
The perceived visual similarity of realtors: an exploratory study

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Abstract: Subjects rated the (dis)similarity of pair-wise combinations of female and male salesperson realtors. The selected realtors represent the range of appearance features, in terms of physical traits, grooming, and adornment. Subject responses were analysed using multidimensional scaling (MDS) to generate male and female perceptual maps, with 19 female and 19 male realtors shown as points in their respective appearance spaces. Their relative positions are interpreted to determine which aspects of appearance most differentiate between them. Those aspects that most differentiate between women realtors are hair length, mode of dress, apparent age, and hair colour, in that order. Those aspects that most differentiate between male realtors are apparent age, hair colour, and mode of dress. Other visual elements playing lesser differentiating roles are eyeglasses and, for men, facial hair. Based upon the findings, theoretical and managerial implications are presented.

Keywords: personal appearance; attractiveness; grooming; adornment; personal selling; real estate; MDS; multidimensional scaling; paired comparisons; visual perception; visual information processing.

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1 Introduction

Myriad empirical studies demonstrate the effect of physical attractiveness on the favourable evaluation of individuals in a host of interpersonal contexts, including professional selling. For example, with respect to interpersonal relations, physical attractiveness enhances likeability and involvement (Kahle and Homer, 1985), liking and social power (Bloch and Richins, 1993), positive characteristics (Byrnes, 1988), social connectedness (Dollinger, 2002), attitude toward women (Holahan and Stephan, 1981), intellectual competence (Jackson et al., 1995), success in everyday sexual exchange (Mulford et al., 1998), impression formation and favourable evaluation of personal traits (Miller, 1970), and initial impressions (Miller, 1970). McElroy et al. (1990) state that: "physical attractiveness is a salient cue where impression formation is important".

Though the efficacy of physical attractiveness is well established in many personal and professional contexts, far less research has identified which aspects of

personal appearance most contribute to assessments of attractiveness. The purpose of this exploratory investigation is to gain a more accurate understanding of how buyers utilise appearance to differentiate realtor salespersons. While this is an important contribution in itself, we believe, this study is also a first step leading to an understanding of how individual visual aspects of personal appearance may contribute to perceptions of sales representative efficacy and assessments of attractiveness.

Specifically, salesperson photos obtained from realtor web sites are utilised as stimuli that portray the physiognomies of realtors and viewers, selected based upon their having previous realtor experience, were asked to evaluate their relative similarities or dissimilarities. Resulting data provide input for multidimensional scaling (MDS), and the appearance spaces generated are interpreted to provide the principle visual attributes that most explain differences in appearance according to relative positions of the photos. To accomplish the purpose of this study, we:

- review the literature that examines the effect of particular aspects of personal appearance on attractiveness, including facial features, grooming, and adornment
- provide a methodology that allows researchers to classify realtors by personal appearance and reveals which aspects of appearance most differentiate between individuals by appearance
- present MDS maps that graphically show the results of the similarity scaling, and by interpreting the primary axes of these low-dimensional spaces, determine aspects of personal appearance that most visually differentiate individuals
- discuss theoretical and managerial implications, and future directions of research.

2 Background

2.1 The effect of physical attractiveness

In as much as colour is a powerful and salient promotional tool, it is also a complex, multidimensional phenomenon not well understood in general, much less for application to marketing purposes, making consumer response to colour notoriously hard to predict (Sharpe, 1974). Little theory, few empirical marketing studies, and not much in the way of set guidelines exist to assist the marketing manager with the colour selection problem. How, then, is the manager to select effective product/package colour?

With respect to personnel selection, physical attractiveness has been shown to affect hiring decisions (Cann et al., 1981; Morrow, 1990), job offers (Watkins and Johnson, 2000), and the willingness of others to choose individuals for games (Belot et al., 2007). Physical attractiveness also enhances student evaluations (Riniolo et al., 2006) or student ratings (Varian, 2003) of college professors. Likewise, in communications the attractiveness of the spokesperson has been shown to enhance source credibility (Joseph, 1982), persuasiveness (Chaiken, 1979), the favourability of endorsed products (Chawla et al., 1994), and the offers extended in a negotiation by a bargainer (Solnick and Schweitzer, 1999).

The physical attractiveness of individuals has also been shown to affect professional attainment in a range of contexts, including the earnings of lawyers (Biddle and Hamermesh, 1998), the caliber or status of jobs (Bloch and Richins, 1993), perceptions of

academic success (Chia et al., 1996), the pay and performance of CEO's (Graham et al., 2010), earnings in general (Hamermesh and Biddle, 1994), the electability of presidential candidates (Harford, 2007), job related outcomes across gender and nationality (Hosoda et al., 2003), the perceived intelligence and likeability of scholarship candidates (Lao et al., 1975), the revenue of Dutch advertising executives (Pfann et al., 2000), buyer perceptions of service quality (Luoh and Taur, 2009) and organisational outcomes in accounting firms (Ross and Ferris, 1981).

In a commercial frame, studies document the effect of physical attractiveness on the outcomes of spokespersons and, most pertinent to this research, sales representatives. With respect to spokespersons, physical attractiveness enhances the credibility of spokespersons or models in advertising (Baker and Churchill, 1977) and the favourability of the products they endorse (Chawla et al., 1994). In regard to sales representatives, the subject of this study, physical attractiveness encourages message approval (DeShields et al., 1996), enhances source credibility in a business setting (Patzner, 1983), facilitates communicability and the appeal of nonverbal cues (Leigh and Summers, 2002), heightens perceptions of the quality of the products represented (Parekh and Kanekar, 1994), induces more positive attitudes and intentions to purchase (Reinhard et al., 2006), raises performance ratings (Vilela et al., 2007), and improves the general perception of salesperson effectiveness (Ahearne et al., 1999; Reingen and Kernan, 1993; Wright and Lundstrom, 2004).

2.2 The effect of individual visual features on personal appearance

Though a plethora of research demonstrates the favourable effect of physical attractiveness on the outcomes of those who are deemed to possess it, far fewer studies have examined the relative contributions of particular aspects of personal appearance. There are a few exceptions. For example, in research that examined the effects of certain facial features on attractiveness, Kwon (1997) found that androgynous women rate their own facial attractiveness higher than feminine and 'undifferentiated' women, though the ratings of other people's facial attractiveness were not examined. Also, Graham et al. (2010) reported that CEO's who displayed a combination of facial traits that 'lack maturity', a quality the authors and others refer to as 'babyfacedness', (e.g., Zebrowitz et al., 2007), caused subjects to rate "baby-faced" CEO's as being less competent than those with 'mature' features.

In research that focused on aspects of another broad category of appearance, adornment, Shannon and Stark (2003) examined the effect of facial hair on the selection of job applicants, finding that bearded men were selected at lower rates. McKelvie (1997) found that spectacles, an item of adornment that, apart from its ophthalmological function, is often selected to enhance facial attractiveness, caused wearers to be perceived as dull, intelligent, and less attractive. Fabricant and Gould (1993) examined another form of adornment, cosmetics, as a means of manipulating physical features to enhance facial attractiveness. And, lastly, in a third broad category of appearance, grooming, Das and DeLoach (2011) found that incremental additions to the time spent grooming in the morning were positively associated with professional wages.

These few studies examining the effects of specific visual aspects have reported significant main effects on physical attractiveness. The reasons for this effect are several.

However, no studies have examined the relative effects of all aspects of appearance. Which of these are most critical to determining differences in appearance, and which

contribute most to assessments of attractiveness? Using novel methodology for the examination of personal appearance, a comprehensive approach is undertaken that asks subjects to evaluate whole individuals by utilising methods that allow us to infer which aspects are most influential in determining distinctive personal appearance.

3 Empirical method

3.1 Subjects

Employing empirical means to solicit the personal appearance structures that dwell in viewers' minds, 56 individuals who have utilised the services of realtor salespersons were solicited, half female and half male, and paid five dollars to perform the task of judging the relative (dis)similarity of every pair-wise permutation combination of each of two 19-photo sets, one female and one male, shown in Figures 1 and 2, selected from realtor web sites to represent the full range of personal appearance types.

Figure 1 The 19 female realtor portrait photos serving as stimuli for this study (see online version for colours)



Figure 2 The 19 male realtor portrait photos serving as stimuli for this study (see online version for colours)



A longstanding problem in sensory research is the difficulty of separating the perceptual effects of stimulus exposure from the meaning conveyed by the stimulus. The comparison task we asked of the respondents is in the ideal purely perceptual, so we designed experimental conditions to minimise reference to memory, or any inclination to attribute meaning to the realtor photos being compared, to encourage comparison purely on the basis of the visuals before them. To reinforce this task as a purely sensory endeavour, the information provided to the respondents was limited and immediate. Beyond their evident physical appearance, all that the respondents knew about the people in the photos that they looked at is that they were all, uniformly, realtors. Therefore, the effects of memory and value judgment have been minimised.

Another effort to reduce reference to memory is that the respondents and the realtor stimulus set are generally matched for type. Conveniently, the region surrounding the

Southeastern US university that served as the base for this research, namely, the western North Carolina mountains, provide a particularly homogeneous population comprised largely of Scotch Irish and German heritage, from which both respondent and realtor stimulus sets are drawn. This matching of respondents and the realtor stimuli was intended to reduce the propensity of respondents to (stereo)type the individual realtors they evaluated before comparing them, which could confound their appearance assessments.

3.2 Stimulus development

Nineteen is a number the authors determined was both tractable and fully represented the range of appearance types found in portrait photos on realtor websites. An important procedural issue is raised by the fact that respondents were asked to evaluate a relatively large number of stimulus pairs. The pair-wise comparison of all permutation combinations of 19 stimuli yields $19(19-1)/2$ or 171 pairs. Researchers have expressed a concern, however, that the evaluation of excess pairs of stimuli leads to respondent fatigue, disinterest, and information overload, which may combine to yield data of questionable reliability and validity (Johnson et al., 1990; Malhotra et al., 1988; McDaniel, 1996). But these same researchers fail to provide empirical support for their concerns, so whether 'too many pairs' poses an experimental problem, or, indeed, how many pairs constitute too many, appears to remain hypothetical (e.g., Malhotra, 2004; Tucker and Messick, 1963). Conversely, there are others, particularly from the practitioner community, who report having successfully imposed large numbers of stimuli equal to or exceeding our number of 171 without evidence of the debilitating effects of subject fatigue (e.g., see Orme, 2002).

3.3 Experimental procedure

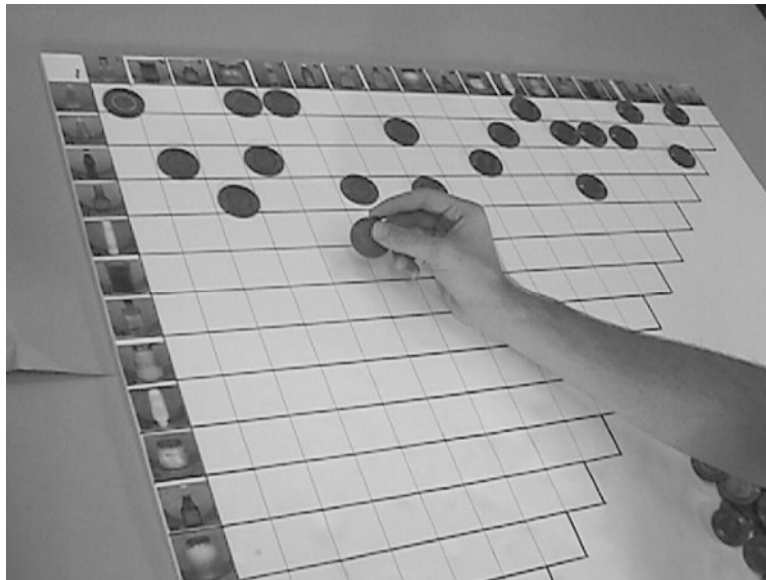
Garber et al. (2008) suggest a means that assists the experimental subject to simplify and structure the comparison task before them. These means include simplifying the task by providing lower orders of data, breaking the task into several steps, and offering various kinds of physical aids within which the stimuli are presented. These are shown in Figure 3. Specifically, respondents are provided with poker chips and a large board comprised of a 19×19 matrix. The left-hand column and top row were filled with photos of each of 19 realtors. Separate boards for female and male realtors were provided.

Participants were sequestered with a test administrator and placed before the board and given a set of poker chips. Subjects were instructed to first compare the two realtors at the top of the left hand column and to the right of the top row, respectfully at the top of the left-hand column. If the participating subject considered those two individuals to be more similar than different, they were instructed to place a poker chip in the corresponding cell. If s/he were to find the two individuals to appear more different than alike, they were instructed to leave the corresponding cell empty. The respondents were informed that they could place as many or as few poker chips as they felt were appropriate, that there were no wrong answers, and that the investigators were interested only in their perceptions.

Participants were asked to then go to the next realtor in the upper row and compare it with that same realtor at the top of the left hand column, then proceed to the next picture

in that row; and when that row was complete, to proceed to the realtor that is next in the left hand column and complete the second row; and so on down the column until all realtors were compared on a pair-wise basis, and the board is completed. Four different boards were constructed, to permit rotation of the stimuli in several ways across respondents, to eliminate order bias.

Figure 3 The board and poker chips that serve as aids to dealing with large numbers of stimulus pairs



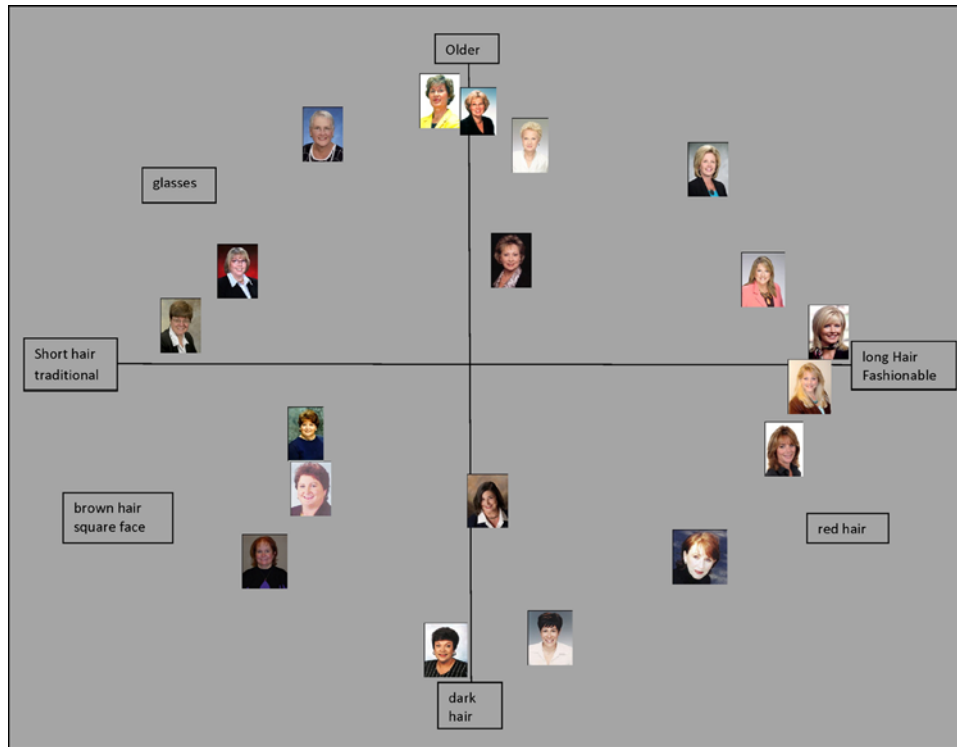
We performed two reliability checks, one timed and the other self-reported. We timed respondents at the (dis)similarities tasks, finding that respondents took an average of six minutes to evaluate 171 stimulus pairs. We also asked respondents upon completion if they found the task to be difficult, and whether they felt confident that their evaluations were 'correct'. Virtually all respondents reported that they found the task not to be difficult, and that they were confident in their evaluations. Taken together, we conclude that these checks indicate that respondents, using our aids, were able to perform the (dis)similarities tasks comfortably and reliably.

4 Results

The (dis)similarity associations data were analysed using the Proc MDS algorithm in SAS 9.2 for Windows (SAS Institute, 2004, Vol. 4, pp.2469–2508) as a data reduction tool, from which a series of perceptual maps were developed. The scree test was used to select the two-dimensional solution. Maps with higher dimensionality did not explain substantially more variance. The maps represent individual realtor salespersons as points in a common 'appearance' space, so that their respective positions may be interpreted. The array of photo positions on the respective appearance maps of both female (Figure 4) and male realtors (Figure 5) assume a largely circular form, suggesting that several visual

aspects differentiate equally, with separate arcs along the circle readily interpretable according to the common visual features displayed on the individuals located there.

Figure 4 Perceived similarity of female realtors (see online version for colours)



4.1 *The female realtor appearance map*

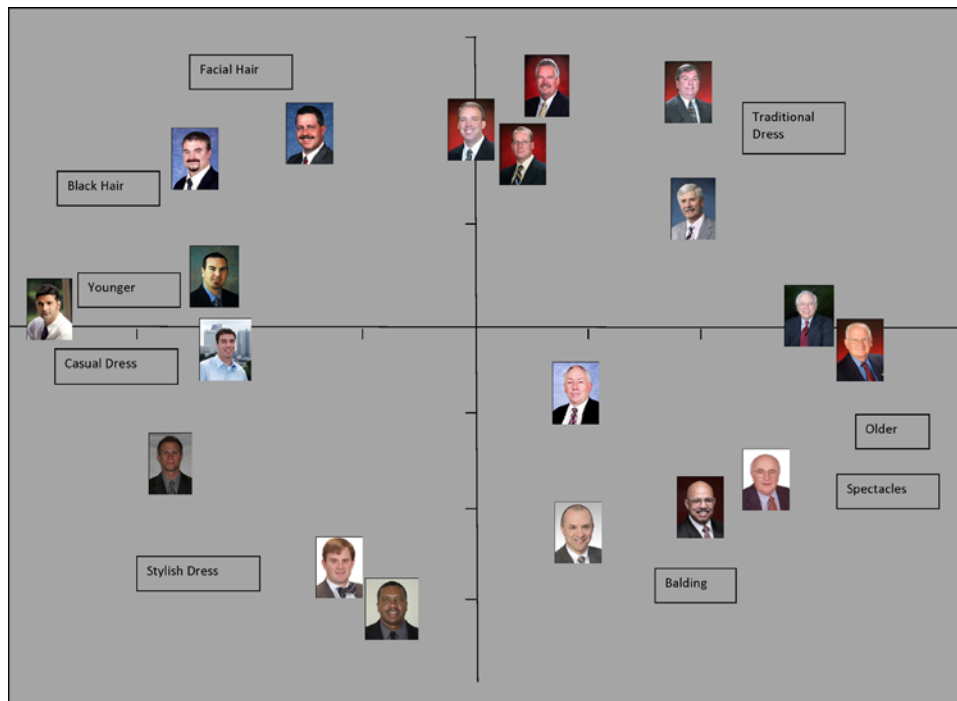
Examining the female realtor map shown in Figure 4, we interpret the horizontal axis, which accounts for more explained variance than other primary axes, to differentiate female realtors by length of hair (short on the left hand side, long on the right hand side) and mode of dress (traditional on the left, fashionable or stylish on the right). These aspects – the first an aspect of grooming, the second an aspect of adornment – are the single visual aspects that most differentiate women by appearance, and therefore most contribute to personal appearance.

The secondary, vertical, axis serves primarily to differentiate those who appear older from those with dark hair. Moving around the circle, to oblique points defined by arcs, groups are seen whose common features serve to differentiate individuals to a lesser degree. Starting in the upper right and moving clockwise, we observe that hair colour plays a significant role in distinguishing appearance as successive groups of female realtors are grouped by light hair, red hair, and brown hair. Those with glasses are in the upper left, indicating that spectacles are also a distinguishing feature. The features that most distinguish female realtors by appearance are hair length and colour, appearance of age, mode of dress, fashionable or stylish, and spectacles.

4.2 The male realtor appearance map

Examining the male realtor map shown in Figure 5, the horizontal axis is interpreted to differentiate male realtors by age, with younger realtors falling to the left and older realtors to the right, and mode of dress, with traditional dressers shown on the right, and more casual dressers to the left, and more stylish dressers found in the lower left. Additional groupings show that those with black hair reside in the left and upper left, those with facial hair in the upper left, and those who are balding or wearing spectacles are found in the lower right. Therefore, the features that most distinguish male realtors are appearance of age, mode of dress, traditional vs. casual vs. stylish, followed by black hair, facial hair, baldness and spectacles.

Figure 5 Perceived similarity of male realtors (see online version for colours)



Separate maps were completed for male and female participants, but, interestingly, the respective perceptions of female and male realtor salespersons were very similar to those for the overall group, in the sense that they could be interpreted in the same manner as the overall maps, and are therefore not shown separately.

5 Discussion

This exploratory study examined three aspects of appearance: physical features (with emphasis on facial features); as well as actions (i.e., grooming) and objects (i.e., adornments such as eyeglasses) intended to enhance attractiveness. Although slight

differences exist in the appearance spaces of female and male realtors, considerable overlap exists in the visual features that most differentiate between individuals in both spaces. Among physical features, appearance of age is a factor in both perceptual maps. With respect to aspects of grooming, hair colour and length are a prime differentiator in both maps, with facial hair being an additional aspect of the male map. Concerning aspects of adornment, mode of dress in terms of traditional vs. more fashionable or stylish mode is a prime differentiator in both maps, with casual dress being an additional feature of the male map. Eyeglasses are found in both maps, while baldness is particular to the male map.

While each of these visual aspects define distinct places on each confounding also exists. For example, long hair and dark hair are groupings that are proximate to 'younger peoples' space' in both maps, and more traditional dress is closer to 'older peoples' space'. This confounding is likely the reality of total appearance being a combination of multiple individual features whose relationships are due to characteristic physical differences in people, and the constraints that age places on the ability to show defined features, as well as generational differences and the fashion choices that people of certain age groups make, among other things.

It is interesting that participant age and gender did not appear to play a major role in their evaluations, since both men and women subjects evaluated female and male realtor appearance in a similar fashion. This suggests that perception of personal appearance is not gender-specific.

5.1 Managerial implications

This research shows that the aspects of personal appearance that most differentiate realtors belong to grooming and adornment rather than physical appearance. This finding is significant because these aspects of personal appearance are most readily manipulated – those being hair length and colour, mode of dress, and appearance of age. Also, *appearance* of age strongly affected grooming and adornment. For example, hair length and colour, and mode of dress can all strongly affect appearance of age. In turn, the realtor's ability to manipulate personal appearance to affect prospective client response is important because research studies show that appearance plays a strong role in impression formation, and because there is high agreement about who we find attractive.

Sales managers can utilise personal appearance knowledge to help their sales team improve their appearance for buyers. This can be done in at least four ways. First, sales managers should formally evaluate the personal appearance exhibited by sales force applicants. If an applicant demonstrates an ability to impress the interviewer through dress, grooming, and adornment, this suggests that the candidate is more likely to 'dress for success' after they are hired. Second, sales managers should monitor their sales team's dress and appearance and reinforce positive behaviour by reinforcing the notion that devoting time and money to enhance one's appearance is a wise investment. Sales managers should also set an example for dress, grooming, and adornment since sales team members often emulate their leader. Third, sales managers can offer training classes in dressing for success, have colour consultants aid salespersons select appropriate clothing and adornments, and extend financial

inducements for purchasing clothing that enhances their professional image. Lastly, sales managers must ensure that any photograph of a sales team member placed in media outlets enhance that individual's appearance. None of these recommended managerial actions are significant firm expenses and based upon current and previous research, increased salesperson attractiveness as perceived by buyers will likely lead to greater success.

5.1.1 Appearance is an important component of impression formation

Prior research shows that appearance plays a particularly salient role in choice in certain circumstances:

- when there are many available alternatives from which to choose, resulting in information overload
- when there is time pressure, resulting in cognitive overload, such that choosers fall back on more superficial information (e.g., personal appearance in the case of the selection of realtors, in lieu of the information gleaned from an in-depth interview) to achieve more heuristic decision strategies (Scheibehenne et al., 2010; Gigerenzer et al., 1999; Hendrick et al., 1968; Payne et al., 1993); or
- where appearance comprises nearly all available information, or is the first information encountered (Garber et al., 2009).

These circumstances, when combined, denote the importance of first impressions. In the case of realtor selection, first impressions are primarily visual. That is, upon meeting others we first see them then we greet them, or are greeted by them. Or more strikingly in making the case for the importance of appearance in impression formation, we initially see a photo of the prospective client before meeting them, when all that we can know of the individual is their appearance, perhaps as it appears on the web site, in a brochure, or in a newspaper advertisement in contrast with numerous other realtor photos. It may be argued, therefore, that with the growth of new, more visually based media, that personal appearance plays an even stronger role in impression formation (Garber and Hyatt, 2003).

5.1.2 There is high agreement with who we find attractive

Though the previous section argues for the benefits of the realtor adjusting her or his personal appearance to manage the first impressions of the prospective client, it begs the question: if those personal appearance aspects that we find attractive vary by individual, then how can we know how to appear? What type of appearance must we effect to make a good first impression on some particular individual who, by definition, we do not yet know? However, we are helped out of the dilemma by prior research that supports the notion that there is high agreement in regard to who is and who is not attractive, as evidenced by high inter-judge reliability (Patzner, 1983). These findings further support the fact that all perceptual maps of subgroups run for this study, including female vs. male participants, are in agreement with the overall maps for the total sample. This suggests that the realtor is well served by preparing her or his appearance for any client.

5.2 *Future directions*

5.2.1 *Limitations*

A strength of this study is also a limitation. We examined a relatively homogeneous set of realtor sales representatives, a uniformity naturally affording a number of experimental controls for potentially confounding effects, particularly for this initial study employing a novel methodology. Therefore, future research should extend these findings to sales representatives working in other product and service categories. More broadly, our inspection of realtor websites indicated that the total pool of working realtors tend to represent a narrow appearance range. To generalise these results, it is necessary to replicate the current study using a stimulus set that represents a wider range of salesperson appearance.

The participant set was similarly homogeneous, skewed strongly toward those of northern European heritage, as were the sales representatives that comprised the stimulus set, suggesting that this study was limited to participant types that largely match the people being evaluated for appearance. Replications of future appearance assessments that incorporate a wider range of human types as experimental participants would allow the testing of effects of lineage, heritage, and the matching or mismatching of types.

Moreover, the latter inquiry could be expanded to consider the effects of personal appearance in contexts that have social welfare and public policy implications. For example, the methodology employed herein could be applied to measuring the relative effects of appearance indicating minority status, of being disadvantaged, disabled, or disfigured. Though there is considerable research indicating the beneficial effects of attractive appearance, there is scant research that considers possible *adverse* effects of those visual aspects that may contribute to a less favourable impression. The methodology introduced here may also be utilised to explore and better understand these aspects.

Less a limitation than a potential confound is the photographic medium by which personal appearance are conveyed in our study. To refine our method, further research should be performed that more closely determines the potentially confounding effects of the visual qualities that the photographs lend to the realtors being portrayed.

5.2.2 *Extensions*

While there is value, in itself, to identifying those aspects of personal appearance most salient to the differentiation of individuals; nevertheless, a constructive next step would be to associate those most salient visual aspects identified with dimensions that are known to be associated with sales representative efficacy and with sales representative selection. That is, one might explore the contribution of short hair to evaluations of sales representative efficacy and what short hair connotes in that context? Further, although existing research argues that there is general agreement about who we find attractive, it would be constructive to extend that hypothesis to sales representative contexts in which attractiveness is explicitly defined as being associated with assessments of efficacy and selection. In other words, which aspects of appearance most contribute to perceptions of efficacy and to selection, and do these assessments vary by individuals or groups? Specifically, are assessments tied to the personal appearance of the viewer?

A further extension that bears consideration is a test of the effects of individual appearance attributes on attractiveness. As discussed in the literature review, there is a

plethora of research that documents the beneficial effect of physical attractiveness in assessments of the efficacy of those deemed attractive. In multiple contexts, however, little theory exists to explain its effect. Taking a de-compositional approach to determine the primary differentiators of appearance identified in this exploratory study contributes to assessments of attractiveness and moves us closer to understanding the favourable effect of attractiveness.

A final area for additional inquiry is the question of whether personal appearance remains a robust differentiator beyond first impressions. Or, do other factors – trust, efficiency, and dependability – meld with or overrule the influence of personal appearance once the viewer comes to know the individual?

6 Conclusions

Personal appearance contributes to first impressions, due among other reasons, to primacy effects. That is, we typically view an individual before we can converse with her or him. Evolving media have supercharged the primacy effect of visuals, because we may now view an image of the salesperson before we can see her or him in person. It therefore benefits the sales representative, more so now than ever before, to attend to and to manage their appearance as an essential part of her or his sales presentation. Sales managers can also help their sales team members improve their appearance by adopting suggestions offered in the managerial implications section of this paper. This research aids that effort by providing information about which aspects of personal appearance most differentiate individuals. Given that they are aspects of grooming (i.e., hair length and colour) and adornment (i.e., traditional vs. stylish dress), the sales representative can be assured that those salient aspects of appearance are easily manipulated. In an ever-increasing visual world, a concern for appearance remains an ever more essential factor of success for the sales professional.

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