differently stated, how they diverge.

The goal of helping to develop a "by Siza" brand is present, of course, and as chances of bringing value to consumers increase if one can previously know their opinion, knowledge about such a structure would help because it could point us "ways", or favourable "paths", to reinforce the value consumers (already) attribute to Siza objects. I use, then, a sample of people living in four different countries, interviewed with the help of ICEP foreign delegates, to test concepts and methodology.

I conceived the approach as a preliminary step, or exploratory initiative, introducing a subsequent full market research on the part of those that are, or will be, managing such brand; therefore, it has a limited scope. Still, I believe it led to interesting results, justifying further levels of research.

In Chapter 4, I present and discuss my findings. Characterising consumer's answers, whether individually or at an aggregated level, is not the same as justifying; rather, it is a previous condition towards such eventual goal(s) and, as discussed, results suggest:

- An interesting pattern in consumer's answers, unexpectedly stable among countries (and cultures), possibly reflecting "tendencies of taste", and probably useful for marketing purposes.

- The existence of some differences, in judgements, that may reflect the influence of symbolism, whether deliberately induced or not, but fairly allowing us to admit a relation between "the aesthetic" and brands.

- A (relatively) weak evaluation of Siza objects, and name, that calls for further qualification, particularly on some of the markets involved. Accordingly, my suggestion to whoever will manage the brand is that he considers the use of one, or more, expanded versions of this survey to do it.

Finally, I recall here that understanding how people perceive and affectively relate with objects may be useful, but it remains, nevertheless, a simplified tool (or artifice) to describe how they cope, in fact, with reality. Still, I believe aesthetics may give a stronger contribution to marketing than the one we may inadvertently consider, at a first glance.

C h a p t e r   1

CONCEPTUAL FRAMEWORK

1.1 – Beyond paradigms.

Brands usually involve "the aesthetic", and many times take it as central to the way consumers develop its personal image of product(s), service(s), or the organisation itself. In fact, "the aesthetic" concerns to relations between an object [5] characterisation and subject's experience of it, and, if we note, this is – at least in part - what brands are about. Thus, characteristics like the product *form* [6], or its symbolism, which otherwise people would naturally understand as "aesthetic", are also some of the characteristics they may, and indeed do attribute to brands.

 "The aesthetic" systematically pervades our *lived* experience that is, knowledge we build over a wide array of objects, facts, or situations, and which allows us basic skills about how to live and how to do. From that perspective, then, it is part of our involuntary knowledge, because it pervades our common sense, which is non-critical knowledge (POPPER, 1988, quoted in NÓBREGA e MARQUES, 1997, p11). In addition, although we continuously transcend this experience through critic reasoning and abstractions, which are both characteristics of our *thought* experience, we still recognise "the aesthetic" as present. In fact, "the aesthetic" involves what we value, and although we need real objects, facts or situations to understand values (MORENTE, quoted in NÓBREGA e MARQUES, 1997, p85), these do not exist as real things; they are virtual and exist only in our mind. From objects, then, we can say they *are* e.g., they exist, but from values - as with "the aesthetic" - we can only say they value (FRONDIZI, quoted in NÓBREGA e MARQUES, 1997, p85).

Brands also presuppose myths, as well as they presuppose human action, too. Indeed, myths

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[5] In its broad sense of thing, fact or situation.

[6] Aggregated concept representing here, for instance, shape, scale, tempo, proportion, materials, colour, reflectiveness, ornamentation or texture, etc.

involve a type of speech [7] *"…made of material which has already been worked on so as to make it suitable for communication…"* and which is *"…not defined by the object of its message, but by the way in which it utters this message…"*(BARTHES, 1957, p1-2), and brands certainly involve myths. Human action, in turn, translates and presupposes choices, determined by will and founded in values that regulate it (NÓBREGA e MARQUES, 1997, p70), and brands necessarily imply, and rely, over specific patterns of it.

More important, however, brands show us that myths influence human action. We may probably think, or describe such influence in many different ways, but if we undoubtedly detect "the aesthetic" as pervading our understanding of brands, it would be interesting to know if it involves "the aesthetic" too. Not surprisingly then, the more we recognise that a myth emphasises, or relies, on what people may eventually see as "aesthetic", the more we need to know *if*, *who* and *where*, share whatever value they find on it, so that we characterise the relation; unless, of course, our concern is not marketing.

An example, less extreme than it may appears, can help:

- Can we brand art objects, or do we take it as art due - precisely - to an implicit brand?

This is, in fact, a complex question. Brands are essentially interesting if at the eyes of consumers they *add* value to products involved, otherwise we can question it. If we proceed with such reasoning, however, and try to cope with "the aesthetic", an additional difficulty appears that almost introduces the paradox of knowing how to qualify a qualifier. Indeed, instead of qualifying *something*, as usual, "the aesthetic" become *the* something to be "qualified", in order to define, firstly, consumer's point of view e.g., inherently *existent* value, and secondly, the role being played by the brand e.g., which value is being *added* by the brand. In other words, on one side emphasising aesthetics questions, or accepting to be contingent on it, necessarily involves to deal with object's ambiguous characteristics, as well as to cope with pervasive consumer's experiences, most of the times blended in a way almost impossible to untangle. On the other side, presuming that consumers inherently systematise "the aesthetic", and that we can even find how they do it, we still remain with the question of what is being the role of the brand, or what worthies to be taken as such. Special difficulties include:

- The possibility of characterising consumers, regarding how they understand "the aesthetic" in

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[7] In its broad sense: linguistic, visual, etc.

objects.

- How to understand, use, or even redefine such characterisation as part of a brand.

Thus, how do aesthetics relate with brands?

1.2 – Some notes about Brands.

Academic wisdom has consistently considered, in this last decade, the need to conceptualise brands as *effects* in consumer's mind and, accordingly, on their behaviour and in the functioning of the marketplace. Although skills, know-how, legal, communicational, relational or organisational issues are certainly recognised as fundamental parts of the brand concept, common sense notes that without these effects, simple or complex, there are no brands. Naturally, as perspectives about brands differ, definitions about these effects and its relationships differ too. As significant examples, all certainly valid:

- Under the concept of Brand Identity (KAPFERER, 1991, p37-41), components considered are the Physical one (characteristics of the product or service), brand Personality (name, symbol, communication characteristics), Culture (adopted system of values), Relations (between brand and consumer's associations), Reflex (semantic result of consumer's behaviour) and Mental Result (consumer's personality adaptation). Effects are here mostly emphasised, then, in half of these components: Relations, Reflex and Mental Result.

- Under the concept of Brand Equity (AAKER, 1991, p17), components considered are, instead, consumer's Loyalty, name Awareness, perceived Quality, brand Associations, and other Assets (competitive advantages of the brand "owner"). Here, in turn, considered effects spread between most of the components used.

- In a similar approach, defined as Customer-Based Brand Equity (KELLER, 1993, p8; 1998, p45-50), the focus goes to consumer's knowledge and it includes the Awareness (Recall and Recognition) and the Image (Associations) components, both effects in consumer's mind.

- In a semiotic perspective, Semprini (1992, p39-44), structure brand components as Environment (Contexts: social, cultural, legal, economical, political, market, etc.), Production Encyclopaedia (Culture, Objectives and Plans, Communication Mix, understandings of contexts, etc), and Reception Encyclopaedia (Attitudes, Motivations, Perceptions,

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Interpretations, Practices, etc.), so that it systematically produce meaning. In a sense, effects are here a goal under the Reception Encyclopaedia component.

- Again, under a semiotic perspective Mollerup (1997, in LENCASTRE, 1999, p15-16) defines brands as Signs (name, logo…), Objects (product, organisation, mission…) and Effects (consumer's image).

With brands substantively recognised as effects in consumers, *"…something that (ultimately) resides in the minds of consumers…"* (KELLER, 1998,p10), the emphasis shifts to consumers, and how they relate themselves with environment, which translates, then, in accepting that consumer's "own" the brand (SOUTHGATE, 1994, p20), although what exactly is meant by that remains complex to unify.

Brands address the whole relation "person vs. object", and contemporary trends in theory, coming from consumer behaviour discipline, emphasise how people "arrive" to meaning (PINSON and JOLIBERT, 1998). However, we can also consider what people *value* and, accordingly, emphasise value when we address brands. In particular, consumers can adopt an aesthetic point of view, and this "shift" of perspective seems to be possible, only, if we do not consider value as a consequence of meaning, or the inverse, but recognise both situations as possible and, most of the times, simultaneous, because both are inherent conditions of human conscience. In fact, we constantly seem to prefer rather then to just know e.g., we have *"…the faculty of preferring, be it to perceive in all things an halo that qualify them as good, bad, better, worst…which is, perhaps, an universal function of all living being"*(MORENTE, in NÓBREGA e MARQUES, 1997, p96). Therefore, *"…it is (…) very likely that, with or without its conscience, all living being contemplate its world much under the species of the preferable than under the species of the strict being"* (Ibiden, p96). It seems, then, that we continuously engage ourselves in something which *"…breaks with the indifference that places all things and all events at the same level of (non)significance"* (NÓBREGA e MARQUES, 1997, p96) e.g., we constantly value everything, be it real or imagined.

Keller points out the interest of the brand equity concept in representing (a fairly consensus about) *"…effects uniquely attributable to the brand"* (1988, p42) e.g., *"…added value endowed to a product as a result of past investments in the marketing for the brand"* (Ibiden, p44). He also defines a brand as a product or service, but *"…one that adds other dimensions to differentiate it in some way from other products designed to satisfy the same need"* (Ibiden, p4). Conciliating these quotations implies, then, that past (marketing) actions

can bring, specifically, unique value to a product or service, hence creating additional dimensions that allow it to be different e.g., to become a brand. Consequently, both an identity and a causal relation appear: the brand *is* those differences (effects e.g., values) *caused* or, perhaps better, *reinforced* by (marketing) actions, but even so the concept remains pervasive. In fact, even the most refined concept remains a concept and there is no vanishing point at which it becomes a "percept" (ISENBERG, 1949, p6); we usefully address the idea of it, or its results, not itself as a concrete instance. Still, we must recognise at least some of these effects to render a critical verdict, although considerable latitude remains.

Thus, we can consider that *"the key to branding is that consumers perceive differences (…) in a product category"* (KELLER, 1998, p10, emphasis added), but as we can also think that differences are usefulness if they are not *valued*, we can adopt the following premises:

P1.   Brands are the expression of a (differential) value, as seen from consumers' point of view.

P2.   Effective marketing actions e.g., actions that *cause* brands, presuppose we conceive and advertise a product in face of, and towards consumer's taste and preferences (values).

1.3 – The presence of "the aesthetic".

Products or services also involve "the aesthetic", and through times we have always rely on it when making our choices. Indeed, now as always, many times products and services are essentially valued because of it. While it is possible to argue, in such cases, that whether we are facing a different question, one that leaves the brand field to enter the art(s) one or, instead, that these are only particular situations, it is no less true that nowadays such boundaries have become complex to define. In actual "hyper-choice" society, as Semprini calls it (1995, p23), it is not unusual that a differential value can hardly be find, in many cases, unless "the aesthetic" can trigger it, and we may illustrate it as follow:

Firstly consider the concept of product *form*, as jointly representing such elements as, for instance, shape, scale, tempo, proportion, materials, colour, reflectiveness, ornamentation or texture e.g., elements which are chosen and blended into a whole by designers in product conception (BLOCH,

1995, p17). Contemporary (expected or imposed) high standards, or constrains, concerning for instance performance, ergonomics, production, costs, or regulatory and legal issues, led Design to achieve an widespread status of mandatory prerequisite, just to gain market presence. But then, while this is certainly a remarkable evolution, chances that (consumers) choice relies over *form*, in detriment of functional or utilitarian characteristic, increased, because the latter has (almost) turned into an "acquired presuppose" to consumers. Consequently, and as a minimum, *form* probably interferes in the product (or service) evaluation; it may frequently represents, however, a significant part of consumer's value, if not the crucial one.

Secondly, consider another situation, perhaps less (physically) product-related but also common nowadays, of brands built over marks of well-known names (the French word *griffe* being perhaps a better one…). *Griffe(s)* refer to *"…creation. Its universe of reference is art, its production mode the hand, its obsession…to make…the invincible perfect work…"*(KAPFERRER, 1991, p27) and, inevitably, "the aesthetic" plays a central role, here. Whether we consider that the step from a *griffe* to a brand needs the serial production, and the factory (Ibiden, 1991, p27), or, instead, that a *griffe* is already a more or less developed phase of a brand, in such step "the aesthetic" cannot decrease. It must continue, indeed, as a relevant part of (all possible) consumer's value, and as so it is critic.

Finally, the use of "the aesthetic" is extensive in persuasive brand communications. As an intimate connection seems to exist between "the aesthetic" and our emotions and feelings, and the latter have been shown to be significant determinants of various consumer behaviour (NYER, 1997, p296), advertising places heavy emphasis over "the aesthetic" in trying to shape consumer's product and services appraisal. Indeed, from a consumer's point of view, beyond the (conscious or unconscious) incidence of "the aesthetic" on products and services appraisal, we even expect sometimes advertising to be, itself, "aesthetically" appealing, otherwise we tend to avoid it.

Thus, another relevant premise is that:

P3.   Marketing has pushed forward, not backwards, the importance of "the aesthetic".

1.4 – Some notes about "the aesthetic".

Every consumption situation involves "the aesthetic", yet it is difficult to specify where it begins or

ends. In fact, when considered as "aesthetic", both the properties of objects or the experience of individuals are very difficult to clarify, even when, for instance, we perfectly recognise a style or identify historical or cultural elements as important in enjoying a given object, and the subject has always been a matter of debate, as well as of voluminous literature.

We can understand "the aesthetic" in two different senses, strongly connected of course, but different nevertheless: as a general theory about what we feel, and as a theory of art (NÓBREGA e MARQUES, 1997, p114). Here we take the former as a consumer behaviour issue, addressable in light of neurobiological science, and thus a problem of "experimental aesthetics"; the later we take as a philosophic subject. We begin by the second of these senses, because it helps to understand the first and to establish some grounds in studying it.

1.4.1 – "The aesthetic" as a philosophical subject.

We can trace inquiry roots about what is, or qualifies as "aesthetic", back to Plato and his archetypes of the beautiful, the true and the good, but *aesthetics* as a discipline is only about two centuries old (NÓBREGA e MARQUES, 1997, p110; STRATI, 1992, p568). The German philosopher Alexander Baumgarten developed the term and the discipline, in the 18th century, building on the Greek concepts *"aisthétiké"* (which means "relative to sensation") and *"aisthanestai"* (the verb "to perceive") (NÓBREGA e MARQUES, 1997, p110; SCHMITT and SIMONSON, 1998, p39).

Attempting to describe here the evolution of the discipline would be, even if a possible task, to abandon a reasonable scope for this work. Further, as in this field *"…there are no conclusive definitions or definitive conclusions"* (NÓBREGA e MARQUES, 1997, p118), if we look for the meaning of "the aesthetic" hardly we avoid the problem of "oscillating" between, on one side, the analysis of our own experience and, on another, the analysis of what, or where, we experiment it (STRATI, 1992, p568).

It seems unavoidable, however, to mention some ideas coming from analytic perspectives, and for three different reasons. Firstly, because this philosophical tradition tends to see aesthetics as a "second-order discourse", that clarifies concepts of art critics and historians (BENDER and BLOCKER, 1993, p69). Secondly, because compared with postmodernist positions, the analytic

tradition reveals a higher degree of optimism toward the recovery of at least some form of rational objectivity in the discussion of art (Ibiden, 1993, p421). Thirdly, because these arguments seem to be necessary conditions in conciliating "the aesthetic" with marketing.

Tumas-Serna (1993, p80) traces the origin of modern aesthetics to the formalisation of theories of taste and beauty in Kant's *Critique of Judgement*, and, in Kant, aesthetic judgements possess a kind of universality, but not the universality of a scientific law. Rather, it is we who think our judgements of the beautiful should have force or efficacy for others (BENDER and BLOCKER, 1993, p172). For Kant, aesthetic judgements relate to the "free play" of our cognitive capacities, the interplay of subjective faculties detached from any concept at all and applied to object form. As so there cannot be anything like a deductive science of aesthetic judgements, because these are completely non-cognitive (Ibiden, 1993, p172): *"…aesthetic judgement is unique of its kind and gives absolutely no cognition (not even a confused cognition) of the object; this is only supplied by a logical judgement)* (KANT, 1951 translation, p10).

Thinkers that would follow him, from Shopenhauer to Hegel or Nietzsche, established art as a legitimate concern of philosophy (TUMAS-SERNA, 1993, p81), and in early twentieth century Benedetto Croce, and Clive Bell, were among the idealists that shaped the development of relevant topics in the discipline (BENDER and BLOCKER, 1993, p123; TUMAS-SERNA, 1993, p81; TEIXEIRA, 1999, p2). In Croce, for instance, the emphasis had gone to what he called "lyrical intuition", which he thought converted chaotic feelings into clear intuition. As for Croce there was an identity between intuition an expression, the difference between an emotional sensation and a lyrical intuition was that only the later had been given form that is, had been expressed (BENDER and BLOCKER, 1993, p123). For Bell, instead, not only there was a peculiar emotion known as aesthetic emotion as, also, only artworks provoked that emotion; further still, all artworks had in common what he called "significant form" (TEIXEIRA, 1999, p2).

Until the mid-twentieth century, aesthetics stayed approximately definable, more narrowly than it can be today, as the investigation of the *aesthetic experience* and its differences from other sorts of experience. Philosophical answers usually considered that *aesthetic experience* involved *Disinterestedness*, *Detachment*, and *Distance* - the "3D's"- and the analytic perspective emerges, in part, as a reaction to this (BENDER and BLOCKER, 1993, p367). Broadly, however, it is a consequence of the analytic approach to philosophy introduced by Moore and Russell, and continued by Wittgenstein and

others (SHUSTERMAN, 1987, p2).

Some agreement also exists concerning its evolution with the end of World War II (BENDER and BLOCKER, 1993, p2). The "goal" in the field was, at the time, *"…to be rid of the romanticism, idealism, essentialism (…) of the earlier half century"* (Ibiden, 1993, p2), and the self sustaining momentum appeared when *"…the tools of close logical and conceptual analysis were (…) implemented in the elimination of three major sources of (…) field's dreariness"* (Ibiden, quoting SILVERS, 1987):

- Previous and prominent ideas in the field, considered "obscure" and "confused".

- The practice of overgeneralizations based on particular features of certain aesthetic experiences.

- The unfounded presupposition that art shares an important essence, despite of its variety.

Under such evolution, we can regard Susanne Langer as a transitional figure of the 50s, associated both with the older, pre-analytic aesthetics, and with early analytic movements (BENDER and BLOCKER, 1993, p124). Langer developed a theory of expression known as "iconic isomorphism", based on isomorphic relations between the dynamics of object's form and our structure of emotions and feelings. For her, artworks are symbols, that present visible and audible forms that are congruent with our feelings, but the same way we must resort to metaphor to express many ideas, artworks are non-discursive symbols that articulate what is verbally ineffable – the logic of consciousness itself (Ibiden, 1993, p125).

From this point forward, analytic aesthetics somehow evolved to *"…narrower and more manageable range of philosophical questions…"* (Ibiden, 1993, p127), and some of these "narrower" questions were (and are), for instance, the properties of artworks, the nature of the aesthetic experience, whether there can be a general theory of art at all, or relations between aesthetics and knowledge (Ibiden, 1993). Here we briefly follow these questions:

- If art objects are to be distinguished from ordinary objects, one should expect it to have different properties e.g., to have aesthetic properties; but can we identify it?

    For Walton (1970), aesthetic properties depend on whether they are "standard", or "contra-standard". Standard properties, for him, are those in virtue of which an artwork belongs to a given art historical or stylistic "category" ("impressionistic", "functionalist", etc.). "Contra-standard", instead, are those tending to disqualify the work as a member of that "category" (BENDER and BLOCKER, 1993, p237). A category is correct for a work when the work has a preponderance of features standard with respect to that category, when the work is

better or more interestingly perceived within that category, when the artist intended the work to be perceived that way, or when perceiving the work in that way is socially acceptable. Categories, however, are presupposed and implicit in our perceptions, and often we are not consciously aware of it, because we simply take it for granted; they have been tacitly learned and included in our culture (Ibiden, 1993, p238).

For Beardsley, instead (1981), aesthetic properties are, generally, those features of artworks usually referred to as "formal" properties, that is, properties that have to do with the relationship among the parts that make up an artwork (BENDER and BLOCKER, 1993, p234). The elementary parts, which cannot be further reduced to component parts, Beardsley calls "local qualities", while properties that belong to a complex of such elementary parts he calls "regional qualities". Regional qualities of greatest interest in aesthetic analysis are, then, those that "emerge" e.g., which are more than the sum of their parts, because they introduce a measure of novelty and unexpectedness, relative to the local qualities, that determines the "perceptual conditions" for its existence. Thus, a regional quality is a characteristic that exists on a given *complex*, but not on the elementary parts that make it, and a complete description of such complex would have to include the statement that such (regional) quality is present [8]. Still, although regional qualities depend on the existence of local qualities, there is only a kind of probabilistic relation concerning its emergence. Therefore, an artist cannot guarantee a certain regional quality by mechanically following a formula for placing elements in a prescribed order, though he can make that outcome more probable. Further, he does not necessarily give up that regional quality by abandoning those elements, and their particular arrangement, in favour of other local qualities, although that *usually* results in a change of the regional quality (Ibiden, 1993, p234).

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[8] In the following example, though very simple, the "square" is a regional quality, because it does not exists on any of the elements (circles) that make the figure. However, the example can easily be generalized to a Rembrandt drawing, where a dark area in the upper left-hand part of it, together with a light edge next to a girl dark hair, brings her head forward in space (BEARDSLEY, 1981, p3-4):

O O O O O

O   O

O   O

O   O

O O O O O
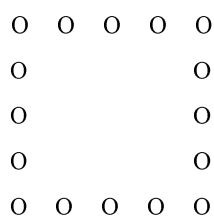
Hermeren, in turn (1988, p1), considers several qualities in aesthetic properties:

(1) *Reaction* qualities (or affective ones), involving affective responses on the part of the beholder, or disposition to such responses, plus perhaps recognition that it is appropriate to have such dispositions. They vary from individual to individual, and *"…their ontological and epistemological status is somewhat doubtful, to say the least"* (Ibiden, p6). As examples: funny, moving, comic, surprising, impressive, trivial, etc.

(2) *Emotional* qualities, recognised in the object that is seen but not in whoever produced it or is consuming it: solemn, serene, gay, cheerful, etc. [9]

(3) *Taste* qualities, related to cannons of taste internalised during a particular period. These qualities are clearly culture dependent, but *"…taste concepts vary with doctrines of taste, rather than with individuals"* (Ibiden, p6): elegant, delightful, sublime, harsh, beautiful, etc.

(4) *Gestalt* qualities, where the words describing those qualities refer to a quality of the whole resulting from relations between the parts: coherent, complete, simple, harmonious, etc.

(5) *Behaviour* qualities, where descriptions of how people behave are applied by metaphorical extension: nervous, intense, vigorous, graceful, etc[10].

(6) *Natural* qualities, which we can find in nature and apply by metaphorical extension too: worm, cool, bright, smooth, etc.

As we can see, these perspectives show us that aesthetic properties cannot be simply "read off" from the "perceptual surface" of artworks, because they involve us in complex, non-deductive inferences, that although based on this sensory evidence are not exhausted by it (BENDER and BLOCKER, 1993, p238). Aesthetic properties "emerge" from this "surface", but our sensitivity to this emergence is, in many cases, a function of our sensitivity to broader contexts - artistic,

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[9] Although differences from the previous item (1) may be confusing, the author considers that reaction qualities differ in many and interesting ways from emotional (or expressive) qualities. Accordingly (and to put it simply, here), the author stresses the importance of distinguishing, for instance, between:

a) The tune X is melancholy (an emotional quality)

b) The tune X makes me melancholy (a reaction quality)

Transcribing his own quotation: *"The well-known psychologist James Gibson once said that it is possible that the melancholy in Mozart's string quartets has not been discovered until quite recently, but it has been there all the time"* (HERMEREN, 1988, p3).

[10] According to the author, behaviour qualities differ from emotional ones in the following way: when ascribed to persons, they refer to behaviour, rather than to moods or intentional states. He also states that it is possible to have different views on its exact relations: *"Those who are Cartesian dualists will no doubt be inclined to treat those two kinds of qualities as quite distinct sets of entities, while those that*

stylistic, historical, and cultural - in which artworks are situated (Ibiden, p238).

- Now can we, at least, "characterise" this sensitivity, or must we consider that aesthetic experience is a concept that we should jettison?

  In the mid-1960's George Dickie entirely rejected the notion of a uniquely aesthetic experience, considering it as a useless and misleading myth (Ibiden, p368). *"(…) Aesthetic attitude functions to hold the moral and the aesthetic aspects of the work of art firmly apart. (…) People have been encouraged to take an aesthetic attitude (…) as a way of lowering their prejudices, say, against abstract and non-objective art. (…) The notion of aesthetic attitude has turned out to have no theoretical value for aesthetics (…)"* (DICKIE, 1964, p9-11).

  Nelson Goodman (1968, p4), in turn, considered that there is no dichotomy of cognitive versus emotive factors, or knowledge versus feeling, in the aesthetic experience, because *"(…) aesthetic merit is such excellence in any symbolic functioning that, by its particular constellation of attributes, qualifies as aesthetic"* (Ibiden, p6).

  Monroe Beardsley, however, persistently argued in favour of such concept, further relating it with the concepts of aesthetic perspective and aesthetic value:

  (1) *"To adopt an aesthetic point of view with regard to X is to take an interest in whatever aesthetic value that X may possess, or that is obtainable by means of X"* (BEARDSLEY, 1970, p4).

  (2) *"The aesthetic value of an object is the value it possesses in virtue of its capacity to provide aesthetic gratification, when correctly and completely experienced"* (Ibiden, p4-8).

  (3) Gratification is aesthetic e.g. it has an aesthetic character, when:

     a) *"It is obtained (…) from attention to the formal unity and/or the regional qualities of a complex whole (…)"* (Ibiden, p5, parenthesis added).

     b) *"It has at least four of these five features (symptoms), including the first one: (…) object-directedness, (…) felt freedom, (…) detached affect, (…) active discovery, (…) sense of wholeness"* (Ibiden, p.2, parenthesis added).

  Still, Arthur Danto would contest all these approaches, considering that *"(…) the aesthetic point of view cannot be defined in terms of aesthetic experience, (…) because the nature and quality of our aesthetic*

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are monists will not. And those who hold that emotions and behaviour are correlated, or that one depends on the other, will tend to regard one of these classes of qualities as dependent on the other" (HERMEREN, 1988, p5).

response presuppose that we are viewing the objects of those responses as works of art" (BENDER and BLOCKER, 1993, p371).

- What sort of things are, then, works of art?

   In 1958, Weitz argued that art could not be defined, in terms of concise and informative, logically necessary, and sufficient conditions, therefore claiming that art had no fixed and essential nature (BENDER and BLOCKER, 1993, p172). The goal of aesthetics would not be, than, to define art, but, instead, to elucidate the concept describing how we apply it (TEIXEIRA, 1999, p5). *"Art (…) is an open concept. New conditions (cases) have constantly arisen and will undoubtedly (…) arise; new art forms, new movements will emerge, which will demand decisions on the part of those interested, (…) as to whether the concept should be extended or not"* (WEITZ, 1956, p5).

   In 1964, in turn, Arthur Danto publishes "The Artworld", and initiates a major and influential project in which Danto tells us how the "artworld" makes art (SILVERS, 1987, p14). *"We need the contexts provided by the "artworld" not only to see that some things (…) can be treated as art, but also to make them art. It is a mistake to try to discern some inherent nature within every work of art that is independent of these "artworld" contexts"* (BENDER and BLOCKER, 1993, p173).

   George Dickie would also elaborate on this idea, further defining art in terms of the theories and practices that those who participate in the institutions surrounding the arts engage in (Ibiden, 1993, p174). *"A work of art, in the classificatory sense, is (1) an artefact (2) a set of aspects of which has had conferred upon it the status of candidate for appreciation by some person, or persons, acting on behalf of a certain social institution - the artworld"* (DICKIE, 1974, p6).

   Aesthetics begun, then, to embrace the sociology of art, and following years, particularly since the 70s, saw aesthetics adapted (*post-modernism*), or challenged (*postmodernism*), by continental European thinking (TUMAS-SERNA, 1993, p90), and re-conceptualised in much expanded cultural and sociological configurations (BOURDIEU, 1984, 1987; SILVERMAN, 1989; TUMAS-SERNA, 1993; and others). Theories involved are enormously complex and difficult (BENDER and BLOCKER, 1993, p69), but we can summarise some of its broad characteristics as involving:

   (1) The rejection of truth e.g., the denial of the concept of true as a correspondence, or relation, between beliefs, claims, descriptions, or theories, and reality, facts, the way the

world is, or things in themselves (Ibiden, p4).

(2) <u>The rejection of "foundationalism"</u> e.g., of indubitable bases, or unassailable foundations, on which we can rely in securing our knowledge of reality. Knowledge is no more a representation of an independent world of stable, factual nature, and it is deconstructed into changing and pragmatically governed views, interpretations, language games, forms of life, and expressions of power (Ibiden, p5).

(3) <u>An emphasis on the contingency, and conventionality, of rules and practices of rational though and judgement</u> (Ibiden, p5).

(4) <u>A critique of the humanistic ideals of autonomy, self-knowledge, rationality, and impartiality</u>. (Ibiden, p6)

(5) <u>An ascendance of rhetoric within discourse</u> (Ibiden, p6).

- Although we do not adopt, here, these latter perspectives, we certainly acknowledge that art, and the aesthetic on it, is relational and culturally emergent too. Therefore, if it involves the interaction of perceptible features of objects, human psychology, social conventions, and artistic institutions and traditions (BENDER and BLOCKER, 1993, preface), it probably tells us *something* about all these factors e.g., it probably is a kind of knowledge about our world. Still, controversy exists and to illustrate perspectives:

Goodman (1968, p1-6) saw the "cognitive efficacy" of aesthetic symbols as a source of knowledge: *"Symbolisation …is to be judged fundamentally by how well it serves the cognitive purpose"* (Ibiden, p6).

For Reid, however (1985, p1-8), the aesthetic is direct knowledge, or knowledge by acquaintance, which is not reducible or translatable into propositional knowledge, because it involves our feelings or affective awareness which is non-propositional; *"Meanings are drawn in, transformed in aesthetic embodiment, and, as embodied, become localised in perceived space and time"* (REID, 1985, p6).

Novitz also follows a similar reasoning (1987, p1-9), and considers it as empathic knowledge: *"…the expression of such concepts in language will not serve to convey beliefs about what it actually feels like to have these experiences. It is such beliefs that … pass as empathic knowledge"* (Ibiden, p3).

Bender (1993, p1-10), in turn, goes even "a step beyond", and argues that it is *through* aesthetics

that art becomes "a symbol suspended in a web of inferences". Art, he says, give us "modal" knowledge, which can be a source of propositional knowledge, knowledge that *"…something is necessary, lawful, probable, possible or impossible. Modal knowledge tell us about how things could or would or should be, under certain conditions, or in a certain context, and often concerns tendencies, potentialities, and generalities"* (BENDER, 1993, p3).

Consequently, the (necessarily pragmatic) premises here adopted are:

P4.   While we are not (still?) able of fully defining "the aesthetic", we can consider it as a permanent phenomena of our conscience, whether involuntary or voluntary, and consequently a part of all knowledge.

P5.   In whatever social, economic, or cultural environment we choose to consider, hardly we can conceive "the aesthetic" without relating it, at least, to our concepts of emotions and feelings. Typically, however, we also relate it with other phenomena, namely our perception of objects *form*.

1.4.2 – "The aesthetic" as consumer behaviour.

> *"…Certain value domains, those dealing…with aesthetic matters, may not be testable at all."*
>
> (SCHEIN, 1985, p498)

Although a line between our *lived* and our *though* experience is impossible to draw, we still commonly consider, at least as a plausible option, that differences exist on the very nature of these experiences. What we *live* (or *experience*) we take as somehow "different" of what we *think* (or *conclude*, in propositional terms) because our knowledge, in the former situation, is "outside" of what we can state, demonstrate or sometimes even validate [11], but in the latter depends on it to be as such considered. Further, often we tend to relate what we *think* to our rational capacities and what we *live* to our emotions and feelings or, at least, not to the first kind of abilities. In a sense,

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[11] This is not to say that we cannot, or do not attempt to do it, nor that we do not feel such attempts as valid and accurate.

then, we tend to put on one side what can be objective, true, propositional, refutable, built over or leading to meaning and, on the other, what belongs to the perspective, the subjective, the value or the qualitative. In practical terms, this probably reflects, and has (vice-versa) influenced *"…the well-known position that science deals with knowledge, art with emotions; science concerns truths, art concerns values; science establishes facts, art suggests perspectives"* (BENDER and BLOCKER, 1993, p557) e.g., science and arts belong to different paradigms.

Before going into some details, let us first consider that if we try to deal with "the aesthetic" a curious situation occurs:

- Many times "the aesthetic" happens as if we first operate in a "direct apprehension" mode, one that we instantaneously feel as pleasant (or unpleasant) without knowing why. Then, if necessary and in the following moment, we switch to a "normal" mode of apprehension and, eventually, solve the ambiguity(s) of "the aesthetic" in reflecting about physical reality, whether we solve it in the geometry of the object, its colour, texture or whatever characteristic we see as relevant. On such occasions, therefore, it seems that we "begin" by having emotions and feelings when coping with "the aesthetic" of such reality, and then, after (or "above") this experience, and if we feel that need, we uncover a meaning to it, even if we recognise that processes mutually reinforce themselves. In other words, we follow a kind of path that "starts" in our lived experience and "ends" on our thought one.

- Other times, however, if we established an intimate connection between "a piece" of reality and "external" information, most probably influenced by our own development and/or environment, references and symbolism play a role such as we simultaneously feel and know (at least approximately) the reason why we are feeling that way.

- Still further, we may even "know first and enjoy latter" as, for instance, when we feel the "aesthetic" delight of a "beautiful" hypothesis e.g., when we somehow follow the (inverse) path that lead us from our thought to our lived experience.

Most importantly however, and to complicate things, situations coexist and mutually interfere, and all this happens in a way that is very difficult to untangle. Therefore, though we recognise "the aesthetic" as pervading our relation with the world, and its objects in particular, we have considerable difficulties in defining it. It seems to be part, simultaneously, of our lived *and* our thought experience, and we cannot translate the former experience into the latter: each of these

experiences is a component of a whole. Thus, attempting to deal with "the aesthetic" apparently involves characterising *both* these experiences: there are values, emotions, feelings or subjective states of mind "inside" what we are dealing with, but there are also characteristics of objects or situations too, no matter how diffuse they may be.

Returning to the previous question of science vs. arts, it is not risky to imagine that if language could easily translate *all* components of the aesthetic experience, it would be relatively easy to "objectify" everything on it and, probably, this dichotomy would have not appeared. As, unfortunately, it apparently cannot, we may end up with the complex question of whether there is "representation" [12] at all for what we are calling "aesthetic", a position so characteristic of (at least some) post-modern thought (STRONGMAN, 1996, p271-280) [13].

We do not follow here postmodernist positions but we agree, nevertheless, that this is a crucial problem. We may take the affective/subjective component as critical, when addressing "the aesthetic", but hardly we can avoid a perspective where it is *"…the <u>intellectually</u> apprehended validity of objective impersonal true which counts…"* (REID, 1985, p1), and thus what we must look for. If subjective knowledge becomes objective the moment we formulate it on language (POPPER, 1994, p26), the interference is obvious. In such a sense, too, the anthropological perspective of trying to *"emphatically understand, or (…) reproduce in one's own mind the feelings, motives, and thoughts behind the action of others"* (DESHPANDE, 1983, p106, quoting MAX WEBER) e.g., a qualitative approach do not solves this question, either [14].

Differently stated: on one side language probably lead us to consider "the aesthetic" as going "beyond science", but on the other we need to address it using a dominant view of science (REID, 1985, p1).

All summed, we specially face the difficulty of explaining "the aesthetic" inside an objective frame of reference e.g., we do not easily find something that (ideally):

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[12] In the sense of something *there*, "objective", underlying the words we are using.

[13] Without attempting a definition, we follow the view that in postmodernism the words we use to name emotions *"…hide the aporia of the intertextual symbolic expression of the affective state that is built on language, to denote something that is always beyond the text (Affect)"* (STRONGMAN, 1996, p272). Accordingly, *"…emotions are not <u>caused</u> by environmental conditions. They are the <u>expression</u> of attitudes toward, judgements of, and illocutionary acts about the way environmental conditions are locally interpreted. And as such they must be treated as part of the speech."* (Ibiden, 1996, emphasis added)

[14] We are not questioning the relevance and pertinence of such approaches, of course; rather, our concern is with "the aesthetic" as a full language on itself that usually must be *presented*, not *articulated*, to be understood.

- Describe us its relations.
- Help us in the task of exploring the field.
- Allow us to identify (or characterise) "the aesthetic", say (cumulatively) as:
    i)   The existence of characteristics A or B in a given object (or situation), such as we can attribute to these characteristics the faculty of causing in us the appearance of "the aesthetic".
    ii)   Which of our characteristics, specifically, convey the phenomena

Are we dealing, then, with an impossible task e.g., to understand (for marketing purposes) how and where "the aesthetic" happens, or, instead, avoiding it, in the sense of giving up to model it?

Now, the fact that we seem unable to (linguistically) explain "the aesthetic" does not eliminate it as a human phenomenon; therefore, we must be able of dealing with it. Indeed the previous difficulties seem to fade, substantially, if we take "the aesthetic" as a *biologic* phenomenon somehow "parallel" (but always inherent) to our faculty of achieving meaning, intimately connected with our emotions and feelings, and existing in an "edifice" that we can call *consciousness. Consciousness*, however, <u>is not</u> *conscience* itself, in the sense of *"… love, and honour and mercy; generosity and altruism; poetry and science; mathematical and technical invention…"*(DAMÁSIO, 1994, p309). Rather, it is a "pre-requisite" or "support" of its existence, and we cannot confound the phenomena with the "support" where it happens. Quoting Damásio, *"The marvellous achievements that come from the human mind require consciousness in the same fundamental way that they require life, and that life requires digestion and a balanced internal chemical milieu. But none of these marvellous achievements is directly caused by consciousness"* (Ibiden, 1994, p310). As so, *"…what put the human mind on its pedestal, and should keep it there, are not only the <u>biologic phenomena</u> subsumed by the term <u>consciousness</u>, but also many other phenomena that we need to describe, name, and attempt to understand scientifically"* (Ibiden, 1999, p311, emphasis added).

Even so, we remain with the question of, unless we can previously "model" what we are calling *consciousness* we cannot understand, and describe, "the aesthetic", but we try some answers in the next chapter.

C h a p t e r   2

MODELING REALITY

2.1 – A frame to "the aesthetic".

To effectively understand, or use, "the aesthetic", when considering a brand, it would be important to know:

- In what frame "the aesthetic" happens.

- Why linguistic terms, alone, may not be our best "tool" to understand and describe "the aesthetic", and if/how can we circumvent the problem.

- Which variable can we use as a "proxy" to "the aesthetic".

These certainly are pertinent questions, but as they connect with one of the most formidable tasks we can carry as humans - the study of human consciousness - we must be humble in choosing our answers. Nevertheless, we can adopt some recent steps already given in this field (DAMÁSIO, 1994; 1999) and Figure 1 shows, metaphorically of course, a possible frame to what can be at stake:

Figure 1 - From Wakefulness to Conscience *****
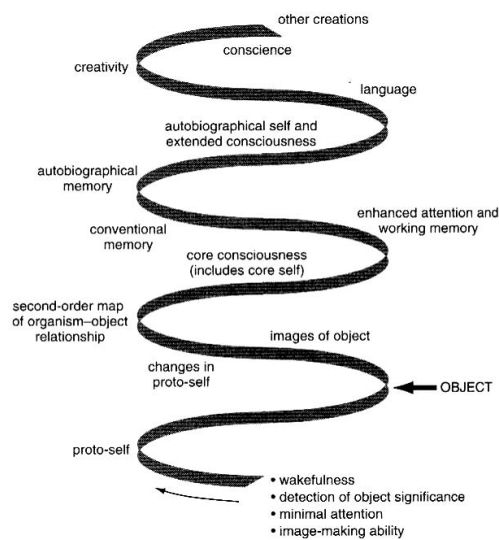
* Source: DAMÁSIO, A. (1999, p310)- *"The Feeling of What Happens"*

As before in chapter 1, when considering the philosophical approach, attempting to describe here everything involved in Figure 1 would be to abandon a reasonable scope for this work. In addition, we are not questioning here *consciousness*, or *conscience*, nor are we debating what they are. We are just sharing a view about it.

For practical purposes, then, it is enough to note that if our relation with objects starts by occurring "under" our language abilities, "the aesthetic" probably follows this rule. Thus, limitations derive in trying to explain this relation when we attempt to use a "higher" mechanism to describe a "lower" one [15]. Consistently, we can recognise "the aesthetic" but we cannot exactly locate it: as "the aesthetic" is essentially experimented, (linguistically) describing it always a "substitution process", in the sense that we can never say all about it.

Thus, to study "the aesthetic" in others we may well need *quantifying* measures because, unlike "descriptions", they better allow people to exteriorise a sign of what is happening to them when they are feeling "the aesthetic". Consequently, it avoids in them, and in us, the need to consider the multiple senses of linguistic terms, or the danger of, in doing so, to be "trapped" by it or to "trap" others in the process. Therefore, in considering "the aesthetic" as a consumer behaviour we need, firstly, a quantitative approach, and only after a qualitative one. Due to practical limitations, however, we only develop here the quantitative one.

Still, in considering "the aesthetic" as human phenomena, "just" quantifying it through the *value* that we (consciously or unconsciously) "apply" to virtually everything, be it an object, fact or a situation, in being a necessary step is not enough, because another question arises: the *perspective* we use. This *perspective*, in turn, will allow us to complete our answer.

2.2 – A perspective about "the aesthetic".

Lilien, Kotler and Moorthy (1992, p25) organise consumer behaviour models under a five-stage process: need arousal, information search, evaluation, purchase, and post-purchase feelings. Concerning the evaluation stage, they also refer that *"Most current models of the consumer evaluation process are cognitively oriented - that is, they see the consumer as forming product judgements largely on a conscious and*

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[15] In the sense that the former also relies on the latter.

rational basis" (Ibiden, p27).

If so, it must be that perspectives adopted consider, in more or less varying degrees, that people adopt the traditional view of *"…noble reason in decision making"* (DAMÁSIO, 1994, p183). Consequently, these studies share the view that *"…we are in the best conditions to decide and we are the pride of Plato, Descartes and Kant when we let formal logic to lead us to the best solution to a problem"* (Ibiden, p183). Thus, and perhaps also in varying degrees, inherent perspectives consider that, in each of us, *"…different scenarios are considered one by one and…a cost-benefit analysis is made to each one. Having in mind a subjective estimate of utility, which is what the person pretends to maximise, he will deduce logically what is good and what is bad"* (Ibiden, p183).

Do we judge objects this way, even if we only consider those situations where we are highly involved? Hardly this appears be our basic "modus operandi", and even less our only alternative to "understand" and "describe" the process, admitting that we can really do it. Also important, in describing the judgement of *others* we can also be more or less cognitively oriented. When doing it, in special, we can consider (or not) cognition itself e.g., all processes to which we call *thought*, as independent of the support where they happen. If we do, however, we (implicitly) consider the very essence of these processes so able of occurring in human brains as, for instance, in computers, and we (implicitly) embrace a (more or less) functionalist view of the mind (GÓIS, 1998, p2).

In the limit, one of the consequences or, perhaps, inherent conditions in adopting this view, is that we are considering emotions and feelings simply as "states" of a (information-processing) system, to which we, necessarily, reduce consumers. Anderson, for instance, considers emotions and feelings as leading, essentially, to the setting of (human) *goals* that "feed" the system (ANDERSON, 1996, p310). *Goals*, in turn, from the smaller one to the most complex we can imagine, *"…are treated in this system as sources of high and constant activation"* (Ibiden, p156), and control of cognition is made by *"…conflict resolution principles"* (Ibiden, p126). Still, the (functionalist) perspective has the advantage, if we share it, of *"…avoiding the need to take a position about the type of correlation, if necessary or contingent, between mental events and physical events…"* (GÓIS, 1998, p4).

As it is, probably, already evident, this (functionalist) view *is not* the one adopted here. As Damásio puts it, *"…if the (traditional view) is the <u>only</u> one that a person has available, rationality…<u>will no work</u>. At best, decision will take an enormous time, far superior to the acceptable to do anything else that day. At worst we can be even unable of arriving to a decision, because we will be lost in the process of computation"* (Damásio, 1994, p184,

emphasis and parenthesis added). He also continues, stating that *"…strategies of normal reasoning are full of deficiencies…and if our brains are able of deciding in seconds or minutes…according to our goals…they need more than pure reason. They need something quite different"* (Ibiden, 1994, p184-5). *"Somatic-markers"* (Ibiden, 1994,1999) are the mechanism proposed, but he also challenges, in some crucial ways, our traditional assumptions about ourselves.

A summary can go as follow, which we take as useful to understand "the aesthetic" [16]:

(1) We do not *store* and *process* *"…facsimiles…of …objects(s)…"* (Ibiden, 1999, p321), nor (perceptive) images are (passive) *"…photos…of things, events, words or phrases"* (Ibiden, 1994, p116); rather we biologically react to our entire environment, be it physical or social, and *in doing it* we continuously develop brain *dispositions* (Ibiden, 1994, p110). *Dispositions*, in turn, do not *store* these images *per se*; instead, they are an human ability to reconstruct a sketch of those images e.g., *evoked* images which are *"…attempts to replicate…"* previously experimented patterns (Ibiden, 1994, p117-121).

(2) *Emotions*, which are induced non-consciously as basic mechanisms of life regulation, or as a consequence of the common thinking process (Ibiden, 1999, p56), emerge and lead to *feelings*, most of which are the mental experience of emotions (Ibiden, 1994, p16). Feelings (together with emotions that originate it) *"…are so <u>cognitive</u> like any other perceptual image…"* (Ibiden, 1994, p16-17; p172, emphasis added), and the *"…essence of a feeling (the process of living an emotion) is not an illusory mental quality associated to an object, but a direct perception of a specific landscape: our body landscape"* (Ibiden, 1994, p16). As so, emotions and feelings are *"…a support system without which the edifice of reason cannot operate properly"* (Ibiden, 1999, p42), and they establish *"…a bridge between rational and non-rational processes…"* (Ibiden, 1994, p143). Consequently, *"…nature has created the instrument of rationality not only…above…the biologic…instrument, but also starting from and with it"* (Ibiden, 1994, p143).

(3) We continuously develop *"…images of the interactions between each of us and an object which engaged our organisms, constructed in neural patterns form according to the organism's design."* (Ibiden, 1999, p321,

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[16] Namely the one associated with visual experience.

emphasis added). Further, as we continuously bind *perceptive* images, *evoked* ones and *feelings*, through a mechanism known as *"time binding"* (Ibiden, 1994, p112) which requires attention and memory, *dispositions* are *"…our whole store of knowledge and they include innate knowledge as well as knowledge acquired through experience"* (Ibiden, 1994, p120).

(4) *"…Regardless of the degree of biological pre-setting of the emotional machinery, development and culture have much to say regarding the final product. In all probability…(they)…superpose the following influences:"*
- They shape what can adequately induce a given emotion.
- They shape some aspects of the expression of emotion.
- They shape the cognition and behaviour that follows the deployment of an emotion (Ibiden, 1999, p57).

(5) *Dispositions* are also *"somatic-markers"* (Ibiden, 1994, p185), in the sense that they are a *"…special case of our use of feelings…and which link them, through learning, to some kind of future results connected to particular scenarios"* (Ibiden, 1994, p186). However, *"somatic-markers do not take decisions for us. They help the decision-making process giving emphasis to some options, both adverse and favourable, and eliminating them, rapidly, from subsequent analysis"* (Ibiden, p186). Thus, they *"…allow us to choose an alternative inside a smaller number of alternatives. Cost-benefit analysis and (our) adequate deductive capacity still has its place, but only after this automatic process drastically reduce the number of options"* (Ibiden, 1994, p185).

Figure 2 summarises an important part of what can be involved, and if we return to those previous questions of understanding and describing "the aesthetic", and choosing a "proxy" variable to it, a better "picture" emerges leading us the following premises, also pragmatic too:

P6. "The aesthetic" translates part of the immediate, continuous, and biologic *process* of reaction to our environment.

P7. "The aesthetic" starts by involving, mainly, unconscious "body" mechanisms of which only the *result* we are, or may be, aware. However, we can "mentally" replicate such mechanisms, consciously or unconsciously, once the first experience occurs, which in turn also modulates

its subsequent experience, and development, in face of context(s).

P8. Emotions and feelings pervade all our conscience, and they are an adequate "proxy" to "the aesthetic" (which is consistent with P4 and P5).

P9. Knowledge implies that we bind perception with emotions and feelings (This takes "the aesthetic", then, as a part of all knowledge, which is consistent with P4, and intimately tied to perception, as considered in P5).

P10. Development and culture shape our emotions and feelings, therefore we can also expect it to shape "the aesthetic" [17].

Figure 2 - Levels of Life Regulation *****

HIGH REASON — Complex, flexible, and customized plans of response are formulated in conscious images and may be executed as behavior.

CONSCIOUSNESS

FEELINGS — Sensory patterns signaling pain, pleasure, and emotions become images.

EMOTIONS — Complex, stereotyped patterns of response, which include secondary emotions, primary emotions, and background emotions

BASIC LIFE REGULATION — Relatively simple, stereotyped patterns of response, which include metabolic regulation, reflexes, the biological machinery behind what will become pain and pleasure, drives and motivations

* Source: DAMÁSIO, A. (1999, p55)- *"The Feeling of What Happens"*

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[17] This is a rather complex matter. Common sense would probably agree on it, but relations seem to be more complex than some studies seem to suggest (for instance, BOURDIEU, 1979), because emotions and feelings are not solely generated by education, within a culture; they are biologically preset, in part or mostly (DAMÁSIO, 1999, p342). In addition, some studies tend even to support the existence of similarities between cultures, concerning aesthetic preferences (ULRICH, 1983, in STRONGMAN, 1996, p229).

2.3 – Linking "the aesthetic" with brands.

A question remains: even if we can understand "the aesthetic" and find a "proxy" variable to it, can we use it *independently* e.g., as a specific marketing variable *through* which we can, for instance, better support a new brand? Stating it differently, can we specifically manipulate a variable like "the aesthetic" so that, *through* such manipulation, we acquire some useful knowledge that helps us to support a new brand?

Let us take Pierce perspective about modes of reference (PIERCE, in ZAKIA, 1997, p238), to "break" the point of view of consumers when (visually) confronted with objects. Pierce basic types of representation are the *iconic*, the *indexing* and the *symbolic* one, and we have used it, mainly, in visual arts (BELTON, 1999). In the *iconic* reference, the (possible) meaning "extracted" by consumers has a direct relation to object(s) involved, and consumers base it on similarity in appearance. In the *indexing* one, consumers base their meaning on cause and effect relationships; so, they understand signs presented to them as conveying some indirect reference to something. Finally, in the *symbolic* reference, consumers base their meaning on convention, and relationships between consumer and object are purely arbitrary (Ibiden, 1999).

Now "the aesthetic" pervades the whole point of view of consumers, and it is differently experimented under each of these modes of reference. So, as all these modes usually coexist in a person/object relationship, to any consumer each mode translates, in a sense, a part of "the aesthetic", when globally considered. Therefore, there are such things as "the *iconic* aesthetic" (for instance to enjoy an abstract form), "the *indexing* aesthetic" (for instance, to like what is implicit in a concrete use of it), and "the symbolic aesthetic" (for instance, the arbitrary valorisation of some characteristics of who made it, or where) [18].

If we now conjugate this with Keller perspective about brands (1993; 1998), an interesting situation occurs. Keller defines his concept of "Customer-Based Brand Equity" as *"…the* (I) *differential effect that* (II) *brand knowledge has on* (III) *consumers response to the marketing of that brand"* (1998, p45, emphasis and parentheses added). As, according to P4, "the aesthetic" is included in all <u>knowledge</u> (condition II), we can separately measure how consumers value objects under different conditions e.g.,

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[18] The distinction is essentially theoretical, of course, and it appears for analytical purposes. In practice, there are endless gradations of it, which we may take as part of a "continuum" with Iconic-Symbolic extremes.

measure how "the aesthetic" *changes* between different modes of reference. Then, if results show a differential effect in consumer's response (conditions I and III), for instance in regard to extremes of the Iconic/Symbolic "continuum", we can infer that we are, probably, in the presence of a brand, be it deliberate - in the sense of specific marketing actions - or not e.g., the result of random circumstances.

Even so, we need some words of caution: "the aesthetic" always *pervades* the consumer/object relationship but it can be, or not, most of it, in the sense of being actually understood as such. Consistently, neither we always adopt such a point of view, nor we only do it when we can, although some people clearly do it more than others. Indeed emotions and feelings are a much wider phenomena then the one we want it, here, to represent, because they are a condition to rationality, and not only to what we recognise as "aesthetic". Moreover, *"deciding what constitutes an emotion is not an easy task (…) Others have struggled with the same problem and concluded that it is hopeless"* (DAMÁSIO, 1999, p340-341) [19].

Consequently, difficulties appear if we want to compare these judgements. In fact, we must be reasonably sure that people share something about the objects they are evaluating, the moment they are doing it. Otherwise, the simple use of a scale, among individuals, to measure such evaluation, may lead us to confront different substantive realities e.g., a common scale - on itself - give us, only, a weak (facial) validity of the measure.

In practical terms, then, if we want to address "the aesthetic" and understand when it (eventually) changes, we need:

- Firstly, to objectify the "proxy"; and to this we can use the "umbrella" concept of *Affect* (BAGOZZI, 1999, p184), understood as a *"…general category for mental feeling processes…"* (Ibiden) subsuming more than one "kind", "sort", or "type" of emotions and/or feelings (we admit to be) relevant to "the aesthetic" phenomenon. *Affect* will then represent, here, people's *judgements of value.*

- Secondly, we need to consider those judgements in light of its immediate context e.g., *Perception*,

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[19] In fact, approaches to emotion widely differ, and perspectives vary according to whether they emphasise phenomenological, physiological, cognitive, behaviour or social questions, just to name a few inside the psychological field. However, the topic has been also the subject of many other disciplines, like philosophy, anthropology, history or sociology. In the words of Strongman *"…(all these concerns)…suggest not only the importance of adopting a pluralist approach as, also, the need to emphasise the qualitative and quantitative development of research methods"* (1996, p282).

and from our perspective *Perception* continuously involves, in time, and under an element of subjectivity brought in by emotions (and feelings):

    (1) Something that happens along, and interferes with, both people's sensation and cognition e.g., something mental those individuals *live*: a psychological "element".

    (2) Something that individuals *enounce* about stimuli: a logical "element".

    (3) Something that translates to individuals an *external reality:* an "element" concerning the ontology of (all) objects.

Differently stated, the context is multidimensional, and it possibly involves different *judgements of fact.*

As a result, we add another three premises (P11, P12 and P13) to the following summary of assumptions, before presenting a case study where we attempted to cross "the aesthetic" with brands:

<u>Summary of Assumptions:</u>

P1. Brands are the expression of a (differential) value, as seen from consumers' point of view.

P2. Effective marketing actions e.g., actions that *cause* brands, presuppose we conceive and advertise a product in face of, and towards consumer's taste and preferences ("values").

P3. Marketing has pushed forward, not backwards, the importance of "the aesthetic".

P4. While we are not (still?) able of fully defining "the aesthetic", we can consider it as a permanent phenomena of our conscience, whether involuntary or voluntary, and consequently a part of all knowledge.

P5. In whatever social, economic, or cultural environment we choose to consider, hardly we can conceive "the aesthetic" without relating it, at least, to our concepts of emotions and feelings. Typically, however, we also relate it with other phenomena, namely our perception of objects *form.*

P6. "The aesthetic" translates part of the immediate, continuous, and biologic *process* of reaction to our environment.

P7. "The aesthetic" starts by involving, mainly, unconscious "body" mechanisms of which only the *result* we are, or may be, aware. However, we can "mentally" replicate such mechanisms, consciously or unconsciously, once the first experience occurs, which in turn also modulates its subsequent experience, and development, in face of context(s).

P8. Emotions and feelings pervade all our conscience, and they are an adequate "proxy" to "the aesthetic".

P9. Knowledge implies that we bind perception with emotions and feelings.

P10. Development and culture shape our emotions and feelings, therefore we can also expect it to shape "the aesthetic".

P11. As a permanent connection exists between "the aesthetic" and perception, to effectively analyse the former we need to "freeze" the latter e.g., to establish a "Ceteris Paribus" condition. In this particular sense, "the aesthetic" is always relative to a given context.

P12. "The aesthetic" is continuously present in our relation with *all* objects; therefore, we can only expect to detect when it *changes*, not when it *happens*.

P13. With "the aesthetic", we can only *ordinally* quantify its *intensity, metaphorically* characterise its *nature*, and *symbolically* locate the *cause* of it.

C h a p t e r   3

CASE STUDY

3.1 – Statement of Problem

In 1998, ICEP - Investments, Commerce and Tourism of Portugal (Oporto Delegation) was considering a well-known fact. As José Manuel da Fonseca, its Director, described it at the time [20]:

> *"(…) This country image is distorted, doesn't differentiate us and isn't the image of modernity; we still promote Portugal through a simple idea of sun and beach; (…) its urgent to replace this idea by quality components, (…) facts that better reflect this country reality."*

> *"(…) Architecture has a very strong cultural component, as well as possible connections to business, tourism, design and related industries; (…) the example (of Álvaro Siza) could be studied as an internationalisation case, as well as a factor of local development where his projects are build; Álvaro Siza is an architect, a designer, a draftsman and a writer."*

And latter on, specifically about the architect design:

> *"(…) Siza only works if challenged, only conceives when strongly solicited; (…) unfortunately, those who produce his furniture, at a commercial scale, adopt expensive and difficult solutions; there are many problems with norms and specifications and with market customisation; sometimes those who make the (Siza) objects aren't even Portuguese! (…) Wouldn't it worth to change this?"*

To ICEP some questions were, and still are, central:

- How to change the Portuguese traditional image promoted abroad by ICEP, increasingly considering successful Portuguese cases capable of fostering a modernity image.

- How to support national industries grow, internalising production carried on outside the country.

Interestingly, a "by Siza" brand could perfectly contribute to solve both questions, and the architect design seemed an excellent option towards that goal.

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[20] In a direct interview.

Indeed the question was tempting, and possibly adequate to cross the field of aesthetics with the one of brands. Still, implications were complex: as an architect, "Álvaro Siza" is a *griffe*; helping to change it into a brand, a "by Siza" brand in the design field was, no doubt, a challenge [21]. In particular, it would imply to know if Siza objects already follow, or not, consumer's taste or preferences [22] and, most importantly, whether we could trace a noticeable *difference,* at the "aesthetic level", suggesting "a brand" among consumers involved [23].

Contemporary most potent meaning of Design is that of *"…added-value in the form of style – an indefinable quality that makes things not only useful but also more desirable…"* (TURNER, 1996) therefore, and to begin with, we admitted that all could start by accepting to be contingent, although pro-active, on aesthetic matters [24]. Thus, a survey of "experimental aesthetics" would be an adequate option, specially if it could be applied to existent pieces of his work, but as available resources were known to be limited, only a pre-test would be possible.

We thought, next, about those associations to the architect name, or work, that could be important to consider. In marketing, the *Image* concept often unifies several effects (associations, attitudes, etc.) that translate the existence of a brand (AAKER, 1991; SOLOMON, 1992; KELLER, 1993,1998; DIMITRIADIS, 1994; LILIEN KOTTLER and MOORTHY, 1994; SHIFFMAN and KANUK, 1997; SERRA, 1998). Unfortunately, definitions remain tied to the perspective we use, and widely vary (ZINKHAN and HIRSCHHEIM, 1992, p84-85; SERRA, 1998, p37). Yet, such (in) consistency does not dim its importance; on the contrary, only calls for a previous delineation of sense, and we took here it as consisting, roughly, both in judgements of fact (Perception) and of value (Affect), because hardly they are not inherent, if not central, to such concept.

In architecture it is certainly easy to find a vast universe of people who, in a more or less consensual

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[21] Distinction is rather subtle, and diffuse, if we take the broad sense of a brand, but it clearly applies if we instead consider a stricter sense in it: common production modes of architecture and design

[22] Premise P2 about "effective" marketing actions (e.g., actions that may cause brands) became, then, a kind of "methodological postulate", given our goal.

[23] If, according to premise P1, a *differential value* is a constituent part of a brand, knowing if it (also) involves "the aesthetic" is only a particular corollary, whether we may or not justify its cause(s). We took such (eventual) difference as probably helpful to further marketing actions.

[24] Following the 1990s, and in face of the previous role design played within consumption, new approaches attempted to *"…redefine design as a toll for the improvement of society, albeit in an environmental rather than an aesthetic way"* (TURNER, 1996). We could also add to this trend, for instance, the influence of ergonomic considerations in design, but even so we emphasise, here, the meaning that connects it with "the aesthetic", because it does not prevents the (implicit) inclusion of such questions. On the contrary, it is the lack of a favourable "aesthetic" that may be problematic, as more generally recognised in P3.

way, connect Álvaro Siza to the mastery of several difficult issues: the use of materials, light, scales and customisations are examples, just to name a few. Quite justly, that led the Hyatt Foundation to grant him the Pritzker prize in 1992 [25]. However, it was (and is) risky to transpose these characteristics to people's understanding of Álvaro Siza design, even if the architect sees *"…a natural link between furniture design, architecture, and urban intervention…"*(SIZA, 1999) [26]. There was (or is) no such evidence. Thus, although we could expect that (at least some) consumers would probably have (some) knowledge of his work, therefore presupposing on them premises P4 and P5 as granted, we could not infer either that Siza design was part of that knowledge or, if it was, that the previous link was indeed "real", from consumers' point of view. Besides, even admitting "a priori" such link as possible, as we did, its consequences at the "aesthetic level" were an open question. Therefore, as furniture seemed a representative option of Siza design, we choose the *Image* of his furniture, in the previous delineated sense of Perception/Affect, as theme to research.

Finally, we considered another question. With the possible exception of a limited number of Portuguese people, better informed, the work of Álvaro Siza along the last decades suggests it was – most probably – sooner recognised abroad than in Portugal (AZEVEDO, COELHO and REIS, 1998). Thus, as we expected a connection between culture and "the aesthetic" (premise P10), any study would gain if it would explore the question e.g., an international survey seemed imperative, and this, in turn, was compatible with ICEP interests.

3.2 – Purpose of Study

With the help of ICEP foreign delegates and offices, spread by several countries, we projected an international survey. Despite of its limits, both in depth and in size, we wanted to understand how people would react to the furniture of Álvaro Siza; therefore, we would try to model "the aesthetic" on it, and its dependence on available information. Due to opportunity, however, survey could also explore other interesting conditions, namely differences in appraisal resulting from geographical locations, level of knowledge (education), gender, age or professional activity. The only assumption

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[25] Jury citation in http://www.pritzkerprize.com/main.htm

[26] Direct interview.

was that people could possibly differ, even remarkably, in reality appraisal; consequently, the assumption would necessarily respect the (eventual) incidence of cultural differences.

We previously delineated markets crossing two components: knowledge and geography. Knowledge was taken using education level as a sufficient indicator: a 3 to 5 university degree was the condition defined in choosing subjects for analysis, considering that evaluation involved would imply some education in judgement(s). Geography should also conform to ICEP interests, and it led to a choice of seven countries: Portugal, Spain, Italy, Netherlands, Sweden, USA, Brazil and Japan.

The empirical frame of reference e.g., the kind of stimuli that could be relevant for analysis was another complex question. Which objects, and of which designers, should we use to "confront" with those of Siza? Chances were high that, in starting such a research, any subset of objects, and authors, derived from practical reasons would be arbitrary, as well as biased. As the central concern was the market approach *instrument*, and time was a significant concern too, we considered that:

- Chairs are, usually, significant examples of many designers activity and, presumably, "universal" objects to consumers. As they are particularly adaptable to specific context(s), they can also (eventually) convey, on themselves, useful cues over its author, history or production circumstances and context, thus broadly allowing to capture such influences.

- A selection of "equivalent" names, in turn, could deserve "ad-hoc" consideration, because we assumed that if results would prove to be interesting it would always be possible, in the future, to change authors (and stimuli) involved, to increase its relevance, or to question its adequacy for a particular analysis. Further, we even assumed that only subsequent research would allow us to untangle, in "detail" and for practical purposes, the inherent complexity of "the aesthetic". Therefore, seven well-known names, widely mentioned among architecture, design and arts sources (see, for instance, TURNER, 1996; COLOMBO, 1997, or the excellent internet site www.iserv.net/~plucas/index.htm about furniture design [27]) were additionally included in survey [28].

The questionnaire (Appendix A) included, then: (1) a measure of people's affect regarding visual

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[27] This reference applies to October 2000. Since the beginning of this work, some web sites containing references to authors and objects used in our survey have remarkably changed, or even disappeared. Even so, some remain useful as, for instance, www.vitra.com, www.interstudio.dk, www.kartell.com, www.classiconline.com, or www.designarchitecture.com.

[28] See also the results discussion (Chapter 4)

stimuli (photos of furniture), using a three items Likert scale of seven points; (2) a measure of similarity/dissimilarity between pairs of stimuli to access people's perception about it; (3) some questions allowing us to search for the (eventual) incidence of demographic/cultural factors. To simulate the "iconic/symbolic" condition, the questionnaire also had two variants, each applying to a different group, allowing to access people's judgements under different information contexts:

- In one of these variants, visual stimuli included author's name, thus allowing the presence of information, in time of judgment, beyond the one (we could fairly hope) people would extract from photos, alone. Answers could then reflect indexing/symbolic considerations, for instance, the influence of the "link" we had previously admitted.

- In the other, we replaced author's name by a code, trying to limit the amount of information possibly involved in judgement(s). Answers would then reflect, or emphasise, objects iconic dimension.

Sampling size was the final question. Classical rules could not apply, as ICEP itself would conduct the survey, and practical limitations existed. Therefore, we asked to ICEP for convenience samples of, at least, 40 (20 with names + 20 without names) questionnaires in each country, which would give an expected 320. Survey ended up, however, including only four countries - Portugal, Italy, Sweden and Japan - due to latter ICEP options. The number of respondents was also less than expected in Italy (only 20) and, in Japan, respondents made some errors in expressing their age. Still, 163 inquires were considered valid to analysis. Table 1 summarises the sample and Appendix B further details it (Section 1, page 99):

Table 1 - Sample Summary

		No. of Questionnaires				
		Portugal	Italy	Sweden	Japan	Total
GENDER	Male	21	7	32	19	79
	Female	21	13	30	20	84
AGE	< 35 years	13	6	27	1	47
	> 35 years	29	14	35	2	80
KNOWLEDGE	"Low" Education	36	17	38	34	125
	"High" Education	6	3	24	5	38
WORKING FIELD	Social Sciences	12	9	21	25	67
	Natural Sciences	20	4	11	1	36
	Linguistics	6	2	6		14
	Arts	1		11	6	18
	Other	3	5	13	7	28
QUESTIONNAIRES	With Names	21	10	30	20	81
	With Codes	21	10	32	19	82
	Total	42	20	62	39	163

Sub-samples translate some basic differences considered for analysis, building over the information

collected in questionnaires. A three to five years of university education correspond to "Low" education, and a master or PhD degree to "High" education. Sub-samples concerning the "working field" of respondents aggregate, in five groups, 24 different professions declared.

Analysis sometimes ignored some sub-samples, due to its small size.

3.3 – Methodology

Addressing the theoretical concept of *Image* could not be made unless we could measure it in a useful and meaningful way, for instance, through one (or more) valid and reliable empirical indicator(s), in other words through a scale.

We may employ scaling models for three related but distinct purposes (McIVER and CARMINES, 1981, p8, p13): describing a data structure (exploratory analysis), as a scaling method on which individuals can be given scores, and hypothesis testing. In addition, we can distinguish scaling models according to whether they are one-dimensional or multidimensional in nature, as well as to whether they are intended to scale persons, stimuli, or both persons and stimuli.

Mciver and Carmines (1981, p13) also refer that the concept of dimensionality is complex, namely because the substantive and technical meaning of the term is specific to the particular scaling model, that is, dimensionality means different things for different scaling models.

Regarding the concepts of dimensionality and scaling, Jacoby (1991, p27) refers that, from a substantive perspective, the dimensionality of a set of objects is simply defined as the number of separate and interesting sources of variation among objects. All scaling strategies seek to represent objects as points within a space, relating geometric differences in the point locations to the substantive differences among the objects. He continues, stating that we can use most scaling procedures in two different ways:

- Firstly, we can use a scaling procedure as a *scaling criterion*, to ascertain whether a particular dimension structure accurately represents an empirical set of data.

- Secondly, after a particular dimensional structure is appropriately decided, we can use the procedure as a *scaling technique*, to measure the objects with respect to the dimensions.

Given the usual difficulties in separating theory from method (DESPANDES, 1983, p104), these

procedures end up by also reflecting themselves on choices between one-dimensional and multidimensional approaches, when dealing with a particular problem.

Shively (1980, in McIVER and CARMIN, 1981, p14) has argued in favour of one-dimensional concepts because they are more susceptible to theory-relevant research, multidimensional concepts typically hampering such research because they are too ambiguous in terms of their meaning, too difficult to measure in a clear and precise manner, and too theoretically oriented themselves.

Van Schuur (1984, 1988, in JACOBY, 1991, p36), in turn, notes that multidimensional models assume that all of the dimensions operate simultaneously, in contributing to the observed differences between the scaled objects, which can be problematic. Even if a set of objects possesses K "objective" characteristics, there is no particular reason that *all* of the characteristics are used to differentiate among all of the objects.

Here the purpose of the study was exploratory, and in face of the previous questions we had:

- The substantive question - the concept of image - as multidimensional;

- *Perception* and *Affect* as empirical indicators (the former also working as a "frame" to the later e.g., *Affect* being possibly contingent of *Perception*, according to P11);

- A concern about both the criterion *and* the technique of scaling; in other words, which "structure", if any, could we use to model a phenomenon (e.g., a criterion), and how would people "distribute" themselves under it (e.g., a technique)?

- The idea of simultaneously to scale *both* individuals and stimuli, because:

    (1) We wanted to characterise an interaction between people and objects, each (and every of it) uniquely developed and configured in a given individual and for a given object [29]; thus, any characterization should preferentially account for what we see as a "relational nature" in the phenomena (BEARDSLEY, 1983, p302).

    (2) Recognizing the peculiar nature of "the aesthetic" (P13), and as both the qualitative and the quantitative approaches imply limitations, may be this process could substitute, at least in a preliminary step, the more complex process of "triangulating" research methods (qualitative and quantitative) (DESPANDES, 1983, p106-109);

    (3) Available resources were scarce, and such a single step could solve the question.

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[29] It may be useful to recall here references (3) and (4) in page 26/27, taken from Damásio, from where we derived our premises P6 to P9 (pages 27/28).

Moreover, it could bring some useful heuristic value to subsequent research.

Therefore, perhaps the sophistication of models and computer software nowadays could help.

At a one-dimensional level, the simultaneous scaling of stimuli and individuals raises the question that Torgerson (in McIVER and CARMIN, 1981, p9) has observed as: *"the task set for the subject is to respond to a stimulus on the basis of the position of the stimulus in relation to the subject's own position with respect to the attribute"*. This is what we call a "response approach" (McIVER and CARMINES, 1981, p9), and Guttman scales are an example to deal with it.

At a multidimensional level, however, the task becomes much more complex. The strategy is to conduct an overall analysis, yielding a "group" solution, but model also providing variation in the parameters corresponding to individual sources of data (ARABIE, CARROLL and DeSARBO, 1987, p8).

Multidimensional scaling (MDS) models are a class of techniques that use "proximity's" among any kind of objects as input, in order to build a spatial representation of those objects expressed in output as a geometric configuration of points. These "proximity's" are numbers which indicate how similar (or dissimilar) two objects are, or are perceived to be by subjects, but although similarity (dissimilarity) are most frequently used to elicit psychological proximity judgements, alternative words as relatedness, dependence, association, complementarity, substitutability, and so on, also apply (KRUSKAL and WISH, 1978, p9).

Although MDS models exist since 1952 (TORGERSON, 1952; McGEE, 1968; in YOUNG and HARRIS, 1996) they only addressed the scaling of stimuli, however noting that McGee RMDS (Replicated MDS) model was already able to account for individual differences in response bias. Only in 1970 with the INDSCAL (Individual Differences Scaling) model (CARROLL and CHANG'S, 1970) the simultaneous consideration of stimuli and subjects was effectively addressed, through the introduction of the notion of "weights", that account for individual differences in the perceptual or cognitive processes that generate the responses (YOUNG and HARRIS, 1996, p144).

The INDSCAL model assumes that objects (stimuli and subjects) belong to a continuous space common to all sources of data. It portrays individual differences among sources of data by differentially shrinking, or stretching (i.e. weighting), each dimension in the space solution according to the implied emphasis given to the dimension by a specific source of data (ARABIE, CARROLL and DeSARBO, 1987, p8).

This approach to scaling has evolved since then, several sources describing its developments and associated computer programs (DeLEEUW, 1977; KRUSKAL and WISH, 1977; RAMSAY, 1982; TAKANE, YOUNG and DeLEEUW, 1977; YOUNG, 1981,1984; YOUNG and HAMER, 1994)[30]. In particular, one of the relevant variations between approaches concerns the kind of "fit" used by the algorithm in translating dissimilarities (similarities) to geometric distances, INDSCAL model using scalar products, ALSCAL[31] model (TAKANE, YOUNG and DeLEEUW, 1976) using squared Euclidean distances, and SMACOF (DeLEEUW, 1977) - which is still under development - using simple Euclidean distances. More important however, in such approaches, is that we can interpret solutions in two separate components (YOUNG and HARRIS, 1996, p145):

a) A stimuli space, representing the information *shared* by all individuals in what regards to the structure of the stimuli.

b) A subject space (weights space) representing the information that is *unique* to each individual about the structure of the stimuli i.e., weights being interpreted as the importance, relevance or salience of each dimension to each individual. Accordingly, if we group individuals to represent experimental conditions, the interpretation is that weights reflect the importance of each dimension in the various experimental conditions (YOUNG, 1999), the same applying if individuals are "split" into relevant sub-groups for analysis.

Table 2 compares some characteristics of MDS programs:

Table 2

Characteristics of Several MDS Computer Programs						
	MINISSA	KYST-2a	INDSCAL	ALSCAL-83	MULTISCL-2	SMACOF-1b
Similarity	Yes	Yes	Yes	Yes	Yes	Yes
Asymmetric	No	Yes	Yes	Yes	Yes	Yes
Missing	Yes	Yes	No	Yes	Yes	Yes
Two-way	Yes	Yes	No	Yes	Yes	Yes
Measurement	N	MN	M	MN	M	MN
Model	C	CR	WO	CRWO	CRWO	CRW
Fit	D	D	P	S	DL	D
Algorithm	L	L	L	L	M	L
Converge	No	No	Yes	Yes	No	Yes
Stimuli	100	100	dyn	dyn	50	dyn
Matrices	dyn	dyn	dyn	dyn	100	dyn
Elements	4950	4000	dyn	dyn	15000	dyn
Dimensions	10	6	10	6	10	dyn

Source: Forrest W. Young *"Multidimensional Scaling"*, on-line papers, http://forrest.psych.unc.edu/, Feb.99.

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[30] In Young and Harris, 1996

[31] ALSCAL – Alternating Least Squares Scaling (Takane, Young & De Leeuw, 1976)

Here, M stands for metric, N for non-metric, MN for both analysis, C for classic, R for replicated, W for weighted, O for other types, D for distances, P for scalar products, S for square distances, L for log distances, L (again) for least-squares program, M (again) for maximum likelihood, and "dyn" for dynamic allocation in the number of dimensions allowed (e.g., no limit).

Thus, an MDS model - ALSCAL in particular - seemed the adequate process to access people's Perception about stimuli involved, because:

- The model starts by the basic assumption that people differ in reality appraisal, not only in response bias but also in the perceptual or cognitive processes that generate the responses (YOUNG, 1996, p1). Accordingly, each individual has its perceptual map, which means that there is no constrains limiting the number, or nature, of possible influences in individuals coming from whatever reasons we may think of (social, economical, historical, etc.)

- Simultaneously scaling individuals and stimuli, using ALSCAL, would also respect the rather complex nature of Perception itself, an important question in establishing a credible "frame" to study another variable (Affect). In fact, if we take the key points of the model:

  (1) The adjustment, for each individual, between his own perceptual map (built by the model for every individual) and his answer given in survey, the relevant number of dimensions, and its relative weight, fairly translates us (and emphasise) the psychological "element" in Perception;

  (2) Individual weights, subsequently used by model to compute *shared* data, fairly remove, on this data, the (individual) subjectivity that is inherent to each perceptual map, although it does not guarantees - on itself - full compatibility between people's appraisal.

  (3) The configuration of stimuli e.g., which pair of stimuli has - specifically - more or less similarity, reasonably translates us the logical "element(s)" of Perception;

  (4) The information *shared* by all subjects (or by any sub-group of it we choose to consider), some of the (possible) stimuli configurations, and the adjustment of (all) individuals to it, may lead us to admit that we are - eventually - "grasping" some interesting source of variation in stimuli involved. Such variation may, or not, be tied to substantive characteristics of objects involved, it may, or not, simplify us the comprehension of it, and it may have a more or less obvious nature. Still, it certainly has the power of leading

us to raise questions about the "ontology" of the whole phenomenon.

A Likert scale, in turn, seemed a convenient (one-dimensional) scaling process to access people's Affect. That would agree not only with common approaches as, given the scaling process used in Perception, we would be able to relate both variables, taking Affect as "property" that happens in people *along with* Perception.

As psychological variables, quantifications of Affect as well as (di) similarities in Perception would have, basically, an ordinal nature. In fact, only with difficulty one can assert that measures of such subjective quantities, or states, even if operated as ordered categories, reflect exact amounts of some variable represented by those categories. Moreover, research in human cognition suggests we assume that people have limited information processing ability, hence quantifying capacity (HILDEBRAND, LAING and ROSENTHAL, 1977, p16). Scaling processes would be ranking processes then e.g., more or less of something, not *how much* more or less (even if expressed that way), and we had to consider measures as ordinal.

3.4 – Computations and Results

An exploratory approach to data analysis differs, in three ways, from the more traditional ones (HARTWIG and DEARING, 1979, p19):

- It relies more heavily on measures of location and spread that have the property of resistance [32].
- It uses several summary statistics, rather than just one or two, in order to characterise distributions.
- It makes use of visual summaries.

Here we present a resume. Appendix B details computations.

3.4.1 – Perception

We began attempting to scale Perception. As shown in Appendix A, subjects were asked to scale

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[32] A resistant measure (of either location or spread) is one that is relatively unaffected by or resistant to changes, no matter how large, in a small proportion of the total number of cases. The median, for instance, is much more resistant than the mean or the standard deviation.

stimuli individually, according to their own subjective understanding of reality e.g., using whatever criteria they choose to look for in comparing stimuli. This conveyed a collection of inherently *individual* processes of *relatively* scaling "amounts" of dissimilarity (similarity) between stimuli, not a *whole* scaling of stimuli or subjects according to some *common* criteria. We used, then, ALSCAL (in SPSS software v. 9.0), trying to find if the *whole* set of ranks could be scaled according to (presumably) more than one dimension (subjects latent criteria), its implicit meaning being directly related with a *shared* perspective of *all* subjects about *all* stimuli. If the process would be adequate to our goals, the simultaneous scaling of subjects and stimuli should yield, accordingly, patterns of dissimilarity (similarity) of higher order between stimuli, as well as patterns of subject answers regarding those stimuli. A common and unique (although presumed multiple) set of dimensions would appear, after confronting several solutions, thus resulting in Perception scaling.

We repeated computations in order to analyse solutions from 2 to 6 possible dimensions. Several questions apply to the way we must carry these computations and they include, for instance, the type of data, its shape, the level of measurement, the approach to "conditionality", etc. Young and Harris, in Chapter 14 of SPSS v 7.5, make an excellent summary. The model is also sensible to the number of iterations allowed, the minimum "stress" change (a measure of goodness of fit between model and data) in each iteration step, the final precision pretended and the number of ties allowed in the algorithm. To some extent, then, we must tentatively achieve an adequate solution.

In general, we were able to extract solutions with 2 to 6 dimensions. A few were not possible, however, due to linear dependencies between variables. As both the stability of dimensions and the analysis of sub-samples were at concern, we carried systematic computations for all sub-samples so that we could make reasonable comparisons. Table 3 confronts model parameters across countries, as well as between experimental groups (the one where respondent knew author's name, and the one where they did not) as the number of dimensions changes [33]. Appendix B, in turn, shows computations about all sub-samples considered (Section 2, pages 100-102).

We can interpret computations parameters as follow:

- "Young S-Stress" and "Kruskal Stress" are global measures of "goodness of fit" between model and data, and the lower these measures are, the better. As the number of dimensions increases, its value always decreases, of course, because more dimensions allow the model to

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[33] The analyst has control over the number of dimensions he wants to test, each time he runs the model.

adapt itself better to data.

- Average RSQ represents the (average) adjustment between each subject as described in the model, and the same subject as described in questionnaire. The higher it is the best, because that means the model is well representing, geometrically, the psychological differences between stimuli as seen by subjects.

- The Overall Importance of Each Dimension translate us the (average) weight that subjects attribute to it e.g., the relevance of that dimension in subject's perception of stimuli. Equal weights mean that subjects tend to balance criteria in perceiving stimuli, unequal weights mean they (relatively) emphasise some of it, only.

Table 3 - Resume of computations

			Young S-Stress	Average Kruskal Stress	Average RSQ	Overall Importance of Each Dimension:					
TOTAL Sample	No.of subjects		(163)	(163)	(163)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	No. of dimensions	1									
		2		Error: possible linear dependencies among specified variables							
		3	0,2146	0,14044	0,70944	0,2866	0,2518	0,1711			
		4	0,15596	0,08347	0,75405	0,2454	0,1833	0,1648	0,1605		
		5		Error: possible linear dependencies among specified variables							
		6	0,08153	0,04225	0,7904	0,2063	0,1562	0,1428	0,1103	0,097	0,0779
Portugal	No.of subjects		(42)	(42)	(42)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	No. of dimensions	1									
		2	0,26902	0,19557	0,74163	0,4091	0,3326				
		3	0,19772	0,15817	0,74488	0,3192	0,2841	0,1416			
		4	0,14177	0,08519	0,81405	0,2805	0,2199	0,1584	0,1553		
		5	0,09993	0,0543	0,84962	0,294	0,186	0,1598	0,1413	0,068	
		6	0,07019	0,03682	0,85678	0,2514	0,2216	0,1186	0,0948	0,084	0,0866
Italy	No.of subjects		(20)	(20)	(20)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	No. of dimensions	1									
		2	0,22533	0,16607	0,81621	0,417	0,3992				
		3	0,14116	0,10666	0,87859	0,41	0,2927	0,1759			
		4	0,10273	0,06496	0,91035	0,3334	0,2724	0,2091	0,0954		
		5	0,07759	0,06346	0,91552	0,2619	0,2269	0,1904	0,1095	0,127	
		6	0,04192	0,02321	0,95916	0,3705	0,1816	0,123	0,0941	0,077	0,1127
Sweden	No.of subjects		(62)	(62)	(62)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	No. of dimensions	1									
		2		Error: possible linear dependencies among specified variables							
		3	0,21627	0,15576	0,69071	0,2785	0,2263	0,186			
		4		Error: possible linear dependencies among specified variables							
		5	0,12043	0,06288	0,76931	0,2118	0,1771	0,1594	0,1157	0,105	
		6	0,08059	0,0415	0,79024	0,2027	0,1743	0,1372	0,1094	0,088	0,0783
Japan	No.of subjects		(39)	(39)	(39)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	No. of dimensions	1									
		2	0,30555	0,2324	0,63434	0,3658	0,2686				
		3	0,22178	0,14311	0,68802	0,2565	0,2199	0,2115			
		4	0,15804	0,08621	0,75764	0,2528	0,1829	0,1684	0,1536		
		5	0,11946	0,0635	0,79026	0,1812	0,1895	0,165	0,1274	0,127	
	* 6		0,08008	0,0456	0,85745	0,2	0,1779	0,1814	0,1255	0,089	0,084

* The total number of parameters being estimated was large relative to the number of data values in data matrix. Results may not be reliable.

Table 3 - Resume of computations (cont.)

	No.of subjects	(81)	(81)	(81)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
Questionnaires with Names	No. of dimensions 1									
	2	0,298	0,21092	0,66502	0,3426	0,3224				
	3	0,21244	0,13936	0,71651	0,2994	0,2719	0,1453			
	4	0,16366	0,08975	0,73756	0,2549	0,1649	0,1594	0,1584		
	5	0,12278	0,06514	0,76126	0,2339	0,1493	0,1338	0,1416	0,103	
	6	0,07988	0,04165	0,80323	0,2859	0,1344	0,1158	0,1042	0,085	0,0779
	No.of subjects	(82)	(82)	(82)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
Questionnaires without Names	No. of dimensions 1									
	2	0,30194	0,20965	0,6607	0,3327	0,328				
	3	0,21254	0,13905	0,71948	0,2882	0,2149	0,2164			
	4	0,14638	0,07898	0,78054	0,2446	0,202	0,1674	0,1666		
	5	0,11034	0,05826	0,81166	0,2457	0,1809	0,1633	0,1324	0,089	
	6	0,07265	0,03783	0,84631	0,2682	0,1565	0,1234	0,1141	0,097	0,0869

A broad agreement appeared across sub-samples, concerning most parameters of the model. As sub-samples mutually intercept, we could fairly expect being able to use a unique solution in describing Perception. From a psychological point a view it seemed, therefore, that subjects had "experimented" and reacted to the questionnaire in a (roughly) compatible way.

The following step was to choose the "right" dimensionality e.g., which number of dimensions to use to represent Perception. Choosing the "right" solution about dimensionality is always problematic, and as much a substantive as a statistical question (KRUSKAL and WISH, 1978, p48). Arabie Carrol and DeSarbo (1987, p35) refer that there are no universally accepted criteria, only various strategies; thus, substantive interpretability of dimensions, focused on both the stimuli and subjects space, is often what allow us to decide about dimensionality. They also state tradition to be, in ALSCAL, to look for the "elbow" in plot decrements in S-Stress, as we consider solutions in successively higher dimensions.

In Appendix B, we plot S-Stress as the number of dimensions increase, for all sub-samples (Section 2, pages 103-105). As there was no clear "elbow" in graphs, we should use other criteria. These could include, for instance, "rule of thumb" proportions between number of stimuli (I) and number of dimensions (R) to adopt, rule being I ≥ 4R, but the rule usually applies the way around e.g., to previously determine the number of stimuli. In addition, it applies mostly to non-weighted MDS analysis, as WMDS models have distinct characteristics (KRUSKAL and WISH, 1978, p63). Moreover, empirically published studies using weighted MDS models have tended toward higher dimensionalities than in non-weighted ones (ARABIE, CARROLL and DeSARBO, 1987, p37).

It was necessary, then, to check for stability in configuration of stimuli, among different sets of dimensions and across different sub-samples e.g., among all models. Here the analysis was exploratory, and a clear and stable configuration was important, because interpretation and subsequent computations would follow.

Stability was a difficult goal, however, because no *equal* solutions existed among sub-samples, only (sometimes very) *similar* ones. Visually comparing the configuration of stimuli among all sub-samples, in models with 2 to 6 dimensions, and as in WMDS dimensions can be permuted and reflected, the solution with 4 dimensions (or the first 4 dimensions of a 5D solution when the previous couldn't be extracted) appeared as reasonably stable. Figures 3 and 4 show it, considering the total sample, two dimensions at a time [34].

Figure 3

Perception Model - Dim. 1 and 2

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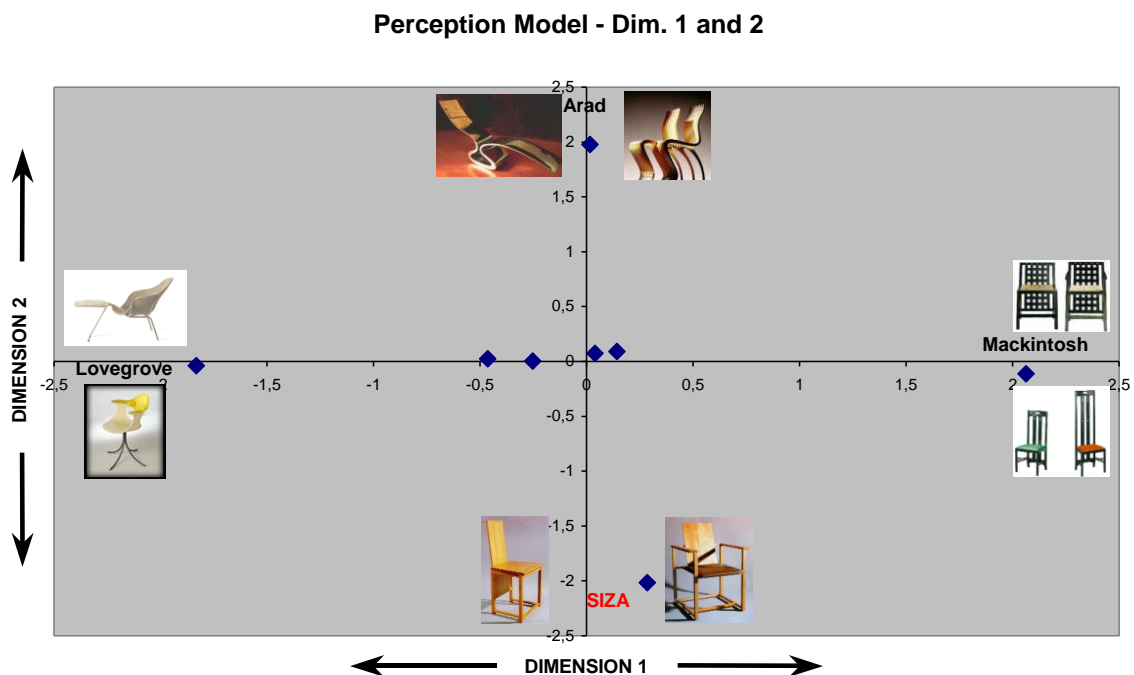
[34] To avoid cluttering, we only show on these figures two objects from each author.

Figure 4

Perception Model - Dim. 3 and 4
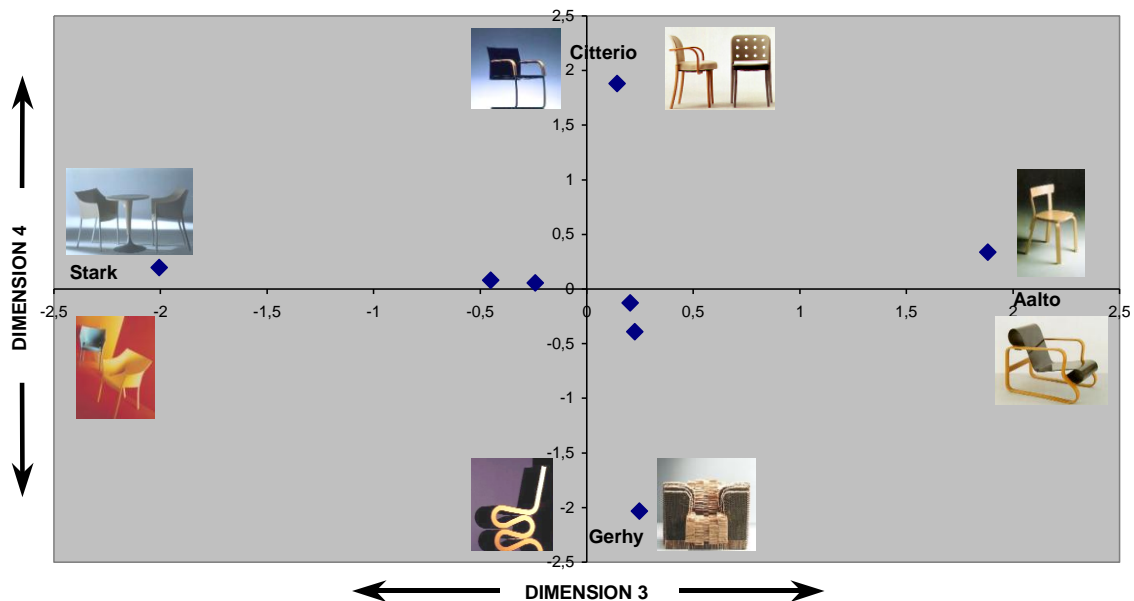
Several key points deserved further consideration, however.

To begin with, although in non-weighted MDS we can interpret the relative length of the stimuli space dimensions as indicating their relative importance, that cannot be done in weighted MDS (as ALSCAL is), because dimensions are arbitrarily normalised to be equal. The relative importance is found in average weights on a dimension, rather than in the spread of stimuli coordinates (YOUNG and HARRIS, 1996, p152), and ALSCAL always corresponds, by "default", the higher weight to the 1st dimension, the next to the second, etc. According to Table 3, however, weights were not very different, between dimensions; therefore, we could read Figures 3 and 4 *almost* as normal graphs. Consequently, and because stimuli near the origin are being poorly represented in the model [35], each dimension was (approximately) defined by the stimuli of only two authors. Solution allowed us to consider, then, that (fundamental) differences in stimuli had been recognised in, or attributed to, essentially, four specific (and independent) pair of authors, therefore apparently translating four logical inferences about stimuli. Whether the assumption was reasonable e.g.,

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[35] Only Ross Lovegrove and Charles R. Mackintosh, for instance, are relevant in defining Dimension 1, because all other authors have near zero coordinates on this axis e.g., they are "irrelevant" to the axis. Similar reasoning applies to all other dimensions.

inferences corresponded to some substantive reality in stimuli, and whether we could, or not, decipher those inferences, was always problematic, because no additional information was available regarding stimuli properties, as seen by subjects. Besides, even if it were, it would probably lead us to an exceedingly complex analysis in light of this work scope. Our goal was, simply, to find a "frame" allowing us to study another variable (Affect), not to find an "absolute" frame on itself. In other words, the frame would be essentially instrumental, and this work was only exploratory. Even so, if we could interpret dimensions results would certainly be better, namely because of our final objective – gathering useful elements to support a new brand. Model validity and reliability were, then, important, before attempting an interpretation.

Recalling the procedure yields results in two main components, both expressed in the same set of axes (dimensions), and which we can name and think of as (YOUNG and HARRIS, 1996, p145):

a) The Subjects Space - information that is *unique* to each subject about the structure of the stimuli.

b) The Stimuli Space - information that subjects *share* about the structure of the stimuli.

we could approach model validity, and reliability, as follow:

VALIDITY:

The Subjects Space shows us the relative position of subjects according to *each* individual point of view. The ALSCAL algorithm builds this space representing, as vectors, the adjustment of geometric distances to raw data (RSQ), for *each* individual, while simultaneously orienting these vectors according to weights subjects attribute to axes. Figure 5 shows a part of that space, using Dimensions 1 and 4, and compares subjects of different countries [36].

As we can see, sub-samples do not obviously differ – among themselves – in what concerns to vector length (RSQ), but the angle of most vectors with Dimension 1 tends to be smaller than the one they have with Dimension 4, Portuguese subjects in particular e.g., subjects attribute a higher weight to Dimension 1.

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[36] As detailed in Table 3, all dimensions have approximately the same weight. Therefore, we only choose Dimensions 1 and 4 because they have a (slightly) higher difference among it, than the others.

Figure 5

Subject's Weight, by Country
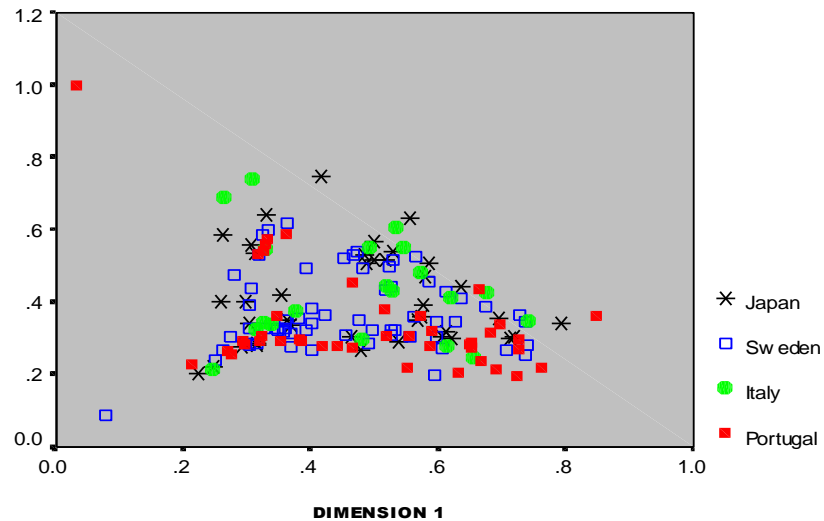
Note: Vectors start at the origin, ending at each point.

Graph only shows vector's endpoint, to avoid cluttering.

Validity implies that our measure do measures what we want (BRYMAN and CRAMER, 1990, p91). As stated, we had not specified, "a priori", possible sources of variation among stimuli; therefore, as long as our model (geometric) distances accurately translated subject's (numeric) answers, as they had given it in questionnaires, we would be consistently representing those answers. From a psychological perspective, then, we would be correctly describing subject's Perception - whatever it could possible be - and, if so, the model would necessarily be valid. As, according to Table 3, (average) RSQ was high in almost all dimensionalities, we had no special problem with our choice.

RELIABILITY:

The Stimuli Space (Figures 3 and 4) shows us fundamental (and latent) differences in stimuli, as *all* subjects see it (or each sub-sample if we consider a partial analysis). The ALSCAL algorithm builds this space blending and averaging, in a single map, all stimuli space of all individuals, but accounting in the process for the way each of these spaces individually fit to original data. This way, Stimuli Space represents only what subjects have in common, and the contribution of each subject to it is

determined so much by subject own space, as by the way it agrees with subject's original data (RSQ). In other words, Stimuli Space is a weighted space.

Reliability concerns the consistency of a measure, and it can have more than a single meaning (BRYMAN and CRAMER, 1990, p88-91). For instance, it can be external e.g., related to measure consistency in time, and internal e.g., related with the consistency of the measure among subjects themselves. The latter was our case, and we could see the question in two ways: at the individual, and at the sub-sample level [37].

At an individual level, we could ask how well each (individual) stimuli space (e.g., perceptual map) was, in fact, similar to the (common) Stimuli Space of figures 3 and 4. As (average) RSQ was high, the only remaining source of possible differences, between subjects, was weights subjects attributed to dimensions. Now, ALSCAL yields a specific index - the "Weirdness" index - that describe us how different each subject is from the "typical subject". This index varies between 0 and 1: a subject with a "Weirdness" of zero does not differ from the "typical one", but if he has a "Weirdness" of one he is very atypical. Figure 6 shows how this index varied across countries and Appendix B further details it (Section 2, pages 110-111).

Figure 6
Weirdness, by Country

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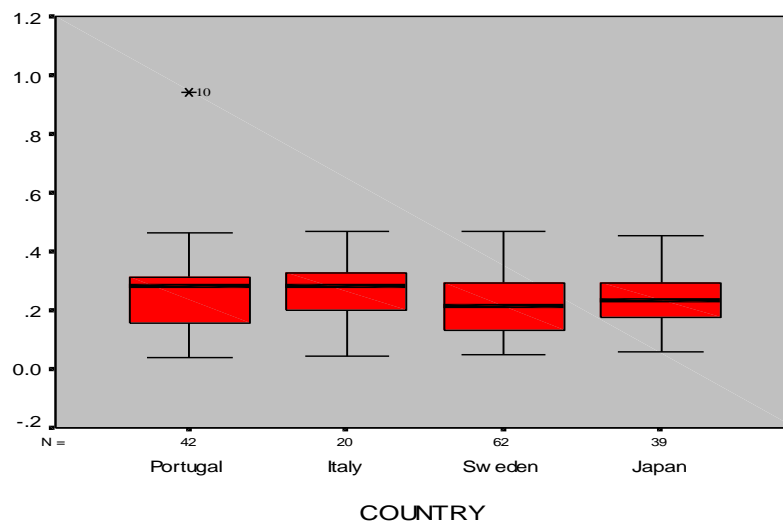
[37] Situations do not coincide. To see this, consider the following example: all subjects in a sample can share a characteristic, say, wearing a brown tie, but those in a particular subset of this sample can also share a much more visible one, for instance, wearing a red suit. Transposing the reasoning, joint effect of characteristics may strongly confound the analysis.

As we can see, a strong agreement existed between subjects: median values, and ranges, are similar in all countries. From this perspective, then, the (common) Stimuli Space was stable.

At the sub-sample level, however, the question was much more complex, because no standardised procedure was available allowing us to compare, directly, Stimuli Spaces of different sub-samples. Visual interpretation of these spaces had already given us some support in favour of its stability, but we had no test to check if, or when, a particular difference among spaces was significant, in statistical terms, and spaces were indeed different, sometimes. As some (analytical) confirmation was important, and we would need to compare Affect in sub-samples, later on, using Perception as a "common ground", we resorted to an indirect method.

We used, then, Kendall Tau-b [38] and Wilcoxon [39] tests to compare, on one side, stimuli coordinates of personal spaces when we included subjects in a given sub-sample, with, on another, stimuli coordinates of personal spaces when the same subjects were part of the total sample. In other words, we wanted to check if figures 3 and 4 translated something also existing at the sub-sample level, although eventually distorted by "local" factors. If visual interpretation were correct e.g., if the (common) Stimuli Space shown in figures 3 and 4 were stable across sub-samples, some stability would also exist at the personal level, because subjects were the same. Additionally, differences between sub-samples would have its origin, most probably, on other questions like RSQ or relative weights. This way, may be we could contribute to:

(1) Confirm the stability of figures 3 and 4, considering we had previously admitted it based only on visual interpretation, and over the assumption of being irrelevant to reflect axes.

(2) Reveal, in turn, specific differences among sub-samples resulting from axes permutation. In fact, axes have associated weights, and although we can permute it from the point of view of stimuli configuration, if sub-samples differ on axis order, they differ on the relative importance subjects' attribute to dimensions. Moreover, such differences could be useful for other studies, such as those more specifically exploring cultural differences.

Appendix B shows comparisons involving all sub-samples (Section 2, pages 106-109).

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[38] Kendall Tau-b is a non-parametric measure of association, for ordinal or ranked variables, that take ties into account. The sign of the coefficient indicates the direction of the relationship, and its absolute value indicates the strength, with larger absolute values indicating stronger relationships. Possible values range from -1 to 1, but a value of -1 or +1 can only be obtained from square tables.

[39] Wilcoxon test is a non-parametric procedure used with two related variables, to test the hypothesis that the two variables have the same distribution. It makes no assumptions about the shapes of the distributions of the two variables.

In general, Kendall tests confirmed our assumption, but Wilcoxon tests did not. In Kendall tests high levels of significance appeared, whenever a given pair of dimensions "matched" the assumption of equality derived from visual interpretation, but we did not confirm such correspondence with Wilcoxon tests. Considering the stimuli configuration shown in Figures 3 and 4 we could admit, then, that sub-samples differed in the relative importance attributed to dimensions, and these, in turn, usually involved the same particular stimuli. Still, we could not be sure that subjects in sub-samples differed, *only*, on the specific criteria that allowed ALSCAL to yield the stimuli configuration of Figures 3 and 4, when jointly considering them all, although those criteria would be probably relevant to our analysis.

Table 4 resumes differences in sub-samples, taking as reference the stimuli configuration of Figures 3 and 4.

Table 4

Ranks of Dimension's Importance, across sub-samples				
	Dimension 1	**Dimension 2**	**Dimension 3**	**Dimension 4**
	(Mack. vs. Loveg.)	(Siza vs. Arad)	(Aalto vs. Stark)	(Gerhy vs. Citt.)
TOTAL sample	1	2	3	4
Portugal	1	3	2	4
Italy	1	3	2	4
Sweden	1	2	-	3
Japan	1	4	3	2
Males	4	3	1	2
Females	1	2	3	4
Age < 35 y	1	2	4	3
Age > 35 y	-	-	3	4
"Low" education	1	3	2	4
"High" education	3	4	1	2
Social Sciences	1	2	3	4
Natural Sciences	1	3	2	4
Linguistics	2	3	4	1
Arts	2	1	4	3
Questionnaires with Names	1	3	2	4
Questionnaires without Names	1	2	4	3

All summed, we admitted that subject's Perception could be reasonably described using a 4D ALSCAL solution, as the one of Figures 3 and 4.

Interpreting dimensions was the final question. Tradition is to use additional information, taking its measures as dependent of stimuli coordinates, and using multiple regression procedures to label

model dimensions according to results (KRUSKAL and WISH, 1978, p36; ARABIE, CARROLL and DeSARBO, 1987, p37). This implies, of course, we previously determine the relevant information to use, but here, instead, that was precisely what we wanted to explore. Differently stated, here we should use common and intuitive reasoning to label dimensions, and only further research would allow - eventually - to determine subjects implicit criteria with more acceptable "precision" [40]. Accordingly, interpretation was as follow:

Dim. 1 - Mackintosh vs. Lovegrove…   **Formalism:** the "structure", "proportion" and "line" in Mackintosh, vs. the object "casualty" in Lovegrove.

Dim. 2 - Siza vs. Arad………………   **Geometry + Materials:** the "austere" in wooden lines, in Siza, vs. the "humour" in metallic curves, in Arad.

Dim. 3 - Aalto vs. Starck……………   **Colour**, if we take the iconic level in representation: "less precise" in Aalto vs. "obvious" in Starck.

Modernity, if we consider the symbolic one: the "old look" in Aalto vs. the "new look" in Starck.

Dim. 4 - Citterio vs. Gerhy…………   **Type** (in the sense of the production mode): the "industrial" in Citterio, vs. the "one-off" in Gerhy.

We can make, of course, more elaborate and equally valid interpretations, but questions such as how high were subjects' abstraction levels in judgements, or how "conscious" it has, remain. Indeed these characteristics are usually part of a much longer list of characteristics that might just as plausibly have appeared (KRUSKAL and WISH, 1978, p35).

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[40] See also the results discussion (Chapter 4).

3.4.2 – Affect

We proceeded, next, attempting to confirm if we could scale subjects concerning their Affect to stimuli involved.

If questions used in survey were correct, we should be able to confirm it as valid and reliable measures of a (latent) variable Affect. We used, then, Principal Component Analysis (in SPSS v.9), to find out if we could explain the variance of these answers by a single, unique underlying measure, representing the concept of respondents Affect.

As we show in Appendix B examples (Section 3, pages 112-135) [41], where we also include scatter diagrams, in all situations we could extract one component explaining a minimum of 79% of variance, *"eigenvalues"* being always higher then 1,0. The first question ("I like one, or more, of these furniture pieces") was, in more than 50% of the cases, the one better represented in components extracted, and the second one ("I like the style of its author") the alternative, almost always. As these components well represented all questions, we confirmed measure Validity (CARMINES and ZELLER, 1979, p62).

We computed, then, "Alpha de Cronbach" values ("if item deleted": CARMINES and ZELLER, 1979, p44-45), and found it usually superior to 0,80, with a few between 0,7 and 0,8. Thus, we could also be sure of measure Reliability.

Consequently, we could use an aggregate measure of these answers in measuring the underlying concept of subjects' Affect, and we choose the mean value of it. Our measure of Affect became, then, for each respondent:

$$Affect = \frac{Answer1 + Answer2 + Answer3}{3}$$

Figures 7a and 7b show Affect distribution among respondents that did not know authors' name (Fig. 7a), and among those who knew it (figure 7b) [42], using "Boxplot" [43] by country of survey and designer involved [44]. Appendix B presents other summary tables (Section 4, pages 136-144), also

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[41] Appendix B shows only examples, because the whole computation's output is large.

[42] We can only assume probabilistic situations, of course, concerning authors identification by respondents

[43] Boxplots show the median, the interquartile range, outliers, and extreme cases of individual variables.

[44] As we subsequently justify (page 59), country of origin and the type of questionnaire mostly explained Affect variations.

comparing "Boxplot" of Affect in other sub-samples.

Figure 7a

Affect in Questionnaires Without Names,

by Country and Author *
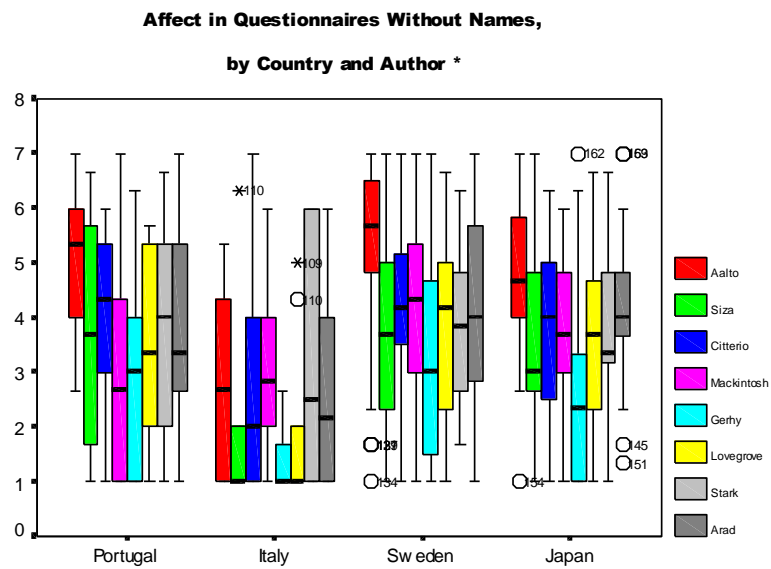
* Unlike in survey, higher boxes mean higher Affect values, here.

Figure 7b

Affect in Questionnaires With Names,

by Country and Author *
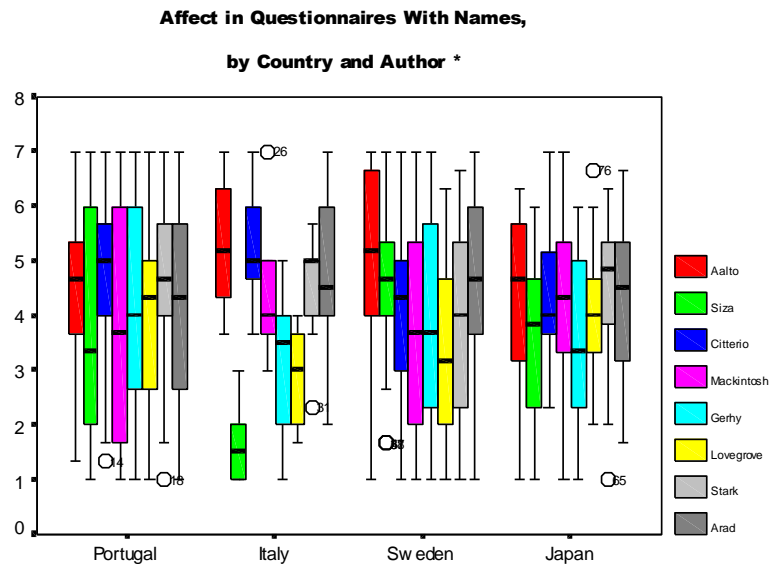
* Unlike in survey, higher boxes mean higher Affect values, here.

As we can see on these figures, variations of Affect roughly follow the same pattern, across countries: an unclear "U shaped" relative position of boxes, with centres (median values) usually

inside the 3-5 interval e.g., a "prudent evaluation" from consumers, although the entire set of opinions, about a particular author, frequently ranges the whole scale e.g., it strongly varies. Italians were an exception, however, because those who did not knew authors' names (generally) "disliked" all objects (fig. 7a). In addition, "consensus" was higher in Italy too, among those who instead knew it (fig. 7b), because the range of opinions here, concerning each of the stimuli, was smaller. By contrast, divergence of opinions was higher among Portuguese subjects, compared with subjects from other countries, especially about Siza and Mackintosh objects.

In general, subjects that knew authors' names (fig. 7b) tended to give higher scores compared with those who knew not (fig. 7a), namely over Citterio, Gerhy, Stark and Arad objects and if we take median values, but in Aalto they followed the inverse pattern and, in Italy, they were particularly "severe" with Siza. Preferences mostly went to Aalto, than, in subjects with less information (fig. 7a), but Portuguese has preferred Citterio, instead, when names were available in judgement, and Japanese favoured Stark, in turn (fig. 7b).

3.4.3 – Framing Affect with Perception

Having scaled Perception and Affect, we finally turned to our initial question: to understand if, and when, "the aesthetic" changed, eventually uncovering one, or more, potential brands.

Because we used a non-probability sample, the derivation of the sample distribution of various statistics was unknown, and statistical inference using it - with the goal of generalising to population(s) involved - was impossible (HENKEL, 1976). Still, we could check for some key variations compatible with our exploratory approach; although only valid inside our sample, it could give us, nevertheless, useful indications to future analysis.

Three "steps" were important in answering our question:

(1) To know whether Affect and Perception had (internally) compatible distributions e.g., if variations in Affect broadly followed those of Perception, given our theoretical starting point.

(2) To know the relevance of our sub-sampling criteria(s) in explaining subjects' (differences in) Affect.

(3) To know if our experimental condition, confronting iconic and symbolic appraisals, revealed some (differential) effect concerning authors included.

To solve the first one we needed tests, allowing us to confront Affect among stimuli (or authors) involved; if we were right, we could reasonably expect significant differences - at least - inside each pair of authors defining Perception dimensions. However, we could only use parametric tests of significance, like the *t-test* for the difference-of-means, if distributions followed normality or sample's size were large. Morh (1990, p61), for instance, suggests a sub-group size greater than 40 to conduct such tests. As results confirmed significant departures from normality, and sub-samples size were modest, we had to use non-parametric tests of significance - where normal distribution condition is relaxed - and Friedman tests [45] were the choice.

Table 5 summarises results, by sub-sample.

<p align="center">Table 5 - Affect comparison among authors</p>

	Friedman Tests Levels of Significance *			
	Lovegrove vs. Mackintosh	Siza vs. Arad	Stark vs. Aalto	Gerhy vs. Citterio
TOTAL sample	**0.035**	**0.006**	**0.001**	**0.000**
Portugal	0.273	0.724	0.739	0.086
Italy	**0.001**	**0.002**	0.808	**0.001**
Sweden	0.058	0.174	**0.000**	**0.043**
Japan	0.450	**0.033**	0.289	**0.002**

* Greyed cells show probabilities smaller than 0,05 e.g., test results with a weak possibility of occuring by hazard. In other words, results we may fairly pressupose with "cause(s)".

Considering the whole sample (the first line of Table 5), we can see that Affect distributions regarding, for instance, Lovegrove and Mackintosh, were significantly different, the probability of such a difference to occur being equal, or inferior, to 3,5%. Thus, when we accounted for the other tests, we confirmed that Affect followed variations, among stimuli, that were compatible with our model of Perception e.g., Affect and Perception obeyed, somehow, to a common "structure". This suggested us variables were related, fairly supporting our departure point. Still, at the sub-sample level (the other lines of Table 5) results were ambiguous, as what happened previously with model stability in Perception (see Reliability questions in Perception – page 50/53).

The following "step" was, now, to find out which of our criteria in defining sub-samples (Country,

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[45] Friedman test is the non-parametric equivalent of a one-sample repeated measures design, or a two-way analysis of variance with one observation per cell. It tests the null hypothesis that k related variables come from the same population.

Age, Gender, etc), if any, was relevant to explain the variations we had found in Affect (Table 5, total sample), and to that we had to relate Affect with artificial (categorical) variables that would classify subjects according to sub-samples. We should relate, then, an ordinal variable (Affect) with categorical ones (country of origin, gender, etc.), and we used Categorical Regression with Optimal Scaling (CATREG) [46] to do it.

As we can see on Table 6, such criteria were (globally) relevant to explain Affect variations, because Anova results were clearly significant (Sig. = 0.000), but Table 7 also showed us that only differences in codification, and country of origin, were individually important (Standardized Beta coefficients clearly different from zero: 0,141 and –0,201).

Table 6 - Sub-sampling relevance to Affect variations

Table 7 - Sub-sampling relevance to Affect variations (cont.)

In other words, results suggested that we could explain our dependent variable (Affect) in light of independent variables like, for instance, the respondent's country of origin, its gender, age or

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[46] CATREG extends the standard approach - Linear Regression - by simultaneously scaling nominal, ordinal, and numerical variables. The procedure quantifies categorical variables such that quantification's reflect characteristics of the original categories. The procedure treats quantified categorical variables in the same way as numerical variables. Using non-linear transformations, it allows variables to be analysed at a variety of levels to find the best fitting model.

working field; however, only the country of origin, and the fact of knowing or not author's name, seemed to deserve a practical consideration, in this study.

We could finally try, now, to answer our basic question. Our goal was to detect if "the aesthetic" changed, according to available information and in a given context. Consequently, we should confirm if Affect changed according to whether subjects knew, or not, authors name, other conditions being similar, namely Perception. Therefore, we had to:

- Confront subject's Perception between these sub-samples.

- Relate subject's Affect with it.

- Check for possible variations of Affect.

- Find out if we could locate it, thus uncovering (eventual) brand(s).

From Tables 3 and 6, and correlations in Appendix B (Section 2, pages 106-107), we already knew subject's Perception was (approximately) similar in these sub-samples, but Figures 8 and 9 directly confront it, ignoring dimension's weight. As we can see on these figures, Perception was similar on these groups, and our 4D model (Fig. 3 and 4) roughly applied to both.

Figure 8 – Experimental Groups confrontation

Perception Model - Dim. 1 and 2
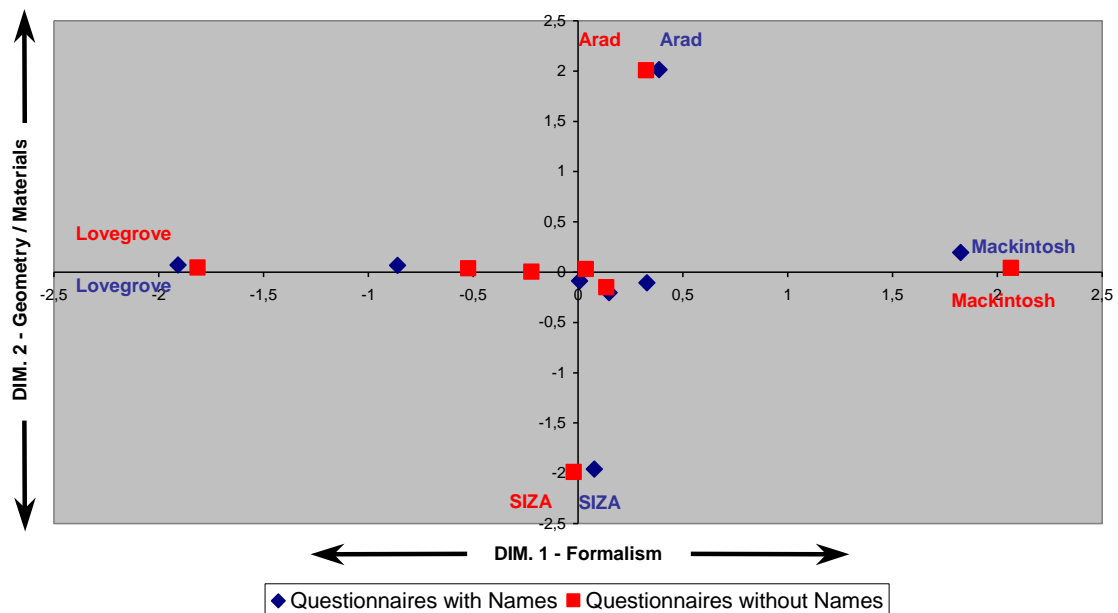
Figure 9 – Experimental Groups confrontation (cont.)

Perception Model - Dim. 3 and 4
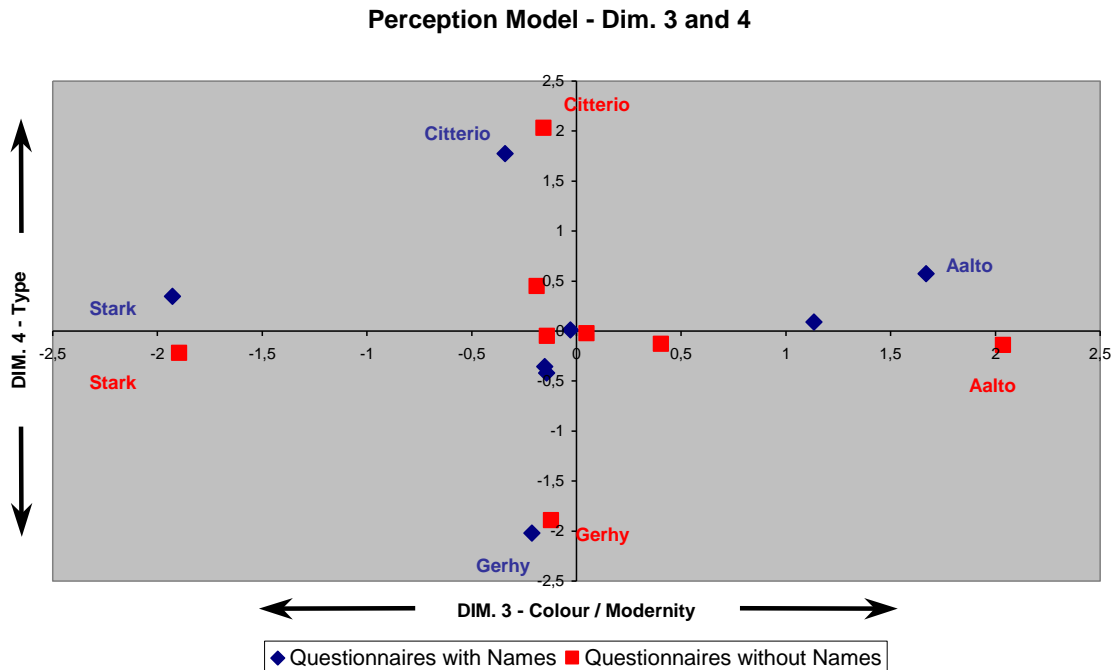
To further relate, now, Affect with Perception, we could use multiple regressions. Regression of external information in a scaling space is often very helpful, because it enhances interpretability of this space. External information usually represents a *property* that subjects more or less recognise in stimuli, and two models exist in this regard: the vector model, and the "ideal point" model (YOUNG and HAMER, 1994, p200-201). The former is most meaningful when stimuli possess neither too much, nor too little, of the attribute. The latter, instead, is most useful when stimuli contain either too much, or too little, of the same attribute. Both models find the direction, through the multidimensional space, that corresponds best to increasing amounts of the attribute, but the latter also allow us to determine an "ideal" amount of it. Therefore, we usually adopt both procedures in attempts to label dimensions, or as a guide to dimensionality, when (enough) external information is available (KRUSKAL and WISH, 1978, p35-36, Appendix A, ARABIE, CARROLL and DeSARBO, 1987, p36).

Here, however, we had slightly different concerns:

- We did not wanted to interpret a space (Perception), given an "objective" property of stimuli, nor Affect was a property of stimuli but, instead, a subject's reaction to - presumably - many of those properties. Still, *projecting* Affect on this space would probably allow us to understand if,

and how, we could relate it with Perception, and that would clearly increase our understanding of subject's opinion.

- More important, such a projection would represent Affect under an "objective" frame of reference. As this frame was reasonably stable, across sub-samples, we would have, approximately, a "Ceteris Paribus" condition, allowing us to analyse (eventual) variations of Affect among it.

As ALSCAL results are metric, but our measures of Affect were not, we used CATREG again to relate Affect with the stimuli coordinates of Perception. Appendix B describes these computations (Section 5, pages 145-157).

Correlations between measures of Affect and Perception were not high, as we can see on Appendix B – from 0,22 in Japan up to 0,44 in Italy (Section 5, pages 145-149). Most ANOVA results, however, were significant at levels higher that 0.05, therefore suggesting that measures could be confronted.

Consequently, we used the regression coefficients to find out on Perception space which directions translated increasing values of Affect.

Figures 10 and 11 show the resulting graphics, when we compare countries. Vector lengths represent the (relative) importance of a pair of Perception dimensions, in explaining variations of Affect; vectors orientation, in turn, translates the (relative) weight of each dimension, inside that pair. As an example, in Figure 10 dimensions 1 and 2 roughly explain the same variation in Affect, if we compare Swedish with Japanese, and both dimensions seem to be weakly related with it (small vectors). Even so, Geometry/Materials (Dim. 2) were "more important" to Japanese subjects than the Formalism of objects involved (Dim. 1), if we search for high aesthetic judgements (or the inverse in Sweden). By contrast (Fig. 11), we can better explain Affect variations using criteria such as the Colour/Modernity (Dim.3), or the Type of furniture (Dim. 4), and consequently vectors are bigger. Accordingly, Swedish emphasised "soft colours" and an "old look", when aesthetic judgements were higher, and Japanese "preferred" a more "industrial" appearance, in equivalent situations. Another possible interpretation is to consider that the influence of Arad to (positive) aesthetic judgements, in Japan, was "equivalent" to the influence that Mackintosh had in Sweden; still, in both countries such influence was smaller than the one they exerted on Italy [47].

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[47] Assuming, of course, we stay inside this set of 8 authors. Thus, the first interpretation is clearly preferable.

Figure 10 – Affect vs. Perception

Property Fitting - Vector Model - Dim. 1 and 2
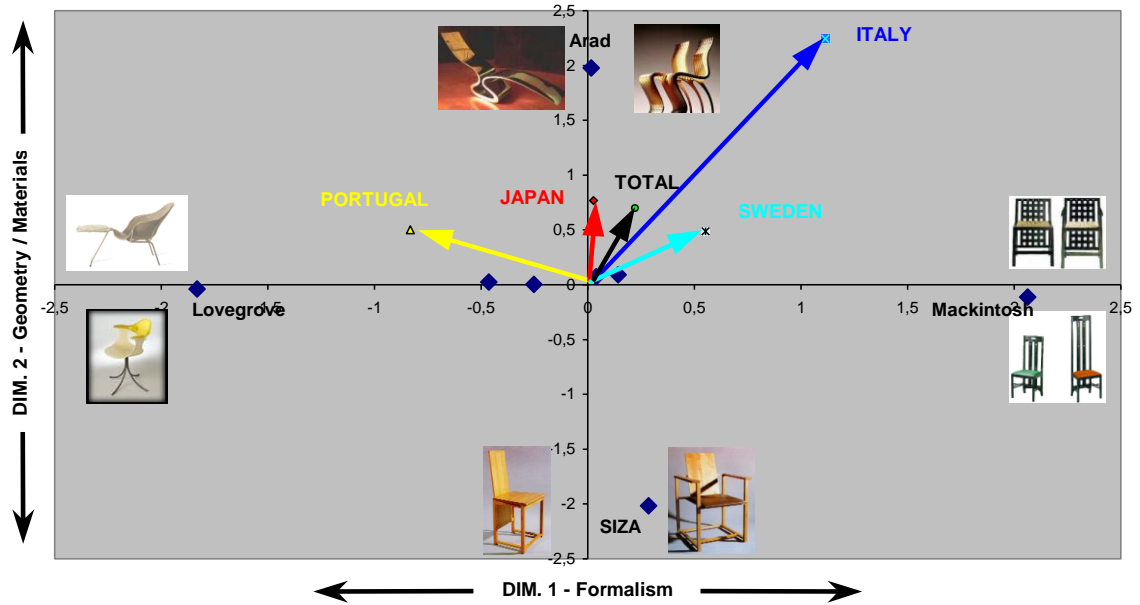
Figure 11 – Affect vs. Perception (cont.)

Property Fitting - Vector Model - Dim. 3 and 4
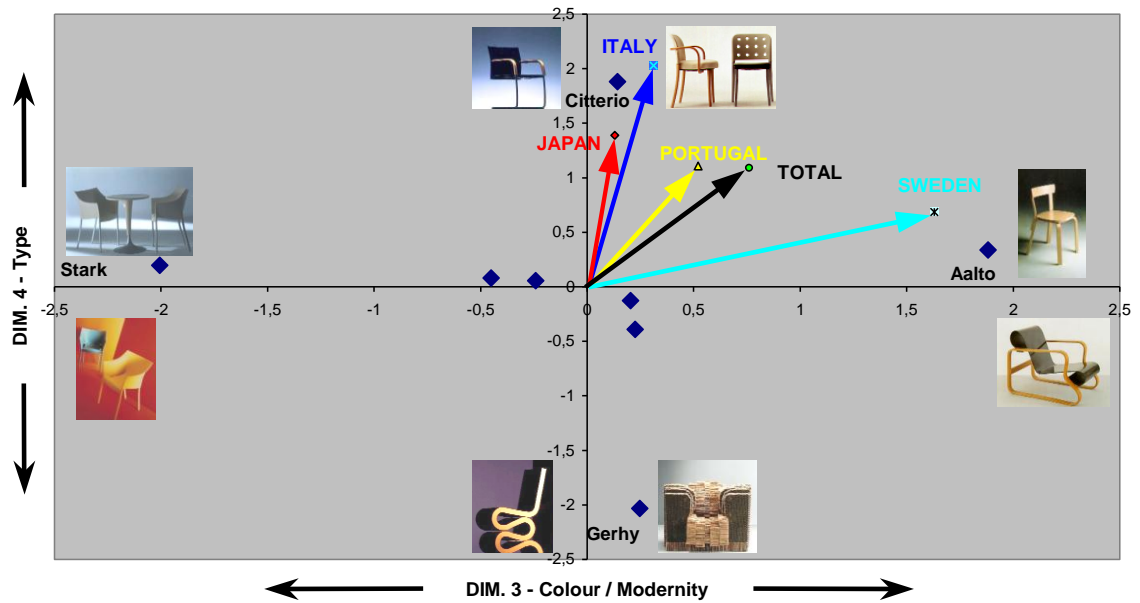
The black vector (total), in turn, applies to the whole sample of people, regardless of its country of origin, and it translates a broad "underlying tendency" that is common to all respondents.

As we can also see, all countries have (approximately) the same "pattern" concerning Affect to stimuli involved e.g., all vectors (roughly) point to similar directions in space (the same "quadrant"). Affect seems to relate more with Dim. 3 (Colour/Modernity) and 4 (Type), than with Dim. 1 (Formalism) or 2 (Geometry/Material). Portugal and Italy seem to be exceptions however, regarding these latter dimensions, in Portugal because of vector orientation (the opposite direction), and in Italy due to vector length (much bigger).

Repeating the procedure, we then confronted subjects according to whether they knew, or not, author's name, inside each of these countries, using again Friedman tests to verify if such answers were (significantly) different, for each stimuli considered. Appendix B (Section 5, pages 150-157) shows us that correlations between measures (Affect vs. Perception) were similar, on each of these groups, to those we had found of each country, as a whole. Italy was an exception, however, and correlation grew up to 0,67 in the sub-sample where subjects knew authors' name.

Figures 12 to 19, in turn, summarise results. We emphasise some names on these figures, using capitals and a box, when Friedman tests were significant e.g., distributions of Affect (confronting experimental groups) had differences that – unless explained as *brand component(s)* – were statistically improbable [48].

According to the same figures, vectors size and orientation is different, between subjects that did not knew author's name and those that instead knew it: light blue vectors vs. dark blue ones, respectively, and some of these differences were, indeed, confirmed by significant Friedman tests. In other words, we found the following effects, which we describe in a sequence that tries to help the reader:

- In **ITALY** (Figures 12 and 13), knowing the names of Aalto, and Arad, apparently led respondents to different affective answers, thus "pushing" vector's orientation accordingly: towards Arad (fig. 12), and Aalto (fig. 13), respectively.

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[48] It may be useful to recall, here, that we are taking brand(s) as a *differential effect*, as seen by consumers (pages 29-30). We must keep in mind, however, that we cannot assume *deliberate* marketing actions, behind it.

Figure 12

Property Fitting - Vector Model - ITALY
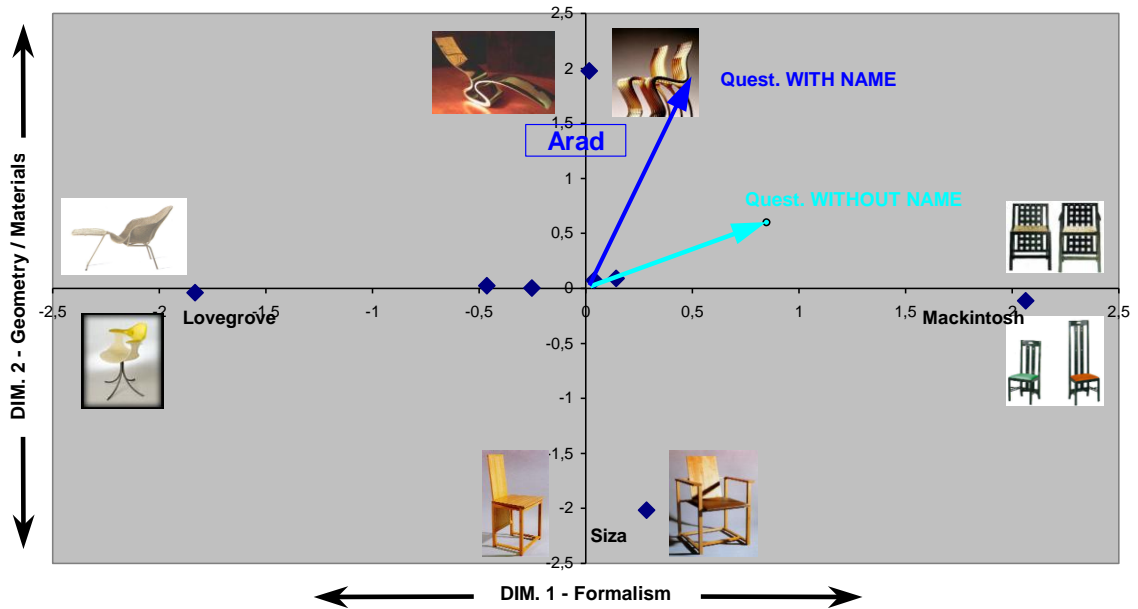
Figure 13

Property Fitting - Vector Model - ITALY
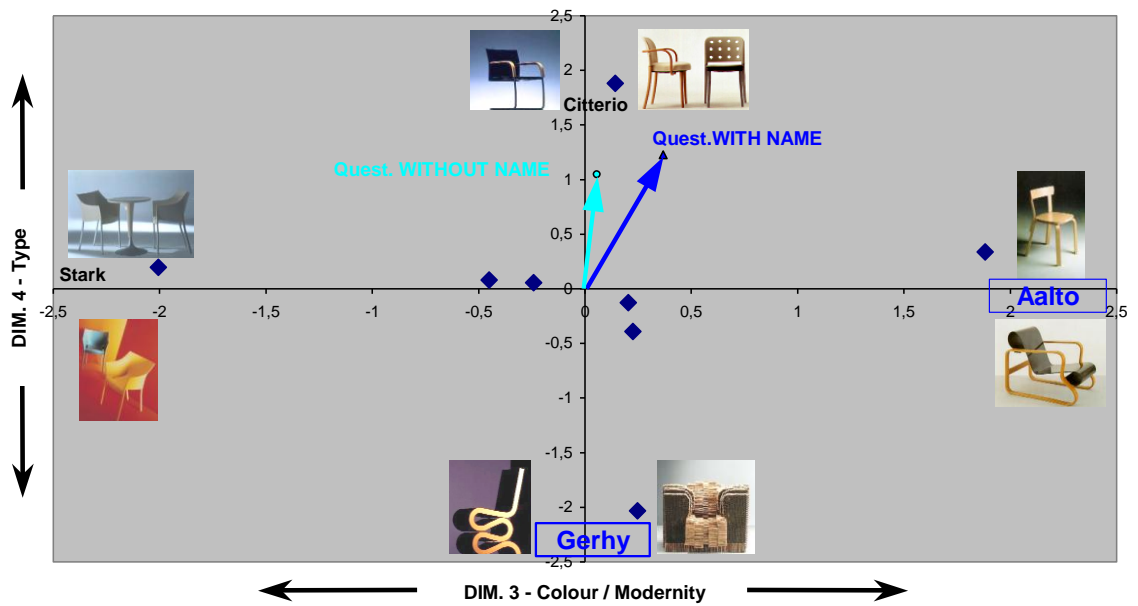
Aesthetic judgements, thus, seem to reflect the influence of some additional knowledge, here

"brought in" by these names [49], and Friedman tests support this perspective, because group differ in correspondent evaluations.

- In **SWEDEN** (Figures 14 and 15), aesthetic opinions revealed the importance of Formalism (Dim. 1) and Geometry/Materials (Dim. 2), when names were available, and "pushed" vector in Arad's direction, but emphasis went to Colour/Modernity (Dim. 3), in both group.

Figure 14

Property Fitting - Vector Model - SWEDEN

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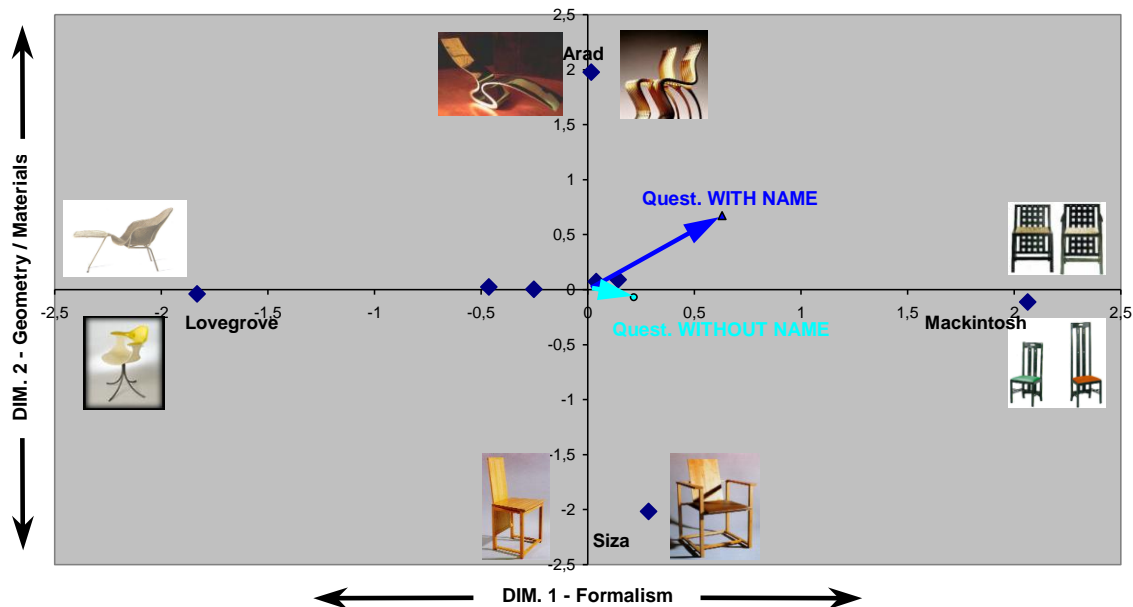
[49] Figure 13 does not reflect Gerhy's influence on judgements, because group diverge too, in face of his name, and vector does not changes accordingly. As we can see, however, in figures 7a and 7b, it was Citterio simultaneous difference in values, even bigger than the one of Gerhy, the reason to vector "stability" among Italian groups. Now: under these circumstances shouldn't we find a difference too, in Italy, when comparing Citterio's evaluations? After all Citterio is an Italian designer and, as Figure 7b shows, evaluations were clearly higher among subjects who knew his name. The "contradiction" fades, however, if we also remember the following:

    a)   Figure 12 and 13 show a tendency of *numeric* values, when we consider Affect as an *interval* variable. Friedman tests, in turn, focus on values *distribution* and if we only take it as *ordinal*. Thus, results may or not "coincide", in the sense of what we are looking for e.g., group may differ, in fact, in the subset of the scale each chooses to use in survey, but *simultaneously* present equivalent distributions of values. As stated (page 43), hardly we can take Affect as an interval variable (at least strictly…), therefore we emphasise its ordinal nature, here, when pointing out the differences.

    b)   More important, perhaps, non-parametric tests are always less powerful than its parametric "equivalent". Therefore, it may underestimate situations that we would refer otherwise. Citterio may be an example, here, and we are probably taking too rigidly the standard "5% level" in tests. Thus, answers regarding Citterio may also reflect a brand.

Figure 15

Property Fitting - Vector Model - SWEDEN
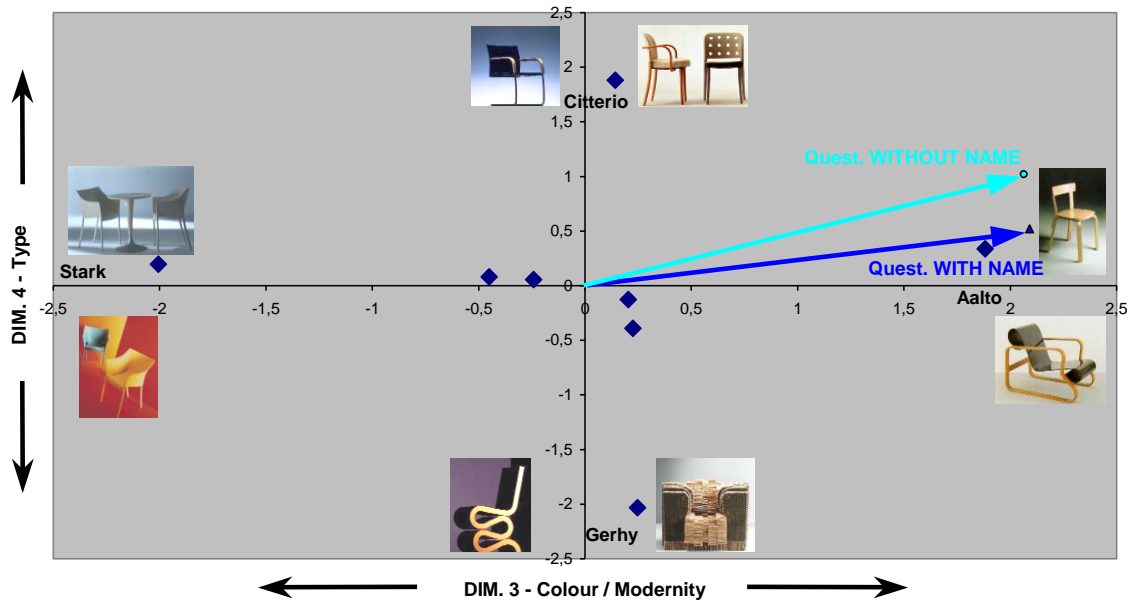
In addition, results suggest that names were irrelevant to subjects' affective answer, according to Friedman tests. Still, we could be facing the following, instead: whether *all* subjects perfectly knew *all* objects, and therefore names were necessarily redundant [50] or, which seemed a more plausible situation, not only Aalto's objects, *per se*, could be *widely* familiar to Swedish (after all, he was a Finn designer…) as, also, it could *unusually* "match" their taste, too.

Now, subjects' evaluations of Aalto were usually different, in all countries, from those of all other authors, if names were not available in questionnaires. Consequently, and if we were right, answers regarding Aalto should *kept* this difference, in Sweden, even if names were available, and Friedman tests indeed suggest it (Appendix B, Section 6, page 159) [51].

In other words, Aalto's effect may be, here, the difference we find on his answers if we compare it with (almost) all the others, regardless of the group we consider.

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[50] The inverse situation of *not* knowing *all* objects *and* names seems highly improbable, here.

[51] Interestingly, exceptions should come from authors inside Dim. 1, or 2, because Affect also relates with it, and we did confirm it in Siza and Arad (Dim.2), who were – *both* – better evaluated (Fig. 7b). Thus, vector still points to Mackintosh, in figure 14, though it simply translates the difference he shows to Lovegrove, in the opposite side of Dim. 1.

- In **JAPAN** (Figures 16 and 17), and according to Friedman tests, only the name of Stark apparently caused the kind of effect we are translating as "brand".

Figure 16

Property Fitting - Vector Model - JAPAN
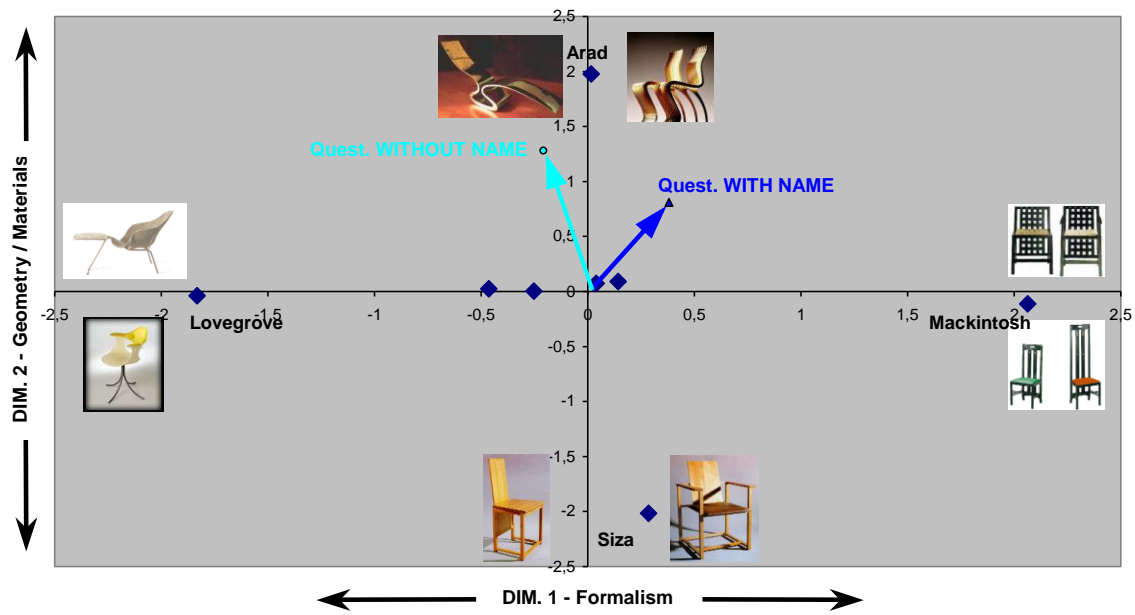
Figure 17

Property Fitting - Vector Model - JAPAN
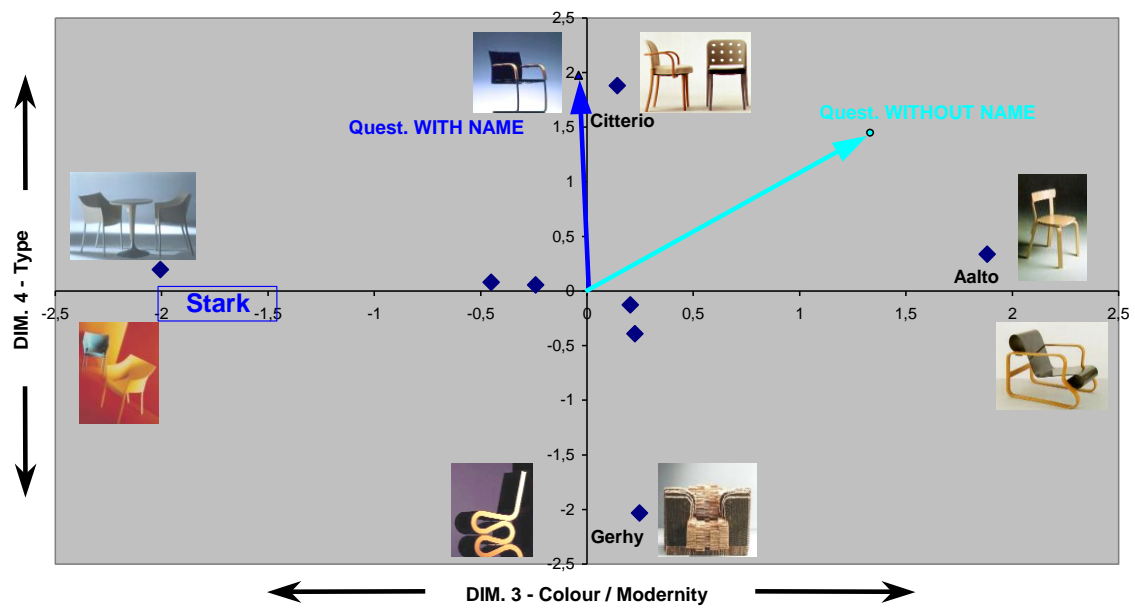
In figures 16 and 17, however, vector "movement" may induce us in error. In fact, while subjects who did not saw his name tended to prefer "soft colours" (and/or an "old look"), under Dimension 3, subjects' who instead saw it also appreciated the opposite e.g., stronger colours and/or a "contemporary look" [52]. Consequently, the vector of the first group shows us the relevance of Geometry/Materials (Dim.2), Colour/Modernity (Dim.3), and Type (Dim. 4), in subject's aesthetics. By contrast, however, the vector of the latter group tends to show us, only, the influence of Geometry/Materials (Dim.2) and Type (Dim. 4), because the model do not conveys a possible (and important?) tendency in subjects' opinion: one discriminating *both* Aalto and Stark from the others [53].

- In **PORTUGAL,** finally (Figures 18 and 19), we see that subjects who did not knew authors' names preferred "informal" objects (in Dim.1), those with "soft colours/old look" (in Dim. 3), or even those with an "industrial look" (in Dim.2), given our stimuli set. Curiously, however, the ANOVA result was not significant in subjects who knew authors' name. Consequently, their answers are harder to interpret, because we cannot relate Affect with Perception on them. Still, we can nevertheless conclude that:

a) Subjects were less "typical", concerning our Perception model e.g., they do differ from the others in the way they discriminate among objects (see the Weirdness index in Appendix B, Section 2, page 110 – Questionnaires with names). Thus, our (4D) model do not represents them so well [54].

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[52] We can easily see this if we look at Figure 7b, where we note that the highest medians are those of Aalto and Stark, *simultaneously*. Thus, subjects who did not knew author's names established a difference, between Stark and Aalto, which seemed to loose its importance, in aesthetic terms, if names were available; consequently, our current 4D model cannot graphically represent it (the vector cannot *simultaneously* follow "opposite" directions – Stark *and* Aalto). It may be useful to recall, here, our reference to Van Schuur (page 39) concerning the number of Dimensions that *simultaneously* "operate", in a given situation.

[53] Accordingly, and as Appendix B also shows (Section 2, page 111), the Weirdness index is "different" in Japan, among the two group involved, and our model "fits" worst – somehow – to subjects who saw names in the questionnaires than it "fits" to the others.

[54] In fact, subjects who saw names in the questionnaires tended to be more "prudent" than the other ones, and medians of this group (Fig. 7b) show a kind of "neutrality" to authors involved (the value of 4). In a sense, then, subjects do not show a tendency at all, concerning positive aesthetic evaluations, and the group is (mostly) "indifferent" to stimuli; therefore, Affect do not relates with Perception, and we should expect such ANOVA results, too. Even so, Friedman test was significant regarding Gerhy's evaluations, which may also reflect a brand.

Figure 18

Property Fitting - Vector Model - PORTUGAL

Note: In questionnaires with names ANOVA results were not sigificant, at the 0.05 level.

DIM. 2 - Geometry / Materials

DIM. 1 - Formalism

Arad

Quest. WITHOUT NAME

Lovegrove

Mackintosh

Siza
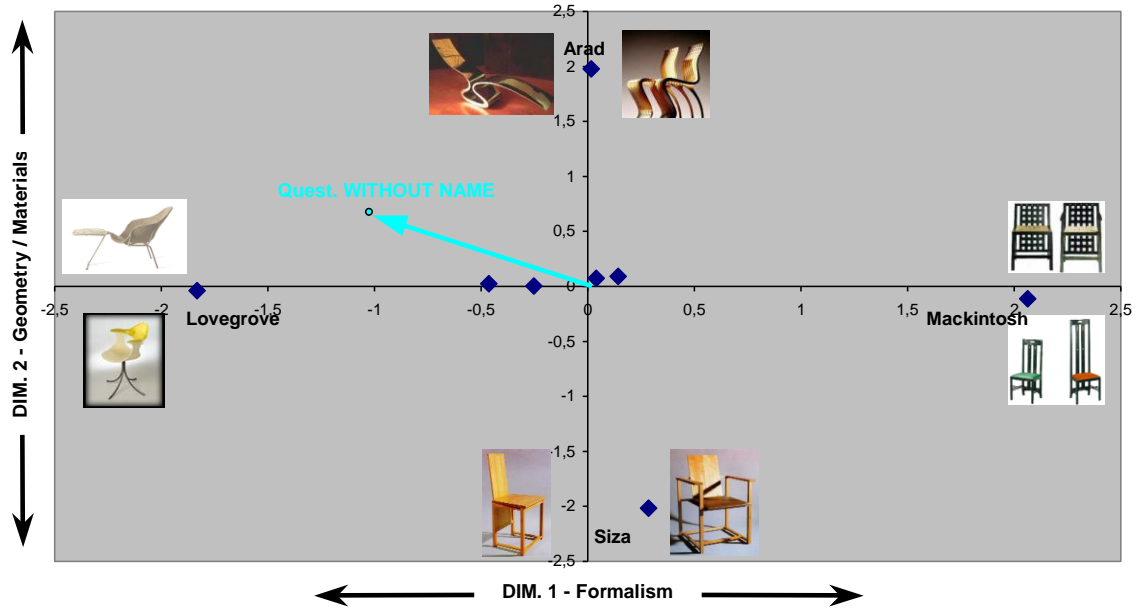
Figure 19

Property Fitting - Vector Model - PORTUGAL

Note: In questionnaires with names ANOVA results were not sigificant, at the 0.05 level.

DIM. 4 - Type

DIM. 3 - Colour / Modernity

Quest. WITHOUT NAME

Citterio

Stark

Aalto

Gerhy

70
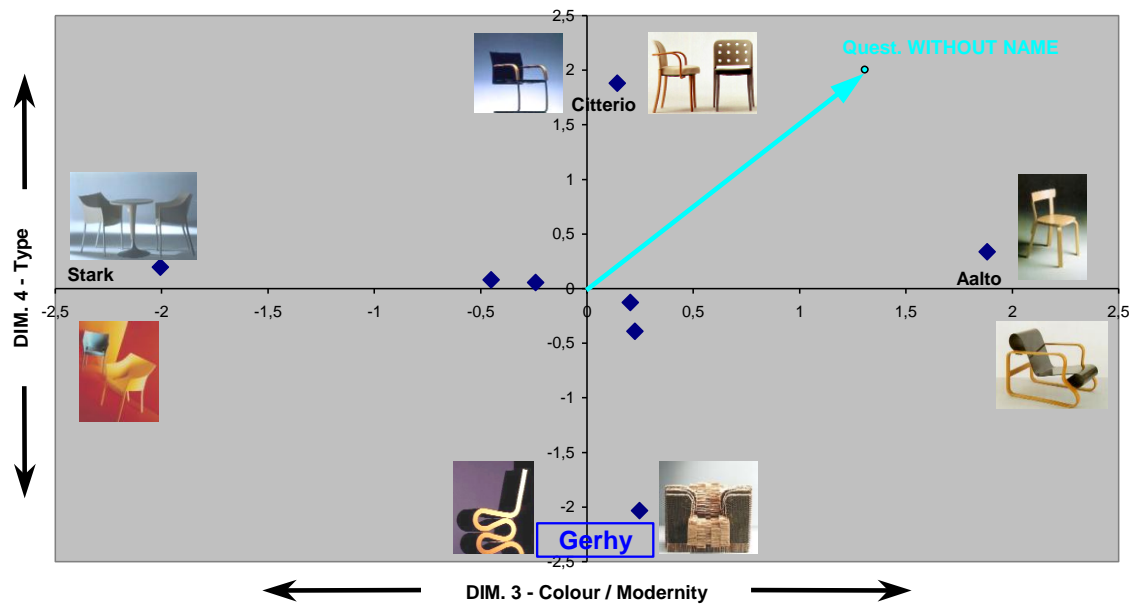
b) In addition, if we increase (or decrease) the number of model dimensions, Affect and Perception still do not relate with each other, even if we look inside different partitions of stimuli or subjects [55].

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[55] We do not present these computations here, to avoid "data overload", but subjects *do* differ on answers, inside each of the group, because the range of opinions is high (see, for instance, Siza and Mackintosh, in Fig. 7b). Beyond our current model, then, we may need to build function(s) (eventually) able to discriminate, for instance, those who liked an author from those who, instead, did not, but we avoided this reasoning, here, because sample size was small.

C h a p t e r   4

FINDINGS AND DISCUSSION

As described, we attempted to deal in this work with questions that certainly are not short, or easy. Therefore and to help the reader, along with our conclusions we recall, and synthesize, our departure perspective(s). The reader may, or not, agree with both, and discussion is always welcome; yet, starting perspectives undoubtedly frame the kind of conclusions we may possible draw.

In many senses, we all intimately know what a brand is, and we immediately recognise the kind of aesthetics its object(s) involve, at least currently and if they are tangible, in particular. We do not confound a Mercedes and a Citroen car, a Timberland pair of shoes with an Ecco pair, a Swatch and a Cartier watch, or a Grundfos submergible pump with an Efacec equivalent, fortunately (both for us, and to its producers). Each is a brand that involves products with its own aesthetic, independently of the endless differences products may also exhibit, and either brands or aesthetics are powerful mechanism, indeed, which – at the very least – are present in one of our most important life tasks: to differentiate things in order to think, choose, and act.

Yet, the moment we try to analyse, define, or operate with these concepts – brands or "the aesthetic", quite complex questions appear, and we discover that, in many other senses too, may be we do not know, so well as we could expect, what they mean. Is it what we see or have seen, like the product itself, the brand name, and the use situations in both, or is it what we conclude after that, for instance physical characteristics or derived psychological ones? Is it what we have learned by ourselves, like "reasons", perspectives, and details, or is it what others have told us, be it also "reasons", experiences, or simply the result of their habits? There are endless arguments we may here take as important, in dealing with brands or "the aesthetic", and it seems that, in both fields, the more we know the more we see, and the more we see the more we know …

Thus, we simultaneously "know" in many senses, but we do not in many others, which is a curious situation. Our innate symbolisation capacity binds together endless, and different, fragments of knowledge, collected everywhere and unified under such concepts, and that allow us to use it, and enjoy it in practice, automatically, many times without even knowing why.

Connecting such concepts was then, and still is, an hard task, implying serious constrains concerning concept(s) definition, its frame, acceptable indicators, its depth, and so on. Fortunately, however, the opportunity of dealing with a case study has "simplified" our task, in allowing us to translate these questions to a practical situation: a "by SIZA" brand in the furniture design field e.g., a situation where brands and aesthetics could "intercept".

As our case study implied a "producer" perspective e.g., a contribution to the brand development, we started assuming "market orientation" as a powerful mechanism, and philosophy, inside the marketing discipline; therefore, in our starting perspective, we considered that previously knowing what people like, before undertaking further marketing actions, was crucial. It clearly was a very simple "version" of such mechanism, or philosophy, of course, but it allowed us to deal with our questions.

Proceeding through a review of brands and aesthetics literature, we quickly arrived to the fact that both the fields are enormously complex and diffuse, usually involving high abstraction levels sometimes hardly translatable to practice, and even "irreconcilable" assumptions. Perhaps worst, some of the latter are often difficult to clarify, hidden behind complex and/or stereotyped speeches. Even so, we draw from it our next conclusions: we took brands as a consistent *difference* found on consumers' judgements, about a given product, and "the aesthetic" as an *affective* component of brands. These are not full definitions, of course; they only simplify many possible approaches. Still, they seem to be at the core of most existent literature, though not always explicitly.

As a corollary, we expected "the aesthetic" would also show differences the moment we face a brand, assuming we could fairly know, or at least simulate an adequate context.

Thus, a survey would conciliate these questions: it would allow us to search for relations between brands and aesthetics, simultaneously giving us some support in our study of possible markets to the brand.

Our starting perspective was, also, one where visual stimuli (and culture) dominate contemporary

society, where marketing actions widely appeal to aesthetic arguments, and where individuals seem to be different concerning the emphasis they give to both e.g., to brands and aesthetics. As we also share the view that these differences probably result from biologic factors, personal development, social influence, or even random historical conditions, to say the least e.g., from an exceedingly number of factors, the sole stable presuppose was, precisely, the existence of such differences. Moreover, and perhaps because of that too, we were sceptical concerning the human ability of accurately translating – through simple words applied by everybody – the process of *living* such complex phenomena. As a conclusion, then, we thought that indirect measures, just focused on peoples' capacity of *quantifying* their own experience, were preferable.

Consequently, methodology should be flexible, in order to adjust itself to (expected) dispersion in subjects' opinion, but powerful so that it could (reliably) "squeeze" information from available data. As both in "the aesthetic", and in brands, we were equally emphasising *phenomenon* and *context*, our basic choices were a Likert scale, and Friedman tests, to measure *phenomena*, together with an MDS algorithm (ALSCAL_4) and an experimental condition, to measure associated *contexts*. In addition, we also used some other procedures to analyse, and relate them all: Factor Analysis and Categorical Regression with Optimal Scaling (CATREG).

A Likert scale is appropriate to "one-dimensional" situations, as it was our option concerning the use of a "proxy" variable (Affect) to measure "the aesthetic" *phenomenon*. Non-parametric tests like the Friedman test, in turn, are appropriate to situations where we want to compare two groups of people, using the distribution(s) of a single and ordinal variable (Affect) e.g., to measure a *difference* between groups (a phenomenon) like the one that brands usually involve.

Regarding contexts, ALSCAL is suitable to "multidimensional" situations e.g., situations where we (may possibly) need several criteria to adequately build a "picture" of it, as it was here the case with Perception ("the aesthetic" immediate *context*). An experimental condition, in turn, providing different information to subjects, would simulate the usual *context* of brands: the role of marketing actions.

Finally, we established summary relations between *phenomena* and *contexts*, using a CATREG procedure, under the goal of an exploratory approach.

In general, previous assumptions were fairly efficient, and led to interesting results, though some questions deserve further improvement, of course:

- Sample was as a non-probability one, and of smaller size than planned too, therefore introducing important limitations: we must look at results with prudence, and we certainly cannot extrapolate it. As an exploratory attempt, however, it has led to a valid experience that we can easily expand, in the future, into a full-scale survey.

- As expected, all items of our Likert scale apparently led to a consistent measure of a single concept, Affect, even considering that one of these items could introduce complications. In fact, respondents could interpret our third item (*"I wish I had one of these furniture pieces in my home"*) as a "buying intention" question, thus distorting their answers; however, it appears they did not, considering Factor Analysis results. Consistently, when we experimentally rebuilt our Affect measure using only two items, and repeated subsequent computations too, results have not changed at all. Even so, we only took Affect as an interval measure inside Descriptive Statistics; beyond it, we assumed a stricter assumption on human quantifying capacities, and took Affect as ordinal.

- Our "aesthetic context", Perception, as described by ALSCAL, was steadier that expected among all individuals, and it led to a curious pattern that was reasonably stable among sub-samples, namely if we also account for their size. Our conclusion was, therefore, that people were not so different as we initially thought they would, a question that certainly deserves further research. Surely, these kinds of algorithms always give a solution, assuming we provide an adequate input; however, results could be far more complex then they were, as what would happen if, for instance, we needed more than two stimuli to define a dimension, or more than a single dimension to interpret a stimulus, too. Even so, we may devise some improvements:

  a) On one side, the number and quality of stimuli, its consistency "intra" and "inter" design styles, the market relevance of a stimulus, and a higher number of respondents can lead, probably, to much better results. In addition, a more accurate algorithm (as we expect SMACOF will be), an adequate consideration of subjects' criteria when answering each step of the questionnaire, or even comparing results given by different algorithms, may contribute, also, to richer conclusions.

b) On another side, however, we can see ALSCAL as a "lens mechanism", through which we analyse consumers. If we "zoom in" too much e.g., if we restrict ourselves to a limited set of stimuli, we will only capture details, probably; if, instead, we "zoom out" in excess e.g., if we consider to many stimuli, we will solely capture broad tendencies. Consequently, only a chain of attempts will most likely lead to effective results.

- Connecting, thereafter, our aesthetic *measure* (Affect) with its immediate *context* (Perception), through a previous CATREG procedure, we did found such connection as helpful, indeed, in exploring subjects' experiences as translated by survey. Attempting to summarise, here, the broader pattern we found, we can say that (Figure 20):

Figure 20 – An empirical frame, in design aesthetics
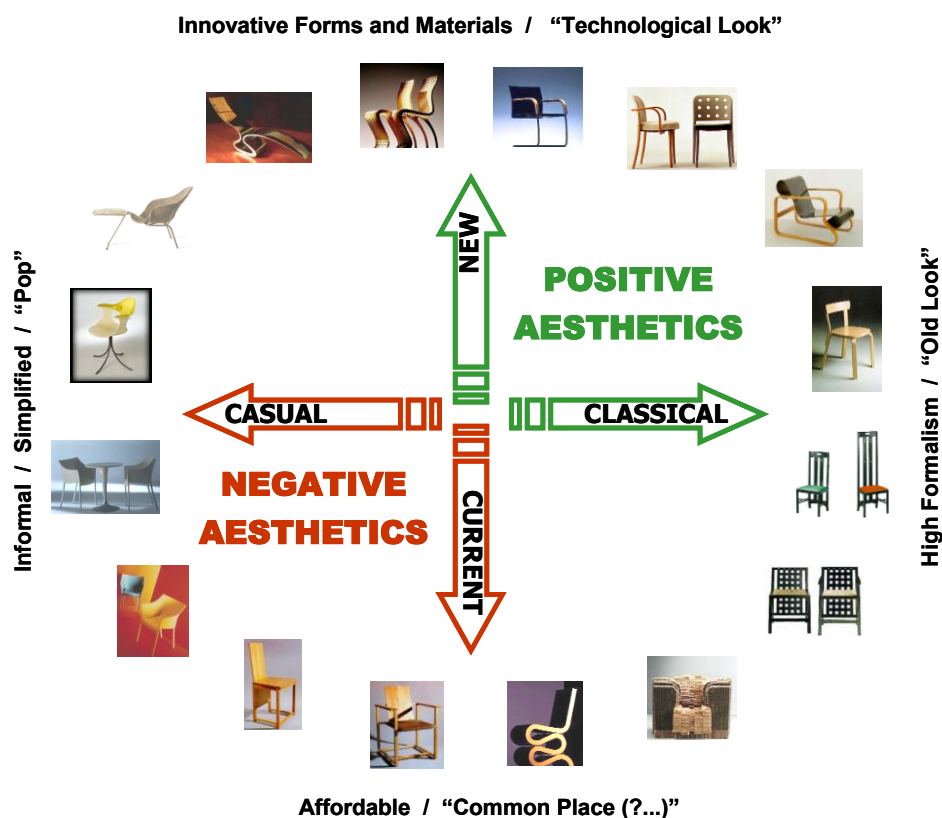
a) Both the **Classical** (high formalism and/or "old look", like Mackintosh or Aalto) and the **New** (innovative forms and materials or technological "look", like Arad or Citterio) were mostly associated with higher aesthetic experiences.

b) By contrast, either the **Casual** (informal, simplified, or "pop", like Lovegrove or Stark) or the **Current** (affordable or a sense of "common place", like Siza or Gerhy) were associated with lower ones.

Names itself are clearly subjective, of course. In addition, and from a marketing research perspective, as long as the researcher stays coherent, the moment he will develop further actions, relative or "exact" interpretations will probably lead to the same results, at all. Moreover, correlations between Affect and Perception were lower than we (somehow) expected, thus suggesting us caution on the kind of conclusions we draw.

- Finally, we took our brand *measure* as a *difference* on subjects' Affect, tied to *different* knowledge *contexts*.

  At the research beginning, we were somehow concerned with the nature of such knowledge, because we could equally emphasise the Awareness importance on it, the role of Associations involved, the kind of "speech" eventually built around each of the authors, or even plenty of other questions, too. Ultimately, all these components translate (or result in) a difference, on subject's knowledge, which is characteristic of brands. Still, even knowing the importance of such "symptoms" to effectively deal with brands, our concern has shifted to a basic and perhaps more important question: the previous identification of its *joint effect*, before undertaking further marketing actions.

  In particular, we wanted to know if the actual *Image* of each author, understood as a whole effect on consumers eventually *already* existent, also implied on subjects a different aesthetic behaviour. Consequently, we defined two groups of people with a specific difference in questionnaires – the knowledge, or not, of designers names – and compared correspondent answers.

  Broadly, Affect somehow "grew up" from subjects that did not know the designers to those that, in fact, could knew it, but we became surprised with the lack of such pattern on Siza, particularly among Portuguese individuals. Using Friedman tests thereafter, to confront the distribution of answers given by each of these groups, we found out that a wider knowledge was, indeed, associated with some improbable Affect variations. Thus, "the aesthetic" may probably reflect brands, too.

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AESTHETICS AND BRANDS
Cross-cultural Evaluation of Furniture Design

by

Diogo Azevedo

A thesis submitted in partial requirement for the degree of:

Master in Management of Commercial Operations

Portuguese Catholic University – Oporto

2001

APPENDIX A

Questionnaire

Inquiry

Previous Notes to the interviewer:

This is a marketing research inquiry, used in a "brand positioning" attempt. It applies to furniture with *Álvaro Siza* name, as a preliminary step in a full "line furniture" development. For the purpose, here, "positioning" will be determined through the way people see similarities and/or dissimilarities between furniture styles, as well as through the way they evaluate it. The inquiry tries to capture, then, subjects' opinions regarding photographic stimuli, but it doesn't look for its direct justification of course – which is (are) private and subjective. Therefore, it will be crucial that respondents can easily visualise the adequate photographs, the moment they answer the questionnaire.

"Positioning" applies to a target population admitted to have above average education. Therefore, sample will only reflect the target if respondents have university education. We strongly suggest the interviewer that he <u>do not</u> search for subjects who know *Álvaro Siza* name, but only for those with a university degree, following that some of them will know *Álvaro Siza*, and others perhaps will not. In addition, only half of the questionnaires may apply to photos where we expose authors' names; the other half, instead, must apply to photos where we replace it by codes. Subjects who will answer coded questionnaires <u>must ignore</u> the correspondence.

In the first part of the questionnaire **(PART I)** there are three questions, with an "attitude sampling" goal. Here, in order to avoid technical distortions, subjects must visualise one photo page at a time, expressing each answer before moving to the next one (pages 1 to 8).

It is fundamental that respondents <u>do not</u> see photo pages according to its numerical order but, instead, randomly. All that is important is to match the answers, at each moment, with the right place to write it in the questionnaire.

In the next part **(PART II)**, the goal is perception. Respondents must be confronted with the pairs of pages specifically pointed in questions, and express their opinions about image sets similarity (a set on each page). This means the respondent is asked to compare the whole set of photos of one page with the whole set of another page, and not isolated photographs between pages. Therefore, it will be very important that subjects can visualise, at each moment, a given pair of pages concerning the correspondent question, but only that specific pair (at that time).

Finally **(PART III),** some easier and relaxing questions also follow.

Thank You for your time and collaboration.

PART I

(The respondent must be visualising photo page number **1**)

Please express your level of agreement with the following statements using a scale of 1 to 7, where 1 means a full agreement and 7 a total disagreement:

"I like one (or more) of these furniture pieces"

1	2	3	4	5	6	7

"I like the style of its author"

1	2	3	4	5	6	7

"I wish I had one of these furniture pieces in my home"

1	2	3	4	5	6	7

(The respondent must be visualising photo page number **2**)

"I like one (or more) of these furniture pieces"

1	2	3	4	5	6	7

"I like the style of its author"

1	2	3	4	5	6	7

"I wish I had one of these furniture pieces in my home"

1	2	3	4	5	6	7

(The respondent must be visualising photo page number **3**)

"I like one (or more) of these furniture pieces"

1	2	3	4	5	6	7

"I like the style of its author"

1	2	3	4	5	6	7

"I wish I had one of these furniture pieces in my home"

1	2	3	4	5	6	7

(The respondent must be visualising photo page number **4**)

"I like one (or more) of these furniture pieces"

1	2	3	4	5	6	7

"I like the style of its author"

1	2	3	4	5	6	7

"I wish I had one of these furniture pieces in my home"

1	2	3	4	5	6	7

(The respondent must be visualising photo page number **5**)

"I like one (or more) of these furniture pieces"

1	2	3	4	5	6	7

"I like the style of its author"

1	2	3	4	5	6	7

"I wish I had one of these furniture pieces in my home"

1	2	3	4	5	6	7

(The respondent must be visualising photo page number **6**)

"I like one (or more) of these furniture pieces"

1	2	3	4	5	6	7

"I like the style of its author"

1	2	3	4	5	6	7

"I wish I had one of these furniture pieces in my home"

1	2	3	4	5	6	7

(The respondent must be visualising photo page number **7**)

"I like one (or more) of these furniture pieces"

1	2	3	4	5	6	7

"I like the style of its author"

1	2	3	4	5	6	7

"I wish I had one of these furniture pieces in my home"

1	2	3	4	5	6	7

(The respondent must be visualising photo page number **8**)

"I like one (or more) of these furniture pieces"

1	2	3	4	5	6	7

"I like the style of its author"

1	2	3	4	5	6	7

"I wish I had one of these furniture pieces in my home"

1	2	3	4	5	6	7

PART II

(The respondent must be visualising both photo page number **1** and each of the others at a time, which means he must visualise pages **1** and **2**, followed by pages **1** and **3**, **1** and **4**, **1** and **5**, **1** and **6**, **1** and **7** and, finally, **1** and **8**)

Please compare the <u>whole set</u> of images of one page with the <u>whole set</u> of another page and express the level of similarity between the image sets, using a scale of **1** to **7** where **1** means full similarity and **7** total dissimilarity:

	Pair 1 and 2	Pair 1 and 3	Pair 1 and 4	Pair 1 and 5	Pair 1 and 6	Pair 1 and 7	Pair 1 and 8
Level of Similarity							

(The respondent must be visualising now both photo page number **2** and each of the others at a time starting with number **3**, which means he must visualise pages **2** and **3**, followed by pages **2** and **4**, **2** and **5**, **2** and **6**, **2** and **7** and, finally, **2** and **8**)

Please repeat the same procedure with the following pairs of pages:

	Pair 2 and 3	Pair 2 and 4	Pair 2 and 5	Pair 2 and 6	Pair 2 and 7	Pair 2 and 8
Level of Similarity						

(The respondent must be visualising now both photo page number **3** and each of the others at a time starting with number **4**, which means he must visualise pages **3** and **4**, followed by pages **3** and **5**, **3** and **6**, **3** and **7** and, finally, **3** and **8**)

Please repeat the same procedure with the following pairs of pages:

	Pair 3 and 4	Pair 3 and 5	Pair 3 and 6	Pair 3 and 7	Pair 3 and 8
Level of Similarity					

(The respondent must be visualising now both photo page number **4** and each of the others at a time starting with number **5**, which means he must visualise pages **4** and **5**, followed by pages **4** and **6**, **4** and **7** and, finally, **4 a**nd **8**)

Please repeat the same procedure with the following pairs of pages:

	Pair 4 and 5	Pair 4 and 6	Pair 4 and 7	Pair 4 and 8
Level of Similarity				

(The respondent must be visualising now both photo page number **5** and each of the others at a time starting with number **6,** which means he must visualise pages **5** and **6**, followed by pages **5** and **7** and, finally, **5** and **8**)

Please repeat the same procedure with the following pairs of pages:

	Pair 5 and 6	Pair 5 and 7	Pair 5 and 8
Level of Similarity			

(The respondent must be visualising now both photo page number **6** and each of the others at a time starting with number **7**, which means he must visualise pages **6** and **7** and pages **6** and **8**)

Please repeat the same procedure with the following pairs of pages:

	Pair 6 and 7	Pair 6 and 8
Level of Similarity		

(The respondent must be visualising now photo pages **7** and **8**)

Please repeat the same procedure with the following pairs of pages:

	Pair 7 and 8
Level of Similarity	

PART III

Finally, please answer the following questions:

What is your nationality?_____

Where do you live (general region) ?_____

Your sex is (male/female) ?_____

Your were born in ?_____

What is your instruction level ? (please use a cross)

3 to 5 years University degree	
Master	
PHD	

What is you profession (in general) ?_____

1 - Alvar Aalto (code t_q21zi9)
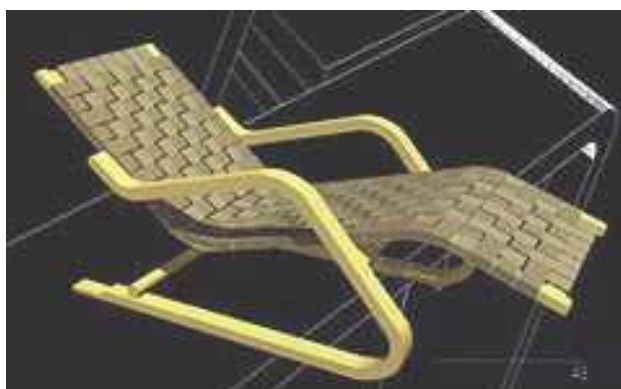
2 - Álvaro Siza (code ws?bjnyl)

3 - Antonio Citterio (code ajwht043)

4 - Charles Rennie Mackintosh (code 7sh367e@)

5 - Frank O. Gerhy (code 5t1y245t)

6 - Ross Lovegrove (code je7_dn&4)

7 - Phillipe Stark (code k#~dzpjb)

8 - Ron Arad (code $_#9294k)

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APPENDIX B

Computations

SAMPLE CHARACTERISTICS

ALSCAL – RESUME OF COMPUTATIONS

TOTAL Sample

		Young S-Stress	Average Kruskal Stress	Average RSQ	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No.of subjects		(163)	(163)	(163)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No. of dimensions	1									
	2		**Error**: possible linear dependencies among specified variables							
	3	0,2146	0,14044	0,70944	0,2866	0,2518	0,1711			
	4	0,15596	0,08347	0,75405	0,2454	0,1833	0,1648	0,1605		
	5		**Error**: possible linear dependencies among specified variables							
	6	0,08153	0,04225	0,7904	0,2063	0,1562	0,1428	0,1103	0,097	0,0779

Portugal

		Young S-Stress	Average Kruskal Stress	Average RSQ	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No.of subjects		(42)	(42)	(42)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No. of dimensions	1									
	2	0,26902	0,19557	0,74163	0,4091	0,3326				
	3	0,19772	0,15817	0,74488	0,3192	0,2841	0,1416			
	4	0,14177	0,08519	0,81405	0,2805	0,2199	0,1584	0,1553		
	5	0,09993	0,0543	0,84962	0,294	0,186	0,1598	0,1413	0,068	
	6	0,07019	0,03682	0,85678	0,2514	0,2216	0,1186	0,0948	0,084	0,0866

Italy

		Young S-Stress	Average Kruskal Stress	Average RSQ	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No.of subjects		(20)	(20)	(20)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No. of dimensions	1									
	2	0,22533	0,16607	0,81621	0,417	0,3992				
	3	0,14116	0,10666	0,87859	0,41	0,2927	0,1759			
	4	0,10273	0,06496	0,91035	0,3334	0,2724	0,2091	0,0954		
	5	0,07759	0,06346	0,91552	0,2619	0,2269	0,1904	0,1095	0,127	
	6	0,04192	0,02321	0,95916	0,3705	0,1816	0,123	0,0941	0,077	0,1127

Sweden

		Young S-Stress	Average Kruskal Stress	Average RSQ	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No.of subjects		(62)	(62)	(62)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No. of dimensions	1									
	2		**Error**: possible linear dependencies among specified variables							
	3	0,21627	0,15576	0,69071	0,2785	0,2263	0,186			
	4		**Error**: possible linear dependencies among specified variables							
	5	0,12043	0,06288	0,76931	0,2118	0,1771	0,1594	0,1157	0,105	
	6	0,08059	0,0415	0,79024	0,2027	0,1743	0,1372	0,1094	0,088	0,0783

Japan

		Young S-Stress	Average Kruskal Stress	Average RSQ	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No.of subjects		(39)	(39)	(39)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No. of dimensions	1									
	2	0,30555	0,2324	0,63434	0,3658	0,2686				
	3	0,22178	0,14311	0,68802	0,2565	0,2199	0,2115			
	4	0,15804	0,08621	0,75764	0,2528	0,1829	0,1684	0,1536		
	5	0,11946	0,0635	0,79026	0,1812	0,1895	0,165	0,1274	0,127	
*	6	0,08008	0,0456	0,85745	0,2	0,1779	0,1814	0,1255	0,089	0,084

* The total number of parameters being estimated was large relative to the number of data values in data matrix. Results may not be reliable.

Males

		Young S-Stress	Average Kruskal Stress	Average RSQ	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No.of subjects		(79)	(79)	(79)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No. of dimensions	1									
	2		**Error**: possible linear dependencies among specified variables							
	3	0,21071	0,14154	0,7242	0,257	0,2658	0,2014			
	4		**Error**: possible linear dependencies among specified variables							
	5	0,1151	0,06072	0,79217	0,2206	0,1823	0,1818	0,1271	0,08	
	6	0,08311	0,04271	0,77152	0,1666	0,1619	0,1576	0,107	0,096	0,0821

Females

		Young S-Stress	Average Kruskal Stress	Average RSQ	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No.of subjects		(84)	(84)	(84)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
No. of dimensions	1									
	2	0,29838	0,20596	0,66616	0,363	0,3031				
	3	0,21386	0,14508	0,69947	0,3357	0,219	0,1448			
	4	0,15048	0,08047	0,76891	0,2407	0,1879	0,1741	0,1662		
	5	0,11741	0,06226	0,7915	0,195	0,1842	0,1721	0,1231	0,117	
	6	0,07618	0,03933	0,81348	0,1846	0,1649	0,1361	0,1251	0,108	0,0951

Appendix B
SECTION 2 – Perception

Age < 35 years	No. of dimensions	(47)	(47)	(47)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	1									
	2		Error: possible linear dependencies among specified variables							
	3	0,19716	0,12353	0,76705	0,3384	0,2484	0,1802			
	4	0,13936	0,07909	0,80907	0,2944	0,1988	0,1812	0,1347		
	5		Error: possible linear dependencies among specified variables							
	6	0,07136	0,03709	0,84218	0,2438	0,2155	0,1208	0,0906	0,085	0,0865

Age > 35 years	No. of dimensions	(80)	(80)	(80)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	1									
	2	0,30378	0,20678	0,65861	0,3423	0,3163				
	3	0,21982	0,16782	0,67554	0,2949	0,2285	0,1522			
	4	0,16438	0,09592	0,73981	0,2612	0,1846	0,1559	0,138		
	5	0,11709	0,06199	0,78495	0,2341	0,1909	0,1428	0,1117	0,106	
	6	0,07864	0,04049	0,80664	0,1856	0,1569	0,1523	0,1125	0,103	0,0963

"Low" education	No. of dimensions	(125)	(125)	(125)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	1									
	2	0,29653	0,20677	0,66925	0,3434	0,3258				
	3	0,21267	0,13792	0,71333	0,2743	0,2525	0,1866			
	4	0,15235	0,08659	0,76658	0,2599	0,1809	0,1749	0,1509		
	5	0,11163	0,05867	0,80692	0,2112	0,2037	0,1673	0,1311	0,094	
	6	0,07773	0,04027	0,80889	0,273	0,1286	0,1267	0,1237	0,08	0,0765

"High" education	No. of dimensions	(38)	(38)	(38)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	1									
	2		Error: possible linear dependencies among specified variables							
	3	0,21581	0,17033	0,69694	0,2422	0,2609	0,1939			
	4		Error: possible linear dependencies among specified variables							
	5	0,12687	0,06724	0,75493	0,2046	0,1473	0,1443	0,1423	0,116	
	6	0,08401	0,04356	0,77453	0,1551	0,1454	0,1332	0,119	0,112	0,1102

Social Sciences	No. of dimensions	(67)	(67)	(67)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	1									
	2	0,29952	0,20926	0,66762	0,3706	0,297				
	3	0,22237	0,14389	0,6881	0,3049	0,205	0,1782			
	4	0,15856	0,08913	0,75957	0,2335	0,1942	0,1723	0,1596		
	5	0,11905	0,06233	0,77796	0,2333	0,1496	0,1431	0,155	0,097	
	6	0,07967	0,04104	0,78531	0,1803	0,1672	0,1236	0,1092	0,104	0,1014

Natural Sciences	No. of dimensions	(36)	(36)	(36)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	1									
	2	0,29299	0,21017	0,6713	0,4121	0,2593				
	3	0,2035	0,13143	0,7446	0,3488	0,251	0,1448			
	4	0,15348	0,08719	0,77113	0,2581	0,214	0,149	0,1501		
	5	0,10692	0,05692	0,8173	0,2763	0,1748	0,1433	0,1451	0,078	
	6	0,06485	0,03401	0,86319	0,3409	0,146	0,1344	0,1045	0,066	0,071

Linguistics	No. of dimensions	(14)	(14)	(14)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	1									
	2	0,31234	0,22555	0,62899	0,3165	0,3124				
	3	0,22525	0,16771	0,67303	0,3125	0,2195	0,1409			
	4	0,1524	0,08882	0,7689	0,1935	0,2037	0,1895	0,1823		
	5	0,10475	0,05676	0,83952	0,2393	0,1878	0,1787	0,1266	0,107	
	6	0,06994	0,03683	0,87866	0,2479	0,2247	0,1389	0,1028	0,084	0,0801

Arts	No. of dimensions	(18)	(18)	(18)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
	1									
	2	0,25785	0,19977	0,7337	0,4763	0,2574				
	3	0,18358	0,1286	0,77824	0,2984	0,2442	0,2357			
	4	0,13523	0,07831	0,82748	0,2628	0,2298	0,2098	0,1251		
	5	0,09484	0,05219	0,86439	0,2576	0,1983	0,1878	0,1322	0,089	
	* 6	0,06813	0,03627	0,90997	0,2195	0,1979	0,1862	0,1235	0,102	0,0811

* The total number of parameters being estimated was large relative to the number of data values in data matrix. The results may not be reliable.

	No.of subjects	(81)	(81)	(81)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
Non Coded	No. of dimensions 1									
	2	0,298	0,21092	0,66502	0,3426	0,3224				
	3	0,21244	0,13936	0,71651	0,2994	0,2719	0,1453			
	4	0,16366	0,08975	0,73756	0,2549	0,1649	0,1594	0,1584		
	5	0,12278	0,06514	0,76126	0,2339	0,1493	0,1338	0,1416	0,103	
	6	0,07988	0,04165	0,80323	0,2859	0,1344	0,1158	0,1042	0,085	0,0779

	No.of subjects	(82)	(82)	(82)	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6
Coded	No. of dimensions 1									
	2	0,30194	0,20965	0,6607	0,3327	0,328				
	3	0,21254	0,13905	0,71948	0,2882	0,2149	0,2164			
	4	0,14638	0,07898	0,78054	0,2446	0,202	0,1674	0,1666		
	5	0,11034	0,05826	0,81166	0,2457	0,1809	0,1633	0,1324	0,089	
	6	0,07265	0,03783	0,84631	0,2682	0,1565	0,1234	0,1141	0,097	0,0869

ALSCAL – YOUNG S-STRESS

Young S-Stress, by Country
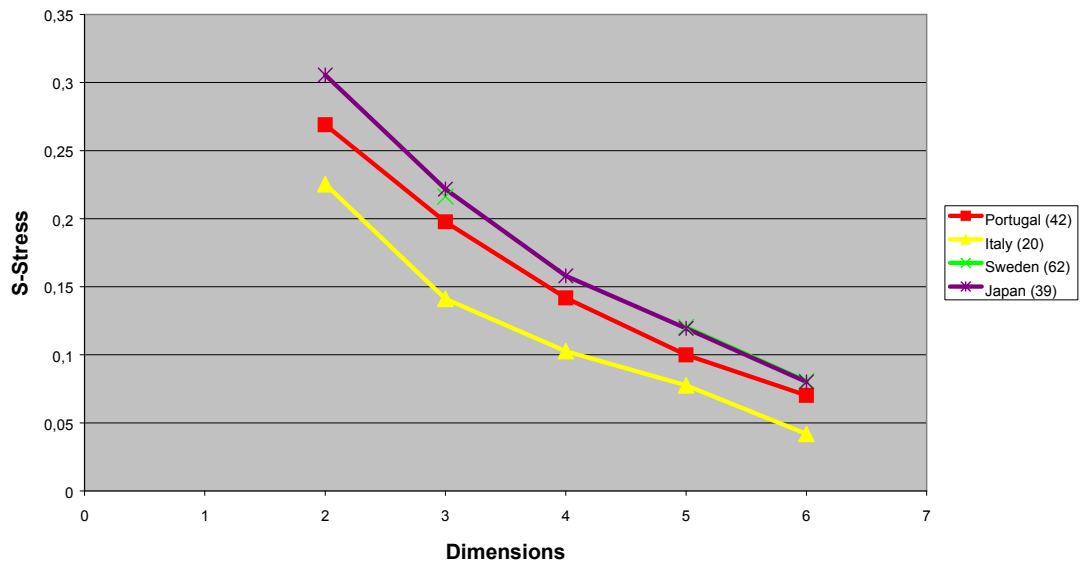
Young S-Stress, by Gender
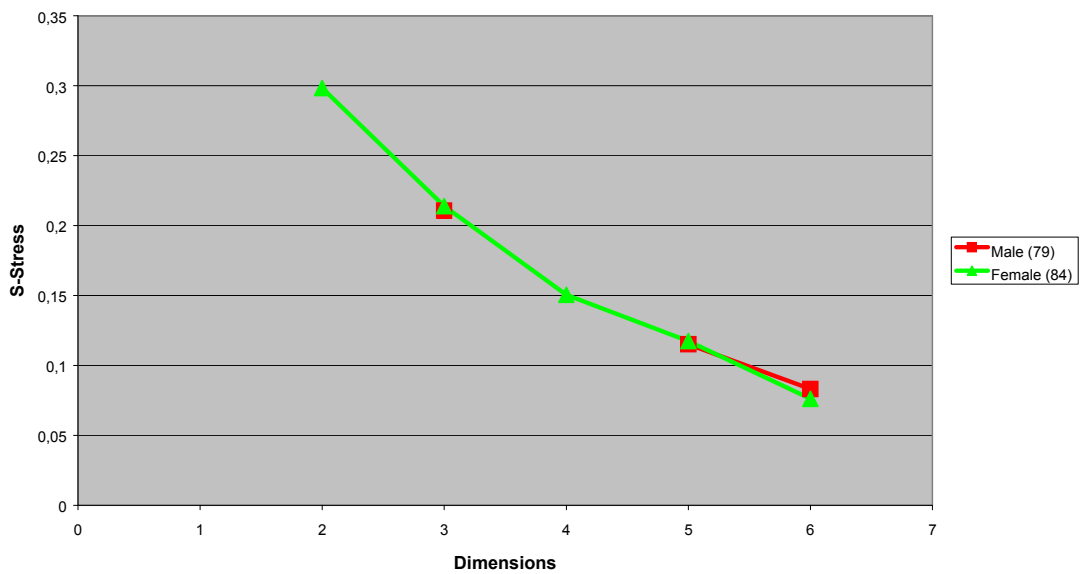
Young S-Stress, by Age
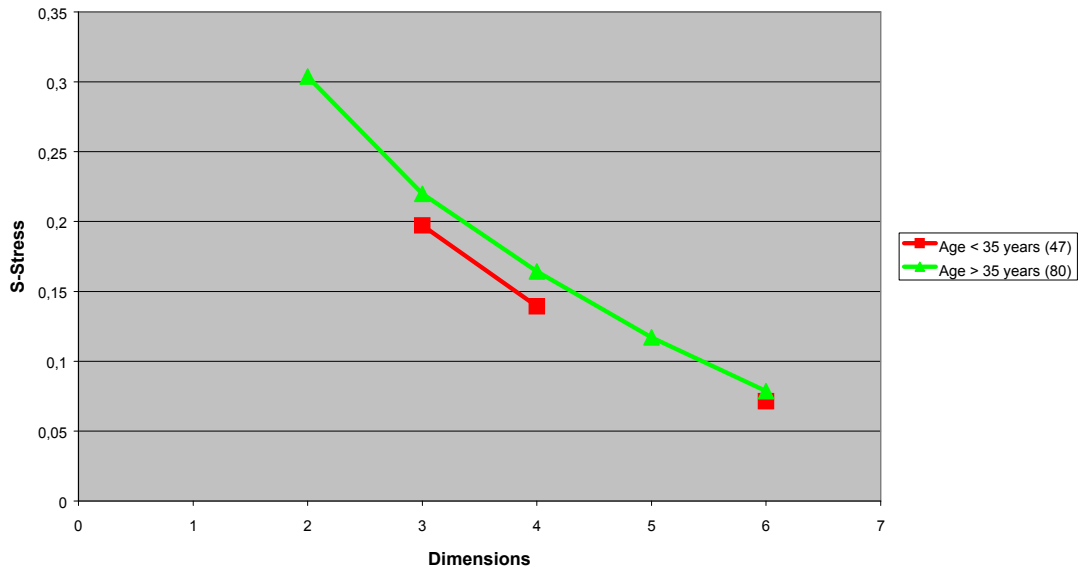
Young S-Stress, by Education level
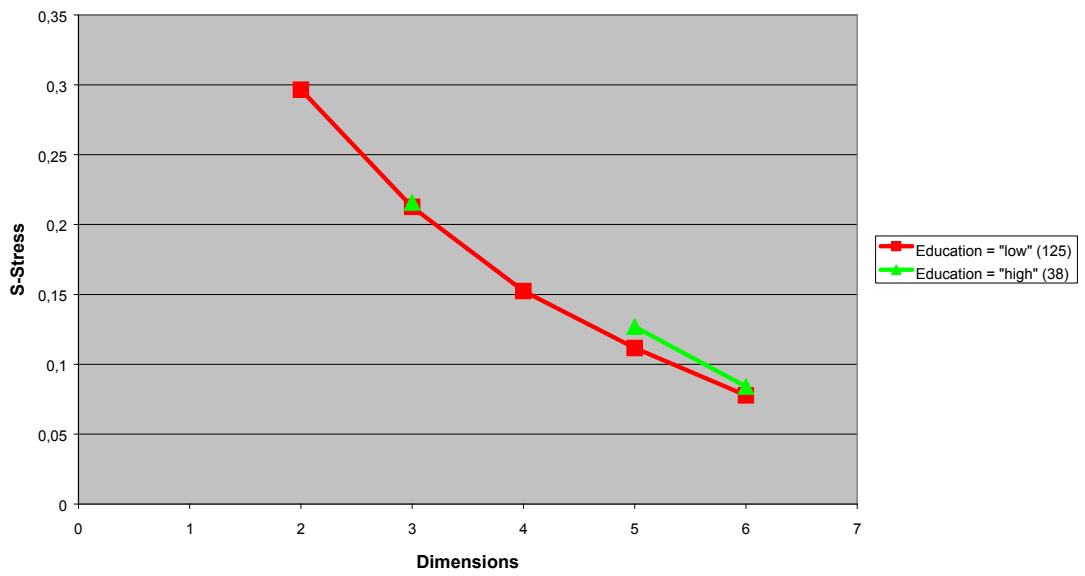
Young S-Stress, by Working Field

Young S-Stress, by Questionnaire Type
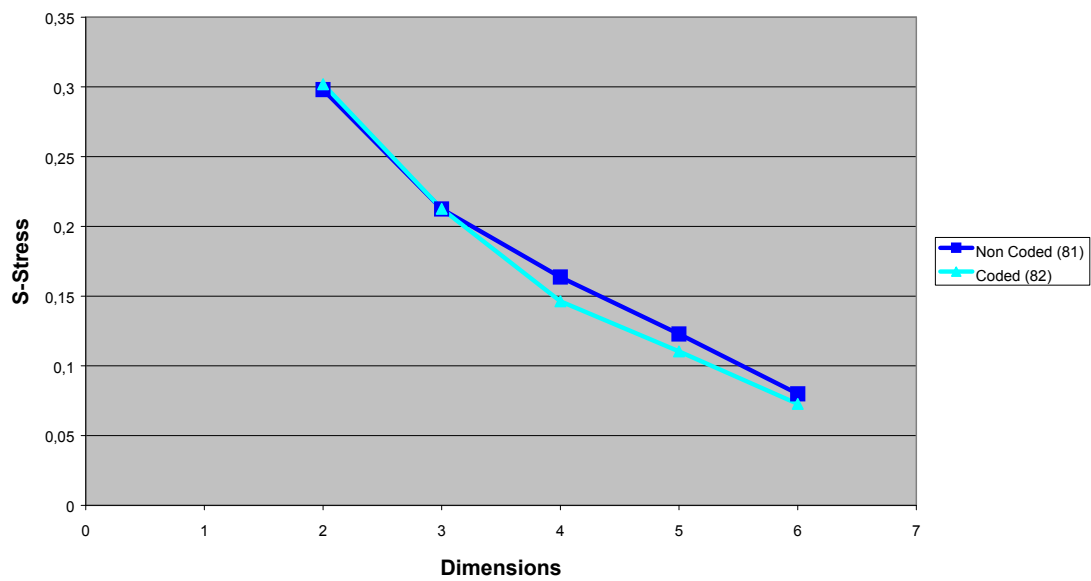
SUB-SAMPLES COMPARISION

Level of Significance in Tau_b correlations *						
TOTAL sample / **Sub-sample**			**Dim. 1** (Mack.vs. Loveg.)	**Dim. 2** (Siza vs. Arad)	**Dim. 3** (Aalto vs. Stark)	**Dim. 4** (Gerhy vs. Citt.)
Portugal	**Dim. 1**	(Mack. vs. Loveg./Aalto)	0,000			0,032
	Dim. 2	(Aalto/Siza/Gerhy vs. Stark)			0,002	
	Dim. 3	(Siza vs. Arad)		0,000		
	Dim. 4	(Gerhy vs. Citt.)			0,004	0,000
Italy	**Dim. 1**	(Mack.vs. Loveg./Arad/Gerhy)	0,000			
	Dim. 2	(Gerhy vs. Stark)	0,003			
	Dim. 3	(Siza vs. Aalto)		0,032		
	Dim. 4	(Arad vs. Citt.)				
Sweden	**Dim. 1**	(Mack. vs. Loveg./Aalto)	0,000		0,027	
	Dim. 2	(Siza vs. Arad)		0,000		0,033
	Dim. 3	(Gerhy vs. Citt./Stark)				0,000
	Dim. 4	(Loveg. vs. Aalto)	0,032			
Japan	**Dim. 1**	(Mack. vs. Loveg.)	0,000			
	Dim. 2	(Gerhy vs. Citt.)				0,000
	Dim. 3	(Aalto vs. Stark)			0,000	
	Dim. 4	(Siza vs. Arad)		0,000		
Males	**Dim. 1**	(Aalto vs. Mack.)	0,000		0,016	0,002
	Dim. 2	(Gerhy vs. Stark)				
	Dim. 3	(Siza vs. Arad)		0,000		0,003
	Dim. 4	(Loveg. vs. several)	0,000			
Females	**Dim. 1**	(Mack. vs. Loveg.)	0,000			
	Dim. 2	(Siza vs. Arad)		0,000		
	Dim. 3	(Aalto vs. Stark)			0,000	
	Dim. 4	(Gerhy vs. Citt.)				0,000
Age < 35 years	**Dim. 1**	(Mack. vs. Aalto/Loveg.)	0,000		0,010	0,004
	Dim. 2	(Siza vs. Arad)		0,000	0,029	
	Dim. 3	(Gerhy vs. Citt./Stark)	0,021			0,000
	Dim. 4	(Aalto/Citt. vs. Loveg./Stark)			0,000	
Age > 35 years	**Dim. 1**	(Loveg./Stark vs. Arad)			0,000	
	Dim. 2	(Mack.vs.Gerhy)	0,002			
	Dim. 3	(Aalto vs. Siza)				
	Dim. 4	(Loveg./Arad vs. Citt.)			0,006	0,002
"Low" education	**Dim. 1**	(Mack. vs. Loveg./Aalto)	0,000			
	Dim. 2	(Aalto vs. Stark)			0,000	
	Dim. 3	(Siza vs. Arad)		0,000	0,021	
	Dim. 4	(Gerhy vs. Citt.)	0,019		0,010	0,000
"High" education	**Dim. 1**	(Aalto vs. Stark)	0,008		0,000	
	Dim. 2	(Siza/Mack.vs. Gerhy/Arad)		0,000		
	Dim. 3	(Mack./Citt. vs. Loveg.)	0,000		0,020	
	Dim. 4	(Siza/Citt. vs. Arad)		0,000		0,000

* Only significance levels greater then 0,05 are shown. Greyed cells correspond to a visual "match" between dimensions (total or partial).

Level of Significance in Tau_b correlations *			Dim. 1	Dim. 2	Dim. 3	Dim. 4
TOTAL sample / Sub-sample			(Mack.vs. Loveg.)	(Siza vs. Arad)	(Aalto vs. Stark)	(Gerhy vs. Citt.)
Social Sciences	**Dim. 1**	(Mack. vs. Aalto/Loveg.)	**0,000**			
	Dim. 2	(Siza/Stark. vs. Arad)		**0,000**		
	Dim. 3	(Aalto/Siza vs. Loveg./Stark)			**0,001**	
	Dim. 4	(Gerhy vs. Citt.)				**0,000**
Natural Sciences	**Dim. 1**	(Mack. vs.Aalto/Loveg.)	**0,000**			
	Dim. 2	(Siza/Citt./Gerhy vs. Stark)			**0,000**	
	Dim. 3	(Siza vs. Aalto/Citt./Arad)		**0,000**		0,050
	Dim. 4	(Gerhy/Arad vs.Citt.)	0,027		0,024	**0,000**
Linguistics	**Dim. 1**	(Gerhy/Arad vs.Citt./Stark)				
	Dim. 2	(Mack. vs. Aalto)				
	Dim. 3	(Siza vs. Arad)		**0,000**		
	Dim. 4	(Citt. vs. Loveg./Stark)	**0,025**			
Arts	**Dim. 1**	(Gerhy/Arad vs. Siza/Citt.)		0,021		**0,004**
	Dim. 2	(Mack.vs. Loveg.)	**0,000**			
	Dim. 3	(Siza/Gerhy vs. Stark/Citt.)				**0,031**
	Dim. 4	(Aalto vs. several)			**0,031**	
Non Coded	**Dim. 1**	(Mack. vs. Loveg.)	**0,000**		0,037	
	Dim. 2	(Aalto vs. Stark)			**0,000**	
	Dim. 3	(Siza vs. Arad)		**0,000**		
	Dim. 4	(Gerhy vs. Citt.)			0,014	**0,000**
Coded	**Dim. 1**	(Mack. vs. Loveg.)	**0,000**			0,044
	Dim. 2	(Siza vs. Arad)		**0,001**		0,001
	Dim. 3	(Gerhy vs. Citt.)		0,000		**0,021**
	Dim. 4	(Aalto vs. Stark)		0,011		0,006

* Only significance levels greater then 0,05 are shown. Greyed cells correspond to a visual "match" between dimensions (total or partial).

Level of Significance in Wilcoxon tests *			Dim. 1	Dim. 2	Dim. 3	Dim. 4
	TOTAL sample / Sub-sample		(Mack.vs. Loveg.)	(Siza vs. Arad)	(Aalto vs. Stark)	(Gerhy vs. Citt.)
Portugal	Dim. 1	(Mack. vs. Loveg./Aalto)			0,014	0,003
	Dim. 2	(Aalto/Siza/Gerhy vs. Stark)				0,018
	Dim. 3	(Siza vs. Arad)	0,005	**0,001**		
	Dim. 4	(Gerhy vs. Citt.)	0,004	0,016		**0,044**
Italy	Dim. 1	(Mack.vs. Loveg./Arad/Gerhy)	**0,008**		0,044	
	Dim. 2	(Gerhy vs. Stark)			0,040	
	Dim. 3	(Siza vs. Aalto)				
	Dim. 4	(Arad vs. Citt.)	0,000	0,004	0,014	0,001
Sweden	Dim. 1	(Mack. vs. Loveg./Aalto)				0,002
	Dim. 2	(Siza vs. Arad)	0,030			0,028
	Dim. 3	(Gerhy vs. Citt./Stark)	0,003			**0,004**
	Dim. 4	(Loveg. vs. Aalto)	0,000	0,000	0,000	0,006
Japan	Dim. 1	(Mack. vs. Loveg.)	**0,009**	0,001	0,001	0,040
	Dim. 2	(Gerhy vs. Citt.)				
	Dim. 3	(Aalto vs. Stark)	0,032			
	Dim. 4	(Siza vs. Arad)	0,011			
Males	Dim. 1	(Aalto vs. Mack.)			0,000	0,002
	Dim. 2	(Gerhy vs. Stark)	0,004		0,023	0,014
	Dim. 3	(Siza vs. Arad)	0,010			0,013
	Dim. 4	(Loveg. vs. several)	**0,000**	0,000	0,007	0,009
Females	Dim. 1	(Mack. vs. Loveg.)	**0,002**	0,007	0,003	0,000
	Dim. 2	(Siza vs. Arad)	0,008	**0,000**		
	Dim. 3	(Aalto vs. Stark)	0,001		**0,006**	
	Dim. 4	(Gerhy vs. Citt.)	0,000			**0,005**
Age < 35 years	Dim. 1	(Mack. vs. Aalto/Loveg.)			0,000	0,001
	Dim. 2	(Siza vs. Arad)	0,018			0,008
	Dim. 3	(Gerhy vs. Citt./Stark)	0,007			**0,000**
	Dim. 4	(Aalto/Citt. vs. Loveg./Stark)	0,000	0,003	**0,007**	
Age > 35 years	Dim. 1	(Loveg./Stark vs. Arad)			**0,000**	0,003
	Dim. 2	(Mack.vs.Gerhy)	**0,004**			
	Dim. 3	(Aalto vs. Siza)	0,001	0,023		
	Dim. 4	(Loveg./Arad vs. Citt.)	0,000	0,000		
"Low" education	Dim. 1	(Mack. vs. Loveg./Aalto)		0,007	0,000	0,000
	Dim. 2	(Aalto vs. Stark)	0,000			
	Dim. 3	(Siza vs. Arad)	0,000	**0,000**		
	Dim. 4	(Gerhy vs. Citt.)	0,000	0,001		**0,000**
"High" education	Dim. 1	(Aalto vs. Stark)			**0,000**	0,032
	Dim. 2	(Siza/Mack.vs. Gerhy/Arad)				
	Dim. 3	(Mack./Citt. vs. Loveg.)	**0,000**			
	Dim. 4	(Siza/Citt. vs. Arad)	0,037	**0,014**		

* Only significance levels greater then 0,05 are shown. Greyed cells correspond to a visual "match" between dimensions (total or partial).

Level of Significance in Wilcoxon tests *			Dim. 1	Dim. 2	Dim. 3	Dim. 4
TOTAL sample / Sub-sample			(Mack.vs. Loveg.)	(Siza vs. Arad)	(Aalto vs. Stark)	(Gerhy vs. Citt.)
Social Sciences	Dim. 1	(Mack. vs. Aalto/Loveg.)			0,027	0,040
	Dim. 2	(Siza/Stark. vs. Arad)				
	Dim. 3	(Aalto/Siza vs. Loveg./Stark)	0,010			
	Dim. 4	(Gerhy vs. Citt.)	0,001			**0,004**
Natural Sciences	Dim. 1	(Mack. vs.Aalto/Loveg.)		0,036	0,038	0,011
	Dim. 2	(Siza/Citt./Gerhy vs. Stark)				
	Dim. 3	(Siza vs. Aalto/Citt./Arad)	0,001			
	Dim. 4	(Gerhy/Arad vs.Citt.)	0,003			
Linguistics	Dim. 1	(Gerhy/Arad vs.Citt./Stark)				
	Dim. 2	(Mack. vs. Aalto)				
	Dim. 3	(Siza vs. Arad)				
	Dim. 4	(Citt. vs. Loveg./Stark)				
Arts	Dim. 1	(Gerhy/Arad vs. Siza/Citt.)				
	Dim. 2	(Mack.vs. Loveg.)	**0,021**			
	Dim. 3	(Siza/Gerhy vs. Stark/Citt.)				
	Dim. 4	(Aalto vs. several)	0,002		**0,024**	
Non Coded	Dim. 1	(Mack. vs. Loveg.)	**0,042**	0,001	0,000	0,000
	Dim. 2	(Aalto vs. Stark)	0,000		**0,004**	
	Dim. 3	(Siza vs. Arad)	0,000			
	Dim. 4	(Gerhy vs. Citt.)	0,000			**0,003**
Coded	Dim. 1	(Mack. vs. Loveg.)		0,011	0,001	0,000
	Dim. 2	(Siza vs. Arad)				0,003
	Dim. 3	(Gerhy vs. Citt.)	0,001	0,044		
	Dim. 4	(Aalto vs. Stark)	0,000			

* Only significance levels greater then 0,05 are shown. Greyed cells correspond to a visual "match" between dimensions (total or partial).

Subjects' Weirdness in PORTUGAL, by Questionnaire Type

Questionnaire Type

Subjects' Weirdness in ITALY, by Questionnaire Type

Questionnaire Type

Subjects' Weirdness in SWEDEN, by Questionnaire Type

Subjects' Weirdness in JAPAN, by Questionnaire Type

Appendix B
Section 3 – Affect
VALIDITY AND RELIABILITY

Factor Analysis

Communalities[a]

	Initial	Extraction
P1AALTO	1,000	,834
P2AALTO	1,000	,865
P3AALTO	1,000	,900

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Portugal
are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,599	86,627	86,627	2,599	86,627	86,627
2	,254	8,454	95,081			
3	,148	4,919	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Portugal are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1AALTO	,913
P2AALTO	,930
P3AALTO	,949

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which Country = Portugal
are used in the analysis phase.

Appendix B
Section 3 – Affect
VALIDITY AND RELIABILITY


```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)


Item-total Statistics

              Scale          Scale        Corrected
              Mean          Variance        Item-            Alpha
             if Item        if Item         Total           if Item
             Deleted        Deleted      Correlation        Deleted

P1A          6,7619         9,6492         ,8117            ,9027
P2A          6,6190         9,6562         ,8447            ,8804
P3A          6,4286         7,4216         ,8787            ,8582



Reliability Coefficients

N of Cases =     42,0                    N of Items =  3

Alpha =    ,9183
```


3D Scatterplot of Aalto affect measures

Portugal

Factor Analysis

Communalities[a]

	Initial	Extraction
P1AALTO	1,000	,898
P2AALTO	1,000	,970
P3AALTO	1,000	,863

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Italy are
used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,732	91,060	91,060	2,732	91,060	91,060
2	,226	7,526	98,587			
3	4,240E-02	1,413	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Italy are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1AALTO	,948
P2AALTO	,985
P3AALTO	,929

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which Country = Italy are
used in the analysis phase.

Section 3 – Affect
VALIDITY AND RELIABILITY

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
I1A	7,7500	16,1974	,8742	,9319
I2A	7,7000	14,3263	,9597	,8611
I3A	7,6500	12,9763	,8478	,9637

Reliability Coefficients

N of Cases =   20,0   N of Items =   3

Alpha =   ,9439
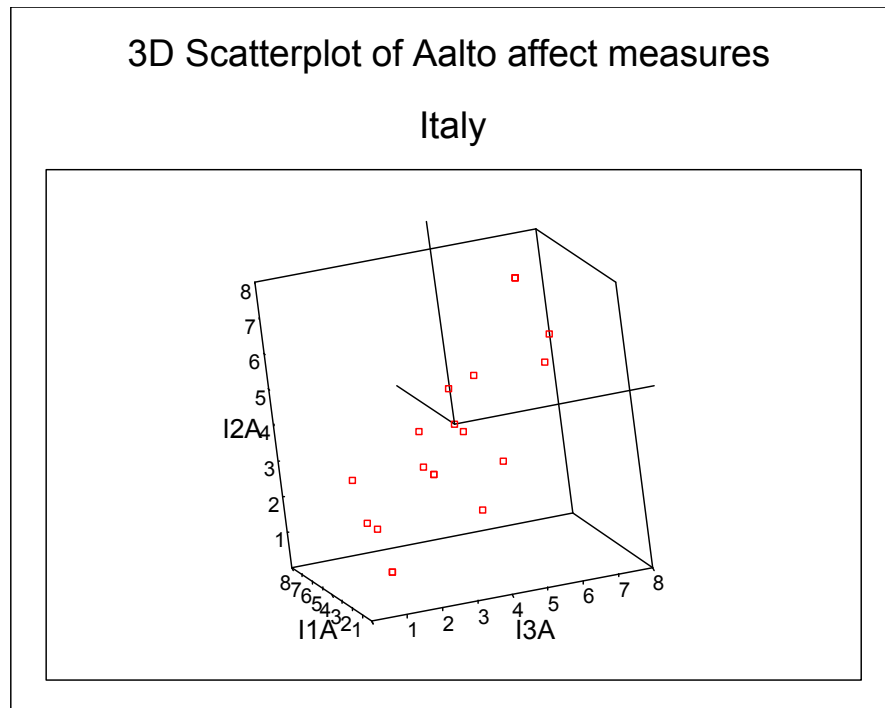
3D Scatterplot of Aalto affect measures

Italy

Factor Analysis

Communalities[a]

	Initial	Extraction
P1AALTO	1,000	,909
P2AALTO	1,000	,896
P3AALTO	1,000	,854

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Sweden are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,659	88,639	88,639	2,659	88,639	88,639
2	,216	7,213	95,852			
3	,124	4,148	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Sweden are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1AALTO	,954
P2AALTO	,947
P3AALTO	,924

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which Country = Sweden are used in the analysis phase.

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)


Item-total Statistics

               Scale         Scale       Corrected
               Mean         Variance       Item-          Alpha
              if Item       if Item        Total         if Item
              Deleted       Deleted      Correlation     Deleted

S1A           6,0645        13,5040        ,8881          ,8773
S2A           5,8548        13,5687        ,8723          ,8883
S3A           5,4355        11,2990        ,8336          ,9329



Reliability Coefficients

N of Cases =      62,0                    N of Items =   3

Alpha =     ,9293
```
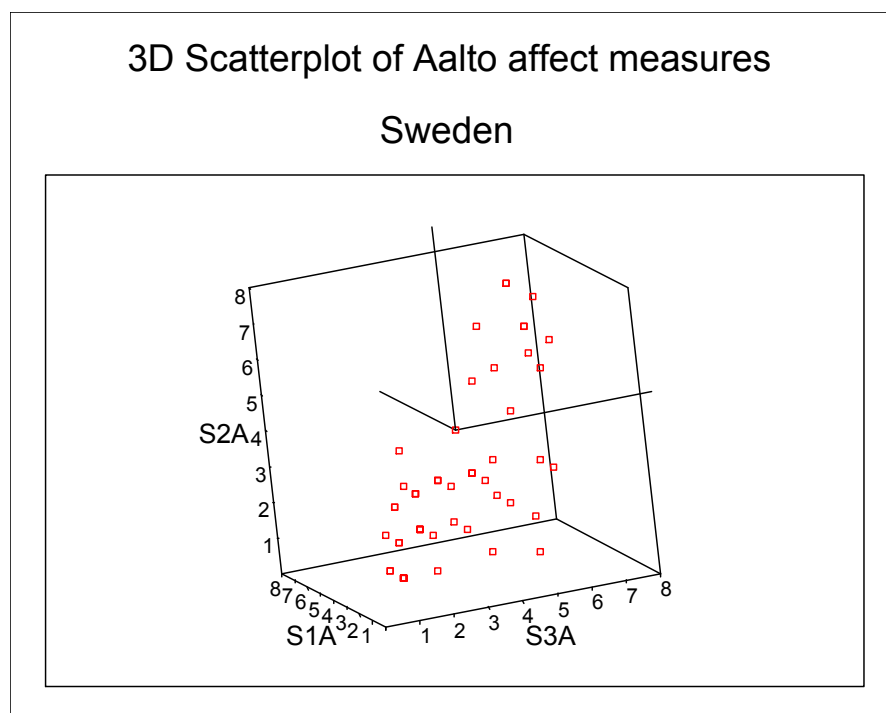

3D Scatterplot of Aalto affect measures

Sweden

Factor Analysis

Communalities[a]

	Initial	Extraction
P1AALTO	1,000	,913
P2AALTO	1,000	,827
P3AALTO	1,000	,730

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Japan are
used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,471	82,369	82,369	2,471	82,369	82,369
2	,406	13,535	95,904			
3	,123	4,096	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Japan are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1AALTO	,956
P2AALTO	,909
P3AALTO	,855

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which Country = Japan
are used in the analysis phase.

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
J1A	7,1795	8,4669	,8842	,7565
J2A	7,0256	9,0783	,7814	,8464
J3A	6,8205	9,0985	,6981	,9217

Reliability Coefficients

N of Cases =   39,0   N of Items =   3

Alpha =   ,8900
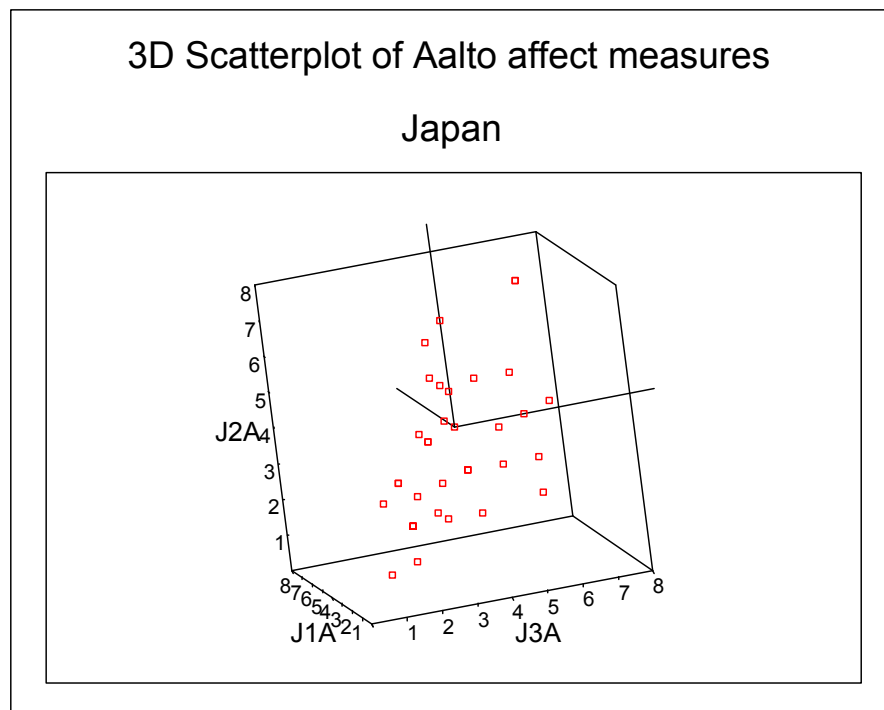
3D Scatterplot of Aalto affect measures

Japan

Factor Analysis

Communalities[a]

	Initial	Extraction
P1AALTO	1,000	,878
P2AALTO	1,000	,882
P3AALTO	1,000	,826

Extraction Method: Principal Component Analysis.

a. Only cases for which CODE = no are
used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,586	86,194	86,194	2,586	86,194	86,194
2	,256	8,537	94,731			
3	,158	5,269	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which CODE = no are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1AALTO	,937
P2AALTO	,939
P3AALTO	,909

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which CODE = no are
used in the analysis phase.

Appendix B
Section 3 – Affect
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```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)


Item-total Statistics

                 Scale         Scale       Corrected
                 Mean         Variance       Item-            Alpha
               if Item        if Item        Total          if Item
               Deleted        Deleted     Correlation       Deleted

P1AALTO         6,6420        11,3827        ,8497            ,8616
P2AALTO         6,5679        11,1985        ,8537            ,8568
P3AALTO         6,2963         9,5361        ,8004            ,9141



Reliability Coefficients

N of Cases =      81,0                    N of Items =   3

Alpha =      ,9134
```
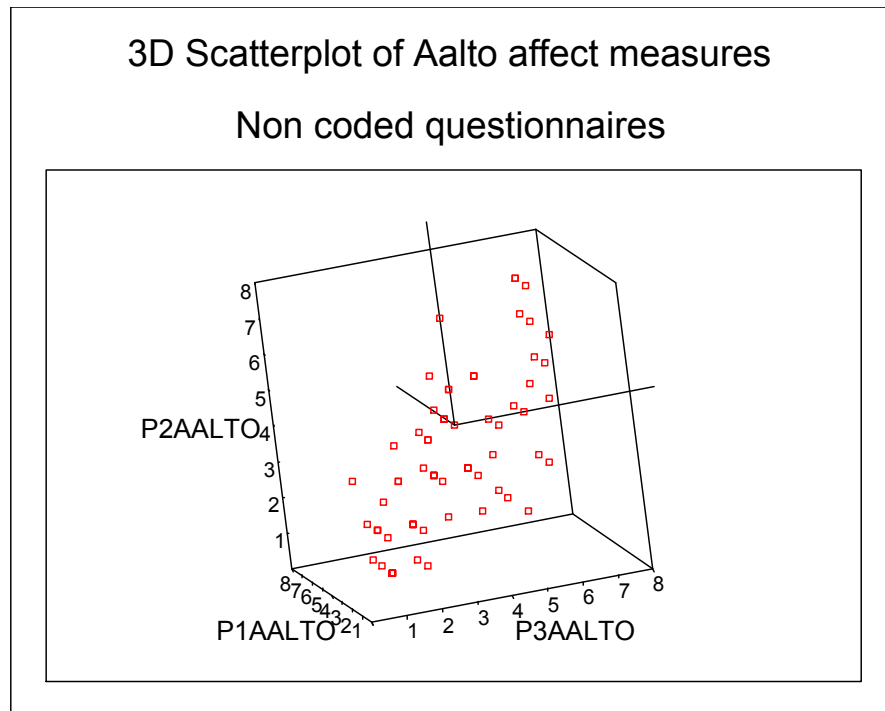

3D Scatterplot of Aalto affect measures

Non coded questionnaires

Factor Analysis

Communalities[a]

	Initial	Extraction
P1AALTO	1,000	,911
P2AALTO	1,000	,899
P3AALTO	1,000	,852

Extraction Method: Principal Component Analysis.

a. Only cases for which CODE = yes are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,662	88,726	88,726	2,662	88,726	88,726
2	,218	7,272	95,998			
3	,120	4,002	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which CODE = yes are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1AALTO	,954
P2AALTO	,948
P3AALTO	,923

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which CODE = yes are used in the analysis phase.

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)


Item-total Statistics

                Scale         Scale        Corrected
                Mean         Variance        Item-           Alpha
              if Item        if Item        Total          if Item
              Deleted        Deleted      Correlation      Deleted

P1AALTO        6,7927        12,2651        ,8910           ,8836
P2AALTO        6,5488        12,4729        ,8774           ,8946
P3AALTO        6,2927        11,3207        ,8321           ,9355



Reliability Coefficients

N of Cases =      82,0                    N of Items =   3

Alpha =      ,9337
```
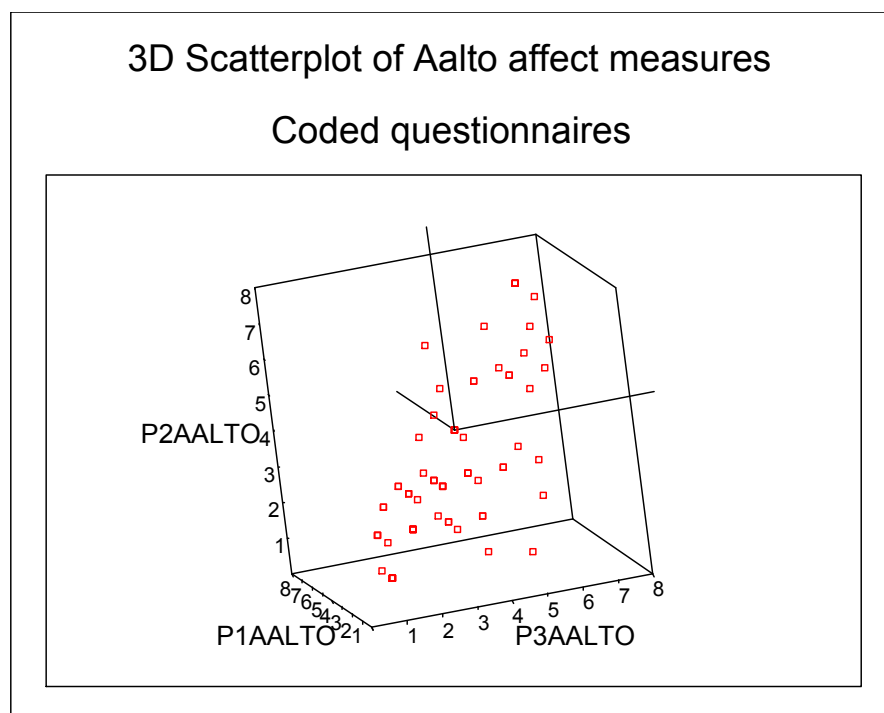

3D Scatterplot of Aalto affect measures

Coded questionnaires

Factor Analysis

Communalities[a]

	Initial	Extraction
P1SIZA	1,000	,880
P2SIZA	1,000	,928
P3SIZA	1,000	,849

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Portugal
are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,657	88,581	88,581	2,657	88,581	88,581
2	,237	7,888	96,469			
3	,106	3,531	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Portugal are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1SIZA	,938
P2SIZA	,964
P3SIZA	,922

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which Country = Portugal
are used in the analysis phase.

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
P1S	8,6667	18,2764	,8558	,9093
P2S	8,6429	17,0157	,9115	,8639
P3S	8,6429	16,2352	,8288	,9354

Reliability Coefficients

N of Cases =   42,0   N of Items = 3

Alpha =   ,9328
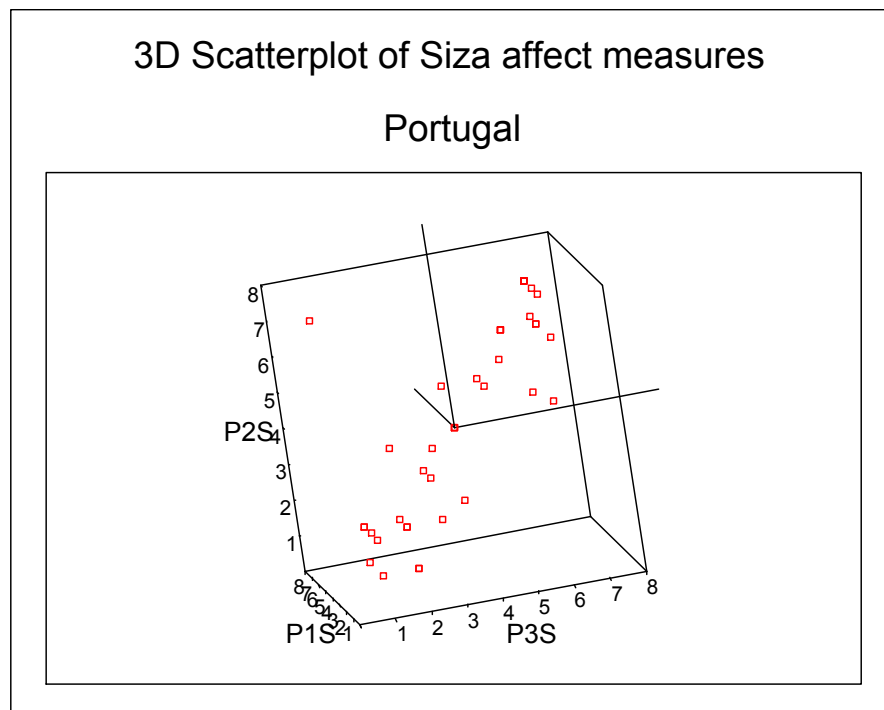
3D Scatterplot of Siza affect measures
Portugal

Factor Analysis

Communalities[a]

	Initial	Extraction
P1SIZA	1,000	,946
P2SIZA	1,000	,981
P3SIZA	1,000	,923

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Italy are
used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,851	95,020	95,020	2,851	95,020	95,020
2	,124	4,146	99,166			
3	2,501E-02	,834	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Italy are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1SIZA	,973
P2SIZA	,991
P3SIZA	,961

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which Country = Italy are
used in the analysis phase.

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
I1S	12,8000	5,4316	,9443	,9399
I2S	12,6500	5,2921	,9799	,9110
I3S	12,3500	7,3974	,9136	,9819

Reliability Coefficients

N of Cases =   20,0   N of Items = 3

Alpha =   ,9651
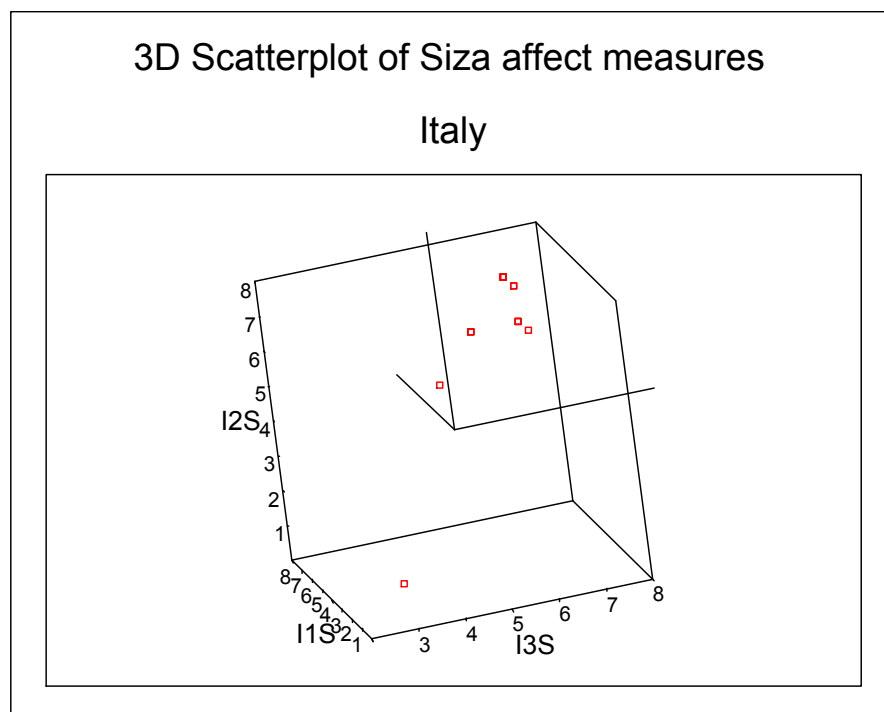
3D Scatterplot of Siza affect measures

Italy

Factor Analysis

Communalities[a]

	Initial	Extraction
P1SIZA	1,000	,860
P2SIZA	1,000	,838
P3SIZA	1,000	,703

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Sweden
are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,401	80,033	80,033	2,401	80,033	80,033
2	,422	14,067	94,101			
3	,177	5,899	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Sweden are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1SIZA	,927
P2SIZA	,916
P3SIZA	,838

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which Country = Sweden
are used in the analysis phase.

VALIDITY AND RELIABILITY

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)


Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
S1S	8,0968	11,5315	,8114	,7613
S2S	7,7419	12,0307	,7865	,7865
S3S	7,7097	11,3897	,6678	,9018

Reliability Coefficients

N of Cases =   62,0   N of Items =   3

Alpha =   ,8691
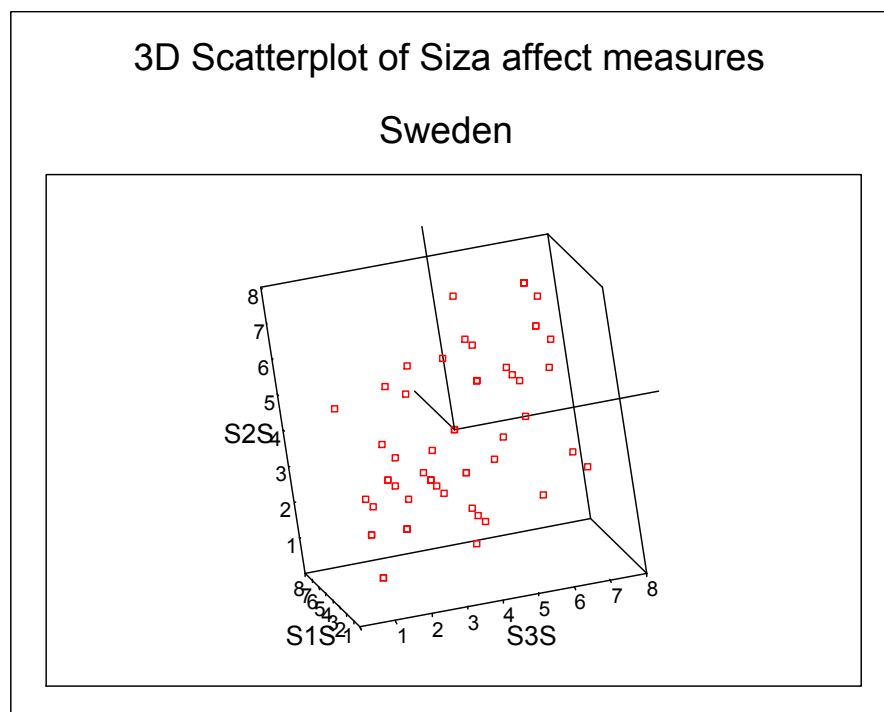
3D Scatterplot of Siza affect measures
Sweden

Factor Analysis

Communalities[a]

	Initial	Extraction
P1SIZA	1,000	,925
P2SIZA	1,000	,867
P3SIZA	1,000	,921

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Japan are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,713	90,437	90,437	2,713	90,437	90,437
2	,195	6,514	96,951			
3	9,147E-02	3,049	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Country = Japan are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1SIZA	,962
P2SIZA	,931
P3SIZA	,959

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which Country = Japan are used in the analysis phase.

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
J1S	9,1282	10,3779	,9118	,9051
J2S	8,8974	10,7787	,8499	,9518
J3S	8,6410	10,1309	,9060	,9093

Reliability Coefficients

N of Cases =   39,0   N of Items = 3

Alpha =   ,9470
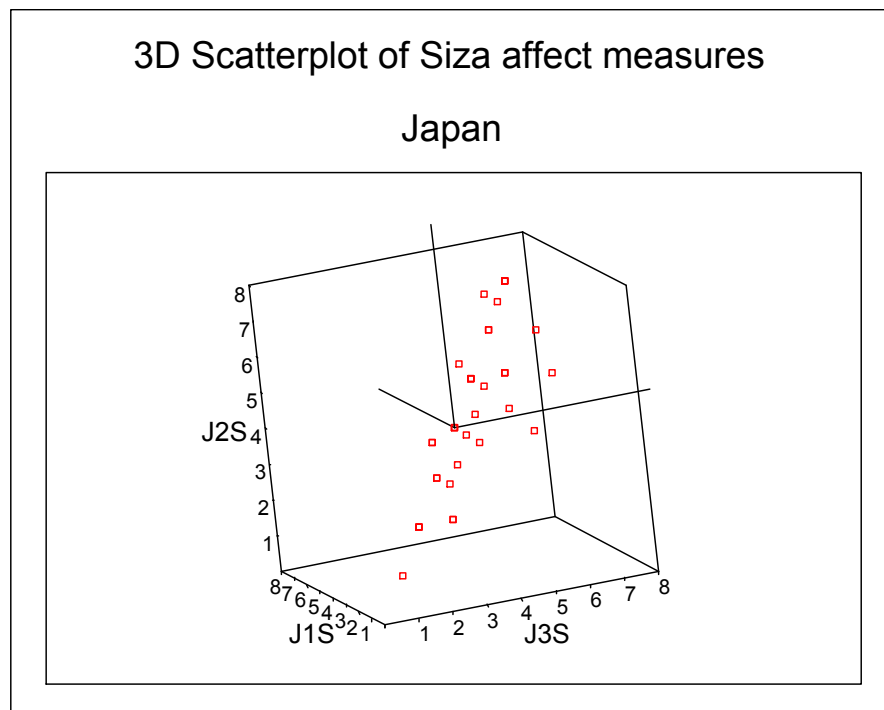
3D Scatterplot of Siza affect measures

Japan

Factor Analysis

Communalities[a]

	Initial	Extraction
P1SIZA	1,000	,877
P2SIZA	1,000	,859
P3SIZA	1,000	,804

Extraction Method: Principal Component Analysis.

a. Only cases for which CODE = no are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,541	84,688	84,688	2,541	84,688	84,688
2	,289	9,623	94,311			
3	,171	5,689	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which CODE = no are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1SIZA	,937
P2SIZA	,927
P3SIZA	,897

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which CODE = no are used in the analysis phase.

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
P1SIZA	8,6790	13,7457	,8482	,8404
P2SIZA	8,5556	13,9500	,8280	,8570
P3SIZA	8,4198	13,0716	,7754	,9056

Reliability Coefficients

N of Cases =   81,0   N of Items = 3

Alpha =   ,9072
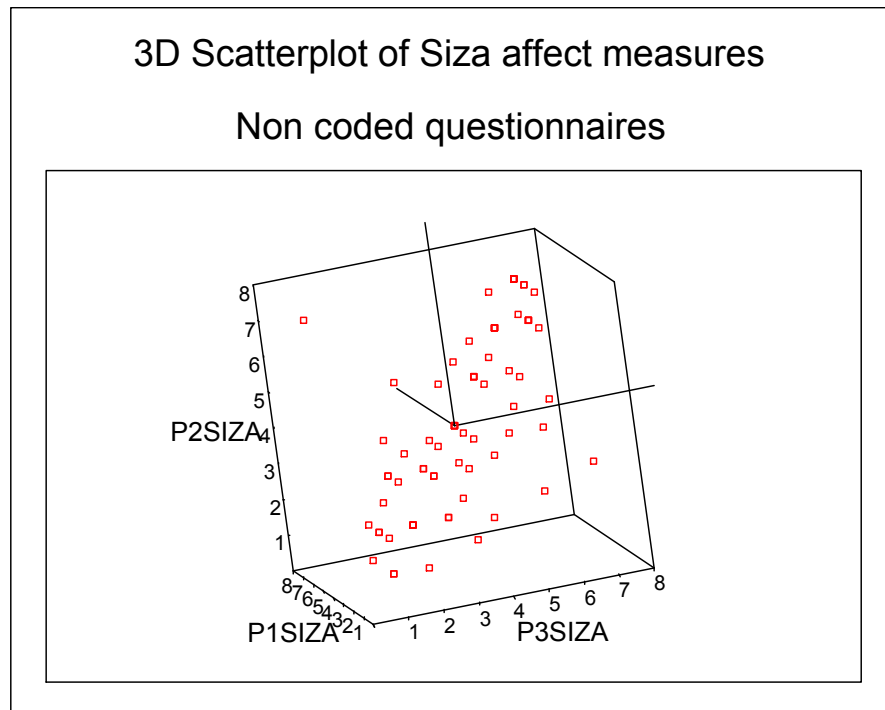
3D Scatterplot of Siza affect measures

Non coded questionnaires

Factor Analysis

Communalities[a]

	Initial	Extraction
P1SIZA	1,000	,915
P2SIZA	1,000	,934
P3SIZA	1,000	,858

Extraction Method: Principal Component Analysis.

a. Only cases for which CODE = yes are
used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,707	90,238	90,238	2,707	90,238	90,238
2	,210	6,989	97,227			
3	8,318E-02	2,773	100,000			

Extraction Method: Principal Component Analysis.

a. Only cases for which CODE = yes are used in the analysis phase.

Component Matrix[a,b]

	Component
	1
P1SIZA	,957
P2SIZA	,966
P3SIZA	,926

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. Only cases for which CODE = yes are
used in the analysis phase.

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
P1SIZA	9,4512	14,4482	,8972	,9091
P2SIZA	9,1463	14,5462	,9192	,8935
P3SIZA	9,0610	14,2061	,8403	,9554

Reliability Coefficients

N of Cases =   82,0   N of Items = 3

Alpha =   ,9445

3D Scatterplot of Siza affect measures

Coded questionnaires
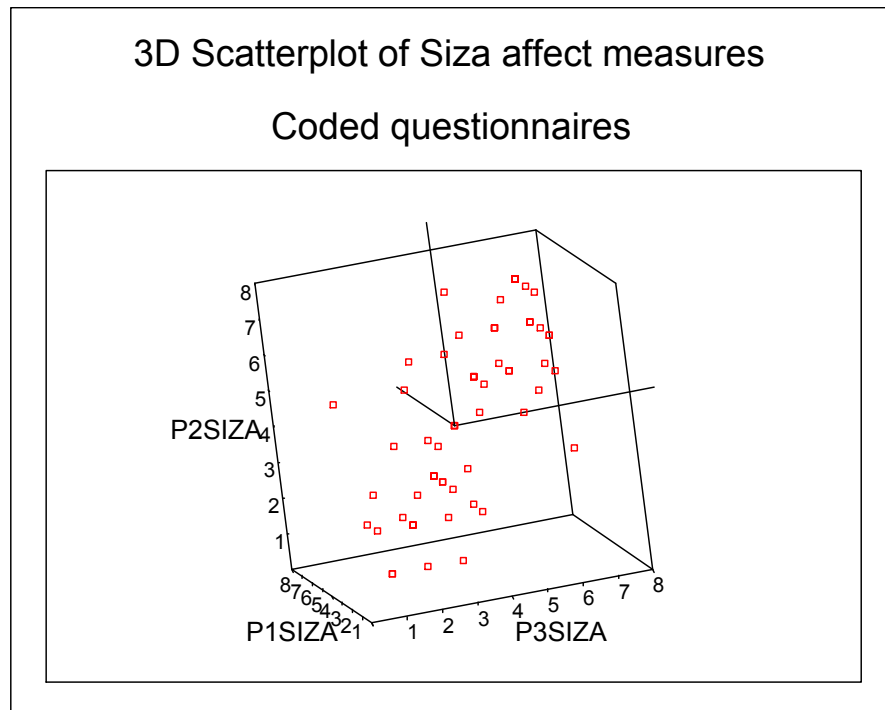
Appendix B
Section 4 – Affect
DESCRIPTIVE STATISTICS

SUMMARIES, by author and sub-sample

Affect in Questionnaires Without Name, by Author and Country

Statistic

	Country	Mean	5% Trimmed Mean	Median	Variance	Std. Deviation	Range	Interquartile Range	Skewness	Kurtosis
A_AALTO	Portugal	4.9524	4.9665	5.3333	1.548	1.2440	4.33	2.0000	-.297	-.964
	Italy	2.9333	2.9074	2.6667	2.736	1.6540	4.33	3.4167	.074	-1.655
	Sweden	5.1875	5.3056	5.6667	3.211	1.7919	6.00	1.8333	-1.153	.250
	Japan	4.6491	4.7212	4.6667	2.240	1.4968	6.00	2.0000	-.739	.476
A_SIZA	Portugal	3.5556	3.5256	3.6667	4.115	2.0285	5.67	4.0000	.124	-1.626
	Italy	1.8000	1.5926	1.0000	2.721	1.6495	5.33	1.0000	2.788	8.184
	Sweden	3.6771	3.6620	3.6667	3.100	1.7608	6.00	2.6667	-.072	-1.097
	Japan	3.5614	3.5127	3.0000	2.877	1.6962	6.00	2.3333	.454	-.513
A_CITTER	Portugal	4.1111	4.1772	4.3333	2.437	1.5611	5.00	2.3333	-.478	-.875
	Italy	2.9667	2.8519	2.0000	4.752	2.1799	6.00	3.5000	.924	-.463
	Sweden	4.2083	4.2315	4.1667	2.256	1.5021	6.00	1.8333	-.322	.128
	Japan	3.6842	3.6862	4.0000	3.154	1.7759	5.33	2.6667	-.227	-1.132
A_MACKI	Portugal	3.1111	3.0150	2.6667	4.059	2.0148	6.00	3.6667	.520	-1.105
	Italy	3.1000	3.0556	2.8333	2.100	1.4491	5.00	2.1667	.770	.603
	Sweden	4.2292	4.2546	4.3333	3.458	1.8597	6.00	2.3333	-.280	-.667
	Japan	3.7018	3.7242	3.6667	2.073	1.4397	5.00	2.0000	-.376	-.401
A_GERHY	Portugal	2.9683	2.8915	3.0000	3.743	1.9348	5.33	3.5000	.496	-1.192
	Italy	1.4000	1.3519	1.0000	.341	.5837	1.67	.7500	1.328	1.051
	Sweden	3.2292	3.1574	3.0000	3.494	1.8693	6.00	3.4167	.328	-1.114
	Japan	2.6667	2.5185	2.3333	3.519	1.8758	6.00	2.6667	1.079	.362
A_LOVEGR	Portugal	3.3810	3.3862	3.3333	2.959	1.7201	4.67	3.5000	.049	-1.535
	Italy	1.8333	1.7037	1.0000	2.352	1.5336	4.00	1.5833	1.669	1.303
	Sweden	3.7917	3.7870	4.1667	2.937	1.7138	5.67	2.8333	-.220	-1.081
	Japan	3.6140	3.5897	3.6667	2.917	1.7079	5.67	3.0000	.102	-.772
A_STARK	Portugal	3.7937	3.7892	4.0000	3.416	1.8484	5.67	3.6667	.051	-1.185
	Italy	3.1000	3.0556	2.5000	4.643	2.1548	5.00	5.0000	.571	-1.543
	Sweden	3.8750	3.8611	3.8333	2.041	1.4287	4.67	2.2500	.210	-.988
	Japan	3.8421	3.8431	3.3333	2.165	1.4714	5.67	2.0000	.272	-.177
A_ARAD	Portugal	3.6825	3.6490	3.3333	3.561	1.8870	6.00	3.0000	.082	-1.000
	Italy	2.6333	2.5370	2.1667	3.517	1.8754	5.00	3.3333	.899	-.568
	Sweden	4.0000	4.0139	4.0000	3.018	1.7372	6.00	2.9167	-.258	-.844
	Japan	4.2632	4.2739	4.0000	2.254	1.5014	5.67	1.3333	-.046	.343

Affect in Questionnaires With Name, by Author and Country

Statistic

	Country	Mean	5% Trimmed Mean	Median	Variance	Std. Deviation	Range	Interquartile Range	Skewness	Kurtosis
A_AALTO	Portugal	4.4444	4.4753	4.6667	2.704	1.6443	5.67	2.0000	-.381	-.331
	Italy	5.3667	5.3704	5.1667	1.419	1.1910	3.33	2.2500	.099	-1.271
	Sweden	5.0222	5.1235	5.1667	3.049	1.7462	6.00	2.6667	-.697	-.425
	Japan	4.3500	4.4259	4.6667	2.041	1.4285	5.33	2.7500	-.475	-.200
A_SIZA	Portugal	3.7937	3.7716	3.3333	4.372	2.0909	6.00	4.0000	.131	-1.435
	Italy	1.6000	1.5556	1.5000	.390	.6246	2.00	1.0000	1.246	1.815
	Sweden	4.5000	4.5309	4.6667	2.075	1.4404	5.33	1.6667	-.499	-.316
	Japan	3.5500	3.5556	3.8333	2.354	1.5343	5.00	2.5000	-.135	-1.002
A_CITTER	Portugal	4.6667	4.7222	5.0000	2.489	1.5776	5.67	2.3333	-.704	-.287
	Italy	5.2667	5.2593	5.0000	1.106	1.0517	3.33	1.5833	.097	-.741
	Sweden	4.1556	4.1728	4.3333	2.695	1.6417	6.00	2.2500	-.088	-.829
	Japan	4.3333	4.2963	4.0000	1.602	1.2658	4.67	1.7500	.615	-.334
A_MACKI	Portugal	3.8571	3.8404	3.6667	4.629	2.1514	6.00	4.3333	.130	-1.608
	Italy	4.3000	4.2222	4.0000	1.320	1.1488	4.00	1.4167	1.530	2.890
	Sweden	3.7667	3.7407	3.6667	3.718	1.9281	6.00	3.4167	.198	-1.084
	Japan	4.2167	4.2407	4.3333	2.038	1.4277	6.00	2.0000	-.290	.230
A_GERHY	Portugal	4.1905	4.2116	4.0000	4.206	2.0509	6.00	3.6667	-.181	-1.452
	Italy	3.1333	3.1481	3.5000	1.684	1.2977	4.00	2.1667	-.533	-.739
	Sweden	3.7222	3.7099	3.6667	3.081	1.7553	6.00	3.4167	.048	-1.161
	Japan	3.5333	3.5370	3.3333	2.519	1.5872	5.00	2.6667	.023	-1.143
A_LOVEGR	Portugal	3.9365	3.9286	4.3333	2.874	1.6952	6.00	2.6667	-.003	-.587
	Italy	2.9333	2.9444	3.0000	.785	.8861	2.33	1.8333	-.397	-1.220
	Sweden	3.3556	3.3210	3.1667	2.597	1.6116	5.33	2.8333	.341	-1.245
	Japan	4.0333	4.0000	4.0000	1.461	1.2086	4.67	1.3333	.382	.078
A_STARK	Portugal	4.4603	4.5097	4.6667	3.094	1.7590	6.00	2.3333	-.420	-.648
	Italy	4.6000	4.6667	5.0000	.983	.9913	3.33	1.1667	-1.532	2.214
	Sweden	3.7556	3.7531	4.0000	3.233	1.7981	5.67	3.0833	-.245	-1.276
	Japan	4.5000	4.5926	4.8333	1.947	1.3955	5.33	1.5833	-1.119	1.062
A_ARAD	Portugal	4.2063	4.2293	4.3333	3.716	1.9278	6.00	3.3333	-.157	-1.197
	Italy	4.7667	4.7963	4.5000	2.273	1.5076	5.00	2.1667	-.254	-.327
	Sweden	4.6556	4.7160	4.6667	2.900	1.7030	6.00	2.5000	-.398	-.647
	Japan	4.2000	4.2037	4.5000	2.391	1.5462	5.00	2.2500	-.328	-.950

Appendix B
Section 4 – Affect
DESCRIPTIVE STATISTICS

Affect, by Author and Respondents' Gender

Statistic

	Gender	Mean	5% Trimmed Mean	Median	Variance	Std. Deviation	Range	Interquartile Range	Skewness	Kurtosis
A_AALTO	Male	5.0211	5.1301	5.3333	2.733	1.6532	6.00	2.3333	-.796	-.039
	Female	4.4722	4.5247	4.6667	2.595	1.6109	6.00	2.5833	-.495	-.569
A_SIZA	Male	3.8059	3.7935	4.0000	3.583	1.8929	6.00	3.3333	-.105	-1.287
	Female	3.3214	3.2610	3.0000	3.120	1.7664	6.00	3.1667	.335	-1.067
A_CITTER	Male	4.3502	4.3891	4.6667	2.840	1.6853	6.00	3.0000	-.467	-.654
	Female	4.0357	4.0450	4.0000	2.383	1.5437	6.00	2.0000	-.161	-.557
A_MACKI	Male	3.9831	3.9812	4.3333	3.222	1.7950	6.00	2.6667	-.146	-.879
	Female	3.6746	3.6384	3.6667	3.221	1.7947	6.00	2.3333	.213	-.904
A_GERHY	Male	3.3291	3.2635	3.0000	3.281	1.8112	6.00	2.6667	.427	-.927
	Female	3.2024	3.1332	3.0000	3.601	1.8977	6.00	4.0000	.288	-1.273
A_LOVEGR	Male	3.5274	3.4977	3.6667	2.609	1.6151	6.00	2.6667	.019	-.876
	Female	3.5000	3.4638	3.5000	2.802	1.6739	5.67	3.0000	.136	-1.122
A_STARK	Male	3.9958	4.0091	4.0000	2.571	1.6035	6.00	2.6667	-.211	-.849
	Female	3.9802	3.9974	4.0000	2.868	1.6936	6.00	2.6667	-.233	-1.046
A_ARAD	Male	4.1772	4.1969	4.3333	3.170	1.7806	6.00	2.6667	-.207	-.891
	Female	4.0754	4.0891	4.0000	3.056	1.7481	6.00	2.9167	-.191	-.929

Descriptives - Affect, by Author and Respondents' Age

Statistic

	Age	Mean	5% Trimmed Mean	Median	Variance	Std. Deviation	Range	Interquartile Range	Skewness	Kurtosis
A_AALTO	< 35 years	5.2128	5.3128	5.3333	1.968	1.4029	5.67	1.6667	-.917	.680
	> 35 years	4.5000	4.5556	4.6667	3.435	1.8533	6.00	3.0000	-.408	-.902
A_SIZA	< 35 years	3.7305	3.7088	4.3333	3.298	1.8160	6.00	3.6667	-.049	-1.369
	> 35 years	3.4250	3.3750	3.1667	3.913	1.9781	6.00	3.5833	.227	-1.349
A_CITTER	< 35 years	4.3759	4.3991	4.3333	2.389	1.5458	6.00	2.6667	-.149	-.781
	> 35 years	4.0458	4.0509	4.5000	3.116	1.7652	6.00	2.5833	-.347	-.922
A_MACKI	< 35 years	3.9149	3.9054	4.0000	4.007	2.0018	6.00	4.0000	.063	-1.294
	> 35 years	3.6417	3.6019	3.6667	3.369	1.8356	6.00	3.0000	.173	-.925
A_GERHY	< 35 years	3.5603	3.5327	3.6667	3.653	1.9112	6.00	3.6667	.013	-1.380
	> 35 years	3.0792	2.9861	2.6667	3.500	1.8708	6.00	3.0000	.543	-.897
A_LOVEGR	< 35 years	3.7163	3.7167	4.0000	3.087	1.7569	5.67	3.0000	-.250	-1.335
	> 35 years	3.1500	3.0741	3.0000	2.697	1.6424	6.00	2.6667	.418	-.774
A_STARK	< 35 years	4.0284	4.0607	4.3333	2.560	1.5999	5.67	2.6667	-.280	-.933
	> 35 years	3.8167	3.8056	4.0000	3.122	1.7669	6.00	3.2500	-.063	-1.121
A_ARAD	< 35 years	4.4326	4.4835	4.6667	3.062	1.7500	6.00	2.6667	-.473	-.690
	> 35 years	3.8042	3.7824	3.6667	3.524	1.8772	6.00	3.6667	.067	-1.115

Appendix B
Section 4 – Affect
DESCRIPTIVE STATISTICS

Descriptives - Affect, by Author and Respondents' Education Level

Statistic

	Education Level	Mean	5% Trimmed Mean	Median	Variance	Std. Deviation	Range	Interquartile Range	Skewness	Kurtosis
A_AALTO	"Low"	4.5920	4.6541	4.6667	2.623	1.6197	6.00	2.5000	-.491	-.509
	"High"	5.2193	5.3548	5.6667	2.812	1.6770	6.00	2.0000	-1.143	.712
A_SIZA	"Low"	3.5307	3.4852	3.3333	3.554	1.8852	6.00	3.3333	.188	-1.273
	"High"	3.6404	3.6374	3.8333	2.891	1.7003	5.33	2.7500	-.144	-1.120
A_CITTER	"Low"	4.2160	4.2437	4.3333	2.527	1.5898	6.00	2.0000	-.306	-.592
	"High"	4.0965	4.1072	4.1667	2.960	1.7206	6.00	3.0000	-.261	-.875
A_MACKI	"Low"	3.7520	3.7244	3.6667	3.408	1.8462	6.00	3.1667	.099	-1.034
	"High"	4.0614	4.0682	4.1667	2.624	1.6198	6.00	2.1667	-.127	-.419
A_GERHY	"Low"	3.2880	3.2222	3.0000	3.554	1.8853	6.00	3.3333	.313	-1.182
	"High"	3.1842	3.1111	3.0000	3.091	1.7582	6.00	2.5000	.460	-.791
A_LOVEGR	"Low"	3.5520	3.5252	3.6667	2.540	1.5936	6.00	3.0000	.078	-.964
	"High"	3.3860	3.3265	3.5000	3.252	1.8034	6.00	3.0833	.138	-1.178
A_STARK	"Low"	3.9973	4.0163	4.0000	2.524	1.5888	6.00	2.6667	-.204	-.905
	"High"	3.9561	3.9600	4.1667	3.394	1.8424	6.00	3.1667	-.253	-1.162
A_ARAD	"Low"	4.0480	4.0533	4.0000	3.379	1.8383	6.00	3.0000	-.108	-1.025
	"High"	4.3772	4.4279	4.6667	2.139	1.4626	6.00	2.3333	-.478	-.383

Descriptives - Affect, by Author and Respondents' Working Field

Statistic

	Working Field	Mean	5% Trimmed Mean	Median	Variance	Std. Deviation	Range	Interquartile Range	Skewness	Kurtosis
A_AALTO	Social Sciences	4.6368	4.7076	4.6667	3.144	1.7731	6.00	2.3333	-.567	-.534
	Natural Sciences	4.7407	4.8148	5.0000	2.191	1.4803	6.00	2.0000	-.764	.251
	Linguistics	5.3571	5.3968	5.3333	1.529	1.2367	4.00	1.5833	-.245	-.579
	Arts	5.1852	5.2798	5.6667	2.434	1.5602	5.33	2.1667	-.903	.055
	Non Specified	4.3810	4.4180	4.5000	3.043	1.7444	6.00	3.1667	-.271	-1.009
A_SIZA	Social Sciences	3.1294	3.0661	3.0000	3.017	1.7369	6.00	3.0000	.309	-1.132
	Natural Sciences	3.8519	3.8621	4.1667	3.412	1.8473	5.67	3.3333	-.159	-1.398
	Linguistics	4.0952	4.1058	3.5000	4.486	2.1180	6.00	4.5000	.075	-1.538
	Arts	4.5556	4.6173	5.0000	3.163	1.7786	6.00	2.9167	-.678	-.689
	Non Specified	3.2857	3.2222	3.0000	2.887	1.6990	6.00	2.9167	.351	-.734
A_CITTER	Social Sciences	4.2985	4.3336	4.6667	2.738	1.6546	6.00	2.3333	-.351	-.731
	Natural Sciences	4.2407	4.2593	4.0000	2.455	1.5667	6.00	2.6667	-.088	-.596
	Linguistics	4.5476	4.5714	4.8333	2.130	1.4595	5.33	1.9167	-.418	-.007
	Arts	3.8889	3.8765	4.1667	2.889	1.6997	6.00	1.6667	-.345	-.084
	Non Specified	3.8690	3.9101	4.1667	2.694	1.6414	5.00	2.5000	-.329	-1.052
A_MACKI	Social Sciences	3.6667	3.6316	3.6667	3.141	1.7724	6.00	3.0000	.047	-.897
	Natural Sciences	3.9352	3.9280	3.6667	3.700	1.9237	6.00	3.5833	-.018	-1.341
	Linguistics	4.0952	4.1058	4.1667	4.144	2.0357	6.00	3.5833	.076	-1.019
	Arts	4.0556	4.0617	4.0000	3.324	1.8231	6.00	2.0000	.076	-.341
	Non Specified	3.7738	3.7725	3.8333	2.634	1.6230	5.67	2.2500	-.084	-.755
A_GERHY	Social Sciences	3.1294	3.0605	3.0000	2.949	1.7174	6.00	2.6667	.317	-.950
	Natural Sciences	3.6019	3.5576	3.1667	4.024	2.0061	6.00	3.9167	.349	-1.202
	Linguistics	3.8571	3.8968	4.3333	4.525	2.1272	5.00	4.4167	-.291	-1.884
	Arts	2.9444	2.8642	2.3333	3.415	1.8480	5.33	3.5000	.564	-1.085
	Non Specified	3.0595	2.9709	2.6667	3.326	1.8236	6.00	3.5833	.444	-.954
A_LOVEGR	Social Sciences	3.2786	3.2153	3.3333	2.810	1.6763	6.00	2.6667	.293	-.944
	Natural Sciences	3.4167	3.3765	3.3333	2.307	1.5189	6.00	2.2500	.291	-.538
	Linguistics	3.4286	3.4392	4.1667	2.965	1.7218	4.67	3.3333	-.301	-1.756
	Arts	4.4630	4.5329	4.8333	2.642	1.6255	5.67	2.7500	-.533	-.389
	Non Specified	3.6310	3.6323	3.8333	2.431	1.5591	5.33	2.5000	-.156	-.929
A_STARK	Social Sciences	3.7662	3.7606	4.0000	2.835	1.6838	6.00	2.6667	.038	-1.099
	Natural Sciences	4.0741	4.0905	4.0000	2.610	1.6156	6.00	2.2500	-.089	-.568
	Linguistics	4.3810	4.4418	5.1667	4.425	2.1035	5.67	4.1667	-.700	-1.205
	Arts	3.8519	3.8724	4.1667	2.513	1.5852	5.33	2.8333	-.287	-.876
	Non Specified	4.2976	4.3862	5.0000	1.896	1.3769	5.00	2.0000	-1.004	.359
A_ARAD	Social Sciences	4.2090	4.2322	4.3333	3.400	1.8439	6.00	3.0000	-.313	-.971
	Natural Sciences	4.5741	4.6379	4.5000	2.823	1.6802	6.00	2.6667	-.400	-.755
	Linguistics	3.8333	3.8519	4.0000	2.611	1.6159	5.33	2.1667	-.423	-.254
	Arts	3.7407	3.7119	3.6667	3.184	1.7843	6.00	2.1667	.302	-.333
	Non Specified	3.7381	3.7249	4.0000	2.752	1.6589	6.00	3.0000	.001	-.896

DESCRIPTIVE STATISTICS

NORMALITY TESTS, by author and sub-sample

Affect - Normality Tests, by author and country

	Country	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
A_Aalto	Portugal	,134	42	,055	,952	42	,128
	Italy	,139	20	,200*	,938	20	,289
	Sweden	,157	62	,001			
	Japan	,128	39	,104	,945	39	,086
A_Siza	Portugal	,151	42	,017	,894	42	,010**
	Italy	,303	20	,000	,591	20	,010**
	Sweden	,124	62	,020			
	Japan	,123	39	,138	,958	39	,271
A_Citterio	Portugal	,151	42	,017	,932	42	,026
	Italy	,150	20	,200*	,912	20	,073
	Sweden	,074	62	,200*			
	Japan	,094	39	,200*	,961	39	,318
A_Mackintosh	Portugal	,166	42	,005	,879	42	,010**
	Italy	,116	20	,200*	,979	20	,895
	Sweden	,073	62	,200*			
	Japan	,097	39	,200*	,965	39	,400
A_Gerhy	Portugal	,154	42	,014	,882	42	,010**
	Italy	,181	20	,085	,854	20	,010**
	Sweden	,113	62	,048			
	Japan	,116	39	,200*	,915	39	,010**
A_Lovegrove	Portugal	,120	42	,140	,937	42	,038
	Italy	,198	20	,038	,873	20	,013
	Sweden	,130	62	,011			
	Japan	,097	39	,200*	,968	39	,456
A_Stark	Portugal	,118	42	,159	,932	42	,024
	Italy	,238	20	,004	,883	20	,019
	Sweden	,098	62	,200*			
	Japan	,144	39	,040	,959	39	,294
A_Arad	Portugal	,106	42	,200*	,928	42	,017
	Italy	,113	20	,200*	,923	20	,135
	Sweden	,124	62	,019			
	Japan	,106	39	,200*	,957	39	,255

*. This is a lower bound of the true significance.

**. This is an upper bound of the true significance.

a. Lilliefors Significance Correction

Appendix B
Section 4 – Affect
DESCRIPTIVE STATISTICS

Affect - Normality Tests, by author and gender

		Kolmogorov-Smirnov[a]		
	GENDER	Statistic	df	Sig.
A_Aalto	masculine	,128	79	,003
	feminine	,108	84	,016
A_Siza	masculine	,106	79	,029
	feminine	,154	84	,000
A_Citterio	masculine	,106	79	,028
	feminine	,069	84	,200*
A_Mackintosh	masculine	,093	79	,086
	feminine	,081	84	,200*
A_Gerhy	masculine	,104	79	,034
	feminine	,153	84	,000
A_Lovegrove	masculine	,096	79	,068
	feminine	,124	84	,003
A_Stark	masculine	,096	79	,069
	feminine	,122	84	,004
A_Arad	masculine	,093	79	,086
	feminine	,091	84	,084

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Affect - Normality Tests, by author and age

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Age	Statistic	df	Sig.	Statistic	df	Sig.
A_Aalto	, (Missing)	,139	36	,077	,954	36	,237
	< 35 years	,121	47	,084	,919	47	,010**
	> 35 years	,103	80	,034			
A_Siza	, (Missing)	,128	36	,147	,963	36	,394
	< 35 years	,165	47	,003	,906	47	,010**
	> 35 years	,152	80	,000			
A_Citterio	, (Missing)	,132	36	,118	,975	36	,653
	< 35 years	,087	47	,200*	,963	47	,277
	> 35 years	,137	80	,001			
A_Mackintosh	, (Missing)	,102	36	,200*	,969	36	,484
	< 35 years	,117	47	,123	,913	47	,010**
	> 35 years	,087	80	,200*			
A_Gerhy	, (Missing)	,122	36	,198	,936	36	,057
	< 35 years	,133	47	,036	,903	47	,010**
	> 35 years	,143	80	,000			
A_Lovegrove	, (Missing)	,128	36	,142	,953	36	,229
	< 35 years	,153	47	,008	,902	47	,010**
	> 35 years	,146	80	,000			
A_Stark	, (Missing)	,155	36	,028	,963	36	,389
	< 35 years	,091	47	,200*	,945	47	,048
	> 35 years	,111	80	,016			
A_Arad	, (Missing)	,098	36	,200*	,961	36	,359
	< 35 years	,101	47	,200*	,931	47	,013
	> 35 years	,102	80	,039			

**. This is an upper bound of the true significance.

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Appendix B
Section 4 – Affect
DESCRIPTIVE STATISTICS

Affect - Normality Tests, by author and level of education

	EDUCATION level	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
A_Aalto	"low"	,110	125	,001			
	"high"	,158	38	,018	,867	38	,010**
A_Siza	"low"	,128	125	,000			
	"high"	,106	38	,200*	,928	38	,027
A_Citterio	"low"	,089	125	,017			
	"high"	,109	38	,200*	,943	38	,076
A_Mackintosh	"low"	,085	125	,028			
	"high"	,093	38	,200*	,960	38	,323
A_Gerhy	"low"	,129	125	,000			
	"high"	,107	38	,200*	,922	38	,016
A_Lovegrove	"low"	,099	125	,004			
	"high"	,147	38	,037	,918	38	,013
A_Stark	"low"	,096	125	,007			
	"high"	,136	38	,076	,927	38	,026
A_Arad	"low"	,091	125	,012			
	"high"	,109	38	,200*	,959	38	,295

. This is an upper bound of the true significance.

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Affect - Normality Tests, by author and questionnaire type

	Coded ?	Kolmogorov-Smirnov[a]		
		Statistic	df	Sig.
A_Aalto	no	,109	81	,018
	yes	,151	82	,000
A_Siza	no	,127	81	,003
	yes	,122	82	,004
A_Citterio	no	,097	81	,057
	yes	,094	82	,069
A_Mackintosh	no	,075	81	,200*
	yes	,090	82	,100
A_Gerhy	no	,101	81	,040
	yes	,178	82	,000
A_Lovegrove	no	,101	81	,040
	yes	,128	82	,002
A_Stark	no	,174	81	,000
	yes	,086	82	,200*
A_Arad	no	,099	81	,048
	yes	,089	82	,156

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

BOXPLOT, by author and sub-sample

Previous Note: Unlike in survey, higher boxes mean higher Affect values, here.
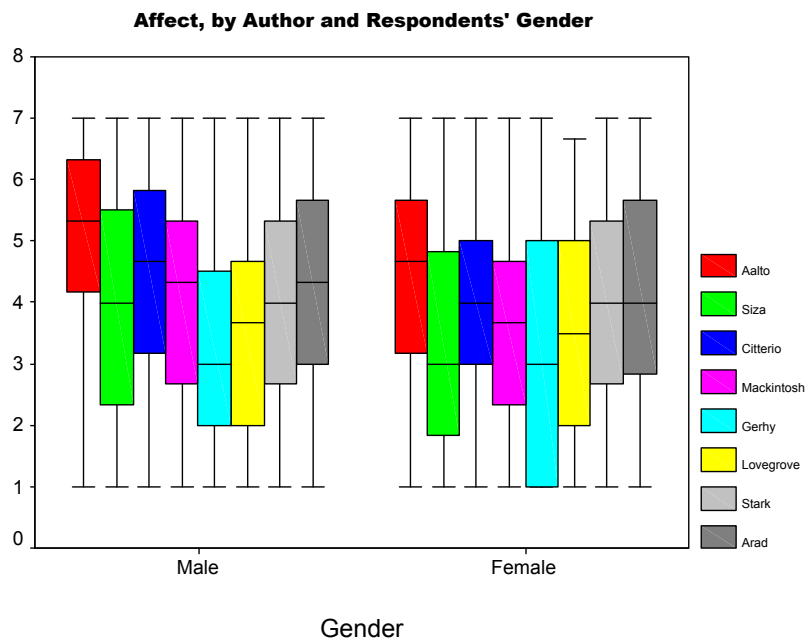
Affect, by Author and Respondents' Gender

Gender

Affect, by Author and Respondents' Age

Age

Affect, by Author and Respondents' Education Level

Education Level

Affect, by Author and Respondents' Working Field

Working Field
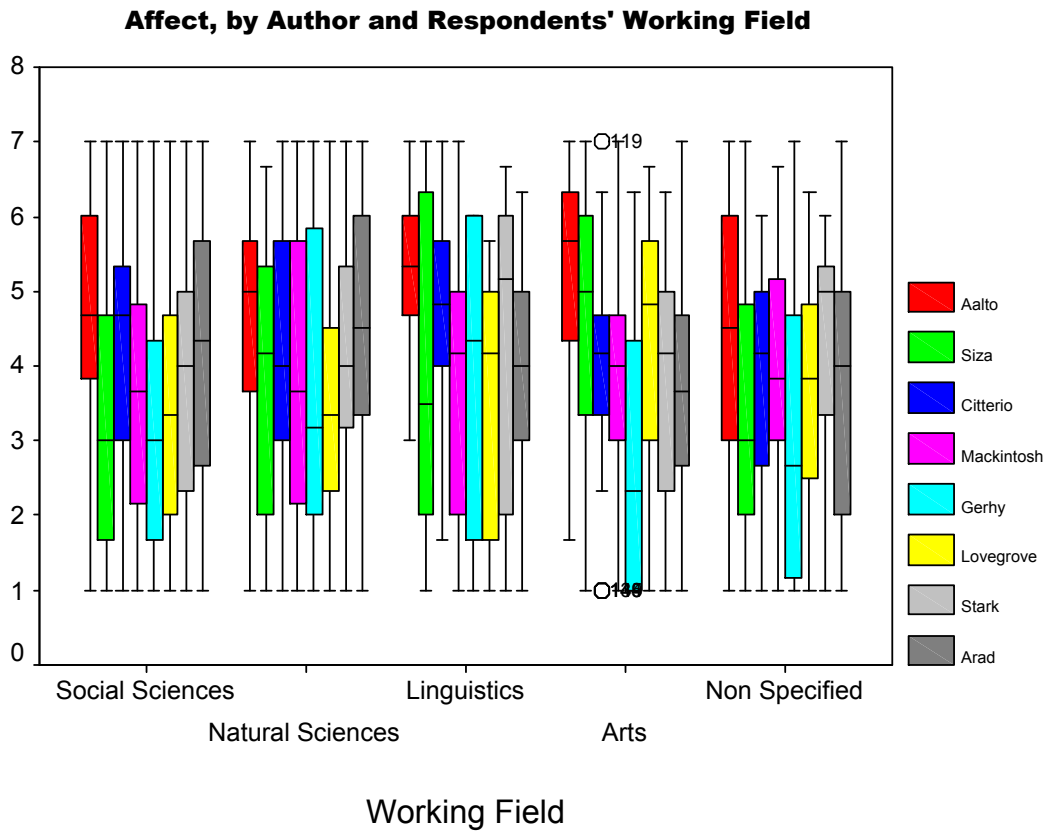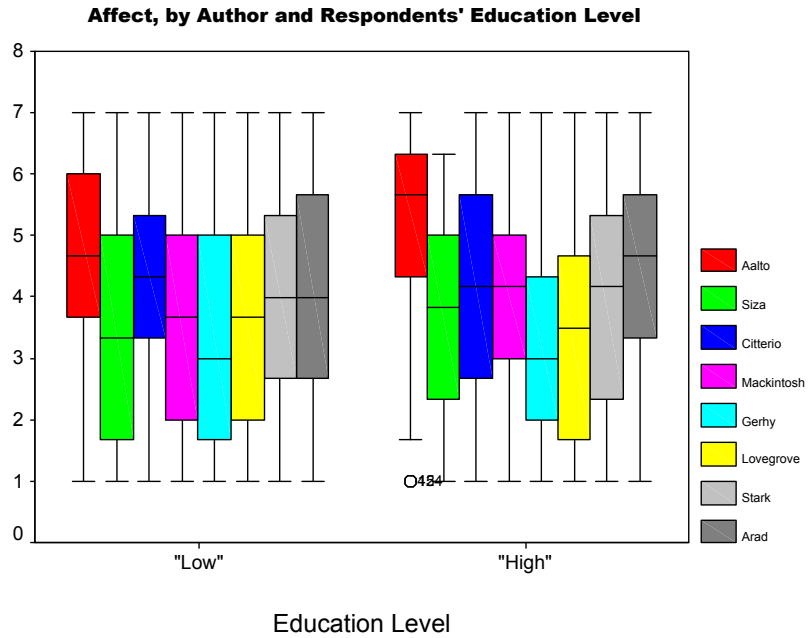
AFFECT vs. PERCEPTION – Vector Model

TOTAL SAMPLE:

Model Summary

Multiple R	R Square	Adjusted R Square
,210	,044	,041

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	57,494	4	14,374	14,979	,000
Residual	1246,506	1299	,960		
Total	1304,000	1303			

Coefficients

	Standardized Coefficients			Correlations				Tolerance	
	Beta	Std. Error	F	Zero-Order r	Partial	Part	Importance	After Transformation	Before Transformation
Dim_1 (transf.)	3,194E-02	,027	1,375	,022	,033	,032	,016	,992	,992
Dim_2 (transf.)	9,917E-02	,027	13,206	,090	,100	,099	,201	,988	,988
Dim_3 (transf.)	,109	,027	16,247	,109	,111	,109	,269	,999	,999
Dim_4 (transf.)	,155	,027	32,432	,146	,156	,154	,513	,996	,996

Appendix B
Section 5 – Property Fitting

PORTUGAL:

Model Summary

Multiple R	R Square	Adjusted R Square
,224	,050	,039

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	16,806	4	4,201	4,357	,002
Residual	319,194	331	,964		
Total	336,000	335			

Coefficients

	Standardized Coefficients			Correlations				Tolerance	
	Beta	Std. Error	F	Zero-Order	Partial	Part	Importance	After Transformation	Before Transformation
Dim_1 (transf.)	-,119	,054	4,861	-,127	-,120	-,118	,300	,992	,992
Dim_2 (transf.)	7,160E-02	,054	1,765	,074	,073	,071	,106	,988	,988
Dim_3 (transf.)	7,431E-02	,054	1,922	,072	,076	,074	,106	,999	,999
Dim_4 (transf.)	,158	,054	8,699	,154	,160	,158	,488	,996	,996

ITALY:

Model Summary

Multiple R	R Square	Adjusted R Square
,439	,193	,172

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	30,855	4	7,714	9,258	,000
Residual	129,145	155	,833		
Total	160,000	159			

Coefficients

	Standardized Coefficients		F	Correlations			Importance	Tolerance	
	Beta	Std. Error		Zero-Order	Partial	Part		After Transformation	Before Transformation
Dim_1 (transf.)	,159	,072	4,829	,127	,174	,159	,105	,992	,992
Dim_2 (transf.)	,320	,073	19,491	,290	,334	,319	,482	,988	,988
Dim_3 (transf.)	4,447E-02	,072	,379	,047	,049	,044	,011	,999	,999
Dim_4 (transf.)	,290	,072	16,061	,267	,306	,289	,402	,996	,996

Appendix B
Section 5 – Property Fitting

SWEDEN:

Model Summary

Multiple R	R Square	Adjusted R Square
,270	,073	,065

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	36,148	4	9,037	9,649	,000
Residual	459,852	491	,937		
Total	496,000	495			

Coefficients

	Standardized Coefficients		F	Correlations			Importance	Tolerance	
								After Transformation	Before Transformation
	Beta	Std. Error		Zero-Order	Partial	Part			
Dim_1 (transf.)	7,897E-02	,044	3,276	,073	,081	,079	,079	,992	,992
Dim_2 (transf.)	6,941E-02	,044	2,521	,062	,071	,069	,059	,988	,988
Dim_3 (transf.)	,233	,043	28,674	,233	,235	,233	,744	,999	,999
Dim_4 (transf.)	9,809E-02	,044	5,073	,088	,101	,098	,118	,996	,996

JAPAN:

Model Summary

Multiple R	R Square	Adjusted R Square
,222	,049	,037

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	15,317	4	3,829	3,962	,004
Residual	296,683	307	,966		
Total	312,000	311			

Coefficients

	Standardized Coefficients			Correlations				Tolerance	
	Beta	Std. Error	F	Zero-Order	Partial	Part	Importance	After Transformation	Before Transformation
Dim_1 (transf.)	3,859E-03	,056	4,768E-03	-,008	,004	,004	-,001	,992	,992
Dim_2 (transf.)	,110	,056	3,848	,098	,111	,109	,219	,988	,988
Dim_3 (transf.)	1,843E-02	,056	,110	,017	,019	,018	,006	,999	,999
Dim_4 (transf.)	,199	,056	12,677	,192	,199	,198	,775	,996	,996

PORTUGAL - Questionnaires without Names:

Model Summary

Multiple R	R Square	Adjusted R Square
,297	,088	,066

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	14,804	4	3,701	3,938	,004
Residual	153,196	163	,940		
Total	168,000	167			

Coefficients

	Standardized Coefficients			Correlations				Tolerance	
	Beta	Std. Error	F	Zero-Order	Partial	Part	Importance	After Transformation	Before Transformation
Dim_1 (transf.)	-,114	,075	2,294	-,122	-,118	-,113	,158	,992	,992
Dim_2 (transf.)	7,498E-02	,075	,993	,075	,078	,075	,064	,988	,988
Dim_3 (transf.)	,145	,075	3,773	,141	,150	,145	,233	,999	,999
Dim_4 (transf.)	,222	,075	8,787	,216	,226	,222	,545	,996	,996

PORTUGAL – Questionaires with Names:

Model Summary

Multiple R	R Square	Adjusted R Square
,188	,035	,011

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5,909	4	1,477	1,486	,209
Residual	162,091	163	,994		
Total	168,000	167			

Coefficients

	Standardized Coefficients			Correlations				Tolerance	
	Beta	Std. Error	F	Zero-Order	Partial	Part	Importance	After Transformation	Before Transformation
Dim_1 (transf.)	-,122	,077	2,491	-,129	-,123	-,121	,446	,992	,992
Dim_2 (transf.)	5,386E-02	,077	,484	,056	,054	,054	,086	,988	,988
Dim_3 (transf.)	-5,065E-02	,077	,433	-,053	-,051	-,051	,076	,999	,999
Dim_4 (transf.)	,117	,077	2,319	,117	,118	,117	,391	,996	,996

ITALY - Questionnaires without Names:

Model Summary

Multiple R	R Square	Adjusted R Square
,403	,162	,117

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	12,967	4	3,242	3,627	,009
Residual	67,033	75	,894		
Total	80,000	79			

Coefficients

	Standardized Coefficients			Correlations				Tolerance	
	Beta	Std. Error	F	Zero-Order	Partial	Part	Importance	After Transformation	Before Transformation
Dim_1 (transf.)	,243	,106	5,247	,224	,256	,242	,336	,992	,992
Dim_2 (transf.)	,170	,106	2,560	,131	,182	,169	,138	,988	,988
Dim_3 (transf.)	1,659E-02	,106	2,462E-02	,016	,018	,017	,002	,999	,999
Dim_4 (transf.)	,299	,106	7,950	,285	,310	,298	,525	,996	,996

ITALY - Questionnaires with Names:

Model Summary

Multiple R	R Square	Adjusted R Square
,667	,445	,415

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	35,564	4	8,891	15,007	,000
Residual	44,436	75	,592		
Total	80,000	79			

Coefficients

	Standardized Coefficients			Correlations				Tolerance	
	Beta	Std. Error	F	Zero-Order	Partial	Part	Importance	After Transformation	Before Transformation
Dim_1 (transf.)	,145	,086	2,826	,091	,191	,145	,030	,992	,992
Dim_2 (transf.)	,573	,087	43,774	,541	,607	,569	,698	,988	,988
Dim_3 (transf.)	,105	,086	1,495	,112	,140	,105	,026	,999	,999
Dim_4 (transf.)	,351	,086	16,539	,312	,425	,350	,246	,996	,996

SWEDEN - Questionnaires without Names:

Model Summary

Multiple R	R Square	Adjusted R Square
,287	,082	,068

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	21,082	4	5,271	5,631	,000
Residual	234,918	251	,936		
Total	256,000	255			

Coefficients

	Standardized Coefficients			Correlations				Tolerance	
	Beta	Std. Error	F	Zero-Order	Partial	Part	Importance	After Transformation	Before Transformation
Dim_1 (transf.)	2,739E-02	,061	,203	,028	,028	,027	,009	,992	,992
Dim_2 (transf.)	-9,150E-03	,061	2,263E-02	-,013	-,009	-,009	,001	,988	,988
Dim_3 (transf.)	,258	,060	18,223	,256	,260	,258	,801	,999	,999
Dim_4 (transf.)	,127	,061	4,402	,122	,131	,127	,188	,996	,996

SWEDEN - Questionnaires with Names:

Model Summary

Multiple R	R Square	Adjusted R Square
,291	,084	,069

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	20,258	4	5,064	5,416	,000
Residual	219,742	235	,935		
Total	240,000	239			

Coefficients

	Standardized Coefficients		F	Correlations			Importance	Tolerance	
	Beta	Std. Error		Zero-Order	Partial	Part		After Transformation	Before Transformation
Dim_1 (transf.)	7,864E-02	,063	1,574	,072	,082	,078	,067	,992	,992
Dim_2 (transf.)	8,410E-02	,063	1,794	,079	,087	,084	,079	,988	,988
Dim_3 (transf.)	,261	,062	17,518	,262	,263	,261	,813	,999	,999
Dim_4 (transf.)	6,488E-02	,063	1,076	,053	,067	,065	,041	,996	,996

JAPAN - Questionnaires without Names:

Model Summary

Multiple R	R Square	Adjusted R Square
,289	,084	,059

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	12,705	4	3,176	3,352	,012
Residual	139,295	147	,948		
Total	152,000	151			

Coefficients

	Standardized Coefficients			Correlations				Tolerance	
	Beta	Std. Error	F	Zero-Order	Partial	Part	Importance	After Transformation	Before Transformation
Dim_1 (transf.)	-2,562E-02	,079	,104	-,041	-,027	-,026	,013	,992	,992
Dim_2 (transf.)	,159	,079	4,027	,155	,163	,158	,295	,988	,988
Dim_3 (transf.)	,167	,079	4,451	,166	,171	,167	,331	,999	,999
Dim_4 (transf.)	,180	,079	5,200	,168	,185	,180	,362	,996	,996

JAPAN - Questionnaires with Names:

Model Summary

Multiple R	R Square	Adjusted R Square
,263	,069	,045

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	11,086	4	2,772	2,885	,024
Residual	148,914	155	,961		
Total	160,000	159			

Coefficients

	Standardized Coefficients			Correlations				Tolerance	
								After Transformation	Before Transformation
	Beta	Std. Error	F	Zero-Order	Partial	Part	Importance		
Dim_1 (transf.)	4,757E-02	,078	,374	,035	,049	,047	,024	,992	,992
Dim_2 (transf.)	,101	,078	1,682	,082	,104	,100	,120	,988	,988
Dim_3 (transf.)	-4,958E-03	,078	4,090E-03	-,008	-,005	-,005	,001	,999	,999
Dim_4 (transf.)	,247	,078	10,103	,240	,247	,246	,856	,996	,996

FRIEDMAN TESTS – Questionnaires without Names (C) vs. Questionnaires with Names (NC)

PORTUGAL:

Questionnaires With Names vs. Without Names: Friedman Test Statistics (Asymp. Significance)								
	Questionnaires without Names							
	Aalto	**Siza**	**Citterio**	**Mackintosh**	**Gerhy**	**Lovegrove**	**Stark**	**Arad**
Aalto	0,157							
Siza		0,251						
Citterio			0,225					
Mackintosh				0,808				
Gerhy					0,012			
Lovegrove						0,090		
Stark							0,180	
Arad								0,251

ITALY:

Questionnaires With Names vs. Without Names: Friedman Test Statistics (Asymp. Significance)								
	Questionnaires without Names							
	Aalto	**Siza**	**Citterio**	**Mackintosh**	**Gerhy**	**Lovegrove**	**Stark**	**Arad**
Aalto	0,005							
Siza		1,000						
Citterio			0,096					
Mackintosh				0,096				
Gerhy					0,005			
Lovegrove						0,096		
Stark							0,206	
Arad								0,034

SWEDEN:

Questionnaires With Names vs. Without Names: Friedman Test Statistics (Asymp. Significance)								
		Questionnaires without Names						
		Aalto	**Siza**	**Citterio**	**Mackintosh**	**Gerhy**	**Lovegrove**	**Stark**	**Arad**
Questionnaires with Names	**Aalto**	0,695							
	Siza		0,221						
	Citterio			0,353					
	Mackintosh				0,683				
	Gerhy					0,513			
	Lovegrove						0,414		
	Stark							0,695	
	Arad								0,221

	SWEDEN - Friedman Test Significance: **Alvar Aalto vs. Others**						
	Siza	**Citterio**	**Mackintosh**	**Gerhy**	**Lovegrove**	**Stark**	**Arad**
Questionnaires without Names	0,041	0,007	0,023	0,000	0,001	0,005	0,011
Questionnaires with Names	0,239	0,050	0,041	0,008	0,008	0,000	0,194

JAPAN:

Questionnaires With Names vs. Without Names: Friedman Test Statistics (Asymp. Significance)								
		Questionnaires without Names						
		Aalto	**Siza**	**Citterio**	**Mackintosh**	**Gerhy**	**Lovegrove**	**Stark**	**Arad**
Questionnaires with Names	**Aalto**	0,593							
	Siza		1,000						
	Citterio			0,617					
	Mackintosh				0,782				
	Gerhy					0,251			
	Lovegrove						0,317		
	Stark							0,012	
	Arad								0,467