# DIFFERENTIATING POSITIVE EMOTIONS ELICITED BY PRODUCTS; AN EXPLORATION OF PERCEIVED DIFFERENCES BETWEEN 25 POSITIVE EMOTIONS BY USERS AND DESIGNERS

Juan Carlos ORTÍZ NICOLÁS (1), Marco AURISICCHIO (1), Pieter M.A. DESMET (2) 1: Imperial College London, United Kingdom; 2: Delft University of Technology, The Netherlands

# ABSTRACT

This paper reports semi-qualitative research on emotions from the perspective of users and designers. Twenty-five positive emotions were ranked regarding four relevant issues for product design: frequency of experience, preference for experience, preference for elicitation, and difficulty in elicitation. Based on the results from this research the emotions that users frequently experience and prefer are: satisfaction, inspiration, confidence, joy, amusement, and relaxed. These emotions ranked high also among those that designers prefer to elicit. Emotions that are infrequently experienced and not preferred by both users and designers are: lust and worship. In relation to the difficulty of eliciting positive emotions through durable products, the conclusion is that it is a challenging task and little knowledge exists to support designers. The knowledge developed through this project is expected to be useful for designers and researchers to understand the role of positive emotions in product design.

Keywords: emotional design, experience design, industrial design, positive emotions, user experience

Contact: Juan Carlos Ortíz Nicolás Imperial College London Design Engineering London SW5 0PH United Kingdom jco209@imperial.ac.uk

# **1** INTRODUCTION

Emotions have been described as episodes of interrelated and synchronised changes in human beings that occur in response to the evaluation of external or internal stimuli and have some personal relevance (Scherer, 2005). They are typically event focused, adaptable, short lasting, of variable intensity, and have an impact on human behaviour. Previous research in the field of User Experience has highlighted the importance of emotions indicating that they are at the heart of experience and they colour it (Hassenzahl, 2010; Forlizzi and Battarbee, 2004; McCarthy and Wright, 2004; Ortíz Nicolás and Aurisicchio, 2011). Without emotional engagement, experience would lack unity and would fail to be an experience (McCarthy and Wright, 2004). Emotions coexist with motivation and cognitive processes, and with them contribute to experience in every moment of our life (Hektner, et al, 2007). All experiences have some kind of feeling tone regulated by human emotions (Varela, et al, 1991). Desmet and Hekkert (2007) have considered the importance of emotions in user experience by including them in their product experience framework. The latter explains why there is a great interest in emotions from scholars. This interest is also captured in other models of emotions in the context of product design (Jordan, 2000; Desmet, 2002; Hassenzahl, 2003; Norman, 2004; Rafaeli, and Vilnai-Yavetz, 2004). However, a limitation of these models is that they tend to focus on umbrella terms such as pleasure or positive emotions and they are too rudimentary to be useful to explain the variety of positive emotions experienced in human-product interactions (Desmet, 2012). Diversity is a key factor of human experience and it is not captured in the term 'positive emotions'. As a result of humanproduct interactions people do not just experience satisfaction, but also confidence, surprise, or fascination.

Even though positive emotions are important in daily life, there is little knowledge about them. In January 2000 Seligman and Csikszentmihalyi edited a special issue of American Psychologist devoted to positive psychology. They have argued that despite psychology having understood a range of negative human characteristics, it still needs to address the issue of what makes life worth living. Recent research on positive emotions has shown that they are central to human nature, contribute richly to people's quality of life, and improve psychological well-being and physical health functioning (Ortony et al, 1988; Fredrickson, 2003). Emotions also seem to be responsible to appraise the potential benefits of a situation, e.g. they help reinforce activities that make us feel good, such as socializing (Ellsworth and Smith, 1988; Sauter, 2010). In addition, many positive emotions broaden people's momentary thought-action repertoire (Fredrickson, 1998). In the field of product design, as it happens in psychology, it has been identified that positive emotions have been under explored (Yoon et al, 2013). For example, enchantment, inspiration, and kindness have been hardly studied even though they are relevant to design practice. This lack of knowledge increases the difficulty to elicit positive emotions through products and explains why there are few reported strategies to design them. Developing new knowledge about positive emotions can be used to measure them and design positive experiences (Laurans et al, 2012).

To set the foundation to research the variety of positive emotions experienced in human-product interaction, Desmet (2012) identified twenty-five design-relevant positive emotions. He also suggested six sources that explain how these emotions are triggered by products, i.e. object, meaning, interaction, activity, self, and other. Even though this work has been an important step towards a better understanding of pleasant user experience, it has raised some unanswered questions. First, how frequently are these emotions experienced in response to durable products? Second, which of these positive emotions would people *like* to experience and why? Third, which of these positive emotions would designers want to evoke with their work and why? Fourth, how difficult is it to design products that evoke these emotions and why? This paper reports a study to answer these four questions.

## **2 UNDERSTANDING POSITIVE EMOTIONS IN PRODUCT DESIGN**

This section presents the methodology and the results of the research.

## 2.1 Semi-qualitative study of emotions

In a semi-qualitative study, users and designers were asked to rank twenty-five positive emotions in terms of four qualities, see Table 1. More so, participants took part to semi-structured interviews to explain the reasons for their ranking.

|           |                   | Participant groups  |   |  |  |  |  |  |
|-----------|-------------------|---|---|--|--|--|--|--|
|           |                   | Users   | Designers   |  |  |  |  |  |
| Qualities | First<br>quality  | Frequency of experience   | Preference for elicitation  |  |  |  |  |  |
|           |                   | How often do you experience this emotion in relation to products?   | How strong is your preference to design products that evoke this emotion?                       |  |  |  |  |  |
|           | Second<br>quality | <u>Preference for experience</u><br>How strong is your preference to<br>experience this emotion in relation to<br>products? | Difficulty of elicitation<br>How difficult is it to design products that<br>evoke this emotion? |  |  |  |  |  |

## Table 1. Qualities used to rank positive emotions

## 2.1.1 Respondents

Among the twenty-nine respondents to this research 15 were users, and 14 designers. The users (eight males and seven females) were not involved in or related to the discipline of product design. Most of them had background in engineering (e.g. mechanical, aeronautical, biomechanical, and biochemical engineering). They were between 22 and 34 years old (M=28.33; SD=3.77). All but one were postgraduate students at Imperial College London and were recruited from its departments. The designers (ten males and four females) had background in design (e.g. industrial, interior, and furniture design). They were between 24 and 41 years old (M=30.36; SD=4.40) and had an average experience of six years (Min. 1 year, Max. 13 years; SD=3.38). Most of them had a postgraduate degree from design faculties in the following universities: Carnegie Mellon, Royal College of Art, and TU Delft. All participants had a good command of English and 15 were native speakers.

## 2.1.2 Material

Twenty-five positive emotion terms and their definitions as identified by Desmet (2012) were printed out on cards (white paper sheets of 5 by 10 cm). See Table 2.

| Name         | Definition   |  |  |  |  |  |  |  |
|--------------|--|--|--|--|--|--|--|--|
| Admiration   | To experience an urge to prize and estimate someone for their worth or achievement |  |  |  |  |  |  |  |
| Amusement    | To enjoy a playful state of humour or entertainment                                |  |  |  |  |  |  |  |
| Anticipation | To eagerly await an anticipated desirable event that is expected to happen         |  |  |  |  |  |  |  |
| Confidence   | To experience mental or moral strength to withstand or cope with the situation     |  |  |  |  |  |  |  |
| Curiosity    | To experience an urge to explore, investigate, or to understand something          |  |  |  |  |  |  |  |
| Desire       | To experience a strong attraction to enjoy or own something                        |  |  |  |  |  |  |  |
| Dreamy       | To enjoy a calm state of introspection and thoughtfulness                          |  |  |  |  |  |  |  |
| Enchantment  | To be carried away by something that is experienced as overwhelming pleasant       |  |  |  |  |  |  |  |
| Energetic    | To enjoy a high-spirited state of being energized or vitalized                     |  |  |  |  |  |  |  |
| Euphoria     | To be carried away by an overwhelming experience of intense joy                    |  |  |  |  |  |  |  |
| Fascination  | To experience an urge to completely focus one's attention to something             |  |  |  |  |  |  |  |
| Hope         | To experience the belief that something good or wished for can possible happen     |  |  |  |  |  |  |  |
| Inspiration  | To experience a sudden and overwhelming feeling of creative impulse                |  |  |  |  |  |  |  |
| Joy          | To be pleased about (or taking pleasure in) something or some desirable event      |  |  |  |  |  |  |  |
| Kindness     | To experience a tendency to protect or contribute to the well-being of someone     |  |  |  |  |  |  |  |
| Love         | To experience an urge to be affectionate and care for someone                      |  |  |  |  |  |  |  |
| Lust         | To experience a sexual appeal or appetite  |  |  |  |  |  |  |  |
| Pride        | To experience an enjoyable sense of self-worth or achievement                      |  |  |  |  |  |  |  |
| Relaxed      | To enjoy a calm state of being free from mental or physical tension or concern     |  |  |  |  |  |  |  |
| Relief       | To enjoy the recent removal of stress or discomfort                                |  |  |  |  |  |  |  |
| Respect      | To experience a tendency to regard someone as worthy, good or valuable             |  |  |  |  |  |  |  |
| Satisfaction | To enjoy the recent fulfilment of a need or desire                                 |  |  |  |  |  |  |  |
| Surprise     | To be pleased by something that happened suddenly, and was unexpected or unusual   |  |  |  |  |  |  |  |
| Sympathy     | To experience an urge to identify with someone's feeling of misfortune or distress |  |  |  |  |  |  |  |
| Worship      | To experience an urge to idolize, honour, and be devoted to someone                |  |  |  |  |  |  |  |

Table 2. Twenty-five positive emotions

To help the respondents rank the emotions, we used four A3 white paper sheets divided into five columns. The first and the fifth columns of the ranking sheets were marked with the following headings: 'infrequently experienced' and 'frequently experienced'; 'I would not like to experience' and 'I would like to experience'; 'I would not like to elicit' and 'I would like to elicit'; 'easy to elicit' and 'difficult to elicit'. The choice of a five point scale is based on trails conducted during a pilot study.

#### 2.1.3 Procedure

The study was completed individually in a quiet room. The session started by presenting the twentyfive emotion cards. Participants reviewed them and were asked to take out those that they were not familiar with. Then they were told that this study focused on durable products, which were defined to them as manufactured items expected to have a relatively long useful life after purchase, e.g. household appliances. They were also informed that their ranking was going to be the starting point for an interview. Next, they were asked to rank the emotions based on the first quality, see Table 1. After the first ranking, the participants were interviewed with the intention to generate insights about their choices. Next, the participants were asked to rank the emotions based on the second quality, which was also ensued by an interview. At the end of each ranking a photograph was taken for further analysis. The interviews were completed in about 30 minutes and were audio recorded and transcribed.

#### 2.2 Results

This section presents the results for users and designers

#### 2.2.1 Users

Users were, in general, familiar with the twenty-five emotions. However, dreamy, euphoria, and worship were taken out of the study by three participants, while lust and enchantment by two. The average values for both qualities (i.e. preference and frequency) were calculated and plotted in Figure 1, while the actual numerical values for each emotion are in Appendix 1.

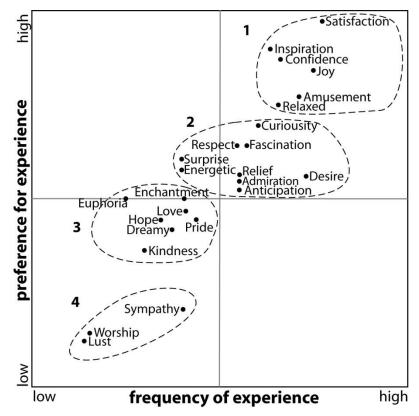


Figure 1. User results per emotion based on frequency and preference

Figure 1 shows that the emotions follow a diagonal pattern, from the bottom-left quadrant to the topright quadrant. Based on data analysis, four groups of emotions were identified as follows: Group 1 includes emotions that were highly preferred and frequently experienced; Group 2 includes emotions that were moderately preferred and experienced; Group 3 includes emotions that were moderately disliked and infrequently experienced; and Group 4 includes emotions that were highly disliked and infrequently experienced.

#### Frequency and preference of experience

Group 1 includes six emotions: satisfaction, joy, confidence, inspiration, amusement and relaxed. In general, a sign that these emotions were frequently experienced is that users could easily recall them and provide examples as well as link them to products. An example of the latter is: U10 'I have a music instrument that I feel *relaxed* and *joyful* with'. Regarding preference, three reasons were identified to explain why users would like to experience them with durable products. First, they like to experience these emotions because they bring goodness. An example of this is: U15 'I would like to feel these emotions because these are emotions that I like to feel, like in a day to day basis'. Second, they think that experiencing these emotions is valuable; it is a sign of having made a good product choice because the product fulfills their needs. An example of this is: U11 'It is quite important that you develop a kind of *satisfaction, confidence, respect,* especially in products that you need'. Third, they believe that these emotions are expected from human-product interactions. An example of the latter is: U14 'At the end of the day when you buy something you want to get *satisfaction* from it, you want to be *amused* by it, have *joy* with it. I think that *confidence* is also important; you do not want something that you cannot trust or rely on'.

Group 2 includes nine emotions: curiosity, respect, fascination, surprise, energetic, relief, desire, admiration, and anticipation. Three reasons were identified to explain why they are moderately preferred and experienced. First, these emotions may be suitable just for some product categories or situations. An example of this is: U14 'I experience *anticipation* only with some products, perhaps the feeling is boosted because you have to wait longer to get it'. Second, these emotions seem less interesting than those in Group 1. An example of this is: U1 '*Relief* is experienced when the product has done its job, it has performed its function'. Third, experiencing some of these emotions seems to raise moral concerns. An example of this is: U6 'when experiencing *admiration*, the focus is on the product and I feel manipulated'

Group 3 includes seven emotions: euphoria, enchantment, love, pride, hope, dreamy, and kindness. One reason was identified to explain why they are infrequently experienced and moderately disliked. Users seem to reject the idea of experiencing these emotions towards products. An example of the latter is: U5 'I do not get particularly *enchanted* or *euphoric* about a product; nothing really stretches up to the point where satisfying like, or well, I get those great wings of moods about products'.

Finally, group 4 includes three emotions: lust, worship, and sympathy. Users found difficult to recall or associate these emotions to products. An example of the latter is: U1 'I just do not associate these emotions with products'. In addition, users reject the idea of experiencing these feelings towards products. An example of this is: U2 'I do not *worship* products. I do not *lust* products. I do not want to *love* products at all'.

#### Additional findings

Based on their preferred emotions, participants reported to have a good impression of products which elicit positive emotions. An example of their answers is: U12 'If I have a product that elicits these positive emotions, I would make opportunities to use it more, I would show it off, and promote it'. Participants mentioned that some of the twenty-five emotions are associated to very specific moments of the human-product relationship. For example, anticipation, desire, and curiosity are emotions that they reported to experience before they own a product. An example of the latter is: U11 '*Curiosity* may not last long. You are *curious* at the beginning but the more you know about the product the less *curious* you are'.

#### 2.2.2 Designers

Designers were, in general, familiar with the twenty-five emotions. However, enchantment, lust, and worship were taken out of the study by two participants. The average values for both qualities (i.e.

preference and difficulty) were calculated and plotted in Figure 2, while the actual numerical values for each emotion are in Appendix 1.

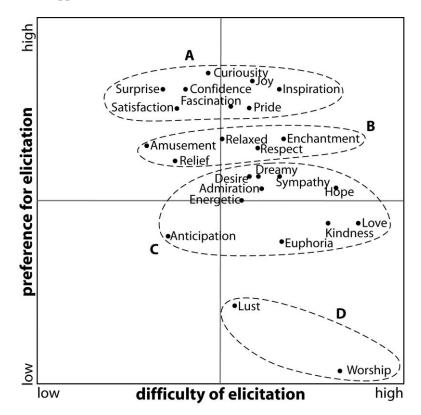


Figure 2. Designer results per emotion based on difficulty and preference

Figure 2 shows that most of the emotions are in the top-left and top-right quadrants. Based on data analysis four groups of emotions were identified as follows: Group A includes emotions that were highly preferred and are not particularly difficult or easy to elicit; Group B includes emotions that were moderately preferred, and are not particularly difficult or easy to elicit; Group C includes emotions that did not stand out in preference and tend to be difficult to elicit; and Group D includes emotions that were not preferred by designers.

#### Preference and difficulty of eliciting the emotions

Group A includes eight emotions: curiosity, joy, confidence, inspiration, surprise, fascination, satisfaction and pride. These emotions were highly preferred and not particularly difficult or easy to elicit. Three reasons were identified to explain why designers highly prefer to elicit these emotions. First, they think that these emotions are appropriate for the designs that they make. An example of this is: D2 'I think *confidence* is really important with medical devices, especially if you got clinical requirements, you want users to be *confident* that it is going to provide them the service that they require'. Second, they have a sense of responsibility to elicit these emotions through designs. An example of this is: D5 'I think that design should offer more than just people being happy with the product, so I feel that I should really bring about *curiosity, fascination* and *inspiration* to them in some way'. Third, they are personally interested in eliciting these emotions through their designs. An example of this is: D10 'I think that *curiosity, desire*, and *confidence* are very important in my designs, and they always should integrate those feelings'.

Regarding difficulty, two reasons were identified to explain why they lie in proximity of the midpoint of this quality. First, designers think that they can rely on their training and skills to elicit these emotions. An example of this is: D4 'I just think that it is part of the training that we all got in product design. I think that is part of how we look at the world. I guess it is just embedded in our education, this is the goal, this is what you need to achieve, and you train yourself to recognise it and design for it'. Second, these emotions seem to be more tangible. An example of this is: D12 'I guess these ones are easier because you can make things and mechanism that make feel people *curiosity* and even

*fascination*. I guess you can make people *proud* by making things that are attractive and valuable. It is not that easy but it is not that hard'.

Group B includes five emotions: relaxed, amusement, respect, enchantment, and relief. These emotions were moderately preferred and not particularly difficult or easy to elicit. Two reasons were identified to explain why designers moderately prefer to elicit these emotions. First, these emotions seem to be the outcome of good design practice. An example of this is: D1 'For *relief*, I would like users to feel glad that they found something that it is easy to use and meets their needs. Once that they are using it I hope they feel *relaxed* using it free from many concerns'. Second, some of these emotions are linked to specific contexts or products. An example of this is: D11 'I am sure that if I was doing something in which the target market was children then *amusement* would be a more commonly used word, but normally I am dealing with adults'. Regarding difficulty, one reason was identified to explain why they lie in proximity of the midpoint of this quality. There are already products that trigger these emotions. An example of this is: D4 'These emotions are hard to achieve but we kind of know what we are aiming for. A lot of Alessi products are related to *amusement* and *enchantment*. We have seen examples that play on those emotions'.

Group C includes ten emotions: dreamy, desire, sympathy, admiration, hope, energetic anticipation, love, kindness, and euphoria. These emotions did not stand out in preference and tend to be difficult to design. Five reasons were identified to explain why designers did not prefer these emotions and why they perceived them as difficult to elicit. First, designers seem to reject some of these emotions. An example of this is: D11 'For me at least if we start to talk about objects being *desirable* it has slightly a negative connotation. I want objects to be compelling not necessarily desirable'. Second, they see these emotions as unpredictable or uncontrollable. An example of this is: D2 'I think a lot of these emotions, sympathy, surprise, love, worship, are feelings that are really unpredictable and each person has a different response to these'. Third, they think that some are very intense emotions to be elicited through artefacts. An example of this is: D11 'For me euphoria is such a high state. It is not necessarily something that you can design for'. Fourth, these emotions seem to be beyond designers' skills. An example of this is: D10 'Actually, many products that people love they were not design for *love*, they just end up being *loved* objects. So, I think that it is a consequence of other issues'. Finally, there is a lack of knowledge about these emotions. An example of this is: D4 'All these emotions, they are all newer in terms of needing to design for, and they are not engrained in our process, in our thinking, in our internal design radar and evaluation criteria'.

Group D includes two emotions that designers would not like to elicit through their designs and these are: worship, and lust. Designers reject the idea of trying to elicit these emotions through their designs. An example of this is: D9 '*worship* because it feels a bit dishonest. I could never say I want someone to *worship* or idolise or anything, I think quite the opposite. Nobody should depend that much on these designs'. Designers also think that worship is too difficult to elicit. An example of this is: D1 '*Worship* would be an extreme reaction not very suitable to most human-product interactions and I mean, if someone were *worshiping* the software or the person who wrote it I would start thinking in terms of restraining orders rather than being flattered and the same with *lust*'.

#### Additional findings

Thirteen out of fourteen participants mentioned that they had intentionally tried to elicit positive emotions. Two were the strategies that they recognised to adopt in the elicitation of positive emotions. The first relies on self-experimentation. A typical example described by a designer was: D6 'the process I usually follow is, I prototype something, test it in lots of people to get their reactions, test what emotional reactions they do have and then tweaking it and test it again until you found out the variable that makes people feel joy or the variable that makes people feels satisfaction because these are really intangible emotions'. Similarly, another designer explained: D11 'things like joy, enchantment, fascination, surprise that is more difficult. I think those are more intangible things and they differ between groups of individuals, so they are contextual matters that one would need to deal with in order to deliver on those, that would be more through ethnographic approach. Expending time with people, inviting them to be part of the development process, seeing actually how they respond to things, if I see that something is eliciting a positive response then I would try to understand what has

elicited that'. The second strategy consists of creating a solid concept. A designer explained: D6 'The most important thing is defining the concept. From the objects that I make most of these emotions are related to aesthetics, and what I mean for aesthetics is not like the superficial treatment but it is also the way the object is generated, the concept from which the shape takes form. Each theme concept gives me the tools to define the design'. Similarly, another designer explained: D7 'I would like to have a good concept that I can transmit to people and that would be meaningful for them'.

# 3 **DISCUSSION**

In this research we have identified the emotions which users frequently experience and prefer to experience, and those which designers prefer and consider difficult to elicit.

First, the results of this research have shown that users and designers can distinguish the variety of positive emotions that were introduced to them in this research. This is important because pleasant experiences embody many types of positive emotions. Second, users and designers were able to rate the emotions. This indicates that users and designers are aware of emotions in general and the qualities studied in this research in particular. This result, however, happened in a set-up in which the twentyfive positive emotions were presented to both groups. Previous research has identified that design students find difficult to articulate names of positive emotions (Desmet, 2012). It seems that they had not developed the emotional granularity, which influences the choice of emotions to design for. Third, the research found that users rated almost 60% of the emotions in the high part of the preference for elicitation quality. This indicates a desire from users to be in contact with products that can initiate these experiences. Fourth, users rated 48% of the emotions in the low part of the frequency of experience quality. This suggests that almost half of the emotions are not often present in the life of these subjects. Further research should establish if these emotions are an opportunity for design or the nature of these emotions is such that they cannot be frequently experienced. Fifth, the designers rated almost 70% of the emotions in the high part of the difficulty of elicitation quality. This suggests that designers think that it is difficult to elicit positive emotions. The main reason given was that many emotions are very intense, e.g. love, worship, inspiration, and euphoria. Sixth, designers rated approximately 72% of the emotions in the high part of the preference for elicitation quality. This indicates that many emotions are of interest to them. It can be questioned if designing for positive emotions is for designers an intentionally targeted objective or not. In this study we identified that to elicit positive emotions designers rely either on self-experimentation or on design concept definition. These approaches, however, seem to be more empirical than systematic. Previous research has also suggested that designers focus on fulfilling product requirements like specific functions, weight limits, and company styles, and only later they develop solutions that are integrated into the final product configuration (see Crilly et al, 2009). Based on the latter, it can be argued that user experience is little designed, and the core that unites it is not considered. It is interesting then to think how product design could change with an emotion centric approach.

From now on the results from the research with users and designers are discussed together with a focus on the qualities *preference of experience* and *preference of elicitation*, and sometimes consideration of the other two qualities. The research showed that there are situations of more or less agreement with respect to how users and designers respectively see their preferences for experiencing and eliciting emotions. Emotions such as satisfaction, inspiration, confidence, joy, amusement and relaxed indicate an agreement between the two groups as designers have a preference for eliciting them, and users want to experience them. The reasons underlying their preference for these emotions are, however, not the same. Users would like to experience them because they are pleasant, expected, and indicative of good product choice. Designers, on the other hand, would like to evoke these emotions because they are of interest, appropriate to their designs, and their elicitation is perceived as a responsibility.

Emotions such as lust and worship indicate also an agreement between the two groups as designers have a very low preference for eliciting them and users do not want to experience them. It seems that these emotions are weakly linked to human-product interaction and they cause ethical or moral concerns in both groups. Future studies can confirm this by directly investigating positive and negative aspects of experiencing these emotions with products.

Finally, the last instance of agreement between the two groups comes from emotions such as hope, love, desire, admiration, dreamy, and energetic, as users and designers attribute average preference to experiencing and eliciting them. This is influenced by personal preferences, understanding of the emotion, and boundaries the emotion, i.e. some people think that it is fine to love objects, while others

think that it is out of consideration. It seems that these emotions are affected by personal values and there is a need to undertake further research to clarify this issue.

Emotions like surprise, pride, and enchantment indicate a deviation between the preferences of the two groups. Designers, in fact, seem to be keener in eliciting them than users are in experiencing them. This may be the result of the specific interests of the two groups. We will explain this with the case of the emotion pride. The interest of designers in pride may be due to its positive effect on people's self-esteem. On the contrary, users mentioned that some products help them show how they want to be perceived. This is a self-centred reason. Previous research about pride has shown that it is important in social interactions and gives self-esteem its affective kick (Tracy and Robins, 2007). These researchers also explain that there are two sides of pride. One side is related to one's successes, relationships, and altruism. The other side is related to the "hubristic," "sinful", or "defensive" pride, that is more associated with narcissism (Tracy and Robins, 2007). It may have happened that users focused on the narcissist side of pride, i.e. its negative side. Future research may help understand if, when there is shared interest by users and designers, the positive side of pride emerges and if the same happens with surprise and enchantment. Finally, it has to be considered that the emotions were grouped based on preference and frequency and on preference and difficulty. Emotions can also be organised based on how pleasant or exciting they are. This is something that we are planning to explore in future studies.

## **4 CONCLUSIONS**

In this research we have explored four qualities of emotions that are relevant to product development. Based on the results of this study, we conclude that users have a clear preference for the emotions which their durable products should fulfil, and designers would like to elicit several of them. This happened with the help of using incentives, i.e. emotional names. With respect to the difficulty of eliciting positive emotions through durable products, the conclusion is that it is a challenging task, and little knowledge exists to support designers. This scenario offers opportunities to carry out research on positive emotions and product design. Users reported that a product, which elicits positive emotions, will most likely increase frequency of use, and likelihood of recommending it to other people. By focusing on positive emotions we are touching on one of the core aspects of User Experience and acting towards fulfilling the desire of increasing users' well-being. The latter may be possible when designers identify which positive emotions can improve the human-product interaction. Aiming to elicit the identified emotions can guide the design process and its solution.

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| Users        |    |           |           |            |           | Designers |            |           |               |           |
|--------------|----|-----------|-----------|------------|-----------|-----------|------------|-----------|---------------|-----------|
|              |    | Frequency |           | Preference |           |           | Preference |           | Difficultness |           |
|              | N  | Mea       | Std.      | N          | Std.      | N         | м          | Std.      | M             | Std.      |
| Emotion      | N  | n         | Deviation | Mean       | Deviation | N         | Mean       | Deviation | Mean          | Deviation |
| Admiration   | 14 | 3.21      | 1.05      | 3.21       | 1.25      | 14        | 3.14       | 1.17      | 3.36          | 1.08      |
| Amusement    | 15 | 3.87      | 1.19      | 4.13       | 0.99      | 14        | 3.71       | 1.07      | 2.29          | 1.44      |
| Anticipation | 15 | 3.20      | 1.37      | 3.13       | 1.46      | 14        | 2.71       | 1.38      | 2.43          | 1.40      |
| Confidence   | 15 | 3.67      | 1.11      | 4.53       | 1.06      | 14        | 4.21       | 1.12      | 2.64          | 1.08      |
| Curiosity    | 15 | 3.47      | 1.13      | 3.80       | 0.77      | 14        | 4.36       | 0.74      | 2.93          | 1.27      |
| Desire       | 14 | 3.93      | 1.14      | 3.21       | 1.53      | 14        | 3.29       | 1.33      | 3.21          | 1.31      |
| Dreamy       | 12 | 2.50      | 1.51      | 2.75       | 1.36      | 14        | 3.29       | 1.33      | 3.29          | 1.49      |
| Enchantment  | 13 | 2.69      | 1.49      | 3.00       | 1.00      | 12        | 3.75       | 1.22      | 3.75          | 1.14      |
| Energetic    | 14 | 2.71      | 1.07      | 3.36       | 0.93      | 14        | 3.00       | 1.30      | 3.21          | 1.31      |
| Euphoria     | 12 | 2.00      | 1.04      | 3.00       | 1.04      | 14        | 2.64       | 1.15      | 3.79          | 1.58      |
| Fascination  | 15 | 3.33      | 1.05      | 3.60       | 0.99      | 14        | 4.07       | 1.14      | 3.14          | 1.46      |
| Hope         | 15 | 2.47      | 1.41      | 2.80       | 1.01      | 14        | 3.14       | 1.17      | 4.21          | 0.97      |
| Inspiration  | 15 | 3.53      | 0.99      | 4.60       | 0.63      | 14        | 4.21       | 1.05      | 3.71          | 1.07      |
| Joy          | 15 | 4.00      | 1.07      | 4.40       | 0.74      | 14        | 4.29       | 0.99      | 3.36          | 1.15      |
| Kindness     | 15 | 2.27      | 1.28      | 2.53       | 1.36      | 14        | 2.86       | 1.46      | 4.14          | 1.10      |
| Love         | 15 | 2.73      | 1.33      | 2.93       | 1.44      | 14        | 2.86       | 1.17      | 4.50          | 0.85      |
| Lust         | 13 | 1.69      | 0.85      | 1.46       | 0.66      | 12        | 1.92       | 1.08      | 3.17          | 1.40      |
| Pride        | 15 | 2.80      | 1.32      | 2.80       | 1.42      | 14        | 4.07       | 1.07      | 3.29          | 1.38      |
| Relaxed      | 15 | 3.67      | 1.05      | 4.07       | 0.70      | 14        | 3.71       | 1.38      | 3.07          | 1.21      |
| Relief       | 15 | 3.27      | 1.22      | 3.33       | 1.40      | 14        | 3.43       | 1.50      | 2.57          | 1.28      |
| Respect      | 15 | 3.33      | 1.23      | 3.60       | 1.24      | 14        | 3.64       | 1.15      | 3.36          | 1.22      |
| Satisfaction | 15 | 4.13      | 0.74      | 4.93       | 0.26      | 14        | 4.07       | 1.14      | 2.50          | 0.94      |
| Surprise     | 15 | 2.60      | 0.99      | 3.40       | 0.99      | 14        | 4.21       | 1.42      | 2.43          | 1.50      |
| Sympathy     | 15 | 2.27      | 1.28      | 1.87       | 1.19      | 14        | 3.29       | 1.27      | 3.50          | 1.16      |
| Worship      | 12 | 1.75      | 0.96      | 1.50       | 0.90      | 12        | 1.17       | 0.39      | 4.33          | 0.98      |

# **APPENDIX A**