

CONTENDING STIGMA IN PRODUCT DESIGN USING INSIGHTS FROM SOCIAL PSYCHOLOGY AS A STEPPING STONE FOR DESIGN STRATEGIES

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ABSTRACT

Assistive, protective or medical products that are visibly worn or used in proximity to the human body can have an emotional impact on their users and bystanders. In his design effort it is important for a designer to be mindful of the potential stigma a product might elicit.

The identity threat model of Major (2005) is used as a stepping-stone towards a conceptual structuring of product related stigma issues that could engender vital specifications for a stigma-free design approach. Our conceptual framework encompasses four context modalities and suggests three strategies to contend product related stigma. In a first strategy we situate efforts towards understanding the social and societal context in which products are launched and perceived. A second strategy addresses efforts that the designer can direct towards re-shaping the meaning of the product. A third strategy groups efforts towards empowering the user against stigma.

Keywords: Human Centered Design, Product Semantics, Stigma, Product Acceptance

INTRODUCTION

In this article we address the subtle, clearly visible and even invisible reactions that people who use or wear potentially stigmatizing products are confronted with. Some of these recurrent and all too familiar experiences include: the frustration of having to wear or use a product that damages ones self-esteem, the desire to be perceived as normal, the relief when a passer-by did not notice ones assistive or protective

device. Understanding the individual and social processes behind such experiences might assist designers and companies to 'design against stigma' and relieve product-users from the stress of employing these potentially stigmatizing products. Securing these processes may ultimately even boost the users self-esteem and global feelings of self-worth, self-regard, or self-acceptance; aspects raised by Rosenfield (1997) as central to one's psychological wellbeing, coloring the affective tone of one's daily experience.

This article seeks to transfer and 'translate' insights from social psychology and design research on this topic to the realm of the designer, by providing a deeper understanding of the attribution of product related stigma and the relevant context variables. The Identity Threat Model of Major (2005) is used as a stepping-stone towards three speculative design strategies that expose sensitivities and pitfalls rarely revealed by existing methodology, and which potentially supply vital specifications for a stigma-free design approach.

Tactical and operational tools are currently being developed and will soon follow this publication.

STIGMA AND PRODUCT DESIGN

In the last 10 years, interest in the concept of stigma has grown throughout social sciences and design research. Stigma is an important topic that bridges many disciplines, including sociology, clinical psychology, social psychology, and public health. In our literature review we discovered sociologists and psychologists who have expanded upon the definition

of stigma and added determining factors to the phenomenon of product related stigma.

Goffman (1963) introduced 'visibility' as an important factor in the stigma experience. Having a highly visible stigma, such as a potentially stigmatizing product, causes a person to be 'discredited' instead of merely 'discreditable' as it is in cases in which the stigma can be concealed (HIV/AIDS,...) (Goffman 1963). Jones et al (1984), contribute to Goffman's (1963, p. 4) observation that stigma can be seen as a relationship between an "attribute and a stereotype" to define stigma as a "mark" that links a person to undesirable characteristics.

Falk (2001) differentiated between two types of stigmatizing conditions based on the 'cause' of the stigma: 'existential stigma' (e.g. mental illness, race/ethnicity) where the person did not cause or has very little control over the stigma; and 'achieved stigma' (e.g. prisoners, homeless people) where a person has earned a stigma because of his or her own conduct and/or because he or she contributed heavily to attaining it.

Products that can be linked to an existential stigma include wheelchairs, crutches, or obliged protective devices. Products such as piercings, dust masks worn in an unusual context, extreme fashion, political symbols, can engender an achieved stigmatic condition.

Indeed, in some cases the wearer or user of such products conscientiously seeks to be a part of a stereotype that is known to provoke or agitate societal standards. From the perspective of these product-users, their stigma, and any reactions they cause others to have might actually be 'enjoyed'.

In general, a stigmatized person in the 'achieved stigmatic condition' (Falk, 2001) is perceived as responsible for his condition. Viewed from the perspective of the bystander or passer-by, they are more likely to respond to him or her, with avoidance reactions and are less likely to pity the stigmatized.

THE UNIVERSAL DIMENSIONS OF SOCIAL COGNITION: WARMTH AND COMPETENCE

For a stigma-sensitive design challenge, it might be useful for a designer to consider whether his product proposal is capable of 'semantically' enhancing the users social image. To clarify why we stigmatize people or objects, and the subsequent behavioral

tendencies and emotions, we refer to the dimensions of social cognition proposed by Fiske et al. (2007). Fiske and colleagues propose two dimensions of social judgment across stimuli, cultures and time (figure 1). These two dimensions, warmth and competence, are reflected in the answers to two basic survival questions: first, and crucially, does the other person or group intends to harm or help me (or us) (warmth)? Secondly, does the other have the ability to enact those intentions (competence)?

The warmth dimension captures traits that are related to perceived intent, including friendliness, helpfulness, sincerity, trustworthiness and morality, whereas the competence dimension reflects traits that are related to perceived ability, including intelligence, skill, creativity and efficacy.

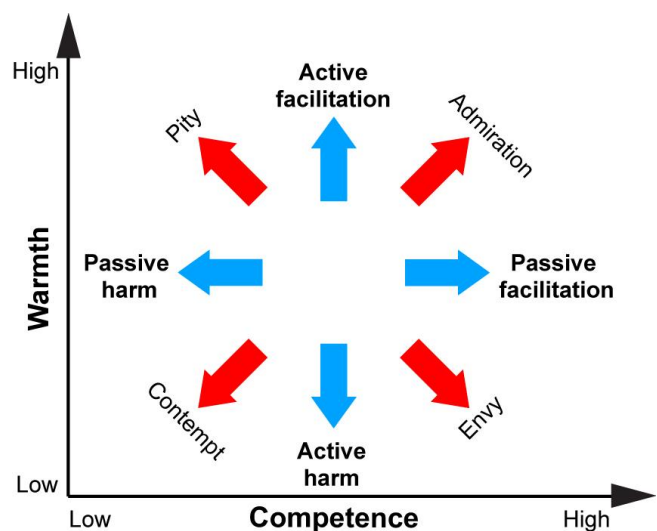


Figure 1. BIAS map: schematic representation of behaviors from intergroup affect and stereotypes. The red arrows represent emotions and the blue arrows represent behaviors. (Cuddy et al., 2007)

Distinct types of discrimination result from each warmth-by-competence combination (figure 1). Being primary, the warmth dimension predicts active behaviors: active facilitation (helping) versus active harming (attacking). Being secondary, the competence dimension predicts passive behaviors: passive facilitation (association) and passive harm (neglect).

IDENTITY THREAT PERSPECTIVES IN SOCIAL PSYCHOLOGY

A recent evolution in social psychology is that scholars define stigma more in terms of a person's 'social identity' and have begun to highlight the importance of specific social contexts. Crocker et al.

(1998, p. 505), for example, argue that 'the single defining feature of social stigma is that stigmatized individuals possess (or are believed to possess) some attribute, or characteristic, that conveys a social identity that is devalued in a particular social context'. (See also Jones et al. 1984)

The identity threat theory of Major (2005) is chosen as a starting point in our theory building process because it helps to explain the tremendous variability across people, groups, and situations in responding to stigma. Major's model of stigma-induced identity threat contends that possessing a consensually devalued social identity (a stigma) increases one's exposure to potentially stressful (identity threatening) situations. Whether a target person will actually judge a situation as socially devaluating and threatening to his identity depends, according to the model, on several situational variables.

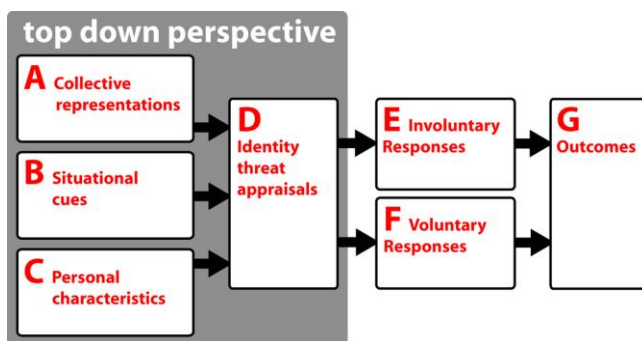


Figure 2. Interpretation of the identity threat model of stigma according to Major (2005)

In her article "The social psychology of stigma", Major (2005) defines 3 context specific input factors that potentially lead to an identity threatening or stigmatizing situation (figure 2).

- *Collective representations* (box A) are developed and shared understandings of the dominant view of a stigmatized status in society including how people of a specific social group think about themselves in their society.
- *Immediate situational cues* (box B) are structured situations that signal that one is at risk of being devalued, negatively stereotyped or discriminated against because of one's social identity.
- *Personal characteristics* (box C) that influence how situations are perceived and appraised; the significance of those situations for somebody's wellbeing.

Identity threat (box D) results when an individual appraises the demands imposed by a stigma-relevant stressor as potentially harmful to his or her social identity, and as exceeding his or her resources to cope with those demands. The Responses to identity threat can be involuntary (box E) (e.g., anxiety, increased vigilance, and working memory load) or voluntary (box F) (e.g., coping efforts). Both involuntary and voluntary responses can be distinguished from the outcomes (box G) of those responses, such as self-esteem, academic achievement, and health.

In this article we focus on what Major (2005) calls the "top down perspective" of stigmatization, or the stigmatization process from the perceivers' point of view towards the target(s) (Figure 2: from A, B & C towards D). This side of the identity threat model presents the most potential for anti-stigma interventions by the designer. By translating insights from this top down perspective of stigmatization, into the appropriate design interventions, the designer has the potential of terminating the product-stigma attribution before or during the appraisal phase.

FOUR CONTEXT MODALITIES

We start by stating that the attribution of a stigmatizing meaning to a product depends on its context.

Products, as well as words, have no meanings as such. Likewise Krippendorff (2006, p.185) states: '*the significance of an object is the total of all contexts in which it can be found*' and further: '*humans do not respond to physical properties of things i.e. their form, structure and function, but to their individual and cultural meanings*'. (p. 196)

Major's model encompasses 3 context modalities, those of the individual, his immediate social surroundings and society; to which we would like to add the context modality of the physical product. According to his world philosophy 'A theory of everything', Wilber (2000) demonstrates that evidence is found for an integral approach of sciences by developing profound understanding of all reality contexts in which they are deployed. He refers to medicine, business, ecology, psychology, psychotherapy, criminology, and art, to name a few. These disciplines make use of his AQAL (All

Quadrants All Levels) model, which discerns the 4 context modalities of an integral, total reality, displayed on two continuums in figure 3.

The upper right is the exterior individual quadrant and focuses on what is exterior to individuals, the realm of the exact sciences, including everything related to artifacts. The lower left quadrant is the interior collective quadrant and relates to the interior of the collective – all the shared values, perceptions, worldviews and background of cultural contexts'; the cultural/societal context in our model (box A, fig. 2). The lower right quadrant is the exterior collective quadrant and has a focus on the exterior of the collective, such as techno-economic structures, environmental networks and social systems. Represented in our model by 'social groups' (box B, fig. 2). The upper left quadrant is the interior individual quadrant and relates to the interior consciousness as it appears in individuals, the product-user in our model (box C, fig. 2).

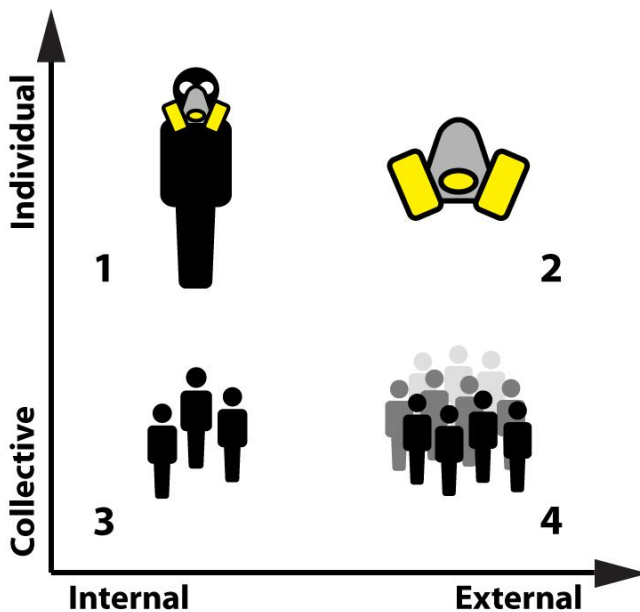


Figure 3. Interpretation of the all quadrants all level model, presented by Wilber, stating four context modalities.

THREE STRATEGIES TO ADDRESS STIGMA IN PRODUCT DESIGN

Based on our previous assumptions and preliminary empirical findings, we propose three design strategies to reduce product related stigma attribution. All three strategies are intertwined, and it is advisable for a designer to direct efforts towards each of the strategies and to combine them accordingly.

At present, these strategies are to be interpreted as a conceptual framework of product stigma issues and examples that might form the basis of a set of tools aimed at designers. Actual tests with designers on real projects are planned in the near future and should provide feedback on the comprehensibility and efficiency of these strategies.

- Re-shaping the socio-societal context (A).
- Re-shaping the meaning of the product (B).
- Empowering the product user against stigma (C).

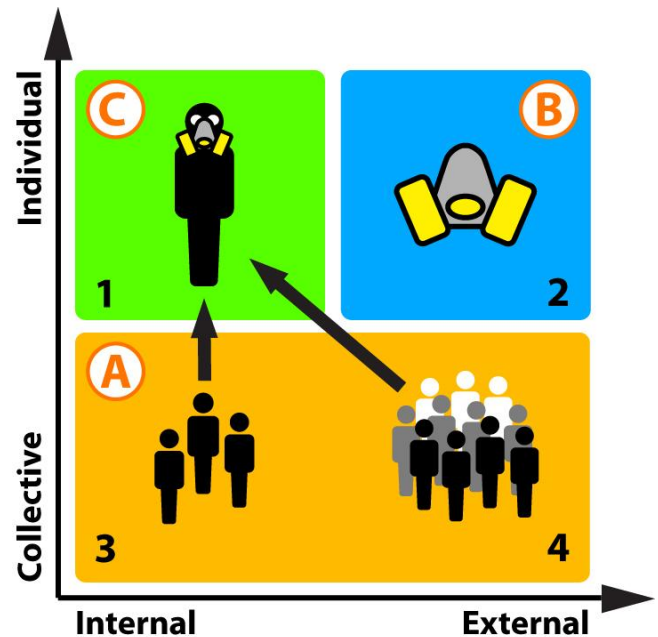


Figure 4. Three strategies to contend product related stigma attribution, projected on the four reality contexts in which products get evaluated: the context of the product as it is designed (1), the context of the individual experiencing the stigma (2), the social context of the observing bystanders and surroundings (3) and the cultural/societal context in which the product is launched (4).

In a first strategy we situate all efforts towards understanding the social and societal context in which products are launched and perceived. Because the social and societal contexts are strongly intertwined we grouped them in the same strategy.

A second strategy addresses all the efforts that the designer can direct towards the context of shaping the physical product. By integrating information from the first and third strategy designers will be able to physically assign new meaning and re-shape the individual and collective image of a product.

A third strategy groups all efforts towards empowering the user, that is, those who use or wear the product. Strategies 1 and 3 are interventions on people, whereas strategy 2 intervenes on the product.

The arrows in the model show how the two collective contexts (social and societal) assign meaning to the stigma-product interaction.

STRATEGY A: RE-SHAPING THE SOCIO-SOCIETAL CONTEXT

Gaining insight in the factors that could have an influence on the emotional appreciation of a new product starts by understanding the social context. The consequences of stigma are dependent on the immediate social context and the meaning of that context for the stigmatized person (Crocker, 1998).

Meanings attributed by social groups

Meaning attributed to products not only impacts the physical world and that of its users, it also has a substantial impact on the social context it resides in. This is the context in which users are perceived and evaluated and corresponds with the immediate situational cues (box B in fig. 2) in Major's model. Negative or stigmatic reactions of bystanders, passers-by or people within the social interaction range of the product user are an example of negative social appreciation. We believe that during the human-product interaction with a stigmatizing product, the wellbeing of the user can be strongly influenced by the reactions of his immediate social surroundings (bystanders or passers-by). A strong or visible reaction from their part can be viewed as an identity threat and has the potential of damaging the self-esteem of the product user.

In this context we situate aspects such as product stereotypes, or shared meanings or associations that are linked to a specific product.

Meanings attributed by society

Bystanders, passers-by or groups might in turn be influenced by a broader objective source of product stereotypes that is shaped by societal structures and values, and vice versa. In this article society is seen as the broader systemic structured entity in which groups and cultures are living. Consequently, the stakeholders in this context have to be seen as active and intelligent members of organizations, speaking and acting on behalf of absent others, in the name of institutions or missions.

In Major's model this context is described as collective representations (box A in fig. 2). Collective representations are shared beliefs or shared systems of meaning. They may take the form of cultural stereotypes, understandings of why one's group occupies the position it does in the social hierarchy, and even ideologies. Virtually all members of a culture, including members of stigmatized groups, are aware of cultural stereotypes, even if they do not personally endorse them (Steele, 1997).

An important difference with the previous context is that these collective representations may create what Claude Steele (1997) calls "a threat in the air".

Because they are widely known and shared in the culture, or among the stigmatized, these collective representations can affect the behavior of the stigmatized in the absence of obvious forms of discriminatory behavior on the part of others, and even when no other person is present in the immediate situation. (See Crocker, 1998, for a similar reasoning)

An unfinished list of aspects that can be assigned to stigmatizing product and its user or wearer by social groups or societal values include:

Products can pose a threat to others. - Products can induce aversive emotions. - Products can display a social identity that is under-appreciated in a certain context. - The possession of a particular product may lead to rejection - Products can arouse feelings of compassion. - Products can surpass social boundaries. - Products can be rejected based on evolutionary origins (deeply entrenched and resistant to change). - Products can induce societal respect.

Design interventions

As a response to product related stigma in this context, one should choose interventions that either produce fundamental changes in attitudes and beliefs or change the power relations that underlie the ability of dominant groups to act on their attitudes and beliefs. (Link, 2001)

In the case of integrating 'undesirable' products in public life we can think of government funded campaigns or interventions that educate or change public views. These strategies will not engender change overnight, but they can be valuable in preceding or supporting any design effort.

By installing senior friendly public furniture, society promotes social interaction (E.g. figure 5).



Figure 5: The 'Vivanti senior bench' (Velopa) allows seniors to discreetly 'park' their walker in the middle of the bench, allowing them to participate in the conversation.

By considering the public view or debate surrounding a product, the designer can tap into a valuable source of information. Products exist in language even before they become products in use. Moreover, they continue to live long after they dropped out of people's understanding. 'The fate of all artifacts is decided in language' states Krippendorff (1984). Designers could influence people's 'language' and shared understandings by increasing the visibility or social image of a specific product. The sheer 'visibility' of a product in social media such as TV, publicity, magazines, internet or the fact that the product is used or endorsed by influential political or media figures greatly impacts its acceptance (E.g. figure 6).



Figure 6: The German Worishofer sandal, primarily worn by European women as medical sandals and shun by European trendsetters, they suddenly hippped in the US amongst the under-40 and sartorially inclined. It all started with a mention in an influential shopping magazine that called them "chic" and "ridiculously comfortable". After the mention, mainstream media outlets began covering the shoe. Soon they were spotted on the feet of celebrity icons like Maggie Gyllenhaal and Michelle Williams.

STRATEGY B: RE-SHAPING THE MEANING OF THE PRODUCT

The context that is best understood by designers is the appearance of the product in its immediate physical context. Aspects such as shape, material qualities and other sensory aspects all belong to the

physical context. By its appearance and other sensory aspects a product has the potential of imposing an identity threat on its user or wearer, both physically and psychologically.

Pullin (2009, p15) asserts that the priority of design for disability, or that of protective devices, has traditionally been to enable (or protect), while attracting as little attention as possible.

In design literature, Jacobsen (2010) focused on the stigma associated with assistive devices and explored means for overcoming it. She derived three categories: disguising the stigmatizing features, turning attention from the stigmatizing features to other features, and transforming stigmatizing features into features that convey prestige or status.

Our conceptual model, instead, suggests two opposite strategies to address product related stigma: product identification or de-identification, complemented with three strategies that address issues related to meaningful interactions with other products, advances in materials and technology, and evolutions in product use.

Reshaping product meaning by de-identification

A first set of interventions is grouped under the name of de-identification. These interventions all relate to concealment of or turning attention away from stigmatizing features. These interventions can be seen as reactive or flight strategies and involve defensive attempts to artfully dodge, avoid or reduce the impact of stigma, without actively challenging it.

Camouflage - disguise

The aim of this strategy is to camouflage or disguise and can be exemplified by the use of translucent or skin colored material to hide the obtrusiveness of certain design features. Prostheses are often made from flesh colored material in an attempt to camouflage them against the skin, often sending out the signal that impairment is something to hide.

Diversion of attention

This intervention actually suggests us to search for a diversion of attention, away from the stigmatizing feature, towards more appealing or eye-catching features. This diversion of attention can be realized within the object itself, by attracting attention away

from the awkward or stigmatizing features, or by attracting attention towards another product within the visual scope of the bystander. E.g. Instead of focusing on the dust mask, a designer can concentrate his effort on designing a conspicuous scarf or hat that accompanies it.

Reshaping product meaning by identification

'Identifying with a product' entails that a person wishes to associate himself with that product, and possibly values it as an extension or addition to his or her personality. The product gets an extrinsic value or meaning that can be added to his or her personality, almost as an extension of that person. This strategy is commonly used in many areas of product design. Personalization enables the user to select or alter the product in such a way that it matches and expresses his or her identity, by providing lifestyle elements for example. If properly integrated this intervention can imply feelings of pride, joy, status and a sense of belonging instead of shame and stigma.

By personalizing a product's appearance, the consumer directs time, effort, and attention to the product. In other words, the consumer invests energy in a product. Several scholars have argued that for instance product attachment is related to the psychical energy invested in a product (Belk 1988, Csikszentmihalyi et. al 1981).

Design interventions in this strategy can be directed towards redefining or strengthening the identity of the product in one or more of these domains:

- *Individual identity*: means incorporating aesthetic individuality through mass customization, or by enabling users to incorporate their own 'creative signature'. In figure 7 we see a child with a classic white brace and two options to incorporate and express his identity.



Figure 7. The 'Exos medical brace'

- *Institutional identity*: is linked to an organization and roles people play within that organization. E.g. wearing a mask in a hospital environment as part

of a uniform when entering a patients' room and the appropriate status that is linked to this identity.

- *Group identity*: belonging to a social group or culture, gender, profession, race, nationality. The individual identity becomes part of the group identity. A user can challenge stigma by approaching, or identifying more closely with their group (Allport 1954). Groups can provide emotional support, social validation for one's perceptions, and a sense of belonging.



Figure 8. The bicycle courier and their 'aggressive' dust masks help them to move through traffic in a more assertive way / the D.O.C. Reversible Safety Vest is leather on one side, and fluorescent nylon with reflective striping on the exchange side, designed to make the 'toughest' riders more visible.

- *Brands expressing organizational identity*: Products and services being delivered in a consistent way, according to set standards. Loyalty of buyers and customers relies on this identity through brands. For example: Designer masks



Figure 9. Masks designed by Gucci, Channel, and Versace

However effective, caution is required, these identification strategies all aim for 'extrinsic' identification by adding ego-enhancing features that do not necessarily makes a user stronger. If a user is dependent on these features for his wellbeing, he can become more vulnerable in their absence.

Reshaping product meaning through meaningful interaction with other products.

The three strategies we discussed so far are all connected through meaning and human involvement. This strategy addresses how products relate to each

other meaningfully. It deals with what products do to each other as a consequence of how humans conceive them; it is the net effect of how stakeholders act with products.

Krippendorff states that these interactions between products can be cooperative, competitive or independent. A way to grasp this context is by studying the number of a specific kind of products in relation to the number of existing reference products. This relation can show parallel increase or decrease, inverse evolution in numbers or no relation at all in the evolution of their numbers.

Let us clarify these statements with some examples.

By introducing an improved dust mask that is accepted and worn by a large section of the population, it becomes more 'visible' and will slowly find its accepted position within the collective representations of society.

Products that copy or complement each other's typology can produce strong design outcomes. Figure 10 shows a bike helmet and how it can be complemented with a widely accepted product such as a fashionable hat or cap (see A, fig. 10). The same is true for a snowboard helmet that seeks reinforcement through integration with a bonnet (see B, fig. 10).



Figure 10. Bike and ski helmets that refer to existing and more fashionable head-pieces. (A. Yakkay helmets – B. Ribcap)

Reshaping product meaning through advances in material and technology

Design is a continuous circular process of further developing artifacts. New technologies or advances in material technology can offer new opportunities to designers. Artifacts undergo transitions throughout their different life cycles (E.g. figure 11)



Figure 11 'Supersonic Stick' (by Minhye Kim), is a wrist-worn accessory that can escort the blind. By incorporating sonar technology in a wrist-worn accessory blind people no longer need their blind canes. The 'Supersonic Stick' sends out ultrasonic pulses, and with the spatial information it receives in return, it communicates oncoming obstacles to the wearer in the form of resonant or vibrating messages.

Reshaping meaning of products in use

Apart from being 'unwanted', products can also be irritating, cumbersome or impractical.

Products are in constant 'motion' and their meanings not only change over time, but also in their modalities of use. By interacting with them, users gradually learn more about their products and they progressively understand them better. During this process their understanding changes continually. By making a bike-helmet foldable, we eliminate the cumbersome issue of storage.

The product family of the hearing aids displays a great product variety and presents a valuable illustration of some of the above-mentioned strategies.



Figure 12. Hearing aids have shaken off their camouflage design language based on de-identification (skin-colored – A) and translucent – B), couple themselves with glasses (meaningful interaction – D) and have evolved into items that express status and pride (identification figure – C & E). The German 'Designaffairs Studio' states: "Rising self-confidence is taking prostheses to another level. People don't try to hide their handicap anymore. Show what you've got, don't make a fuzz about your problem and wear your hearing aid like a piece of jewelry – a stretched earlobe piercing (E)." SoundsGood (C) is a hearing aid for women specifically designed to look like a classy earring. Depending upon the voice pitch of the speaker the earring displays graphic sound waves in colored signals. Different colors intuitively indicate if you are speaking too shrill, soft or appropriately for the user.

STRATEGY C: Empowering the product user against stigma.

A third option for a designer to cope with stigma in product design is by empowering the user.

In this strategy, which can be linked to the personal characteristics (figure 2, box C) in Major's model, the designer can develop ammunition for users to cope with stigma. 'Empowering products' should deliver intrinsic value and meaning for that person and make a product user feel stronger or more capable. When properly integrated the outcomes of the empowerment strategy can actively involve the user in the anti-stigma intervention and can convert him or her from a passive victim into an active challenger of stigma.

Properly integrated empowerment, combined with the above-mentioned strategies, has the potential of boosting user involvement and increasing user abilities over those who do not own or use the product. Whereas user identification with the final product rarely implies empowerment, empowerment will always imply strong user identification.

A strong focus on the user and his desires remains key in incorporating these ingredients into a specific product proposal. Neglecting this context will result in a misunderstanding of the experience of the people who are stigmatized and the perpetuation of unsubstantiated assumptions.



Figure 13. Training wheels have been a necessary evil for many children and their parents. The 'Gyrowheel' Gyroscopic Training Wheel replaces a bike's standard front wheel and features a battery powered spinning disc inside that creates a "gyroscopic precession" force. This force stabilizes the bike and prevents it from wobbling or falling over. Not only will this product make the lives of parents easier, it will provide a more rewarding training process for children and, according to the company, should empower them with better riding techniques.

Extra-ability

Instead of adding disabilities, an assistive device or prostheses can also increase ones abilities above those of abled users (see figure 13 and 14).



Figure 14. Oscar Pistorius, 'The Blade Runner'. With his prostheses he defeats most abled athlete / Extreme Wheelchair tricks

Emphasis on goals and motives

What are peoples' motives to protect or enhance their self-esteem? Every biker knows that it is wise to wear a helmet to prevent severe head injuries. In an attempt to provide protection without the self-esteem issues connected to wearing a helmet, two Swedish scientists came up with the 'Hövding' helmet, an airbag collar aimed at cyclists that is worn around the neck as a scarf and inflates to enclose the rider's head in the event of an accident.



Figure 17. The 'Hövding' Helmet

Boosting up the users social skills

An alternative way to challenge stigma is to compensate, or strive even harder to overcome obstacles (Allport 1954, Miller & Myers 1998). If a user believes that a stigma might have a negative impact on an interaction he can compensate by bolstering his social skills.

CONCLUSIONS

Starting our quest with an identity threat model in social psychology, finding top down evidence of product related stigma attribution in social settings, led us to three strategies to contend stigma in product design. Designers could consider addressing any or all three of these strategies, to reduce product related stigma attribution before or during the appraisal phase, as indicated in the identity-threat model. Major's identity threat model provided a valuable stepping-stone toward our conceptual model.

Not only did it reveal parallel context approaches in social sciences that complement design research literature; it's top down perspective clearly marked where the designer could strategically reduce the product related stigma attribution.

The three strategies address four reality encompassing contexts in which the products gets evaluated: the context of the product design itself, the context of the individual experiencing the stigma, the context of the observing bystanders and surroundings, and the cultural/societal context in which the product is launched.

A first strategy groups these last two contexts and provides insight to understand and re-shape the social and societal context in which products are launched and perceived. Integrating this knowledge in an early phase of the design process will enable a designer to make an inventory of and surpass collective representations and product stereotypes within groups and the broader societal structures. The understanding that collective representations can affect the product related stigma attribution, even in the absence of other people, is a valuable insight to take into account.

A second strategy suggest the designer to re-shape the meaning of a product by considering physical interventions on the product that may engender new meanings of products through de-identification or identification, in use, over time, through advances in material and technology and through meaningful interaction with other products.

Our final strategy proposes the designer to search for means to empower the user and promote him from a passive victim to an active challenger. Strategies for the user to actively challenge the product related stigma attribution include: true empowerment or the actual increase of ability over abled people,

emphasizing goals and motives, or boosting social skills. Incorporating true empowerment gives evidence of higher product integrity and has the potential to intrinsically reinforce the users capacities to eradicate product related stigma.

Following this theoretical framing we started the development of a comprehensible set of tactical and operational tools, tailored to the designers needs.

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