Personality, Design and Marketing

It is a marketing truism that products should be shaped around the preferences of customers, not designers, and that a design or advert that is effective with one personality type may not be effective with another. Since purchasing intent can be increased by providing products that appeal to particular types of customers, an understanding of the impact of personality on design will help maximise the effectiveness of design and advertising efforts.

This book reveals the extent to which design and advertising effectiveness can be improved through an understanding of the personalities of a range of stakeholders. While the impact of demographic factors (age, class, geographical location) is the object of considerable research, the impact of personality on production and preference aesthetics has been greatly overlooked. It is only by grouping together research conducted on diverse fields that a larger picture of the impact of personality on design production and preference aesthetics can be constructed.

Gloria Moss has brought together contributions from leading experts in academia and industry, including Professor Judi Harris, Dr Ceri Sims, Professor Paul Springer, Holly Buchanan and the late Bill Wylie. Personality, Design and Marketing will be of great interest to those who would like to see the effectiveness of design and marketing enhanced, whether it is those working in the area of design, or marketing or general management. It shows the extent to which preferences vary according to personality and the limitations of a one-size-fits-all approach to design.

Gloria Moss, the editor and author of several chapters in this volume, has a unique understanding of the impact of gender and nationality on graphic, product and web design and the steps organisations need to take to maximise design for end-users. She is a fellow of the Chartered Institute of Personnel and Development (CIPD) and currently holds the position of Professor of Marketing and Management at Buckinghamshire New University. Previously, Gloria has held senior positions in human resources and training and development at Courtaulds Acetate and Eurotunnel. Clients for consultancy on marketing and unconscious bias have included M&S, BT, Bounty, Ford, 02, Bayer and Allen and Overy.
Matching Design to Customer Personal Preferences

Edited by Gloria Moss
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Chapter 5

Personality communicated in children’s
digital and non-digital drawings
Inferences for marketing research

Judi Harris

Introduction

Albert Szent-Györgyi, the 1937 Nobel laureate whose research focused on the composition, isolation and nutritional uses of vitamin C, was known to have said, ‘Discovery consists of seeing what everybody has seen and thinking what nobody has thought’ (Buettner and Schafer, 2006, p. 6). This chapter will describe an illustration of Szent-Györgyi’s maxim in applying the results of research about the communicative aspects of children’s artwork to emerging inquiry about personality-sensitive design in marketing.

A commonly held understanding among educators and psychologists is that people communicate aspects of themselves and their experiences symbolically in their artistic works (Carini, 2007; Hunsley et al., 2015). Teachers, especially those working with children and pre-adolescents, are encouraged to use every source of information available to help them to understand their pupils’ learning needs and preferences as completely as possible: observations of students’ behaviour; the content of their writing; their parents’ comments; the error patterns evident in their assignments; their test scores; and also the characteristics of their creative works. These holistic, continuing observations can be used to customise and personalise young students’ learning.

Teachers can become frustrated with educational researchers’ apparent lack of awareness of how well many know their students, how they build that knowledge and how they use it to assist students’ learning. The longtime use of collaborative, systematic child study processes, such as Carini’s (1979) highly structured ‘descriptive review’ of children’s art, writing and mathematical problem-solving, demonstrates that teachers can and have gleaned important information about their own and other teachers’ students by examining and reflecting systematically upon the students’ works together. The educational research described in this chapter was designed, in a sense, with hopes of validating the reality of this ‘practitioners’ truth’ – to discover what, if any, verifiable information viewing teachers can accurately infer about young artists by examining their graphic creations, but without knowledge of the children who produced them.

The study’s results were shared with educational researchers through publication (Harris, 1997) and presentation. As Szent-Györgyi’s statement describes, the ‘discovery’ here – that is the creative cross-disciplinary connection that Professor Moss made upon finding and reading my research – is the possibility that a study of what children’s drawings communicate may point the way to similarly focused and productive research in marketing. If children’s artwork reflects much personal information to teachers who have never met the
young artists, then it is possible that marketing images (e.g. logos and other designs) also reflect aspects of their creators.

Given the importance of mirroring to determine consumer choices (Barry, 2009), and rooted in the empathy principle of aesthetic experience (Crozier and Greenhalgh, 1992), the potential link in marketing preferences between the personalities of the creator and the observer could be worthy of study. This chapter focuses on evidence for a link between artists’ personal characteristics and graphic expression, while later chapters in the book (Chapters 6–9) focus on the roles of creators’ and observers’ personalities in shaping preferences.

**Brands as communicative works**

Brands – names and/or symbols intended to identify and differentiate goods or services from each other (Aaker, 1991) – are said to have ‘personalities’, in that they are associated with sets of human characteristics that serve symbolic or self-expressive functions for consumers. Brand personality characteristics, including demographics such as gender, age, ethnicity and class, can become associated with brands through brand symbols or logos (Batra, Lehmann and Singh, 1993; Aaker, 1997). The greater the congruity between a brand’s personality and a consumer’s notions of actual or ideal self, the greater the probability for purchase (Aaker, 1997; Karande, Zinkhan and Lum, 1997). Those consumer selves – once thought to be expressed consistently over time and across contexts – are actually rather ‘malleable’, influenced by schematic (e.g. sex or age) and situational self-perceptions (Aaker, 1999) and perceived changes in brand personalities. Brand characteristics are developed and communicated consciously by marketers, both directly and symbolically, as part of the overall marketing strategy for a product, but can be experienced differently by dissimilar consumers and over time (Johar, Sengupta and Aaker, 2005).

Might some aspects of a brand’s personality be communicated through its symbols or logo without marketers’ conscious intent? Design scholarship points to the probability of this phenomenon. Buchanan (1995), for example, in tracing the history of design by examining the rhetoric of products – ‘the study of how products come to be as vehicles of argument and persuasion about the desirable qualities of private and public life’ (p. 26) – concludes that ‘products embody the intentions and purposes of their makers’ (p. 55). Some empirical research results also demonstrate the reality of brands’ embodied qualities vis-à-vis their designers. Moss’s study of adult males’ and females’ designs and design preferences (1995), for example, showed strong and significant ‘like for like’ tendencies: both men and women preferred designs created by designers of the same sex as viewers. Later research by Moss (1999), Moss and Colman (2001), Moss, Gunn and Heller (2006) and Moss and Gunn (2009) replicated these findings with both designer and non-designer participant samples, using a variety of designed products, from business cards to holiday greetings to websites. Moss (1996, 2009) relates these results to examples of successful brands and their designers, suggesting that one way of increasing sales among women may be either to hire more female brand designers, who – unknowingly – communicate gender-specific design features, or to hire designers of either sex who demonstrate clear understanding of a female brand aesthetic.

This notion of subconscious communication of aspects of self is what is central to the possibility of personal projections in artists’ and designers’ works. Consumer research has explored the symbolic meanings of products, and found them to be often quite social in nature (Karande, Zinkhan and Lum, 1997). This means that goods and services can be seen
as tools that are used to communicate indirectly with consumers. Specifically, a product’s visual representations, described here as artistic works, can be seen to contain information that evokes an aesthetic response from the consumer. This response, which is a form of multilayered, simultaneous discourse due to the brand representations’ symbolic nature, is based in a unique personified relationship between the spectator and the work. This ‘empathy principle’ of the psychology of aesthetic experience is ‘a dynamic process that takes place between object and spectator . . . [who] identifies with the object [and] becomes, so to speak, fused with it’ (Crozier and Greenhalgh, 1992, p. 74).

A similar principle is echoed in work about visual culture. Rogoff’s (1998) examination of scholarship in this field, for example, depicts the visual as inextricably linked with verbal, auditory, emotional, physical, intellectual, spatial and historical attributes and responses. Thus, to understand images (and therefore marketing visuals) in postmodernity, their perception and reception must be explored in terms of the ‘cultural, social, and economical conditions surrounding [their] producers and users’ (Fischman, 2001, p. 29) – and as acts that are both passive and active for both designer and consumer.

The empathy principle, therefore, could well explain the primary mechanism by which artworks’ viewers respond to what they see and otherwise sense. Certainly, the results of the study presented here suggest that children’s artistic creations may communicate much more about their artists than generally assumed. If similar findings are found to be true on a larger scale, and with adults’ graphic designs, they have broad implications for design as it relates to marketing to target populations.

**Drawings as psychological communication**

Moss and colleagues’ work with adult male and female designers draws upon a considerable body of educational and psychological literature about children’s drawings in the absence of sufficiently triangulated scholarship to date about projective aspects of marketing images. Most research about the interpretation of drawings as communicative devices examines either children’s works or adults’ creations. A notable exception, however, is Silver’s work in art therapy (1987, 1992, 1993, 2001). In studies with large (300- to 700-members) and heterogeneous samples, using standardised ‘stimulus drawing’ tasks and well-validated scoring instruments with high inter-rater reliabilities, artists’ expressions of emotion, self-image, attitudes towards self and others, and depictions of relationships were consistently and significantly differentiated by sex and age, as perceived by researchers when viewing participants’ drawings and corresponding titles. Each of Silver’s studies was completed with approximately equal numbers of participants from four different age groups: children, adolescents, younger adults and the elderly. This work suggests that artists of every age similarly express personal information via their works, and the content and nature of these unconscious communications differ significantly by age and sex. Is more information about artists, beyond sex and age, also expressed in their creations? Extant research has explored answers to this question more with children than adults to date.

The study and use of children’s drawings as personally communicative devices have a long and rich history in educational inquiry. Drawing ‘is broadly recognized as a visual language that helps children communicate with others’, and is being explored by researchers increasingly as a highly situated, ‘sociocultural semiotic activity’ (Papandreou, 2014, p. 88, emphasis added). The tendency to regard the act of drawing as a meaning-making activity,
rather than as a means to an end (the drawing), is becoming prevalent in research about children’s drawings. This is because

Language as a communicational medium is inadequate for the expression of everything that we think, feel or sense. Hence, drawing, graphic-narrative play and other forms of artistic expression offer important and distinct forms of meaning-making through figurative communication, which is intricate, multifaceted, symbolic and metaphoric.

(Wright, 2007, p. 24)

Thus, exploration of the communicative functions of children’s drawing has expanded to include examination both of what children intend to communicate (e.g. Hall, 2010) and what is embedded subconsciously in their artwork. These subconscious statements about children’s selves and relationships are communicated via their drawings and have been researched primarily with reference to the artists’ psychosocial characteristics that the drawings are thought to reveal.

There is a long history to the investigation of the content of children’s drawings. They were first presented as potential psychologically diagnostic tools when Corrado Ricci, an art critic with interests in psychology, published the first known reproductions of children’s art in 1887. A number of other scholarly studies of children’s sketches followed (Klepsch and Logie, 1982), and these led to Goodenough’s (1926) seminal work, which presented the first systematised method for estimating artists’ intelligence from drawings of people. This technique was standardised and embellished by Harris (1963) and Harris and Roberts (1972), resulting in the Goodenough–Harris instrument. Dubbed the ‘Draw-a-Man Test’ since the task presented to the child is quite simply one of drawing a man, this is the earliest example of a class of open-ended drawing investigations called human figure drawings (HFDs), which have since been incorporated into several standardised intelligence and psychological tests for children. Most psychological research with children’s drawings completed to date has made use of the HFD or one of its variants.

Among practising psychologists and educators, it is generally accepted that children’s drawings have both ‘projective’ and ‘non-projective’ uses in psychological assessment. ‘Projection’ is a clinical term used in this context to suggest that an artist unconsciously imbues the picture being drawn with self-perceptions, regardless of the intended focus for the work. There are four types of projections thought to be observable in children’s drawings: those that symbolically communicate aspects of personality; perceptions of self in relation to others; and the artists’ values and specific attitudes. Non-projective indicators in children’s artwork include those that ‘measure a child’s developmental or intellectual maturity’ (Klepsch and Logie, 1982, p. 13).

Ninety years of research into projective and non-projective assessment of children’s drawings suggest that it is possible for artist characteristics such as intellectual acuity, developmental maturity, personality, values, attitudes, emotions, behaviour and culture of origin to be discerned by systematic viewing of children’s artistic works (LaVoy et al., 2001; Milne, Greenway and Best, 2005). Indeed, as Carini’s decades of research with teachers’ interpretations of children’s creations demonstrates, ‘what people make, child or adult, has meaning and importance — that the work bears the imprint of the maker — and that these meanings and the maker’s hand are visible in the work’ (2007, p. 4). Practitioners are cautioned, however, not to use such measures alone for psychological diagnosis, since children’s works can be reflective of transient emotional states and attitudes towards the topics depicted visually (Thomas and Jolley, 1998), and the reliability and validity of specific picture elements’ correlations
with particular psychopathologies are not always consistent across artists (Lilienfeld, Wood and Garb, 2000) or clinicians (Jolley, 2010). Moreover, the validity of projective drawing techniques as psychological assessment tools has long been a controversial topic, given the lack of sufficient standardisation in administering, interpreting and scoring children’s drawings, especially across the many variations of the HFD test (Hunsley, Lee, Wood and Taylor, 2015). In practice, projective drawings ‘maintain their place in the armamentarium of many psychologists’, despite some assertions as to ‘the paucity of scientific evidence for their usefulness’ (Hunsley, Lee, Wood and Taylor, 2015, p. 62), because clinicians report their utility in assisting with socioemotional diagnoses when used in combination with other formal and informal measures.

Professionals who analyse the projective and non-projective content of children’s drawings are trained to assess the works according to the specific protocols of the particular HFD instrument that is being used for psychological assessment. In this study, however, a set of questions was created to explore the possibility of untrained viewers’ accurate assessments of the symbolic content of children’s drawings:

- Can teachers recognise and identify individual artists’ traits correctly from viewing their artwork?
- Which artist traits are correctly and incorrectly identified?
- Does the accuracy of these informal assessments vary according to the different media that children used to create their pictures?

### Viewers’ training

A sizable body of literature has been directed towards establishing the validity of human figure drawing (HFD) instrument variants, some of which make use of untrained or ‘naive’ judges. Several studies include teachers in this category. In summarising the research on trained and untrained judges’ interpretive abilities, Swensen (1968) concluded that ‘formal training is not particularly related to success in interpreting the Draw-A-Person Test’ (p. 39), even though some studies do show statistically significant differences between the assessments of trained psychologists and untrained teachers (e.g. Tolor, 1955). Hiler and Nesvig (1965) suggest that ‘well-developed intuitive ability rather than formal clinical training is of primary importance in the interpretation of figure drawings’ (p. 526).

The study described in this chapter explored that possibility. If human beings use intuitive processes to detect and respond to verifiable information about artists by looking at their works, perhaps teachers use information garnered intuitively when viewing children’s creations as one of many ways to get to know their students. Given this function for intuitively received impressions, what characterises the process of teachers’ intuitive knowing in educational contexts?

This question is easier asked than answered. In reviewing education’s definitions of and responses to the notion of teachers’ intuition, Claxton (2000) summarised it as a ‘loose-knit family of “ways of knowing” which are less articulate and explicit than normal reasoning and discourse’ (p. 49). These ways of knowing include:

- functioning ‘fluently and flexibly in complex domains without being able to describe or theorize one’s expertise’;
- extracting ‘intricate patterns of information that are embedded in a range of seemingly disparate experiences’;
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- making ‘subtle and accurate judgements based on experience without . . . justification’;
- detecting and extracting ‘the significance of small, incidental details of a situation that others may overlook’;
- taking time to ‘mull over problems in order to arrive at more insightful or creative solutions’;
- and applying ‘this perceptive, ruminative, inquisitive attitude to one’s own perceptions and reactions’.

(p. 50)

How do educators put such knowing into action? Noddings and Shore (1984) chose to characterise intuitive modes by involvement of both external and internal senses; by a relaxation of distancing into receptivity; by a quest for understanding or insight; and by a continuing tension between subjective certainty and objective uncertainty (p. 89).

The extent to which ‘untrained’ (or intuitive) observers are able to reach, maintain and deepen such states as they review children’s drawings may predict how accurately they perceive verifiable information about the drawings’ artists. This could suggest how the results of the study described ahead might inform future marketing research, development and practice.

Study type

How, then, might we test the accuracy of information received intuitively about child artists by observers of their works? The following two research questions were formed to organise this study:

- What is the scope of verifiable information communicated to teachers through children’s digital and freehand drawings?
- How, if at all, do the scope and/or accuracy of information communicated through children’s artwork differ when different drawing tools are used?

Results that address these questions, and ways in which the answers may relate to the communicative aspects of marketing images, are presented ahead. A more detailed description of the findings is available in Harris (1997).

A word on research questions follows, before describing the study’s design in more detail. According to Yin (2014), all research questions can be classified as ‘who’, ‘what’, ‘where’, ‘why’ or ‘how’ queries. ‘Who’, ‘what’ and ‘where’ questions are often refined to ‘how many’ and ‘how much’ questions, which are best approached with quantitative measures, especially when predictive results are desired. ‘What’ questions can be approached with any research strategy. ‘How’ and ‘why’ questions, asked about contemporary situations over which the researcher has little or no control, are often best explored with case studies. Yin is careful to note that the most frequently cited drawback of case studies – that they are not generalisable to larger populations – reflects a misunderstanding of the intent of case study research. According to Yin, case study results, ‘like experiments’, are generalisable to theoretical propositions and not to populations or universes. In this sense, the case study, like the experiment, does not represent a ‘sample’, and the investigator’s goal is to expand and generalise theories, which is analytic generalisation, rather than enumerating frequencies, which can be done as part of statistical generalisation (Yin, 2014, p. 21).
Stake (1995) recommends in-depth, case-based studies as the preferred method for social science inquiry because ‘they may be epistemologically in harmony with the reader’s experience and thus to that person a natural basis for generalisation’ (p. 5), and are therefore more directly relevant to practitioners in fields such as education and social work. Yin (2014) similarly recommends the case study for empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between the phenomenon and its context are not clearly evident. Research foci for such empirical exploration, like the focus explored in this study, often constitute new connections and directions in research-based inquiry.

Yin (2014) also suggests that multiple case study designs be conceptualised similarly to multiple, repeated experiments, following ‘a replication, not a sampling logic’ (p. 63). Accordingly, Yin recommends, multiple data types from multiple sources should be generated for each case, then interpreted and summarised as if each case were a separate study before any cross-case analysis is begun. These research design recommendations formed the basis from which the specific methods for data generation and analysis were selected to explore answers to the two research questions presented earlier.

Study design

To explore the verifiable information communicated in children’s drawings, and how it might differ by artists, viewers and/or media, multi-source, open-ended techniques were used to generate data about the artists in the study. Teachers’ impressions of young artists’ personal characteristics were solicited in response to their viewing of the children’s artistic works. These impressions were compared with the perceptions of the personal characteristics and preferences of the child artists as expressed by parents, the children’s teachers and the artists themselves, obtained through semi-structured interviews. Coded interviews from all participants (children, parents and the children’s teachers) and intuited impressions from teachers viewing the children’s works, therefore, made up the data for each case in this study.

Two overarching types of data analysis were completed. The first was a comparison of two forms of data generated about the artists: the content of the interviews versus the viewing teachers’ impressions of the children, garnered from their drawings. This first comparison revealed the proportion of information inferred by the teachers from the artists’ drawings that could be confirmed by interview data. The other overarching type of data analysis explored variations in information communicated about the artists that could be discerned when different teachers’ perceptions, varied drawing media and diverse artists’ works were compared. Since this was an exploratory study, the logical/analytical conclusions sought were understood to be tentative in character, as recommended earlier by Yin.

The study used a purposive and convenience sample of child artists, comprising ten gifted fifth-grade boys who were US citizens with at least one parent who had a post-baccalaureate degree. Miles and Huberman (1994) recommend the use of a purposive sample in exploratory, in-depth studies such as this one ‘because social processes have a logic and coherence that random sampling of events or treatments usually reduces to uninterpretable sawdust’ (p. 36). Patton (2002) suggests that researchers select cases to study that promise the most cogent information about the topic of investigation. He recommends that these be ‘critical cases . . . [those that] make a point quite dramatically or are, for some reason, particularly important’ (p. 102). Patton acknowledges that although studying one or a few critical cases...
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does not technically permit broad generalisations to all possible cases, logical generalisations can often be made from the weight of the evidence produced in studying several cases or even a single, critical case.

Ten children agreed to be participants in this study. All were 9- or 10-year-old males in fifth grade in public elementary schools in a south-eastern US state when they were interviewed. All had been identified for their school districts’ gifted and talented programmes and had qualified for a local university’s summer enrichment programme for gifted and talented students. This high degree of demographic similarity was sought so that perceived differences among students might be maximally specific to individual participants’ personal attributes. Each student was asked to select one parent and one teacher to be interviewed about their perceptions of the student. All names were changed to pseudonyms to protect informants’ rights to confidentiality.

**Data generation and analysis**

All study data were generated with the study’s 44 participants: 10 children artists, 10 parents, 10 of the children’s teachers and 14 viewing teachers who did not know the artists. The semi-structured interviews of the students, parents and current classroom teachers, each of which was approximately one hour in length, were audiotaped and transcribed verbatim. The contents of these transcripts were then analysed by theme using Strauss and Corbin’s (1998) recommended methods for grounded theory research. The Ethnograph software (1988) was used to organise coded data and surface within- and across-participant results.

All participants were asked to describe the students’ most and least favourite school subjects, problem-solving methods, social interaction patterns, personal ‘life philosophies’ and activity preferences. Study participants provided information in response to all prompts, with the exception of several children who were not able to describe their own metacognitive problem-solving processes. Lists of statements about the artists – each containing one discrete idea (the study’s unit of analysis) – were created for each interview by the researcher, using participants’ words whenever possible. Considered together, the lists contained all of the content relevant to the interview prompts in the study. Member checking was done by surface mail, asking individual study participants to read and correct any interpretive discrepancies made by the researcher in the lists of summarised statements about the students. Of the 1,397 statements that were written and sent to informants, all were read and returned. Fifty-one statements were corrected with respect to content (6 statements) and wording (47 statements). Overall, only a small fraction – approximately 4% – of the statements were corrected by study participants.

Constant comparative coding (Strauss and Corbin, 1998) revealed 15 mutually exclusive theme categories across interview statement lists. Coding reliability and validity were ensured by frequent meetings with two peer debriefers and the maintenance and review of the researcher’s reflexive methodological log (Lincoln and Guba, 1985). One peer debriefer also reviewed all information generated for a randomly selected case, comparing it to the researcher’s data analysis for the same case, to ensure that summary statements were firmly grounded in generated data.

Immediately prior to being interviewed, each student informant drew three pictures – one in each of three different media. The content and style of the pictures were determined completely by the students; the only instructions given by the researcher regarded the media to use for each drawing. Participants had a choice of crayons, magic markers and coloured
pencils to use for the freehand picture; a touch-sensitive graphics tablet (Touch Window, 1985) and digital drawing software (Animation Station, 1984) for the picture made with the tablet; and their choice of either IBM Logo (1983), Apple Logo II (1984) or LogoWriter (1986) software for the Logo picture. All computer-assisted pictures were drawn on Apple IIe computers, with the exception of one Logo picture created on an IBM PC. All of the students had learned to use Logo before participating in this study.

Participants gave the researcher permission to keep the pictures the students created and show them to teachers who had not met the children. Two groups of teachers viewed the pictures and responded to them. One group, comprising five teachers, was graduate students taking a summer Logo course in New York, and the others (nine teachers) were graduate students completing Logo-based coursework during the same summer session in Oregon. All had previously worked with Logo with elementary-aged children in instructional settings. The two graduate course instructors received 35-mm slide reproductions of the children’s pictures, arranged in a standard order in a slide carousel, and sufficient copies of a paper-based viewer response form to provide one for each of the graduate students in their classes. The instructors were then asked to follow the viewing instructions printed on the first page of the response form. Pictures formed with similar media were grouped together in a slide carousel, but the artist order in each media-related group was different. Viewers were told only that children drew the 30 pictures; they did not know that ten artists produced all of the works, nor did they know anything about each child’s age, gender, computer experience or exceptionality.

Two types of information were requested of the viewing teachers: demographic data (age and sex) and impressions of the students’ behaviour patterns, learning styles, school subject preferences and any other information that occurred to the viewing teachers. All viewing teachers but one completed the response forms in full. Given the prevalence of research about children’s drawings that reports on perceived age and sex, the results shared here will address the accuracy of the viewing teachers’ impressions of other perceived artist characteristics.

The contents of all viewing teachers’ response forms were rewritten as lists of statements about the student artists, following the same procedure used to process interview data, as described earlier. These lists of statements were then analysed using constant comparative techniques for data analysis (Strauss and Corbin, 1998), yielding eight mutually exclusive coding categories. Answers to both specific and open-ended questions – in the form of lists of statements about each of the ten artists – on the viewer response form were compared with interview data to determine agreement or lack thereof.

Levels of agreement between viewing teachers’ comments and interview data were classified as ‘agree’, ‘disagree’, ‘agree by implication’, ‘disagree by implication’ or ‘not mentioned’. If the content of a particular viewer’s statement about an artist was mentioned in two or more interviews with people who knew the artist (parent, teacher, self), the statement was assumed to agree with interview data. If the obverse of the content of a particular viewer conjecture was mentioned in two or more interviews, the viewing teacher’s statement was assumed to disagree with interview data. If the content was implied but not stated directly in interview data from at least two people who knew the artist, it was assumed to agree by implication. Similarly, if the content of a viewer comment was countered indirectly in two or more interviews, then it was assumed to disagree by implication. If the content of a particular viewer comment or its opposite was mentioned in only one interview about the artist, it was not tallied. Finally, if the content of a viewer conjecture about an artist was not
mentioned directly or indirectly in any interview with study participants who knew the artist, it was listed as ‘not mentioned’.

This process was checked for accuracy by one of the study’s peer debriefers, who selected a case at random, and traced the claims made in the results summary back to the data generated for the study. This admittedly strict strategy for assessing levels of agreement between viewing teachers’ statements and interview data was used to ensure the robustness of the study’s results.

Results

The study’s results are described ahead, summarised first across participants, and then separated by drawing media and individual artists and teachers. Variations among viewing teachers’ perceptions are also presented. The viewing teachers’ years of experience teaching, using computers as personal/professional tools, teaching children with computers, programming in Logo and helping their students to program in Logo are presented first in Table 5.1 to help to contextualise the study results that follow. As Table 5.1 shows, the teachers who viewed children’s artwork in this study had a broad and varied range of educational and technology experience.

Viewers’ perceptions of the artists

A total of 595 viewer-supplied comments were written about the artists of the 30 pictures. Viewing teachers were given virtually unlimited space in which to write their open-ended perceptions. There was little difference in the percentages of open-ended comments supplied for the works of different individual artists. Jon’s work received 8% of viewer comments on the lower end of the continuum, and Drew’s pictures received 13% of the viewers’ voluntary comments on the opposite end. However, although the numbers of comments supplied for different artists did not vary that much, percentages of viewer-supplied comments that could be substantiated with interview data were quite different for different artists (see Table 5.2).

<table>
<thead>
<tr>
<th>Table 5.1 Viewing teachers’ professional experience.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Years spent</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Teaching</td>
</tr>
<tr>
<td>Computers</td>
</tr>
<tr>
<td>Children</td>
</tr>
<tr>
<td>Logo w/Children</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Note: Total years teaching (‘Teaching’); years using computers (‘Computers’); years using computers when teaching children (‘Children’); years programming in Logo (‘Logo’); years using Logo with children (‘w/Children’). ‘Total’ represents column tallies provided only for comparison among participating teachers; they have no true mathematical value.
The range of comments that agreed with interview data was 50%–76%; 16%–30% for comments that disagreed with interview data; and 2%–16% of the comments that were offered by viewers that did not appear in interview data.

Individual teachers’ percentages of interview-substantiated open-ended comments ranged from 52% (Teacher C) to 87% (Teacher F), as shown in Table 5.3. These perceptual performance numbers were not paralleled by either years of teaching experience or correct perceptions of age and gender. Teacher E is the only teacher to perceive age, gender and viewer-supplied artist attributes similarly; her scores were close to the group’s averages in each instance.

### Table 5.2 Numbers of comments (n) supplied about artists, classified by accordance with interview data.

<table>
<thead>
<tr>
<th>Artist</th>
<th>n</th>
<th>Agreement</th>
<th>Disagreement</th>
<th>Not mentioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drew</td>
<td>78</td>
<td>54 (69%)</td>
<td>13 (17%)</td>
<td>11 (14%)</td>
</tr>
<tr>
<td>Mark</td>
<td>60</td>
<td>43 (72%)</td>
<td>12 (20%)</td>
<td>5 (8%)</td>
</tr>
<tr>
<td>Lance</td>
<td>59</td>
<td>40 (68%)</td>
<td>12 (20%)</td>
<td>7 (12%)</td>
</tr>
<tr>
<td>Jon</td>
<td>49</td>
<td>31 (63%)</td>
<td>10 (21%)</td>
<td>8 (16%)</td>
</tr>
<tr>
<td>James</td>
<td>55</td>
<td>41 (75%)</td>
<td>10 (18%)</td>
<td>4 (7%)</td>
</tr>
<tr>
<td>Sid</td>
<td>62</td>
<td>47 (76%)</td>
<td>10 (16%)</td>
<td>5 (8%)</td>
</tr>
<tr>
<td>Bruce</td>
<td>56</td>
<td>33 (59%)</td>
<td>16 (28%)</td>
<td>7 (13%)</td>
</tr>
<tr>
<td>Rick</td>
<td>56</td>
<td>33 (68%)</td>
<td>13 (23%)</td>
<td>5 (9%)</td>
</tr>
<tr>
<td>Herb</td>
<td>67</td>
<td>46 (69%)</td>
<td>16 (24%)</td>
<td>5 (7%)</td>
</tr>
<tr>
<td>Harvey</td>
<td>53</td>
<td>36 (68%)</td>
<td>16 (30%)</td>
<td>1 (2%)</td>
</tr>
</tbody>
</table>

### Table 5.3 Number of comments (n) written by viewing teachers, classified by accordance with interview data.

<table>
<thead>
<tr>
<th>Teachers</th>
<th>n</th>
<th>Agreement</th>
<th>Disagreement</th>
<th>Not mentioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>112</td>
<td>35 (76%)</td>
<td>24 (21%)</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>B</td>
<td>25</td>
<td>15 (60%)</td>
<td>6 (24%)</td>
<td>4 (16%)</td>
</tr>
<tr>
<td>C</td>
<td>23</td>
<td>12 (52%)</td>
<td>6 (26%)</td>
<td>5 (22%)</td>
</tr>
<tr>
<td>D</td>
<td>7</td>
<td>5 (71%)</td>
<td>2 (29%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>E</td>
<td>11</td>
<td>7 (64%)</td>
<td>1 (9%)</td>
<td>3 (27%)</td>
</tr>
<tr>
<td>F</td>
<td>15</td>
<td>13 (87%)</td>
<td>2 (13%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>G</td>
<td>124</td>
<td>93 (75%)</td>
<td>22 (18%)</td>
<td>9 (7%)</td>
</tr>
<tr>
<td>H</td>
<td>87</td>
<td>62 (71%)</td>
<td>20 (23%)</td>
<td>5 (6%)</td>
</tr>
<tr>
<td>I</td>
<td>67</td>
<td>41 (61%)</td>
<td>20 (30%)</td>
<td>6 (9%)</td>
</tr>
<tr>
<td>J</td>
<td>18</td>
<td>11 (61%)</td>
<td>5 (28%)</td>
<td>2 (11%)</td>
</tr>
<tr>
<td>K</td>
<td>Did not provide viewing data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>43</td>
<td>34 (71%)</td>
<td>12 (25%)</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>M</td>
<td>22</td>
<td>13 (59%)</td>
<td>0 (0%)</td>
<td>9 (41%)</td>
</tr>
<tr>
<td>N</td>
<td>24</td>
<td>13 (54%)</td>
<td>2 (8%)</td>
<td>9 (38%)</td>
</tr>
</tbody>
</table>
Moreover, although there were individual differences among viewing teachers concerning the total number of comments offered in response to the artwork, the teachers with the highest percentages of interview-substantiated comments were not those who also made the most conjectures.

**Perceptions according to drawing media**

Of the 595 total unprompted comments about the artists that were offered by the viewing teachers, 235 (39%) were inspired by viewing freehand drawings, 207 (35%) were offered in response to viewing pictures created with a touch-sensitive graphics tablet and 153 (26%) were recorded when looking at pictures created with Logo. Although freehand media seemed to catalyse more unprompted comments than graphics-tablet creations, and these pictures, in turn, inspired more viewer comments than Logo pictures, percentages of interview-substantiated artist perceptions were roughly equivalent (freehand: 68%; graphics tablet: 70%; Logo: 69%; see Table 5.4). This is particularly interesting considering that many viewers commented informally to their instructors that they felt as if they ‘knew’ the artists better when looking at their freehand drawings.

Overall, 69% of viewers’ comments about the artists agreed with interview data, 21% disagreed with interview data and 10% were comments that were not mentioned in interviews by any of the three participants (artist, parent or teacher) giving information about a particular artist.

This research was a study of individuals: ten individual artists and the perceptions of 13 individual teachers. It explored whether certain aspects of the ten fifth graders’ individualities were communicated to Logo-using teachers through free-form artistic works created in three different media. Although no statistical generalisations can be made from a multi-case, exploratory study with a comparatively small sample such as this one, patterns across participant groups and among individuals can be noted. These should be considered trustworthy for this particular group of study participants because of the methodological rigour demonstrated in data generation and analysis (Corbin and Strauss, 2015), as described earlier.

**Results for individual students**

Certainly no teacher or group of teachers in this study described any of the artists with the rich detail revealed by combining the students’ self-reports with parental and classroom teacher interview data. On the other hand, the freehand and computer-facilitated artwork of seven of the ten child participants (Drew, Mark, Lance, Sid, James, Herb and Harvey; see Table 5.5) generated unique viewer comments and patterns of perceptions about the artists.

<table>
<thead>
<tr>
<th>Table 5.4 Total numbers of verified statements (n) by viewing teachers, classified by drawing media and accordance with interview data.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Media used by artist</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Handheld drawing tools</td>
</tr>
<tr>
<td>Graphics tablet</td>
</tr>
<tr>
<td>Logo</td>
</tr>
</tbody>
</table>
Table 5.5 Participating children’s drawings, identified by pseudonym and classified by media type used.

<table>
<thead>
<tr>
<th>Artist</th>
<th>Freehand drawing</th>
<th>Tablet drawing</th>
<th>Logo drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruce</td>
<td><img src="image" alt="Bruce's drawing" /></td>
<td><img src="image" alt="Bruce's tablet drawing" /></td>
<td><img src="image" alt="Bruce's logo drawing" /></td>
</tr>
<tr>
<td>Drew</td>
<td><img src="image" alt="Drew's drawing" /></td>
<td><img src="image" alt="Drew's tablet drawing" /></td>
<td><img src="image" alt="Drew's logo drawing" /></td>
</tr>
<tr>
<td>Harvey</td>
<td><img src="image" alt="Harvey's drawing" /></td>
<td><img src="image" alt="Harvey's tablet drawing" /></td>
<td><img src="image" alt="Harvey's logo drawing" /></td>
</tr>
<tr>
<td>Herb</td>
<td><img src="image" alt="Herb's drawing" /></td>
<td><img src="image" alt="Herb's tablet drawing" /></td>
<td><img src="image" alt="Herb's logo drawing" /></td>
</tr>
<tr>
<td>James</td>
<td><img src="image" alt="James's drawing" /></td>
<td><img src="image" alt="James's tablet drawing" /></td>
<td><img src="image" alt="James's logo drawing" /></td>
</tr>
<tr>
<td>Jon</td>
<td><img src="image" alt="Jon's drawing" /></td>
<td><img src="image" alt="Jon's tablet drawing" /></td>
<td><img src="image" alt="Jon's logo drawing" /></td>
</tr>
<tr>
<td>Lance</td>
<td><img src="image" alt="Lance's drawing" /></td>
<td><img src="image" alt="Lance's tablet drawing" /></td>
<td><img src="image" alt="Lance's logo drawing" /></td>
</tr>
</tbody>
</table>
For example, Drew was described as ‘impatient with mistakes’ and ‘happy and serious’. Mark, it was suspected, ‘combines and builds on knowledge’, and was described as ‘talkative’ and ‘security-oriented’. Lance’s language arts proficiency, emphasising fine arts applications, was intuited by several viewing teachers; he was also one of only two children in this group who was described as ‘generally a compliant kid’. James had 19 comments made in response to his drawings that mentioned neatness, concern with detail, precision and related work-habit attributes. Sid was portrayed by the viewing teachers as ‘bold’, ‘adventuresome’, ‘restless’, ‘creative’ and a ‘divergent thinker’. Herb was suspected to have a ‘strong personality’, and to be a ‘quiet’, ‘intense individual with definite goals’. Harvey’s interests in science and animal study were mentioned by several viewers; he was also described as ‘impulsive’, ‘in a hurry’ and ‘want[ing] to get it right’. These artists’ works are displayed in Table 5.5, along with three other artists’ sets of drawings.

Although these attributes do not fully portray each individual artist’s uniqueness, they are characteristics that begin to differentiate the artists from each other as unique individuals. For example ‘getting it right’ was a characteristic mentioned about several of the children during interviews with parents and teachers (e.g. Drew and James), yet Harvey was the only artist whose artwork communicated attention to ‘appearing right’. This paralleled the frequency with which this concern was voiced by his father and teacher.

More importantly, these distinguishing characteristics were indeed communicated through drawings to viewing teachers who had no other personal information available about the artists, along with other attributes (e.g. mathematics or science interest) that were more commonly perceived. Also, there were observable individual differences between children, such as Sid and James, who had the highest percentages of interview-substantiated viewer comments and Bruce, who had the lowest percentage of such comments. It is apparent that some of the children in this study were more or less ‘readable’ through their artwork than others were. It is difficult to suggest why that may be so.
It is interesting to note that eight of the ten student artists listed science as one of their preferred subjects in school, and seven of the ten mentioned mathematics as a favourite subject. These preferences were noted by many of the viewing teachers when they were considering pictures that the boys created in all three media. It would seem, therefore, that mathematics or science interest was not intuited primarily as a function of proficient use of a mathematically oriented medium, such as the Logo programming language. Rather, the content and/or forms of the images seemed to have prompted the viewing teachers’ perceptions, regardless of digital or non-digital medium used.

It is also interesting to note that most viewer comments related to student work habits, such as being impatient with mistakes (Drew), wanting to ‘get it right’ (Harvey), neatness (James) and building on prior knowledge (Mark). The smallest proportion of viewing teachers’ comments referred to students’ physical features or capabilities. Also, any comments that were offered about emotional attributes or interpersonal behaviour patterns were ‘positively’ stated, or worded as apparent evidence of well-adjusted psychological orientations, even when several of the students had some emotional and interpersonal concerns voiced about them by the adults interviewed (e.g. Harvey, Herb and Lance). These three patterns of teachers’ perceptions reflect a probable professional focus for the viewing teachers upon children’s academic performance and work habits, as well as upon children’s social and emotional characteristics that may influence their schoolwork. The viewing teachers’ comments seemed to focus less upon the psychosocial aspects of the children’s personalities. Based upon extant research about clinical uses of children’s drawings summarised earlier, psychosocial information may be perceived in the children’s drawings more readily by professionals other than teachers, such as psychologists.

As the results of this study indicate, much about the children who drew the images examined by the viewing teachers was perceived correctly – and therefore, arguably, was communicated successfully. As explained earlier, the communicative functions of children’s drawings are well accepted by educators and psychologists, even while appropriate uses for the differing types of analyses of children’s works (e.g. clinical diagnoses) are debated.

Discussion

Given the long history of using children’s drawings for diagnostic purposes – something presumably underpinned by an assumed communicative function of the children’s works – comparatively little research has examined the broader range of specifically what (and how) children’s drawings communicate. A notable exception is Hall’s (2010) doctoral thesis. In her analysis of the contents and purposes of nearly 800 drawings created by 14 kindergarten and grade 1 children in south-west England during an academic year, Hall found, by talking with the children as they drew, that they used the activity of drawing to construct and express their identities primarily, and secondarily, their sense of power. Their purposes in creating their drawings were both cognitive and affective, and were wide-ranging, determined in part by the changing contexts in which they drew the images (e.g. home or school) and the events that occurred in those contexts over time. Hall concluded that although drawing by children has four functions – perception, communication, invention and action – communication is ‘the overarching function’, because drawing functions as a visual language (p. 366). If what Hall discovered about children communicating their identities via their drawings is true for the broader population of
child artists, perhaps we should not be surprised that the teachers in this study were able to discern considerable amounts of specific information about children’s identities by examining their drawings.

Readers may wonder how probable it is that the patterns documented in this study of teachers’ perceptions of children’s artwork would also be observed in designs and designed objects. Part of the answer to this question rests with the probable communicative equivalence of children’s and adults’ artwork, which has been suggested by the use of both in the psycho-assessment literature reviewed earlier (e.g. Silver, 1987, 1992, 1993), with similar results across age groups.

Another part of the answer refers to the communicative equivalence of design and fine art creations. Scholars have linked design aesthetics to artistic production and perception for more than 80 years, beginning with Read’s first publication of *Art and Industry* in 1934. Read was among the earliest of the twentieth-century design scholars to discuss the aesthetic in the functional directly, saying, ‘objects designed primarily for use appeal to the aesthetic sensibility as abstract art’, and the designer as artist, whose ‘problem is to adapt the laws of symmetry and proportion to the functional form of the object that is being made’ (Read, 1934, p. 49). Frascara (1988) summarises this notion by reminding us that graphic design and art have more in common with each other than simply promoting a visual aesthetic. Both design and art affect the behaviour, attitude and conduct of their respective audiences. Communication is the common denominator, and such semiotic exchange via visual media seems clearly worth the attention of marketing researchers and practitioners.

How, then, can we bridge these research results in education with knowledge that may assist scholarship in marketing? The unexpectedly high percentage (69%) of verifiable unprompted comments made by remotely located viewing teachers about ten student artists working with both digital and non-digital media in this study, considered in combination with the results of both educational and marketing research referenced in this and other chapters in this book, suggests a strong possibility that both digital and non-digital creations encode and communicate aspects of their creators.

Potentially important questions follow for design and marketing. Are all graphic creations linked to and/or reflective of aspects of their creators’ personalities? If not, what causes differences in the extent to which they are linked? Which aspects of personality are communicated more clearly, and via which types of designs? Can such semiotic information about works’ creators be intentionally shaped, masked or changed? The answers to questions such as these could direct productive, and eventually helpful, marketing research concerning the impact of personality on design.

This suggests two possible courses of action for marketing scholarship and practice as it relates to personality-sensitive design. Marketing researchers could first examine the extent to which design and media creations are imbued with attributes of their creators, and then examine the extent to which consumers’ preferences for designs and media are enhanced when the personalities of creators and observers match. If these studies find evidence of strong links, then design and marketing organisations could identify target consumers’ personality types, and seek out brand developers with attributes and/or sensibilities similar to those of the brand’s target audiences.

Such action could open design and brand development work to the ever-growing diversity of consumer populations. In following these suggestions, marketing professionals would be making and acting upon the kinds of discoveries that Szent-Györgyi (Buettner and Schafer,
2006) identified long ago, and with which this chapter began: those that result from seeing what everyone else sees, but thinking differently about it.

**Note**

* Note: An earlier version of this chapter was published in the *Journal of Brand Management*, volume 14, number 3 (Harris, 2007). Texts from that article are reproduced here with the permission of the journal’s publisher, Palgrave Macmillan.

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