

# Retrospective Automotive Design and Innovative Meaning Making: The influence of retro design features

Kyohwe Goo<sup>1</sup>, James A. Self<sup>2</sup>, Yunwoo Jeong<sup>3</sup>

<sup>1,2,3</sup>Department of Design and Human Engineering UNIST, Ulsan, Korea

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## Abstract

**Background** The current study explored the role of retrospective design in creating innovations in meaning within the field of automotive design. To achieve this, we focused on the Mini Cooper as an exemplary case study of the application of a retrospective design approach and implications for the meaning of the new Mini model.

**Methods** We conducted surveys of participants to examine responses to retrospective design features in terms of their influence upon the three meaning constructs: personality, context & story and reference with form.

**Result** The results indicate how more integral design features had the greatest influence upon the expression of the original within the retrospective contemporary version.

**Conclusions** Implications for understanding retrospective automotive design and its potential to drive innovative meaning making is briefly discussed.

**Keywords** Design Reasoning, Innovation in Meaning, Automotive Design

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This work was supported by the 'Promotion of Special Design-Technology Convergence Graduate School' of the Korea Institute of Design Promotion with a grant from the Ministry of the Trade, Industry & Energy, Republic of Korea (N0001436).

*Citation:* Koo, K., Self, J. A., & Jeong, Y. (2016). Retrospective Automotive Design and Innovative Meaning Making: The influence of retro design features. *Archives of Design Research*, 29(1), 61-77.

<http://dx.doi.org/10.15187/adr.2016.02.29.1.61>

**Received :** Nov. 23. 2015 ; **reviewed :** Dec. 31. 2015 ; **Accepted :** Jan. 12. 2016

**pISSN** 1226-8046 **eISSN** 2288-2987

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## 1. Introduction

The term retrospective can be defined as drawing from the past or contemplative of past situations. ("retrospective," 2012). Retrospective (retro) design is part of a product category present in different market segments which attempt to draw upon the past, or perception of positive ideals associated with the past, to manage the challenges of the future (Castellano, Ivanova, Adnane, Safraou, & Schiavone, 2013). As such, retrospective design can help build a contemporary design's heritage, adding to brand value and generating positive emotions and trust, with the potential to promote attachment and commitment (Rose, Merchant, Orth, & Horstmann, 2015).

As such, contemporary retro automotive design attempts to embed certain design features from the original car to provide opportunities to express the distinct qualities of the original in the redesign of the contemporary model. Figure 1 provides some examples of contemporary retrospective automotive design. The two images above illustrate the American Ford Mustang 1969 model (left) and its contemporary 2015 version (right). Below two illustrations of the Fiat 500, produced by the Italian manufacturer Fiat, show how the form language and design features are carried across from the original to the contemporary model. This thus provides opportunities to express the meaning of the original in its contemporary version. In case of the Mustang pictured in Figure 1, the 2015 model shares the original basic lines and proportions and similar front and rear faces (Undercoffler, 2013).



**Figure 1** Ford Mustang (1969 left and 2015 right) and Fiat 500 (1957 left 2015 right)

The potential for retro design, also termed neo-retro design in the automotive industry, to instill leverage the values or perceived values of the original in the contemporary version has the potential to revitalize the brand and product (Fort-Rioche, 2013). However, retro design is by no means a guarantee of market success. For example, the 2015 Ford Mustang (Figure 1) has divided opinion for being too similar with the current range offered by its manufacturer, Ford. This has resulted in a perceived loss of identity through a too radical departure from its original heritage (Undercoffler, 2013). On the other hand, the successful case of the Fiat 500 provides evidence of how retro design may be used to drive innovative meaning making. Not iconic in its period, the 500's retrospective redesign has proved successful in its ability

to capture the imagination in its provision of historic and cultural references to the original and its Italian pedigree. These two cases illustrate the ways in which care must be taken in embedding retro design features to drive the meaning of a contemporary model as both design icon and modern design. For example, Jaguar aimed to reinterpret its contemporary design with discrete references to its past (Winter & D.Stoll, 2005) Figure 2.



Figure 2 2015 Jaguar XF (left) 1970 Jaguar XJ (right)

The above image illustrates how Jaguar is attempting to embed retrospective cues to the now iconic original design while maintaining a sense of modernity. For example, discrete referential design features embedded within the original grill attempt to retain and exploit its traditional value to help drive innovative meaning (Patton, 2009).

### 1. 1. Innovative Meaning Making

As Verganti (2009) explains, innovative meaning making leverages the profound psychological and cultural reasons for people to buy and use certain kinds of products. As such, creating new meanings can both provide opportunities to change the product experience for the user and become a building block for a revived business model (Battistella, 2012). Using innovative meaning making as framework to examine retrospective automotive design, the current study explore the BMW Mini as case study of how innovative meaning making can be potentiated through a retro design approach.

A review of the literature of affective response to automotive design identified Hsiao and Chen's study (Hsiao & Chen, 2006) and resulting concepts to underpin an analysis of the user's effective response to a product in terms of implications for meaning making (Table 1).

Table 1 Fundamental Dimensions in Affective judgments, Hsiao and Chen (2006)

Trend factor (T)		Emotion factor (E)		Complexity factor (C)		Potency factor (P)	
T+	T-	E+	E-	C+	C-	P+	P-
	Functional: high	Line: curve, surface: curve, overall form: organic	Corner: sharp, corner: large arc, line: straight surface: flat, overall form: geometric, comfortable: low	--	Element amount: less,	Volume: heavy, element amount: more	--

Employing 20 products from three product categories (Automobiles, Sofas and Kettles), the Hsiao and Chen (2006) study identifies and categorizes common descriptive factors, concluding with the proposition of four dimensions as measures for the user's affective judgment of product meaning: Trend, Emotion, Complexity, and Potency factors (Table 2). The 'trend factor' refers to the evaluation of time and familiarity, the 'emotion factor' refers to the emotional characteristics of the product, the 'complexity factor' refers to complexity of the product's appearance and the 'potency factor' refers to the psychological weight conveyed by the product shapes.

A further work by Chang, Lai and Chang (2005) examined how users expressed and conveyed their assessment of product form. The study is of particular relevance due to its focus upon automotive design features, with participants asked to describe their ideal imaginary car. Table 2 illustrates the five expression modes used by participants.

Table 2 Expression Modes to convey desire for product form, Chang, Lai and Chang (2005)

Group	1 Classifying	2 Conveying emotions	3 Associating	4 Analogizing	5 Explaining form
Expression category	Classify by purpose Classify by size Classify by car's nationality Classify by exhaust volume Negative classifying Classifying	Emotions Intuitional feeling Evaluation Negative feeling Personalized character	Personality-similar object Fictitious things Scenario Place User's characteristics Association Board Function	Shape-similar objects (non-car) Partial shape analogy Whole shape analogy Color analogy Shape-similar car Negation of similarity Analogy	Whole form Partial form Shape Line style Color style Proportion Form modification Position

Through an analysis of results, the five expression categories (Classifying, Conveying Emotions, Associating, Analogizing, Explaining form) are positioned as providing opportunities to define differences in the ways users express their assessment of and desire for product form. Expressions to do with general classification to an existing group was referred to as 'classifying' and expressions to do with the abstract feeling was referred to as 'conveying emotions'.

'Associating' was classified with expressions that mentioned people, affairs, or objects as cues to understand the form, 'analogizing' was categorized by expressions to do with similar shaped objects and 'explaining form' was to do with words that explained the form and shape.

Together with the four dimensions of affective judgment (Hsiao & Chen, 2006) the five expression modes are synthesised in the current study to measure the influence of changes to the contemporary Mini's design features upon meaning in terms the expression of the original design.

## 1. 2. Case Study, BMW Mini

The New Mini has been a continued success since its inception due to its timely appearance, price and a new design layout that provides greater needed interior space. However, a

further reason for its outstanding market success appears to be its ability to leverage the iconic design of the original within its modern variant while maintaining the qualities of modernity (MacDonald, 2000). This then has provided a new meaning to the Mini that not only draws upon a perceived iconic heritage, but also departs from it in its original focus upon the economic and functional. Within this mix of iconic status and modern qualities, leveraging these new meanings within the Mini's contemporary, but retrospective redesign, the manipulation and expression of design features appear to play an important role. The retention of the car's core identity has helped the Mini to project its symbolic appeal while moving away from being a merely economical and affordable vehicle (Simms & Trott, 2007).

Taking the success of the New Mini as case-study, the current investigation explores how retrospective design in the automotive sector offers the potential to change the meaning of an automobile from utility vehicle to object of affective desire. To achieve this, we focus upon how the design features of the restyled New Mini influence attitudes towards the car's Personality, the iconic pedigree or context and story that surround the New Mini and references to original form. Figure 3 shows the evolution of the Mini's form language and design features from the original (Figure 3, right) to the New Mini and its restyled variants (left).



Figure 3 The evolution of the Mini

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## 2. Aims & Significance

The current study aims to explore the role of retro design in innovative meaning making within the context of automotive design. To achieve this research aim we have taken the BMW Mini as case study of successful retro design to explore the role of meaning in the success of the Mini. To these ends the study addresses the following research question:

- What is the role of retrospective automotive design in creating innovation in meanings?

In addressing this research question we attempt to understand the role of retro design as it relates to innovative meaning making through an examination of how retro design features may stimulate meaning change.

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### **3. Methods**

The study took a research-through-design approach in the manipulation of the New Mini's design features. These changes were then used as stimuli to examine the influence of change upon meaning making. The following sections describe the participant sample, research instruments and procedure.

#### **3. 1. Participants**

For the purposes of convenience and accessibility a sample of 46 participants was taken from the authors' higher education institution. All 46 subjects were under or post graduate students. The undergraduate participants were in their third or fourth year of study. The postgraduate sample was taken from first and second year Masters student cohort. All subjects were students within the same department. Ages ranged from 21-29 years of age, with a mean of 23 years.

#### **3. 2. Retrospective Design Features**

Eight retro design features were chosen and altered to measure the influence of change upon the affective response of participants in terms meaning making (headlamp design, grill design, Logo, racing stripes, two-tone roof, wheel design, , fog lights). The design features were chosen by comparing the New MINI with the original to identify salient retro features between the two models.

To manipulate and express the eight retro design features, images of the New Mini were manipulated to alter the expression of the eight features (Figure 4 & 5).



Figure 4 Manipulation of Mini design features



Figure 5 Manipulation of Mini design features

To measure and compare the affective responses to the eight changed design features (Figure 4 & 5), a set. The same set of questions was asked for each modified design feature. Together

with the questions, three types of images were shown at once: the unmodified image in the left, the modified image in the middle left and the original Mini to the right.

### 3. 3. Survey Questions

In the first section of the survey a set of original Mini images was shown to participants. This initial section sort to gather data on the design features participants considered to be initially important for expressing the character of the original Mini. This could then be compared to responses to the survey's second section.

### 3. 4. Survey Design

A questionnaire was administered to gather data on the participants' affective response to differences in the New Mini's design features and implications for meaning making. To achieve this, the expression modes defined by Cheng, His and Ming (2005) were used to inform question design. In particular we focused upon the three modes Emotion, Associating and Analogizing as they appeared to best align with the innovative meaning making concept as described by Verganti (2008). Emotion is defined as the subject's manifestation of feeling evoked through a car's design. Associating is described as the mentioning of people, affairs, or objects as cues, in attempting to express the form of an imagined car design by thinking about the relationship between the cues and the car'. Analogizing is defined as discussion of an object with a similar shape or form in relation to a car's design. Of course, the current study and that of Cheng, His and Ming (ibid) depart in both their aims and approach. However the three concepts provided opportunity to examine how meaning making in retro automotive design may be formed in terms of emotional (emotion) and referential (Association, analogizing) response. Both considered as important to the success of retro automotive design with potential to drive innovative meaning making (Verganti, 2009). However, in order to improve comprehensibility of survey questions, the (Chang, Lai, & Chang, 2005) terms were replaced with Personality (Emotion), Context /Story (Association) and Reference with Form (Analogizing).

A second study by Hsiao and Chen (2006), exploring the existence of a common perception structure when making affective judgments on product form, revealed that people's affective judgments can be categories across four dimensions: Trend, Emotion, Complexity and Potency. As such the three concepts used in survey design (Personality, Context/ Story and Reference with Form) taken from the Chang et al (2005) study also align with Hsiao and Chen's (2006) four dimensions.

Personality falls under the category of emotion as defined in (Chang et al., 2005) and as shown in Figure 6. Personality was used to measure the participants' affective response towards the character of the New Mini compared to the original for each change in design feature between the two models. To improve understanding personality was described to participants supported by the images in Figure 4 & 5. A change in personality would suggest that the meaning of the car changed for the user emotionally.





**Figure 6** Cars with strong personality: from left to right: smiling, angry, astonished, undecided

Context & Story is related with Association and Scenario under the category of Association (Chang et al., 2005). Within the survey, questions on context and story attempted to measure the role of associations to previous related events, people, images influenced meaning making. Reference with Form is related with shape-similar car under the category of Analogizing. This attempted to measure how manipulation of the New Mini's design features implicated the expression of the form of the original in the New Mini and implications for meaning making. Responses to expression of original form when design features were manipulated suggested changed meaning driven by form characteristics. The 3 concept (personality, context and story and reference with form) were explained to the users before beginning the survey at the start of each survey session.

For each of the eight design features manipulated to measure implications for meaning, three five-item Likert scale questions were provided to participants ranging from strongly agree to strongly disagree (Table 3).

**Table 3** Survey questions together with response items.

Survey Question	Response Items
1. Please order the eight design features from least to most traditional.	1. Headlamp, 2. Grill, 3. Mini Logo, 4. Two tone roof, 5. Fog Lights, 6. Racing Stripes, 7. Union Jack Roof, 8. Wheels
2. The change has retained the personality of the original Mini.	Strongly Disagree   Disagree   Neither Agree nor Disagree   Agree   Strongly Agree
3. The change has retained the character and tradition of the original Mini.	Strongly Disagree   Disagree   Neither Agree nor Disagree   Agree   Strongly Agree
4. The change has retained the personality of the original Mini	Strongly Disagree   Disagree   Neither Agree nor Disagree   Agree   Strongly Agree

Following a ranking question (Question 1, Table 3) the second survey question (Question 2) asked of how a changed design feature altered the personality of the New Mini. The third survey question gathered responses on how a change in feature influenced the context and story of the New Mini (Question 3). A fourth question (Table 3, Question 4) gathered responses related to how design features influenced references to the form of the original Mini.

### 3. 5. Procedure

At the start of each session, two one minute videos were shown to the participants ("Vintage Mini BMC Commercial," 2012). The first was an advertisement for the New Mini, with the second a historic advert showing the original model. After the video, participants were asked to rank the eight design features in terms of their ability to express the original Mini's character.

Participants were then asked eight questions on the influence of changed design features upon the New Mini's personality. This process was repeated twice, once for changes in terms of influence upon context and story of the original as expressed in the New Mini and once for the influence of change upon references to form.

Each survey session lasted approximately 30 minutes including short introduction, the presentation of the two Mini advertisements and the participants' completion of the survey questions. The number of participants per focus session was between three and seven.

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## 4. Results

### 4. 1. Design Feature Ranking

Figure 7 illustrates the scores for each of the eight design features in terms of their ability to express the traditions of the original Mini (Survey Question 1, ranking scores). Each design feature is color-coded and ordered from the highest to the lowest score. The values on the horizontal axis are the Summed score by Traditional value for each design feature among all participants ( $n=46$ ).

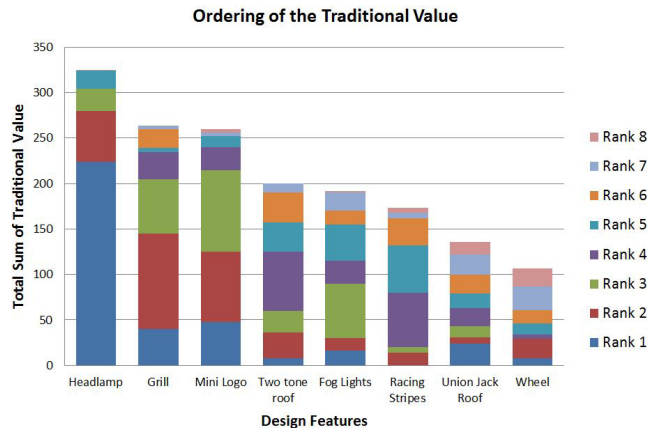


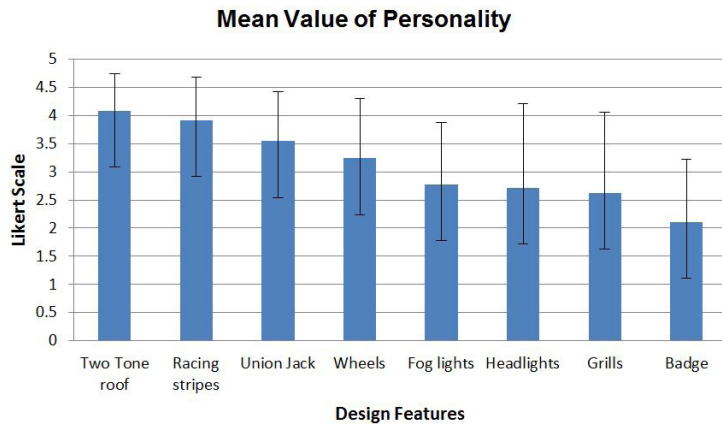
Figure 7 Please order the eight design features from least to most traditional

The results from the first question were converted into ranking scores. The ranking scores are calculated by reversing the numbering of ranking, meaning the most traditional design feature scored eight points whereas the least traditional scored one. The ranking values for each design feature from each participant ( $n=46$ ) were the summed.

Results indicated participants felt the design features headlamp (Figure 7,  $\Sigma = 325$ ), grill ( $\Sigma = 264$ ) and the Mini Logo ( $\Sigma = 260$ ) most expressed the original's traditional meaning in the New Mini. The scores and ranking indicate that the headlamp had the highest value, with the lowest assigned to the design feature wheels (Figure 7,  $\Sigma = 107$ ). Moreover, headlamps were ranked 1<sup>st</sup> among the eight design features far more frequently than all other features indicating their importance for participants in terms of expression of the original's tradition. These results show that different retrospective design features are perceived differently in terms of their expression of the original in the contemporary retrospective re-design. These findings and further discussed in the following sections.

## 4. 2. Personality

A second survey question measured how changes in the eight retro design features influenced the meaning of the new Mini in terms of its personality, with personality attempting to measure the participant's affective response to changed design features in terms of their expression of the original Mini's personality. Figure 8 presents results, with the horizontal axis presenting the eight design features and vertical axis mean responses.



**Figure 8** The change has retained the personality of the original Mini, strongly agree (5) to strongly disagree (1)

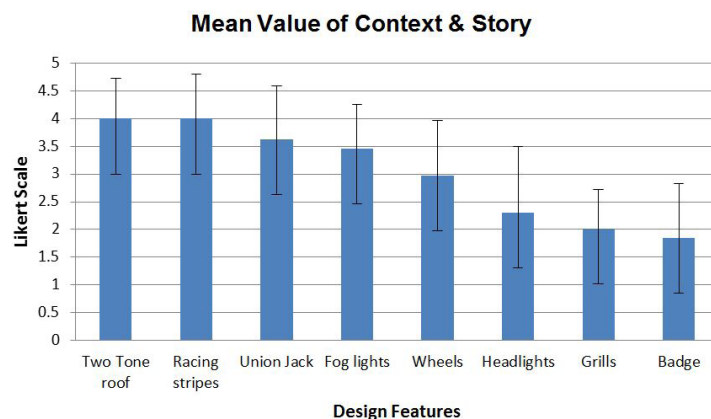
As illustrated in Figure 8, responses indicated that changes to the design features fog lights, headlights, grills and badge had the greatest influence upon the expression of the original Mini's personality. Changing the badge had the effect of participants disagreeing with the question statement; the change has retained the personality of the original Mini ( $x = 2.11$ ,  $s = 1.11$ ). Changes to the design features grills ( $x = 2.63$ ,  $s = 1.43$ ), Headlights ( $x = 2.72$ ,  $s = 1.50$ ) and fog lights ( $x = 2.78$ ,  $s = 1.10$ ) also resulted in participants indicating the changes negative influence upon the expression of the original's personality. Thus changes to the headlights, grills and badge, which may be described as integral design features, all appeared to negatively influence the expression of the original Mini's personality in the new model's design. In contrast, other more peripheral design features (i.e. two tone roof, racing stripes) were less influential in their influence upon the expression of the original MINI's personality in the contemporary version.

The design features headlights; grills and badge are integral design features in that consumers are not able to customize these design features during purchase. In contrast, the remaining six design features, such as two-tone roof or wheels, can be provided be-spoke at the point of purchase in their form of options packages or added accessory in the aftermarket. The results indicate that when altering integral retrospective design features, designers should be aware of their high sensitivity as potentiates to drive change in the expression of the original's personality and implications for meaning.

### 4. 3. Context & Story

Context & Story questions measured references to the original Mini in the contemporary design in terms the car's heritage, as influenced by changes in the eight design features. For example, the Mini has a strong tradition of racing heritage that has help propel the car's design to iconic status. Differing from personality, context and story does not deal with the car itself but rather the use of references to the historic character and identity of the original as embedded and expressed in the contemporary model.

Figure 9 shows the mean response value across the eight changed design features together with indication of deviation within the sample ( $n = 46$ ).



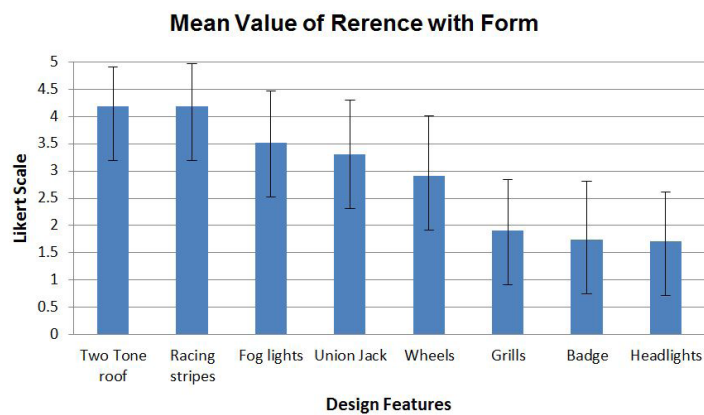
**Figure 9** The change has retained the character and tradition of the original Mini, strongly agree (5) to strongly disagree (1)

As Figure 9 illustrates, participants responses showed changes to the integral design features headlights (Figure 9,  $x = 2.30$ ,  $s 1.20$ ), grills ( $x = 2.02$ ,  $s 0.71$ ) and badge ( $x = 1.85$ ,  $s 0.98$ ) resulted in participants indicating the change did not retain the character and tradition of the original Mini. This was again in contrast with changes made to the five peripheral design features, which participants believed did not affect the New Mini's retention of the original's character and tradition (Figure 9, Two Tone roof, Racing stripes, Union Jack, Fog lights, Wheels).

As with the effect of changing integral design features upon the retention of the original design's personality, altering the design features headlights, grills and badge proved most sensitive in terms of influence upon the expression of character and tradition, with peripheral design features (i.e. Union Jack, Racing Stripes) again less influential. Changes to peripheral design features retained the character and tradition of the original Mini. The results indicate that when altering integral retrospective design features, designers should be aware of their strong influence on the expression of retrospective references to the original's iconic heritage and tradition.

### Reference with Form

Reference with form measured how changes in design features implicated how the new Mini was seen to reference the original in terms of form characteristics. Figure 10 presents results as mean responses across all eight changed design features.



**Figure 10** The change has retained form references to the original Mini, strongly agree (5) to strongly disagree (1)

As with personality and context and story, participant responses to the changed design features headlights (Figure 10,  $x = 1.72$ ,  $s = 0.90$ ), grills ( $x = 1.91$ ,  $s = 0.93$ ) and badge ( $x = 1.74$ ,  $s = 1.07$ ) were most depressed. That is, changing these three design features caused the new Mini to be seen as most dissimilar in form compared with the original. Again, these results implied that when altering integral retrospective design features, designers should be aware of their high sensitivity to change in terms of influence upon the relationship between the original design and its contemporary counterpart. More peripheral design features appeared less sensitive in their effect upon perception of references to the original's form expressed in the contemporary design.

### Discussion and Conclusions

The current study has explored how meanings may be embedded and expressed in retrospective automotive design. To achieve this we employed existing theory on affective response to automotive (Chang et al., 2005) and product design (Hsiao & Chen, 2006) to examine how the manipulation of design features influenced the expression of the original Mini design in its contemporary version. In doing we have attempted to measure the extent to which various design features influence the meaning of contemporary automotive design in terms the retrospective design aspects it attempts to leverage.

With these research aims, we have taken the New Mini as a case study and examined how the manipulation of eight design features influenced the affective response of participants in terms of the expression of the original Mini, its form, personality, history and iconic pedigree.

The concept personality (Chang et al., 2005) measured how each of the eight manipulated design features influenced participant response to the personality of the contemporary Mini in its retrospective expression of the original. Results revealed that the design features headlights, grills and badge had the greatest influence upon the retention of an association between the New and original Mini in terms personality. That is, the expression of the original Mini's personality was most sensitive to changes in the three design features. Headlights, grills and the Mini logo badge may be described as 'integral' design features. If these design features are changed it appears they are most influential in moving the personality of the contemporary model away from the original iconic design. In order to maintain the personality of the original, findings appear to indicate how these particular features play a key role in the expression of a retro design's personality. In terms of meaning, if designers wish to leverage a retrospective design strategy to embed meanings related to an iconic personality, brand and image, care must be taken in the identification and manipulation of these most salient personality features.

A second concept employed to measure responses to the changed design features was the Mini's context and story (Hsiao & Chen, 2006). Context and story sort to examine how changes influenced the way participants experienced the iconic pedigree of the original Mini in the contemporary model. Here context and story is used to define the historic references that surround the original Mini as design icon. The results reveal that changes to the design features headlights, grills and badge again had the greatest effect on how participants reported implications for context & story. Similar to that of the car's personality, changing the same integral design features (i.e. headlights, grills and badge) appeared to have a negative influence on how the context and story of the original Mini was expressed in its contemporary version. Again, if this is the case, moderate changes to some design features appear to have a greater effect upon the expression of the car's heritage, or perceived heritage, than others. As such, it appears changes to some design features more than others have the potential for greater influence upon meaning in terms of how retrospective expression of past heritage is conveyed in a contemporary design. Thus, a greater awareness of this potential can provide designers the ability to leverage certain design features in pursuit of a perceived retrospective narrative in the design of contemporary models that express the meaning of the original in terms of its unique heritage.

Finally, the concept reference with form measured how meaning was influenced by each change in design feature (Chang et al., 2005). Results revealed a similar pattern of participant response, with the integral design features being assessed as most sensitive to changes in terms of their expression of the original Mini's form in the contemporarily design. It appeared moderate changes to these design features had a greater effect upon the meaning of the New Mini in terms of its ability to embody and express the originals unique form characteristics. In terms implications for practice, designers may benefit from

the careful manipulation of integral form features to leverage their potential as expressers of retrospective form aesthetic, thereby potentiating meaning as strongly referencing the original.

Conversely, as much as the 'integral' design features are an essential ingredient in car design, the respondents also took them to have a higher traditional value. When designing a retro car, it would be recommended to take more thought when re-interpreting integral design features such as the headlights, grills and the original badge. The results imply that a wrong change to these integral design features has the potential to greatly influence how retrospective meaning is conveyed by limiting the expression of the original within its contemporary's design.

Despite these initial results, the current study is restricted to the analysis of one case study in retrospective design through a single conceptual framework of measuring the implications of changed design features. More work is now required to examine, for example, how our approach to the implications of design changes may differ for differing cases of retrospective automotive design and/or across other product categories where retro design is a critical feature of meaning. Moreover, it would be interesting for future studies to examine the influence of retrospective design for creating meaning through other approaches and methods of analysis (qualitative methods, differing conceptual models etc). Finally, we would recommend further studies to deploy other concepts and constructs that are salient to the retro design approach in the measurement of affective response to changed design features. This would then provide a greater body of work to better understand and articulate implications for meaning. In doing the current study, together with future works, may provide greater understanding of how retrospective design may best be leveraged to inform the design and development of meaningful products.

## References

- 1 Battistella, C., Biotto, G., & De Toni, A. F. (2012). From design driven innovation to meaning strategy. *Management Decision*, 50(4), 718–743.
- 2 JCastellano, S., Ivanova, O., Adnane, M., Safraou, I., & Schiavone, F. (2013). Back to the future: adoption and diffusion of innovation in retro-industries. *European Journal of Innovation Management*, 16(4), 385–404.
- 3 Chang, H. C., Lai, H. H., & Chang, Y. M. (2006). Expression modes used by consumers in conveying desire for product form: A case study of a car. *International Journal of Industrial Ergonomics*, 36(1), 3–10.
- 4 Fort-Rioche, L., & Ackermann, C. L. (2013). Consumer innovativeness, perceived innovation and attitude towards. *European Journal of Innovation Management*, 16(4), 495–516.
- 5 Hsiao, K. A., & Chen, L. L. (2006). Fundamental dimensions of affective responses to product shapes. *International Journal of Industrial Ergonomics*, 36(6), 553–564.
- 6 MacDonald, J. (2000). BMW Mini should ride retro car trend. *Marketing Magazine*, 2.
- 7 Patton, P. (2009, August). Jaguar XJ is back with some bite. *The New York Times*.
- 8 Rose, G. M., Merchant, A., Orth, U. R., & Horstmann, F. (2016). Emphasizing brand heritage: Does it work? And how?. *Journal of Business Research*, 69(2), 936–943.
- 9 Simms, C., & Trott, P. (2007). An analysis of the repositioning of the “BMW Mini” brand. *Journal of Product & Brand Management*, 16(5), 297–309.
- 10 Undercoffler, D. (2013). The new Ford Mustang: Five experts weigh in. *LA Times*.
- 11 Verganti, R. (2009). Design and Meanings: Innovation by making sense of things. *Harvard Press*.
- 12 Vintage Mini BMC Commercial. (2012). *YouTube*. Retrieved from <https://www.youtube.com/watch?v=D7Q3cTJUS14>.
- 13 Winter, D., & D. Stoll, J. (2005). Retro Schmetro. *WARD's autoworld*.



