The Contrast Effect in Judgments of Attractiveness of Self and Others

By Christos Dimitrakopoulos

Thesis submitted for the degree of Doctor of Philosophy

University College London

Spring, 1996
This thesis proposes that judgments of attractiveness are necessarily relativistic. The scope of investigation was the contrast effect in judgments of physical attractiveness of self and strangers. As it stands, the effect predicts that exposure to highly attractive individuals will make people rate their own attractiveness or the attractiveness of others as lower. On the other hand, exposure to unattractive individuals is expected to have the reverse effect. This thesis deals with a number of issues of the contrast effect in judgments of attractiveness which have until now remained unclarified or unexplored.

The theoretical part of the thesis covers issues such as the general theories of context effects, specifying the conditions when contrast or the opposite effect, assimilation are predicted, the importance of physical attractiveness for humans, as well as conventional definitions of it, the influence of the media in shaping people's attractiveness standards, and the applicability of Social Comparison theory on some of the issues under investigation.

The findings of the thesis indicated that the contrast effect in judgments of attractiveness of strangers is a robust effect with considerable cross-cultural and cross-situational generality. Based on the results, a hypothesis was formulated on how the number of attractive people one is exposed to affects their ratings of attractiveness of others. Furthermore, the similarity between the target and the primes was found to promote the effect, however, the specificity of this similarity extended only as far as the sex of the stimuli. In line with previous findings the evidence on the contrast effect on self-ratings of attractiveness proved equivocal. The thesis tested two likely factors of this elusiveness and obtained encouraging data from one of them. Finally, the ubiquitous aim of the current work to test the ecological validity of the contrast effect in judgments of attractiveness placed the importance of the phenomenon in perspective.
Acknowledgments

This project would not be possible without the guidance of Dr. Dorothy Einon. I consider myself privileged to have worked with her. Special thanks go also to Prof. Douglas Kenrick and Dr. Sara Gutierres for their comments and the research material they made available to me. Finally, my gratitude to 'Tria Alpha co.' of Piraeus, Greece, and the department of Psychology of Bielefeld University, Germany, for their help with the conduction of part of the experimental work of this thesis.
To Kitty - for she was always there, and all the animals - for they bring a smile on my face
Table of Contents

The general structure of this thesis ................................................ 15

I The theoretical background .... 16
    I.0.1 Overview ......................... 17

1 Physical attractiveness: Assessing its importance and its definitions .... 18
    1.0.1 General introduction .............. 19
    1.1.1 The quest of beauty through time .... 19
    1.1.2 Self-enhancements of physical attractiveness ........................................ 20
    1.2.0 The advantages of being physically attractive ....................................... 21
    1.2.1 The importance of attractiveness for one's 'mating value' ...................... 21
    1.2.2 Morphology's influence on impression formation ...................................... 22
    1.3.0 The relative importance of physical attractiveness for the two sexes ...... 24
    1.3.1 Evolution theory and sexual selection ................................................. 24
    1.3.2 The Parental Investment model ........................................................... 25
    1.3.3 The mating strategies of men and women ............................................... 26
    1.3.4 Intersexual selection (the different preferences of the two sexes) .......... 26
    1.3.5 Intrasexual selection (the competition between same sex members) ........... 27
    1.3.6 Do preferences reveal actual behaviour? ............................................... 28
1.3.7 The relative satisfaction of the two sexes with their out-appearance .................................. 29
1.3.8 Biological determinism versus sociocultural explanations ................................................. 31
1.4.0 Defining physical attractiveness .................. 32
1.4.1 Philosophical positions on what is 'beauty' . 33
1.4.2 Universal versus particular standards of attractiveness ...................................................... 33
1.4.3 Inter-rater agreement in ratings of attractiveness ................................................................. 34
1.4.4 Determinants of attractiveness standards .... 35
1.4.5 Which physical features are attractive? ...... 36
1.4.6 Constructing the perfect face ................... 38
1.4.7 A pretty face or a nice body? .................... 38
1.4.8 Other definitions of attractiveness ............ 39

2 Context effects: The theory, the underlying conditions, and the debate over their nature ....... 41
2.0.1 Some important definitions ..................... 42
2.1.0 General theories of context effects .......... 43
2.1.1 The Adaptation Level theory ................. 43
2.1.2 Assimilation and contrast in the Adaptation Level theory ................................................. 44
2.1.3 Assessing the theory ............................ 44
2.1.4 The Range and Frequency theory ............ 45
2.1.5 Assimilation and contrast in the Range and Frequency theory ........................................... 45
2.1.6 Assessing the theory ............................ 46
2.1.7 Information Integration Theory ............... 47
2.1.8 Assimilation and contrast in the Information Integration theory .......................................... 47
2.1.9 Assessing the theory ............................ 48
2.2.0 The methodological conditions underlying assimilation and contrast ........................... 48
2.2.1 The experimental parameters underlying assimilation and contrast .......................... 49
2.2.2 The relative size of the primes and the target as determinants of the type of context effect obtained .............................................. 50
2.2.3 The association between the primes and the target as a determinant of assimilation and contrast . 50
2.2.4 The relationship between the rater and the target as a determinant of assimilation and contrast . 51
2.3.1 Context effects: The perception vs., response debate ........................................... 51

3 Context effects in judgments of attractiveness of others ........................................ 54
3.1.1 Perception is relative in attractiveness judgments, too ........................................... 55
3.1.2 Defining context effects in judgments of attractiveness .......................................... 55
3.2.0 Context effects in judgments of attractiveness of strangers .................................. 56
3.2.1 Contrast or assimilation? As in other things it can be a question of method .............. 56
3.2.2 Experimental procedure as a determinant of assimilation and contrast .................. 56
3.2.3 The association between the target and its prime .................................................. 57
3.3.1 Assimilation effects in ratings of attractiveness: The radiation of beauty effect ......... 58
3.4.1 Contrast effects in judgments of attractiveness of strangers .................................. 59
3.5.1 Contrast effects in judgments of attractiveness of partners .................................. 61

4 The relevance of Social Comparison theory to the contrast effect in self-judgments of attractiveness ................................................. 64
5 Context effects in self-judgments of attractiveness

5.0.1 General introduction

5.1.1 Self-ratings of attractiveness: Which effect would be expected, and the role of the prime-rater similarity

5.1.2 How the interaction between the sex of rater and the sex of the stimuli determines the type of context effect obtained

5.1.3. Other bases of association between the raters and the stimuli

5.1.4 'Unclassified' evidence

5.2.1 Is contrast in self-judgments of attractiveness an evasive effect?

5.3.1 Artifacts or real perceptual changes?

6 Context effects on self-judgments of personality

6.0.1 General introduction
6.1.1 The effects of the attractiveness of the context on the raters' self-esteem ................. 84
6.1.2 The effects of context on other self-defining personality measures and affective states . . . 85
6.2.1 Comparing the effects of context on people's perceptions of themselves: Attractiveness vs., personality judgments ......................... 86

7 Applying the contrast effect in real life: The role of the media ......................... 88
7.0.1 General introduction ......................... 89
7.1.1 The pervasiveness of attractiveness in advertising 89
7.1.2 Advertising's excuse ......................... 90
7.1.3 Advertising and the two sexes ................ 91
7.2.1 But, do we really use the media to set our standards of attractiveness? ................ 93
7.2.2 How the media may set standards of attractiveness? 94
7.2.3 The media's influence on the idealization of a particular physique ........................ 94
7.2.4 Advertising's beauty ideals and their role in eating disorders ......................... 95
7.2.5 More than one standards of attractiveness at each time? .......................... 97
7.3.1 The evidence on the use of media stimuli on contrast effects in judgments of attractiveness .......................... 97

II The experimental work .................. 100
II.0.1 Overview ......................... 101

8 Testing the ecological validity of the contrast effect in judgments of attractiveness of strangers .................. 103
9 Applying the 'universe of discourse' hypothesis to the contrast effect in judgments of attractiveness of strangers ............ 143
  9.0.1 General introduction ....................... 144
  9.1.1 The evidence of the similarity between the primes and the target on the contrast effect ..................... 144
  9.1.2 Similarity between the primes and the target in Social Comparison theory ............................. 145
Experiment 4 ..................................... 146
Experiment 5 ..................................... 154
Experiment 6 ..................................... 164
Experiment 7 ..................................... 173
Experiment 8 ..................................... 182

10 Clarifying some issues of the contrast effect in self-judgments of attractiveness ........ 190
Experiment 9 ..................................... 191
Experiment 10 ..................................... 202

11 Accounting for the evasiveness of the contrast effect in self-ratings of attractiveness .... 211
  11.0.1 General introduction ............................. 212
  Experiment 11 ..................................... 214
  Experiment 12 ..................................... 225

12 Miscellaneous findings of interest from this thesis regarding judgments of attractiveness in general

  12.0.1 Overview ..................................... 234
12.1.1 The 'derogation of others' effect ....... 234
12.1.2 The 'uniqueness bias' hypothesis ....... 237

III Conclusion .................. 240
III.0.I Overview .................. 241
III.1.I. The contrast effect in judgments of attractiveness of strangers ........ 241
III.1.II The contrast effect in self-judgments of attractiveness ................... 242
III.1.III The relationship between the raters' self-esteem and their evaluations of their attractiveness 244
III.1.IV Other findings of interest from this thesis .................. 244
III.2.I The importance of this thesis to the contrast effect in judgments of attractiveness and future directions .................. 245

APPENDIX A .................. 250
A.0.1 Overview .................. 251
A.1.1 The Adaptation Level theory ........ 251
A.1.2 The mathematical model ........ 252
A.1.3 Assimilation and contrast in Adaptation Level theory .................. 254
A.1.4 Assessing the theory ........ 255
A.2.1 The Similarity Classification theory .... 255
A.2.2 The mathematical model ........ 256
A.2.3 Assessing the theory ........ 257
A.3.0 Range and Frequency theories ........ 258
A.3.1.0 Frequency theories of context effects .................. 258
A.3.1.1 The Response Frequency Equalization theory .................. 258
A.3.1.2 Assessing the theory ........ 260
A.3.2.0 Range theories of context effects ........ 260
A.3.2.1 Volkmann’s influence on range theories ........................................... 261
A.3.2.2 Variable Perspective theory ..................................................... 261
A.3.2.3 Assimilation and contrast effect in Variable Perspective theory .......... 262
A.3.3.1 Johnson’s and Mullally’s Correlation and Regression model ............. 263
A.3.3.2 Contrast effects in the Correlation and Regression model ............... 264
A.3.3.3 Assessing range models ......................................................... 265
A.4.1 The Range and Frequency theory .................................................. 265
A.4.2 The mathematical model ........................................................... 265
A.4.3 Assimilation and contrast in the Range and Frequency theory ............. 266
A.4.4 Assessing the theory ............................................................... 267
A.5.1 Information Integration Theory ................................................... 268
A.5.2 The mathematical models: the additive vs., the averaging model ......... 269
A.5.3 The constancy assumption ......................................................... 270
A.5.4 Assimilation and contrast in the Information Integration model .......... 271
A.5.5 Assessing the theory ............................................................... 273

BIBLIOGRAPHY ................................................................. 275
List of Illustrations

Exhibits

Exhibit 11.1: Questionnaire 'A' used in experiment 11 . 220
Exhibit 11.2: Questionnaire 'B' used in experiment 11 . 220
Exhibit 12.1: The script and its accompanying 'imagine-yourself-as' task of the neutral commercial in experiment 12 .............. 227
Exhibit 12.2: The script and its accompanying 'imagine-yourself-as' task of the 'physical attractiveness salient' commercial in experiment 12 ............ 229

Figures

Figure 1.1: Mean attractiveness ratings in the ascending order of presentation in experiment 1 ................. 113
Figure 1.2: Mean attractiveness ratings in the descending order of presentation in experiment 1 ................. 114
Figure 2.1: Mean attractiveness ratings of the female stimuli in experiment 2 ........................................ 127
Figure 5.1: Mean attractiveness ratings in experiment 5 ................................................................. 159
Figure 6.1: Mean attractiveness ratings in experiment 6 ................................................................. 169
Figure 7.1: Mean attractiveness ratings for the females in experiment 7 ............................................. 176
Figure 7.2: Mean attractiveness ratings for the males in experiment 7 ............................................. 178
Figure 8.1: Mean attractiveness ratings in experiment 8 ................................................................. 187
Figure 9.1: Mean self-attractiveness ratings for the males in experiment 9 ............................................. 197
Figure 9.2: Mean self-attractiveness ratings for the females in experiment 9 ............................................. 198
Tables

Table 3.1: Mean ratings of attractiveness in experiment 3 .................................................. 138
Table 4.1: Mean ratings in experiment 4 .............................................. 151
Table 10.1: Mean self-ratings of attractiveness in experiment 10 ............................................. 206
Table 11.1: Meta-analytic view of the relationship between the DV used and the successful demonstrations of the contrast effect ............................................ 215
Table 11.2: Mean ratings on self-measures in experiment 11 .............................................. 221
Table 11.3: Mean ratings on 'partner' measures in experiment 11 ........................................... 222
Table 12.1: Mean self-ratings of attractiveness in experiment 12 .......................................... 230
Table 13.1: Mean self-ratings of attractiveness vs., ratings of attractiveness of others in experiment 8/9 239
The general structure of this thesis

The thesis is separated in three parts. The first part reviews the literature which relates to the issues under investigation, the second part outlines the experimental work that was carried out, whilst the third part assesses the contribution of the current work to the field.
The theoretical background
I.0.1 Overview

The first section of this thesis provides the theoretical backbone for the experimental research of the current work. It is split in 7 chapters. Chapter 1 deals with physical attractiveness as an attribute. It examines things such as the significance of attractiveness to humans, the benefits of being attractive, the different importance of attractiveness for men and women, whilst it also reviews some of the definitions of physical attractiveness that have been put forward. Chapter 2 outlines the most influential theories of context effects, specifies the methodological conditions for each of the two most important effects (assimilation and contrast), whilst it also reviews the debate over the nature of the phenomena. Chapter 3 presents the evidence for context effects in judgments of attractiveness of others, whilst chapter 4 summarizes the theoretical framework that provides the motivational basis for context effects in attractiveness judgments of one's self. Chapter 5 goes on to look at the evidence on context effects in self-judgments of attractiveness, whilst chapter 6 examines the evidence of the context effects on one's personality. Finally, chapter 7 discusses how the media may be involved in the operation of the contrast effect in real life.
CHAPTER ONE

Physical attractiveness: Assessing its importance and its definitions
1.0.1 General introduction

This chapter examines in sequence, the importance of physical attractiveness in people's lives through the centuries, the benefits of being attractive, the relative importance of attractiveness for the two sexes, and finally issues which are relevant in defining what physical attractiveness is.

1.1.1 The quest of beauty through time

There is ample evidence that one of man's main preoccupations has always been the pursuit of beauty. The ancient Egyptians, Greeks and Romans have been recorded to pay particular attention to enhancing their looks through exercising, hair style, clothing or even facial cosmetics that were available at those times. The glorification of beauty as personified in humans, can be appreciated in the writings of Homer or Sappho. It is a point of widespread agreement that physical attractiveness has been valued highly by almost all existing cultures (Fallon, 1990; Vacker and Key, 1993). Today, this quest for beauty continuous undiminished. Such is the importance of attractiveness for the western man that his very regard for himself has been found to be strongly related to his perceptions of his appearance (Secord and Jourard, 1953; Suman, 1990; Downs, 1990; Tiggemann, 1992), even as early as in childhood (Krantz, Friedberg and Andrews, 1985; Cooper, 1993). A notable recent change is that being beautiful is no longer an almost exclusively female affair but is rather a concern shared by both sexes. Surveys have shown that in the mid-eighties, around 82% of American men and 93% of American women actively try to create or maintain an attractive

^1 Sub-groups of each culture may differ in the importance they attach to this attribute. Sprecher, Sullivan and Hatfield (1994) for instance found that American blacks, and in particular black females, valued the physical attractiveness of their partners higher than their white counterparts.
1.1.2 Self-enhancements of physical attractiveness

That attractiveness has been an inseparable component of people's lives, is betrayed by their preoccupation to enhance it. The ways people have tried to boost their appearance have been diverse. The common denominator of those attempts has been the altering of physical features towards the prevailing ideal of one's culture. Often the price of being beautiful has been high and evidence of this exist for both, the industrialized and the less developed world.

In tribal and Far-Eastern cultures, beauty enhancing practices include scarification of the face, scull deformations, or alterations of the nose, neck and the feet (Alley and Hildebrandt, 1988; Fallon, 1990). In the western world perhaps the most widespread beauty enhancing technique, with its roots in tribal custom, has been the use of make-up. A number of recent studies have studied the phenomenon of make-up producing evidence for what perhaps women have always suspected: make-up use not only makes the wearer feel more confident and sexy, but also enhances her attractiveness (Cox and Glick, 1986; Cash, Dawson, Davis, Bowen and Galumbeck, 1989; Workman and Johnson, 1991). The equivalent of the tribal habit of body deformation exists also in our culture. Here however has been awarded scientific status and costs more. Reference is made to plastic surgery. Although a systematic medical investigation is missing, anecdotal reports reveal that the industry of surgically alterations is booming. Increasingly more and more people are prepared to pay a small fortune in order to get rid of their wrinkles, or have smaller noses, fuller lips, flatter tummies, smaller or larger breasts (including 'pectoral enlargements' for men) to name but a few of the most sought changes. Mazur (1986) quotes statistics from a single clinic which between 1962-1979 performed
annually about 90 breast augmentations for cosmetic reasons, whilst Fallon (1990) notes that in some US states like California breast alterations are always on the increase even when the direction of the change (augmentation or reduction) may at times be different.

Altering one's body morphology is only one way through which people try to enhance their attractiveness. The clothes one wears is another. Beautiful garments have been in the past a symbol of wealth and power. The common belief was that they enhanced the appearance of the wearer. It was only recently that this belief received experimental support. The attractiveness of both, men and women has been found to be affected by the style or colour of their garments (Buckley, 1983; Williamson and Hewitt, 1986; Radeloff, 1990; Bell, 1991; Satrapa, Melhado, Coelho, Otta, Taubemblatt and Siqueira, 1992).

From the above, it becomes clear that humans have since very early strived to look more attractive. The following section will show that this desire is in fact warranted.

1.2.0 The advantages of being physically attractive

Evidence shows that in general being attractive is associated with a number of benefits. These benefits are in fact two-fold. Research shows that being attractive first, enhances one's desirability as mate, and second, signals to others a long list of positive attributes about one's person.

1.2.1 The importance of attractiveness for one's 'mating value'

Physical attractiveness has been shown to be the single most important characteristic which determines people's partner
choices. Although when directly asked people put down the importance of physical attractiveness whilst emphasizing other personality characteristics (Tesser and Brodie, 1971) their behaviour shows a much different picture. Things such as “how much we like someone”, “want to see them again”, or “how often we ask them out”, have been found to be either exclusively, or significantly determined by how physically attractive this someone is (Walster, Aronson, Abrahams and Rottmann, 1966; Brislin and Lewis, 1968; Byrne, Ervin and Lamberth, 1970; Suman, 1992). Dating behaviour has also been shown to be influenced by ‘the date’s’ appearance. Evidence shows that people want to retain assigned dates who are attractive (Walster et al, 1966), and also that they actually prefer to date attractive individuals more than less comely ones (Berscheid, Dion, Walster and Walster, 1971; Stroebe, Chester, Insko, Thompson and Layton, 1971). The importance of attractiveness for one’s value as a partner is not confined to experimental demonstrations. For instance, we know that those personal advertisements in which the writer describes herself as beautiful, receive the most responses (Lynn and Shurgot, 1984).

1.2.2 Morphology’s influence on impression formation

Folk psychology has long since stipulated that in the case of people it is really a case of “you can judge a book by its cover”. As early as in ancient Greece one encounters proverbs about the importance of being attractive such as “what is beautiful is good...”. However, until recently there have been only scant attempts in experimental psychology to relate the way one looks to a personality profile (Sheldon, 1942; Brodsky, 1954; Dibiase and Hjelle, 1968; Strongman and Hart, 1968; Miller, 1970). The first concrete formulation of a

---

positive bias towards attractive people, was offered by Dion, Berscheid and Walster (1972). These researchers found that attractive individuals are perceived by others as more: sexually warm, sexually responsive, sensitive, kind, interesting, strong, poised, modest, sociable and outgoing, than people of lesser attractiveness. In addition, attractive individuals were expected to lead happier personal and professional lives than their unattractive counterparts. Based on Sappho's lyric, Dion et al named this phenomenon the "beautiful is good stereotype". A few years later Bar-Tal and Saxe (1976) concluded that there was enough evidence to suggest that being attractive leads to positive person perception.

Since the identification of the attractiveness bias phenomenon, the list of benefits that have been found to be accrued by attractive people is ever growing. Compared to less comely ones attractive individuals have been found: to be treated more altruistically (Wilson, 1978), more leniently when judged for a crime they committed (Efran, 1974), are perceived as healthier both, mentally and physically (Jones, Hansson and Phillips, 1978; Cunningham, 1986), are considered easier to be lend money (Byrne, Baskett and Hodges, 1971), are offered easier a job (Cunningham, 1986), are assigned status (Kalick, 1988), are seen as enjoying the fine things in life (Parekh and Kanekar, 1994), are wanted more as friends (Janda, O'Grady and Barnhart, 1981), are perceived as: more intelligent (May and Hamilton, 1980), more popular (Walster et al, 1966), and as more experienced in terms of partnerships (Stelzer, Desmond and Price, 1987), and have their performances judged more favourably (Landy and Sigall, 1974), to name only but a few of those benefits. Furthermore, the evidence shows that the positive stereotyping of beautiful people is a robust phenomenon (Ellis, Olson and Zanna, 1983; Freeman, 1987), with considerable ecological validity (Udry and Eckland, 1984), that it begins as early as in infancy (Langlois, Ritter, Casey and Sawin, 1995), that continues
through childhood (Dion, 1973; Clifford and Walster, 1973), and that it also applies to self-assessments (Berscheid, Walster and Bohrnstedt, 1973).

Finally, although being attractive is in general beneficial, there are also a few negative attributes that are associated more readily with attractive individuals. We know that beautiful people are seen as relatively more vain, egotistical and snobbish (Dermer and Thiel, 1975), and that are considered more easily as immoral (Hocking, Walker and Fink, 1982).

Summarizing, we have seen that being attractive increases the desirability of one in the mating game, whilst at the same time makes others perceive them more positively in a great number of ways. Although being attractive is in general advantageous, evidence shows that it is much more important to women than it is to men. This issue is examined in the following section.

1.3.0 The relative importance of physical attractiveness for the two sexes

The literature shows that women are more preoccupied with the way they look than men, whilst at the same time men value good looks in a partner higher than women. Such differences may be rooted in the biological make-up of the two sexes.

1.3.1 Evolution theory and sexual selection

Although the attractiveness stereotype is more than adequately substantiated, opposing evidence exists also. Kleinke and Stanenski (1980), and Freeman (1985) found a tendency for moderately attractive people to be perceived more positively and as more happy than highly attractive individuals.
Darwin’s (1859, 1871) study of animal species soon made it apparent to him that he needed to complement the concept of 'natural selection' of his theory with an additional concept. The reason was that animals were found to evolve not merely those features which favoured a 'survival of the fittest' mechanism, but also features of no survival value. To resolve this discrepancy Darwin put forward the concept of 'sexual selection'.

Sexual selection was seen as two distinct yet, closely related processes: intrasexual selection, and intersexual or epigamic selection. Intrasexual selection referred to the tendency of members of the opposite sex to compete for available mates, whilst intersexual selection was defined as the tendency of the members of the same sex to show preferential choice towards those members of the opposite sex that possessed a number of desirable characteristics. Darwin believed that males would compete more fiercely with other males for access to females. Females on the other hand, were seen as being more selective in their mate choices.

Regarding the kind of selection processes that underlie physical attractiveness, Johnston and Franklin (1993) found that what may be considered as attractive is a compromise between natural and sexual selection process. Their results showed that attractive faces consist of both, characteristics that have been shown to have a biological value, as well as by other features which have been found to be appreciated by the opposite sex.

1.3.2 The Parental Investment model

A more recent evolutionary model that was put forward in order to explain sex differences in sexual selection, is the Parental Investment model (Trivers, 1972). Trivers argued that what determines those differences is the degree of
investment the two sexes are prepared to give to their offspring. ‘Investment’ is defined as the contribution each parent makes to their offspring’s reproductive success. Trivers observed that females typically attempt to maximize the viability of each offspring whilst males try to maximize the number of offspring. As a result of the two distinct strategies, Trivers argues, women tend to be more selective, looking for men with high status and income who will be in a position to secure the feasibility of their children. Men on the other hand tend to be more responsive to cues that reveal a woman’s fertility such as her youth or her physical attractiveness.

1.3.3 The mating strategies of men and women

A logical consequence of the two sexes being more selective to different cues when choosing a partner, is that they adopt different mating strategies. In fact there is ample evidence supporting the predictions of Trivers’ model. The latter allows predictions for men’s and women’s behaviour regarding their intrasexual and intersexual selection processes.

1.3.4 Intersexual selection (the different preferences of the two sexes)

The evidence supporting the fact that mate selection criteria differ between the two sexes is overwhelming. The general picture that emerges is that women tend to look for resources and security whilst men for beauty and good looks (see Buss, 1991). Characteristics that women have been found to look in men include good earning capacity, job security, wealth, college education, career-orientation, social status and ambition (Buss and Barnes, 1986; Townsend, 1989; Kenrick, Sadalla, Groth and Trost, 1990; Suman, 1992). Men on the other hand look for women who are attractive and good looking
significantly more than women look for attractive men (Walster, Aronson, Abrahams and Rottmann, 1966; Miller and Riverbank, 1970; Berscheid, Dion, Walster and Walster, 1971; Lerner, Karabenick and Stuart, 1973; Buss and Barnes, 1986; Townsend, 1989; Kenrick et al, 1990; Gladue and Delaney, 1990), whilst they also report preferences for specific body characteristics (Townsend, 1989). Those sex differences in mate selection criteria have been found to be reliable cross-culturally (Cunningham, 1986; Buss, 1989; De Raad and Doddema-Winsemius, 1992; Sprecher, Sullivan and Hatfield, 1994).

1.3.5 Intrasexual selection (the competition between same sex members)

Although intrasexual selection as it was originally applied to animals referred to direct competition between members of the same sex, in humans it has come to mean a different kind of 'competition'. Humans are assumed to be intrasexually selective by attempting to enhance their features so that they look superior amongst the members of their sex.

The evidence shows that the relationship between the mating behaviour of the two sexes is reciprocal. Men emphasize those characteristics that they know women value, and vice versa. Men attempt to impress women by employing such tactics as displaying, bragging, or even lie about their resources (Buss, 1988; Tooke and Camire, 1991). Women on the other hand, employ tactics which typically enhance their out appearance. The most common such techniques are the application of facial cosmetics as well as 'strategic' dressing which either, enhances or conceals a particular body part (Buss, 1988; Tooke

Evidence shows that the very nature of the relationship between two people is shaped by this sex difference. Hendrick, Hendrick, Foote and Foote (1984) found that men's love attitudes towards women concentrated more on physical characteristics than women's love attitudes towards men.
This reciprocity in mating selection behaviour has been found not only in terms of offering those attributes the opposite sex seeks, but also in terms of the instances of a single attribute. So, in the case of physical attractiveness Lerner et al (1973) found that those physical characteristics that both men and women valued for the attractiveness of the opposite sex, coincided with those features the opposite sex valued for their own.

1.3.6 Do preferences reveal actual behaviour?

Given that the evidence on the mate selection criteria of the two sexes is based on Ss' reported preferences, one could remain sceptical as to which extend those preferences denote actual behaviour. In a study which makes a stronger case for the idea that beautiful women pair up with wealthy men, Udry and Eckland (1984) found that women who were classified as attractive 15 years prior to the study were found to be married to highly educated and high income husbands in contrast to less attractive counterparts who ended up in less prosperous marriages. However, Byrne et al (1970) found that although men reported that attractiveness was more important in their partner selections than women, the latter chose attractive men as dates more often than men chose attractive women. Similarly, Reis, Nezlek and Wheeler (1980) found that attractive men had more dates than attractive women.

Another research area that has produced results which are more akin to people's actual behaviour, is the study of personal adverts. Providing a description of what one offers and especially, what they are seeking in return in a prospective relationship, has arguably greater ecological validity than mere expressions of one's preferences. Recently researchers have recognised the relevance of personal ads to evolutionary
predictions on mate selection criteria (e.g., Thiessen, Young and Burroughs, 1993).

Content analysis of personal adverts has typically led to the same conclusion. Women look for a marriage relationship more than men (Sitton and Rippee, 1986), and for men with financial resources (Sitton and Rippee, 1986; Hirshman, 1987; Thiessen et al, 1993), and status (Koestner and Wheeler, 1988). Men look for women who are attractive (Lynn and Shurgot, 1984; Hirshman, 1987; Koestner and Wheeler, 1988; Feingold, 1990; Thiessen et al, 1993), thin (Koestner and Wheeler, 1988; Lynn and Shurgot, 1984), and young (Bolig, Stein and McKenry, 1984; Thiessen et al, 1993). As intersexual selection predicts the attributes each sex offers in lonely hearts advertisements coincide with those attributes which are sought by the opposite sex. So, men tend to offer monetary resources (Hirshman, 1987; Thiessen et al, 1993), and status (Koestner and Wheeler, 1988), whilst women tend to emphasize their physical attractiveness (Hirschman, 1987; Koestner and Wheeler, 1988; Thiessen et al, 1993), and youth (Thiessen et al, 1993).

1.3.7 The relative satisfaction of the two sexes with their out-appearance

As indirect evidence which reveals that physical attractiveness is an attribute of greater importance to women than it is to men, women’s self-regard has been shown to depend to a greater extend to their attitudes towards their out appearance, than men’s (Secord and Jourard, 1953; Lerner et al, 1973; Berscheid et al, 1973; Freedman, 1986; Hesse-Biber, Clatyon-Matthews and Downey, 1987; Pliner, Chaiken, and Flett, 1990; Jacobi and Cash, 1994; Furnham and Greaves, 1994). In addition, women have been found to hold more negative attitudes towards their bodies (Franzoi et al, 1987), rate their attractiveness lower (Downs, 1990(b); Thornton and
Ryckman, 1991), and in general, be more dissatisfied with the way they look (Secord and Jourard, 1953; Calden, Lundy and Schlafer, 1959; Berscheid et al, 1973; Fallon and Rozin, 1985; Jackson, Sullivan and Hymes, 1987; Rozin and Fallon, 1988; Zellner, Harner and Adler, 1989; Diamant et al, 1991; Tiggemann, 1992; Furnham and Greaves, 1994; Holmes, Chamberlin and Young, 1994) than men.\(^5\)

The direction of the deviation between women’s current physique and that which they consider as ideal is almost unanimous. Women typically perceive themselves as too heavy and wish they were slender (Fallon and Rozin, 1985; Hesse-Biber et al, 1986; Rozin and Fallon, 1988; Zellner et al 1989; Tiggemann, 1992; Jacobi and Cash, 1994).\(^6\) Even when women do not report any dissatisfaction with their physique they still express a desire to be thinner (Cohn et al, 1987).

Finally, the age of onset of women’s dissatisfaction with their looks is subject to some debate. Whilst some researchers have found that even adolescent females show dissatisfaction (Simmons and Rosenberg, 1975) others have failed to replicate this finding (Cohn et al, 1987). Furthermore, whilst most research would agree that dissatisfaction with body shape increases with age (Rozin and Fallon, 1988; Tiggemann, 1992; Martin et al, 1993), evidence that shows that age may play no role in satisfaction with one’s appearance exists also (Berscheid et al, 1973; Pliner et al, 1990).

\(^5\) Recent evidence suggests that this phenomenon may not be gender specific but sexual orientation specific. Siever (1994) found that heterosexual women and gay men were comparably dissatisfied with their attractiveness, whilst heterosexual men and lesbians were equally satisfied.

\(^6\) This wish of women to be slender reflects only in part the preferences of the opposite sex. Men have been found to prefer a thin woman to a heavy one but the level of thinness they see as attractive is considerably less than the one women are prepared to reach in order to consider themselves beautiful (Fallon and Rozin, 1985; Jacobi and Cash, 1994).
1.3.8 Biological determinism versus sociocultural explanations

Even though the present chapter has been presented through the prism of evolution theory (for one because it is the perspective that has been adopted by the majority of the researchers in the field), it is possible that sex differences in mate selection criteria are not exclusively biologically determined. Social influences may also play an important role. For example, it could be argued that the prevalent sex roles in our society, as well as the social reality that women had until recently poorer chances for economic autonomy than men, are to a significant extent responsible for them. It has been argued that sex roles dictate on the one hand to women to avoid expressing a preference for physical beauty from fear of being labelled 'promiscuous' or 'swallow', whilst on the other hand, enhance the value of those men who form multiple relationships with beautiful women (Ferrell, Tolone and Walsh, 1977).

If societal pressures are responsible for shaping the mating criteria of the two sexes, it would be expected that the emergence of the 'New woman', and the 'New man' would have contributed towards diminishing the differences between the importance men and women attach to physical attractiveness. In line with this prediction, recent evidence suggests that the importance of good looks for men is ever increasing (Mishkind, Rodin, Silberstein and Striegel-Moore, 1986; Thornton and Ryckman, 1991; Jacobi and Cash, 1994; Nemeroff, Stein, Diehl and Smilack, 1994). Feingold (1990) found reported that even when men still report that the appearance of a potential partner is more important to them than it is to women, the behaviour of the two sexes reveal very little difference if at all. Furthermore, context analysis of personal advertisement on samples in which the women were more mature and had a higher socio-economic status than the men, reveal that women seek beautiful men as much as men seek
beautiful women, and also, that men do no hesitate to offer their good looks in return of professional status in a woman (Bolig et al, 1984; Sitton and Rippee, 1986).

Although the above discussion shows that the role that physical attractiveness plays for men and women move towards equality, it would seem a little premature to argue that women's position in society may overcome biological determinism. For evidence exists that even in female populations which are expected to achieve financial independence (medical students), women still tend to emphasize the importance of socio-economic status in a partner more than men (Townsend, 1989).

Up to this point we have established that physical attractiveness has since always had a central role in people's lives especially for women, and that the person perception benefits which attractive people reap outnumber the negative by far. The question therefore "what, or better still, "who is physically attractive?", becomes imperative beyond the point of being the subject of a scientific investigation.

1.4.0 Defining physical attractiveness

Defining the dependent variable (DV) of interest of any thesis would appear to be obligatory. In the case of physical attractiveness however this could prove a little more difficult than usual. Terms such as 'sexy', 'beautiful' or 'attractive' are used liberally and most times interchangeably. One however may be at a loss if asked to give a vocabulary type definition of physical attractiveness. After all, is beauty not "in the eye of the beholder" as popular psychology asserts? The following section outlines the evidence.
1.4.1 Philosophical positions on what is 'beauty'

The problem of defining 'beauty' has been the subject of a philosophical debate from ancient times. Plato saw beauty as divine, and removed from the empirical world, whilst Aristotle considered beauty to be an 'essence' and as with all essences, to be held in the 'object'. Later, Kant adopted a view of beauty akin to Plato's interpretation. Perhaps what binds most philosophical positions is that beauty is regarded as subjective a quality. A scientific investigation of human physical attractiveness on the other hand requires that it is defined in an objective and observable way.

1.4.2 Universal versus particular standards of attractiveness

Before an attempt is made to identify those characteristics that the 'attractive' body or the 'attractive face' consists of, one needs to establish whether a consensus on what is attractive exists in the first place. We have already discussed that the importance of attractiveness is high cross-culturally. What has taken the form of a debate however, is whether ideals of beauty are universal or rather particular to each culture. Darwin (1874) is the first noted author to deal with this issue. Following his study of the female beauty standards of numerous tribes and societies around the world, Darwin concluded that "it is certainly not true that there is in the mind of man any universal standard of beauty with respect to the human body". Ford and Beach (1951) also found evidence of a great cross-cultural variability for the

---

7 For an extensive discussion of philosophical positions on the issue the reader should consult Vacker and Key (1993).

8 Even Aristotle position can be viewed as subjective given that if beauty is a value of something, then someone is beautiful because he is beautiful - a tautology (Vacker and Key, 1993).

9 Darwin (1874), p.577
features of the female physique that are admired.

In the light of subsequent evidence accepting Darwin's position, that no universal definition of attractiveness exists, appears to be unwarranted. For evidence shows that there is great cross-cultural agreement on the attractiveness value of a great number of body characteristics (Ford and Beach, 1951; Morse, Gruzen and Reis, 1976; Symons, 1979; Thakerar and Iwawaki, 1979; Gitter, Lomranz, Saxe and Bar-Tal, 1983; Cohn, Adler, Irwin, Millstein, Kegeles and Stone, 1987; Hallinan, 1988; Singh, 1993), as well as on the value of specific facial characteristics (McArthur and Berry, 1987; Cunningham, 1986; Cunningham, Roberts, Barbee, Druen and Hun Wu, 1995). Observers reviewing the existing literature have also argued in favour of a cross-cultural standard of beauty (Zebrowitz-McArthur, 1988). The consensus on who is considered as attractive is even greater within the same culture (Kalick, 1978).

1.4.3 Inter-rater agreement in ratings of attractiveness

An empirical way of examining if a consensus in what is considered as attractive exists, has been to measure the inter-rater agreement in judgments of physical attractiveness. The evidence shows that this agreement is very high (often with a coefficient over .9) (e.g., Berscheid, Dion, Walster and Walster, 1971; Murstein, 1972; Downs, 1990 (a); Langlois and Roggman, 1990; Johnston and Franklin, 1993), and that it is independent of the age, region or socioeconomic status of the raters (Iliffe, 1960; Downs, 1990 (b)). In addition, there is considerable agreement between male and female raters

---

10 Examples of female body features for which cross-cultural consensus exists include firm breasts and hips, smooth skin, symmetrical hourglass figures, low waist-to-hip ratio and general thinness, whilst examples of facial features are large eyes and a small nose.

The fact that there is considerable conformity on what people consider as attractive, does in no way rule out the personal element of the rater. Evidence shows that people can be separated in terms of which body parts they consider as important for attractiveness (Wiggins and Wiggins, 1969), whilst the rater’s personality (Scodel, 1957; Wiggins and Wiggins, 1969; Lavrakas, 1975; Beck et al, 1976), attitude towards a sensitive topic (Bernstein, Huang, Teng and Lin, 1986), religion (Hallinan, 1988), or even the magazines they read (Wiggins et al, 1968), have been shown to be related to their somatic preferences of the opposite sex.

Although in general two people will agree on the attractiveness of a third person, they will usually differ if the person whose attractiveness is judged is one of them. Conformity between subjective and objective judgments of attractiveness leave a lot to be desired, with most often people rating their looks more positively than objective raters (Murstein, 1972; Stroebe, Insko, Thompson and Layton, 1971; Steizer, Desmond and Price, 1987; Jovanovic, Lerner and Lerner, 1989; Downs, 1990 (a)).

1.4.4 Determinants of attractiveness standards

There have been two major theoretical positions regarding the determinants of physical attractiveness. One argues in favour of evolutionary forces. Sociobiologists have found that female attractiveness is defined as this figure which signal to men a high reproductive value (e.g., Guthrie, 1976; Cunningham, 1986; Singh, 1993). In line with this assumption a number of researchers have found that plumpness in tribal
women is a consistent component of their attractiveness (Darwin, 1874; Ford and Beach, 1951).

The alternative theoretical standpoint makes a case for society's influence on attractiveness standards. The major argument of the advocates of this position is that attractiveness standards are not relatively static, as biological determinism dictates, but rather dynamic. The same researchers note that over the time new attractiveness standards usually go hand in hand with major societal changes (Mazur, 1986; Fallon, 1990).

There is also evidence which supports the view that socialization may be comparatively more important than biological determinism especially in the western world. Most notably the idealization of female thinness as portrayed in the media and the movie industry (e.g., Furnham and Alibhai, 1983; Garner, Garfinkel, Schwartz and Thompson, 1980; Mazur, 1986; Silverstein, Perdue, Peterson and Kelly, 1986) is evidence against evolutionary pressures for a reproductive figure. As further evidence that social pressures can override evolutionary ones, Furnham and Alibhai (1983) found that Africans who lived for a few years in a western country came to gradually change their attractiveness standards towards those of their new culture. Interestingly, researchers such as Mazur (1986) and Fallon (1990) have argued that the intensifying role of the mass media in the western world is very likely to impose more uniform standards of beauty. In fact the influence of the western standards of attractiveness on other cultures has been documented (Kowner and Ogawa, 1993).

1.4.5 Which physical features are attractive?

From ancient times people were in search of the formula for the perfect attractiveness. For example, Plato believed the
secret of facial beauty lied “in the ‘golden’ proportions wherein the ratio of the whole \((x)\) to the larger part \((y)\) equals the ratio of \(y\) to the smaller part \((z)\): \(x/y = y/z.\) Aristotle also suggested that beauty may have a mathematical form. More recently a large area of research has attempted to identify the kind of physical features that one requires in order to be considered as attractive. Below follow a brief outline of the findings.

Men have been shown to prefer women with fair complexion and light hair or eye colour (Feinman and Gill, 1978), who are relatively short (Shepperd and Strathman, 1989), have large breasts (Scodel, 1957; Wiggins, Wiggins and Conger, 1968; Wildman, Wildman, Brown and Trice, 1976; Gitter et al, 1983; Furnham, Hester and Weir, 1990), a thin waist (Singh, 1993), and an hourglass figure (Furnham et al, 1990). Regarding facial characteristics, men find as attractive a woman with large eyes, small nose, small chin, large pupils, narrow cheeks, shorter hair, fuller lips or square faces (Cunningham, 1986; Meerdink, Garbin and Leger, 1990; Johnston and Franklin, 1993). On the other hand, evidence shows that women find as attractive men with: dark complexion, hair and eyes (Feinman and Gill, 1978), with a well defined musculature (Diamant, Long and Masterson, 1991), small buttocks (Beck et al, 1976), a moderately broad chest and upper body (Lavrakas, 1975; Beck et al, 1976; Wildman et al, 1976), relatively long faces and high cheeks (Meerdink et al, 1990), and also men who are tall (Shepperd and Strathman, 1989), and generally mesomorphic (Lavrakas, 1975; Beck, Ward-Hull and McLear, 1976).

Regarding people’s preferences for their own sex, men consider as attractive a mesomorphic figure (Dibiase and Hjelle, 1968), which is typically more muscular and with a higher stature than their own (Jacobi and Cash, 1994). Women on the other hand consider as attractive a woman who has an athletic figure

---

11 Quoted in Alley and Hildebrandt (1988), p. 106

Finally, the agreement between men and women on the shape and size that a particular physical feature should have in order to be judged as attractive is considerable (Lerner, Karabenick and Stuart, 1973; Morse et al, 1976; Franzoi and Herzog, 1987; Meerdink et al, 1990; Johnston and Franklin, 1993).

1.4.6 Constructing the perfect face

Only recently computer programs have provided a new technique for finding the human attractive prototype. These programs manipulate the features of a face constantly until they arrive at what judges view as the 'most attractive face'. The evidence from this technique is however rather limited and inconclusive.

So, whilst Langlois and Roggman (1990) found that attractive faces are those which constitute the 'average' of many individual faces, Johnston and Franklin (1993) found that a beautiful face is a compilation of rather 'extreme' features.

1.4.7 A pretty face or a nice body?

The evidence on the relative value of the face and the body for physical attractiveness is equivocal. Some studies have shown that the face is more important (Mueser et al, 1984; Raines, Hechtman and Rosenthal, 1990; also see Alley and Hildebrandt, 1988), whilst others have supported the view that the importance of the body, especially for females, is at least as great (Alicke, Smith and Klotz, 1986; Raines et al, 1990), or even greater than the importance of the face (Pedersen, Markee and Salusso, 1994).
In any case trying to identify which of the human physical characteristics is more important for attractiveness, may be a futile quest. For it is possible that an investigation of the gestalt picture of attractiveness, where the perception of the 'whole' (person) is more important than the perception of its 'parts' (physical characteristics), could be more fruitful than the predominant piecemeal type of research (Murstein, 1971; Pedersen et al, 1994).

1.4.8 Other definitions of attractiveness

Until now we have looked at the attempts to define attractiveness in terms of the importance of single physical characteristics. Some other researchers have approached the definition of physical attractiveness from a wider angle. In the most relevant study Riggio, Widaman, Tucker and Salinas (1991) employed a mathematical equation to examine which components of attractiveness fitted their data best. The model of attractiveness providing the best fit was composed both, of facial features as well as 'dynamic' components of attractiveness such as expressive or communicative abilities. Other research has also implicated expressive characteristics in defining attractiveness. For instance facial expressions which denote happiness, with smiling being the most notable, have been consistently judged as physically attractive (Hirschberg, Jones and Haggerty, 1978; Mueser, Grau, Sussman and Rosen, 1984; Cunningham, 1986; Reis, McDougal-Wilson, Monestere, Bernstein, Clark, Seidl, Franco, Gioioso, Freeman and Radoane, 1990). Having said this, the sex of one may qualify the type of definition which is ascribed to their attractiveness. Morse et al (1976) found men to base their definitions of 'attractiveness' for the opposite sex on physical features, whilst women's definitions were more
related to the men's personal qualities.¹²

As a synopsis of this chapter, although all cultures value attractiveness high, the existence of a universal standard of beauty remains the subject of some debate. Considerable agreement on what is attractive exists within the same culture, and for a number of physical features even across cultures. Both, biological as well as social influences could be responsible for shaping people's attractiveness standards. Even though beauty may not to be in the "eye of the beholder", a concrete definition of it is missing. In fact the present thesis will argue that such a definition may not be at all plausible. As it will be shown, judgments of attractiveness are necessarily relativistic, and subject to situational factors. The situational factor that will be examined here is the attractiveness of the 'context' in which the judgment takes place. The following chapter examines the theoretical background behind context effects.

¹² Morse et al used live stimuli leaving open the possibility that the personality of the target was involved in Ss' ratings.
CHAPTER TWO

Context effects: The theory, the underlying conditions, and the debate over their nature
2.0.1 Some important definitions

Before we embark on discussing context effects in more detail, it may be useful to define some of the terms that will be used extensively from this point onwards.

Context effects are well established phenomena across a wide spectrum of psychology, involving both, psychophysical and social stimuli. A 'context effect' is defined as a change in the evaluation of a stimulus (e.g., "how heavy is this weight?" or "How bright is this light?") which is caused by either, a preceding or a concurrent surrounding (context). The context in most cases, including this thesis, is comprised of stimuli ('primes' or 'stimulus set') which vary along the same dimension as the judged stimulus ('target'). In effect, context acts as a frame of reference against which the target is judged. When a single prime is used to cause a context effect, this prime is also known as an 'anchor'. The anchor is typically an extreme stimulus that interrupts a series of relatively moderate stimuli.

The two most well documented context effects are contrast and assimilation. A 'contrast effect' is said to have occurred when the judgment of the target is displaced away from the context. The opposite effect, 'assimilation', is defined as the displacement of the target towards the context. To illustrate the point, consider a typical weight lifting experiment where the subjects' task is to lift a series of weights and judge how heavy they are. Contrast effect is said to occur if the judgment of weight 'X' that is presented following a series of relatively heavy weights, is lower than the judgment of the same weight without any immediate previous experience of the rater with other weights. This type of contrast effect is also known as 'negative contrast'. The reverse effect, when the same weight is judged as heavier after a series of relatively light weights than when it is judged on its own, is known as 'positive contrast'.
Assimilation on the other hand, is said to occur when weight 'X' is evaluated as heavier following the lifting of moderately heavy weights or as lighter following the lifting of moderately light weights compared to when the same weight is lifted in the absence of a context.

This chapter examines the most prominent theories of context effects, reviews how methodology can determine whether contrast or assimilation will occur, and looks briefly at the debate over the nature of context effects.

2.1.0 General theories of context effects

The theoretical frameworks which have considered effects of context such as assimilation and contrast, have been numerous and considerably diverse. The present chapter attempts to provide only a very brief summary of the most influential of those theories. For a thorough discussion of these and other theories the reader is advised to consult Appendix A.

2.1.1 The Adaptation Level theory

The most influential of all theories of context effects is the Adaptation Level (AL) theory (Helson, 1947, 1948, 1959, 1964; Helson and Jeffers, 1938, 1940). The central position of the theory is that each organism possesses an 'adaptation level', which is defined as the neutral point on any psychological continuum. The 'judgment' of a stimulus in the theory is conjectured to be the product of the comparison of the value of the stimulus against the predominant adaptation level of the rater. In effect, by being the neutral point, the theory assumes that a psychological continuum underlies each judgment task. Raters are therefore hypothesized to have separate continuums for say, judgments of weight, colour or attractiveness.
the adaptation level represents the reference point to which all other responses are referable.

2.1.2 Assimilation and contrast in the Adaptation Level theory

The way that AL theory deal with context effects such as assimilation and contrast,\(^{14}\) is through the assumption that the adaptation level is dynamic rather than fixed. The theory stipulates that in a situation where stimuli are introduced sequentially, the adaptation level of the rater is continually shifted a notch towards the value of the last presented stimulus. The theory asserts that anchors do not act as the direct frame of reference against which stimuli are judged but rather that the adaptation level plays a mediating role between these stimuli and the rater.

Let us consider how AL theory explains contrast effects. When at some stage of the stimuli presentation, an anchor is introduced, the rater’s adaptation level shifts momentarily towards the direction of the anchor. Given that the adaptation level represents the zero point of the subject’s judgment scale, judgments of subsequent stimuli will ‘move’ in the opposite direction from the anchor. For example, if the anchor is extreme positive, the adaptation level shifts towards the positive end of the rating continuum. Given that the zero point of the response scale has now been raised, those stimuli which prior to the anchor’s presentation were judged as marginally positive, will now be judged as marginally negative - a contrast effect.

2.1.3 Assessing the theory

\(^{14}\) One of the most well documented criticisms of AL theory is that it can only explain contrast but not assimilation. This issue is examined more fully in Appendix A.
Adaptation Level theory represents arguably the most accomplished account of context effects that has been offered until now. Its generality is extensive, with the model having found applicability on a great number of diverse psychological areas (Helson, 1964). With respect to context effects, the theory has in most cases accounted successfully for contrast effects. With regard to assimilation, even though AL has often been criticised as unable to accommodate the effect, the problem has been shown to be not unsolvable (see Sarris, 1967a,b).

2.1.4 The Range and Frequency theory

The Range and Frequency (RF) theory (Parducci, 1965, 1983; Parducci and Perrett, 1971) is an amalgamation of the 'range' and 'frequency' principles which have been the forefront of simple Range and Frequency theories of judgment respectively. These two principles view judgment as the product of biased behaviour. The range principle asserts that the rater divides the subjective stimulus range into as many subranges, as the number of categories of the rating scale used. The frequency principle on the other hand states that raters tend to use all response categories that are available to them with equal frequency.

2.1.5 Assimilation and contrast in the Range and Frequency theory

In perhaps the only direct application of a theory of context effects on the area of interest of this thesis, Wedell, Parducci and Geiselman (1987), tested the applicability of the RF model in explaining contrast and assimilation effects in judgments of attractiveness of strangers. We shall use this study to illustrate how RF theory has accounted for contrast effects.
The range principle of the theory has been used to explain contrast in situations where the range of two contextual sets differ. Given that the raters are assumed to divide the stimulus range into as many intervals as the number of categories in the rating scale, the attractiveness of an average person, is judged as more higher within a series of unattractive to average attractive people, than within a series of unattractive to attractive people (the latter series has a greater range). The frequency principle on the other hand has been used to account for contrast effects in cases where the range of the contextual sets is equal. Assuming that raters tend to assign the same number of stimuli to each rating category, an average person would be judged as more attractive within a series of predominantly average in attractiveness people than within a series of predominantly comely individuals, even if the most attractive and most unattractive people in the two series are the same (ie., if the two series have the same range).

Unlike contrast, the applicability of the theory on assimilation effects has been relatively low, including the case of judgments of attractiveness (Wedell et al, 1987). Even advocates of the RF model concede that alternative theoretical positions may provide a better account of the effect.

2.1.6 Assessing the theory

Although RF theory was formulated as a quite specific model of judgment, its application to various psychological types of judgment has been considerable (e.g., Riskey, Parducci, and Beauchamp, 1979; Wedell et al, 1987). Compared to AL theory even though some researchers have argued that RF theory is superior (e.g., Anderson, 1974a), the general consensus would be that Kelson's theory is the most robust of the two. Regarding context effects, the theory can account for a number
of different contrast effect situations but lacks the equivalent predictive power for assimilation effects.

2.1.7 Information Integration Theory

The final major theory of context effects to be discussed, is the Information Integration (II) theory (Anderson 1962a,b,c, 1968, 1971, 1973, 1974a,b). The position of II theory is that judgment is the result of an integration process of all information that is available to raters.\textsuperscript{15} 'Information' in the theory is considered to be anything that is measurable along a psychological scale, and is the equivalent of a 'stimulus' in other theories.

2.1.8 Assimilation and contrast in the Information Integration theory

A central assumption of the II theory is that each stimulus is processed independently of the other stimuli. Although this assumption would appear to render context effects untenable, the theory has addressed theoretically and empirically both, assimilation and contrast. However, as with most aspects of judgment that the theory has been applied to, context effects are treated mainly in an algebraic manner, with the emphasis in providing a mathematical rather than a psychological interpretation of them.

Perhaps due to the theory's core idea, that stimuli are integrated, II theory is more notable for its explanation of assimilation rather than contrast effects. The position of the theory is that assimilation results from the failure of the subject to separate the target from its immediate

\textsuperscript{15} One of the main preoccupations of the theory has been to specify as well as to represent mathematically best, the nature of the integration process.
contextual set. This assertion of the theory regarding assimilation is also known as the 'generalized halo effect'.

2.1.9 Assessing the theory

Assessment of the Information Integration theory can prove no easy task. This is because what is known as 'theory' is in reality a compilation of various integration models. In effect this is the greatest appeal of this position, since it allows it to encompass a great number of diverse judgment situations. Regarding context effects, the theory has proven more successful for predicting when these effects will not occur, rather than when they will. In those cases where it predicts them, the theory explains assimilation better than contrast.

2.2.0 The methodological conditions underlying assimilation and contrast

Differentiating between the conditions that underlie assimilation and contrast has been the focus of an extensive and sometimes heated debate in psychophysics. Knowledge of the particulars of this controversy is outside the scope of this thesis. The following section examines only how methodological aspects of the judgment situation have been shown to determine whether contrast or assimilation will occur. This discussion will prove useful for justifying the fact that the experimental situations of this thesis predicted consistently contrast rather than assimilation effects.

There are basically two ways through which experimental methodology has been shown to underlie the conditions for assimilation and contrast. One examines the effect of experimental parameters, whilst the other looks at the effect of the relationship between the primes, and that between the
2.2.1 The experimental parameters underlying assimilation and contrast

The size of the context set and the frequency of exposure to it are two of the variables that have been forward as determining the type of context effect that is obtained. Newman and Benassi (1989) suggested that as the length of exposure to priming stimuli increases contrast effect will gradually be replaced by assimilation. However, Melamed and Moss (1975) found no support for this hypothesis. Furthermore, the evidence shows that the number of context stimuli has no effect on either, assimilation or contrast (Geiselman et al, 1984; Newman and Benassi, 1989).

Regarding the timing of subjects’ judgments Martin and Seta (1983) found that whilst 'interpolated' responding (when each stimulus is rated after its presentation) produced a contrast effect, 'final' responding (when all the stimuli are rated following the presentation of the last one) produced assimilation.

Finally, evidence shows that the saliency of the rating of the target determines the nature of the context effect that is obtained in behaviour subsequent to the judgment task. Sherman, Ahlm, Berman and Lynn (1978) found that when subjects were reminded of their rating of the target, their behaviour on a subsequent task was compatible with a contrast effect, whilst when their rating of the target was not made salient their behaviour was in line with an assimilation effect.

---

Their rational was that when the number of primes is low, the rater is attentive enough to contrast a discrepant stimulus to the preceding stimulus set. On the other hand, as the number of stimuli increases, people become less attentive a result of which is to form the expectation that subsequent stimuli will be of comparable size - hence assimilation.
2.2.2 The relative size of the primes and the target as determinants of the type of context effect obtained

Sherif, Taub and Hovland (1958) put forward the hypothesis that whilst less extreme anchors will cause assimilation, more extreme ones will produce contrast. Using a weight lifting paradigm, it was found that the introduction of an anchor which was adjacent in value to either end of the stimulus range caused judgments of subsequent test weights to be displaced in the direction of the anchor. On the other hand, as the value of the anchor moved further away from the end of the established range, assimilation was replaced gradually by contrast. Sherif and Hovland (1961) discussed how the predictions about the extremity of the anchor and its effect on the type of the obtained context effect generalized to judgments with a social content.

The reliability of Sherif’s et al’s findings has been questionable. So, whilst Parducci and Marshall (1962) replicated the above findings, Bravo and Mayzner (1961), and White and Alter (1968) failed to find any relationship between the extremity of the anchor and the context effect obtained. Other challenging evidence include Parducci, Perrett and Marsh (1969) who found extremely remote anchors to produce assimilation effects, and Maurer and Alexander (1991) who showed that continuous increases of the size of the anchor were not accompanied by increases in the size of the contrast effect. Finally, Herr, Sherman and Fazio (1983) qualified the determining role of the extremity of the anchor on the type of the context effect obtained by the ambiguity of the target.

2.2.3 The association between the primes and the target as a determinant of assimilation and contrast

Seta, Martin and Capehart (1979), and also Martin and Seta
(1983) tested the hypothesis that associating the primes with the target causes assimilation, whilst lack of such an association results in contrast. When two strangers were presented as belonging to the same group (students of the same discipline), the subjects' attraction towards the 'target stranger' assimilated towards their attraction for the 'prime stranger'. When the two strangers were unassociated, subjects' attraction towards the prime shifted away from their attraction towards the prime.

2.2.4 The relationship between the rater and the target as a determinant of assimilation and contrast

In the special case of judgments of other people in the absence of an experimentally induced context, it has been shown that the rater himself acts as a reference point of comparison. In this case, the relationship between the rater and the target determines whether judgments will assimilate towards, or contrast away from the rater. Montgomery (1980) produced support for the predictions of Social Judgment theory (Sherif and Hovland, 1961) that judgments of attitudes which are similar to the rater's are assimilated, whilst judgments of attitudes which are deviant from the rater's point of view are contrasted.

2.3.1 Context effects: The perception vs., response debate

The final section of this chapter deals with perhaps the most general question in the field of context effects: "Is the nature of these phenomena perceptual or are they merely response artifacts?" (for a comprehensive discussion of this issue see Ellis, 1972). Even though almost every judgment theory which has encompassed context effects is known to have a stance on this issue, this stance is many times attributed rather than claimed.
The theory which is by far most readily associated with a perceptual explanation of context effects, is the AL theory. Perhaps the main reason that many observers (e.g., Stevens, 1958; Sekuler and Erlebacher, 1971) have attributed to this position a perceptual status, is that it regards the state of the organism (as it is expressed through the changes of its adaptation level) as an integral part of the judgment process. Helson himself however, hesitates to clearly assert that changes in the adaptation level are perceptual in nature. He points out that the validity of his model is not based on any implicit assumption about inner states such as needs or drives. He does not rule out the possibility that changes in sensory or inner states occur, only he does not consider those changes to be the major underlying cause of context effects (Helson, 1959).\textsuperscript{17}

The perceptual account of context effects has been seriously attacked. Stevens (1958) and Anderson (1974) represent the two most prominent critics of the AL theory on this point. Those researchers argue in favour of context effects being merely changes in labelling. Theoretical approaches such as Range and Frequency theories also support the idea that context effects are the result of response or linguistic 'artifacts'. Those artifacts include the matching of the response scale to the stimulus set (Range theories), or the use of each response category with equal frequency (Frequency theories). Such interpretations of context effects are also known as 'semantic' interpretations.

Although the debate 'perception vs., response' is far from

\textsuperscript{17} Helson provides a hypothetical situation, which he claims is the only reliable way to see if context effects involve perceptual changes. Assuming first, that behaviour corresponds to internal states and second, that all behaviour can be operationally defined, then and only then, he argues, would be possible to determine if the organism's responses in a context effect situation correspond to an altered internal state.
resolved, there appear to be more findings that cannot be accommodated by a simple semantic account of context effects, than a simple perceptual one (Ellis, 1972).  

In this chapter we explained what context effects of contrast and assimilation involve, examined the major theoretical explanations of those two effects, looked at which methodology has been found to underlie its effect, and reviewed the debate over the nature of the effects. The following chapter examines first, the evidence of context effects in judgments of physical attractiveness of strangers, and second, relates some of the issues of this chapter to that domain.

---

18 This is most of the times due to the fact that unlike other theories of judgment AL theory can account for data which are not categorical.
CHAPTER THREE

Context effects in judgments of attractiveness of others
3.1.1 Perception is relative in attractiveness judgments, too

That perception is relative can be considered as one of the axioms of psychophysics. Evidence shows that perceptions of physical attractiveness have also not escaped this rule. Judgments of physical attractiveness have been found to be situationally determined. One such determinant is the availability of alternatives. Evidence shows that people perceive available mates as more attractive as their choices diminish due to time constraints (Pennebaker, Dyer, Caulkins, Litowitz, Ackreman, Anderson and McGraw, 1979; Nida and Koon, 1983; Gladue and Delaney, 1990). Music has also been shown to affect judgments of attractiveness of target persons. May and Hamilton (1980) found that females rated the attractiveness of a male target higher during listening to rock music than to avant-garde music or no music at all. However, the situational determinant of judgments of attractiveness which has received most of the researchers' attention is the attractiveness of the context.

3.1.2 Defining context effects in judgments of attractiveness

Depending on whose attractiveness is judged, the literature on context effects in ratings of attractiveness can be separated in those in which the target is a stranger, those in which the target is the partner of the subject, and those in which the raters judge their own attractiveness. Before we look at the evidence on the first two types of context effects in this chapter, it may be constructive to describe the typical experimental situation that is used to research such effects. Subjects are exposed to a number of photographs of either attractive or unattractive people (the primes) before they are asked to rate the attractiveness of an average attractive person, or their own attractiveness (the targets). Their ratings are compared to the ratings of a different group of subjects who have either, been exposed to neutral stimuli, or
to no stimuli at all (the controls). When, compared to the control, the attractiveness rating of the target is shifted away from the level of attractiveness of the primes, contrast is said to occur. On the other hand, when the target’s attractiveness is shifted towards the attractiveness level of the primes, the effect is known as assimilation. The contrast effect, which will in fact be the focus of the current work, has received much more attention than assimilation.

3.2.0 Context effects in judgments of attractiveness of strangers

The following section examines the evidence on context effects in judgments of attractiveness when the target is stranger to the Ss. As it will be shown, the methodology used has been an underlying condition of assimilation or contrast.

3.2.1 Contrast or assimilation? As in other things it can be a question of method

There are three variables which have been shown to underlie assimilation and contrast. These are the type of judgment required, the method of the stimuli presentation, and the association between the prime and the target.

3.2.2 Experimental procedure as a determinant of assimilation and contrast

Ward (1972) put forward the hypothesis that whilst absolute judgments will result in assimilation, relative ones will produce contrast. Contrary to this prediction, Sugarman (1980) found that the use of either relative or absolute judgments did not differentiate between either, the type or the magnitude of the context effect that was obtained.
Geiselman, Haight and Kimata (1984) found that simultaneous presentation of the stimuli led to the attractiveness rating of the target being assimilated towards the attractiveness level of the priming stimuli, whereas successive presentation produced tentative evidence of contrast.\(^{19}\) Wedell, Parducci, and Geiselman (1987) found further support for this finding in attractiveness judgments of female faces. In one of their studies successive presentation of the faces yielded a contrast effect. Furthermore, in a different study which utilized a sequence of presentations of paired stimuli, the attractiveness of the target assimilated towards the attractiveness of the stimulus it was paired with, whilst at the same time contrasted against the attractiveness of the priming stimulus of the previously presented pair.

The hypothesis that simultaneous presentation of the stimuli leads to assimilation whilst successive presentation to contrast, has not been completely unchallenged. In a study which rated the attractiveness of children, Sugarman (1980) found no evidence of a contrast using a successive stimuli presentation paradigm, whilst there was a tentative evidence of it when the presentation of the stimuli was simultaneous.

### 3.2.3 The association between the target and its prime

As in other areas of judgment (see chapter 2), the association between the target and its priming stimuli has also been found to determine the nature of the context effect in judgments of

---

\(^{19}\) In explaining those findings the authors asserted that in the case in which the stimuli were presented at the same time, subjects perceived them as a collective unit, and therefore attached common values to each component (stimulus) of this unit - hence assimilation. In the case in which the stimuli appeared one after the other, this sense of a unit was replaced by a tendency to use previously presented stimuli as standards against which subsequent stimuli were compared - hence contrast.
physical attractiveness of strangers. The hypothesis remains that associating the target with the context will result in assimilation whilst lack of such an association will lead to contrast. Melamed and Moss (1975) found that when the target and the prime (both females) were made to appear as friends, subjects assimilated their attractiveness ratings of the target towards the attractiveness of the prime. On the other hand, a contrast effect was obtained when the prime and target were designated as unassociated. Kernis and Wheeler (1981) found also that for a contrast effect in attractiveness ratings of others to occur, no relationship should exist between the target and its prime.\(^\text{20}\) Finally, as contradictory evidence to the above, Geiselman et al. (1984) found an assimilation effect regardless of whether or not the priming female stimuli were made to appear as friends with the target stimulus.

It follows from the above that in judgments of attractiveness of strangers most of the times, presentation of the stimuli, as well as a lack of association between the primes and the target lead to contrast, whilst the alternative conditions lead to assimilation. The remaining of this chapter is dedicated to the evidence on the two phenomena.

3.3.1 Assimilation effects in ratings of attractiveness: The radiation of beauty effect

There is evidence that being associated with a beautiful person is beneficial in a number of ways. In perhaps the most

\(^{20}\) This study examined two different context effects. A 'specific', in terms of the attractiveness of the stimulus that was paired with the target, and a 'general', in terms of the attractiveness of the majority of the stimuli of the stimulus set. That association promoted assimilation was only found as a general context effect. In the specific context, regardless of whether the target was associated with the primes, the contrast effect emerged.
frequently quoted study of assimilation in physical attractiveness, Sigall and Landy (1973) had raters judging men who were presented as either, boyfriends or strangers to either, an attractive or an unattractive woman. When the two were perceived as a couple, the raters’ overall impressions of those men who were paired with beautiful women, were higher than their impressions of those men who were paired with homelier ones. Furthermore, there was a tendency for men in the unattractive-unassociated condition to be perceived more positively than their counterparts in the unattractive-associated condition. Those findings were taken as evidence that being the partner of a beautiful woman enhances one’s image, whilst being the partner of an unattractive woman detracts from this image.

Strane and Watts (1977) produced evidence that the attractiveness of one’s partner may also rub on one’s own attractiveness. They found that those females who were pictured next to an attractive male were judged as more beautiful than those females who were paired with a more average male. Finally, Onodera and Miura (1990) found that women who were presented as partners of attractive men were judged by female raters as more attractive, and with a few exceptions, with a more desirable personality than females whose ‘partners’ were unattractive individuals. However, no such effect was found when the raters or the target were males.

3.4.1 Contrast effects in judgments of attractiveness of strangers

When no association is implied between the prime and the target, the evidence shows that the level of attractiveness of the prime affects inversely the ratings of attractiveness of the target.

In perhaps the earliest report of the contrast effect in
judgments of physical attractiveness, Melamed and Moss (1975) found that whilst exposure to attractive stimuli detracted from the attractiveness of an average person, exposure to unattractive stimuli on the contrary enhanced it.

Gutierres (1978) replicated those findings. Men and women judged the attractiveness of a male and a female target respectively, highest when the priming stimuli (same sex as the targets) were unattractive, intermediate when the primes were middle attractive, and lowest when the priming stimuli were highly attractive.

Kenrick and Gutierres (1978) found evidence of a negative contrast effect. In their study subjects rated the attractiveness of an average in attractiveness female lower following exposure to beautiful female stimuli than to unattractive female stimuli.

In probably the most frequently cited study, Kenrick and Gutierres (1980) found that the picture of an average in attractiveness female was judged as less attractive by a group of males who had just previously watched a television series featuring a trio of beautiful actresses (Charlie’s Angels), than by a different male group which had watched a neutral program. In the same study, Kenrick and Gutierres replicated the negative contrast effect in two additional experiments. In one of them male Ss rated a female target as less attractive following exposure to a single photograph of a beautiful woman than when no such priming took place. In the other experiment, subjects judged a number of female targets, which were presented within a series of beautiful women, as significantly less desirable for dating than the same stimuli when they were presented within a group of unattractive women.

Carducci (1985) found that men rated the attractiveness of an average attractive woman as lower when she appeared together with a beautiful woman than together with a homelier one.
Kenrick, Gutierres and Goldberg (1989) found further support for the contrast effect in judgments of attractiveness of both, same and opposite sex others. Subjects rated the attractiveness of a female target as less attractive following exposure to a number of Playboy centrefolds than to either, average nude women or neutral stimuli.

Kenrick, Montello, Gutierres and Trost (1993) found evidence of the contrast effect in judgments of attractiveness of faces. With the constraint that the primes were of the same sex as the target, the authors found evidence of contrast for subjects’ judgments of attractiveness of stimuli of either, their own or the opposite sex.

Finally, Kowner and Ogawa (1993) found cross-cultural support for the contrast effect in judgments of attractiveness of members of the opposite sex.

3.5.1 Contrast effects in judgments of attractiveness of partners

The following section examines the evidence on contrast effects when the target is the rater’s partner. Contrary to judgments of attractiveness of strangers for which the evidence shows that exposure to attractive stimuli has a negative effect, the effect of such an exposure on judgments of attractiveness of one’s partner, is less clear.

Weaver, Masland and Zillmann (1984) found evidence of contrast in men’s judgments of their partners’ bodies. In that study subjects were divided in three conditions. In one condition subjects watched nude beautiful women in sexually provocative poses engaging in coital or pre-coital behaviour, in another they viewed unattractive women depicted in the same activities, whilst in the third condition no exposure to any stimuli took place. Subjects rated the body parts of their
partners most positively when exposed to the unattractive women, least positively after exposure to the beautiful women, whilst the ratings of the control group assumed an intermediate position.

Kenrick, Gutierrez and Goldberg (1989) found that the contrast effect in judgments of attractiveness of one's partner is qualified by the rater's sex. So, whilst men rated the sexual attractiveness of their partners, as well their love towards them, as lower following exposure to Playboy centrefolds, no parallel effect could be found for women when they were exposed to Playgirl centrefolds.

Other evidence has contradicted the finding that the contrast effect in judgments of attractiveness of partner is sex specific. Zillmann and Bryant (1988) had subjects viewing for one hour per week for a period of six weeks either, pornographic or comedy films. The anticipated contrast effect emerged as those Ss who were exposed to pornography rated the attractiveness of their spouses, as well as their satisfaction with various measures of their sexual life with their partners, as lower than the controls. Importantly, the effects were found to be uniform for male and female raters.

Kenrick, Neuberg, Zierk and Krones (1994) found also a comparable tendency between men and women to rate the physical appeal of their partners as lower after exposure to attractive members of the opposite sex.

In this chapter we saw that in judgments of attractiveness of others when the target is perceived by subjects as related to the prime, subjects tend to assimilate the attractiveness of the two. On the other hand, when no association between the prime and the target is implied, the attractiveness of the prime has been found to affect inversely the attractiveness of the target. Before we examine the evidence of the context on self-ratings of attractiveness, we shall discuss the
theoretical framework that provides the motivational basis behind this process.
CHAPTER FOUR

The relevance of Social Comparison theory to the contrast effect in self-judgments of attractiveness
4.0.1 General introduction

Unlike judgments of attractiveness of strangers, in which people's standards of attractiveness may be easily manipulated, changing people's assessment of their own looks is expected to be more difficult. The need of identifying a motive for comparing one's attractiveness to the attractiveness of other people is great when we consider that studies of context effects in self-judgments of attractiveness typically disguise their real aim. In other words, subjects are not explicitly encouraged to compare themselves to the primes, yet the evidence show that they often do. Social Comparison theory, provides the most likely account for the driving force behind such comparisons.21 This chapter outlines the theory and discusses how it relates to context effects in self-judgments of physical attractiveness.

4.1.1 Social Comparison Theory

Festinger (1954) formulated Social Comparison (SC) theory in an extensive work where he outlined, and empirically substantiated, a number of hypotheses and corollaries. The main points of the theory can be summarized as follows: 1) people have a drive to evaluate themselves; 2) when the objective means of evaluation are absent, people evaluate themselves through comparisons with other people; 3) people tend to compare themselves more with similar others than with others who are dissimilar to them; 4) comparisons with similar

21 Apart from Social Comparison theory there are other theoretical positions which make predictions about social comparisons. Hyman (1942) introduced the idea of 'reference groups', whilst Kelley (1952) discussed the function of those groups to act as reference points against which people evaluate themselves. Social Judgment theory (Sherif and Hovland, 1961), has also affirmed that one's own attitude acts as an anchor against which the attitudes of others are judged. In any case, Festinger's theory is the most general theory of all of them.
others lead to more stable evaluations; 5) people avoid comparisons with dissimilar others whilst they seek comparisons with similar others; and finally, 6) in case of a great discrepancy upon the point of comparison people try actively to reduce that discrepancy.

Although Festinger confined his theory to predictions about opinions and abilities, subsequently the theory accommodated other human characteristics such as emotions and traits. Two important extensions of the theory towards this direction were Latané (1966), and Wheeler, Shaver, Jones, Goethals, Cooper, Robinson, Gruder and Butzine (1969).

4.1.2 The relevance of Social Comparison theory to context effects in self-ratings of attractiveness

The major points of SC theory, which in fact are the points that need concern us for the purposes of the current thesis, are two. First, that people seek comparisons with others, and second, that they prefer comparisons with others who are like themselves. Both those assertions have implications for context effects in judgments of attractiveness of self.

4.1.3 Providing the motive for comparing our attractiveness to the attractiveness of the context

In the light of the core prediction of SC theory it is no surprise that context effects in self-judgments of attractiveness exist in the first place. If, as the theory asserts, people engage constantly in a process of comparing themselves to others, such effects would be a logical consequence. For what the experimental situation of context effects does is to enhance the saliency of what Festinger considers a basic human drive: evaluate ourselves (our attractiveness) through comparison to others (the primes).
Physical attractiveness is arguably an attribute for which the predictions of SC theory are specifically applicable. This is because whilst the importance of physical attractiveness to people is great across all cultures and societies there is at the same time an absence of an objective definition of it (see chapter 1). As it will be recalled, one of the first assertions of SC theory, is that people will compare to others when the means for achieving the objective truth about themselves do not exist (see also Olson, Ellis and Zanna, 1983).

Indirect evidence that the predictions of SC theory are applicable to judgments of physical attractiveness exists. Olson et al (1983) presented subjects with a blurred photograph of a female (so that vagueness of the stimulus was achieved), whilst making ‘physical attractiveness’ appear as either, a subjective or an objective quality. In a task of having to form a more accurate opinion of the attractiveness of the female, those subjects who were encouraged to view attractiveness as objective, expressed a greater preference to be provided with judgments of other men (consensus information) than with additional pictures of the target (consistency information).

4.1.4 Establishing similarity between one’s self and others

The second important assertion of the SC theory that, people seek others who are similar to them for the comparisons they engage in, has also ramifications for context effects in ratings of self-attractiveness. Before we outline those ramifications we shall examine the bases that this similarity can be formed on.

Although ‘similarity’ in the original theory referred to similarity on the opinion or the ability in question, this assertion has been seriously challenged. Wheeler et al (1969)
hinted that similarity in personality characteristics may in fact be of greater importance than mere similarity in ability. Evidence exists that a sense of similarity can be established on a number of dimensions which may be even unrelated to the ability in question (for a full review see Wood, 1989).

One of the identified characteristics on which similarity has been found to be formed is sex. Social Comparison theory would predict a tendency to compare ourselves more to members of our sex than to members of the opposite sex. The literature supports this prediction. Zanna, Goethals and Hill (1975) found that both, men and women seek comparisons with a same sex group significantly more than with an opposite sex group. This preference remained the same even if the opposite sex group was designated as the standard settler in the ability in question. The same conclusion, about same sex comparisons being favoured was also reached by Feldman and Ruble (1981), and more recently by Wheeler and Miyake (1992).

Other variables on which similarity has been found to ensure comparability include one's profession and their relationship with the comparison other. Zanna et al (1975) found that sharing the same college major or having the same occupation with a comparison group, increased Ss' willingness to compare their test scores to those of the members of that group. In a different study, Wheeler and Miyake (1992) found that Ss preferred to form comparisons with friends more than with strangers.

4.2.1 Conflict of assertions within Social Comparison theory

\footnote{What exactly Festinger meant by 'similar others' remains one of the most debated points of his theory (Arrowood, 1986; Wood, 1989). It would be fair to say that the current position is that the theory may apply to any characteristic on which two people may be perceived as similar.}
The way SC theory’s two postulates relate to context effects in self-ratings of attractiveness could be perceived as being at odds with each other. The fact that we compare our looks to the looks of other people we are presented with, is assumed to be a consequence of a general drive to compare ourselves to others in order to arrive at the 'objective truth' about ourselves. However, for context effects to occur these 'others' have to be different from us in the attractiveness dimension. Does not this prerequisite defy the theory’s second assertion that we shall strive to compare ourselves to others who are similar to us?  

There are a number of reasons why this apparent inconsistency does not render SC theory inapplicable to the examination of context effects in judgments of self-attractiveness.

4.2.2 Theoretical reasons

As the first step we should reinstate what exactly Festinger (1954) asserted in his theory. He stated that similarity between the rater and the comparison others will tend to increase comparability. He neither claimed that similarity will ensure comparability, nor that lack of it will hinder it. In his own words, perceiving a group of people as "different kind of people" will "lower" comparability but "may not completely eliminate it". Furthermore, Festinger offered hindsight as to the direction of such dissimilar comparisons. He argued that more often than not, people will seek to engage in upward comparisons (comparisons with superior others). He claimed that living in a society like the western one, where there is continuous social pressure to do better and better, we may feel compelled to compare our performance to that of

---

23 Direct evidence that Ss perceive the attractiveness of the priming stimuli as different from theirs, comes from studies which have utilized a manipulation check of the attractiveness of the primes (e.g., Kiesler and Baral, 1970; Durham and Grossnickle, 1982).
those people who set the standards (a point also made by Wood, 1989). As it follows, in order to obtain a more accurate evaluation of their appearance, people would want to see how they compare to the attractive few.

4.2.3 Some comparisons may be unavoidable

Even if people would consciously attempt to avoid comparisons to others who are better than them, there is reason to believe that some times people may have little control over comparison processes. Goethals (1986) claimed that even though people may try to avoid a particular comparison this does not necessarily mean that they will not engage in it. He stated that often people engage in what can be described as "automatic comparisons" in which, as the title suggests, they compare themselves to others without much deliberation about whether they should do so or not. Wood (1989) also pointed out that the social environment will frequently impose comparisons with others which have an effect on the individual regardless on whether the latter has consciously decided to engage in them or not.

Unavoidable comparisons may be even more pronounced in the case of physical attractiveness. Wheeler and Miyake (1992) produced evidence which led them to form the hypothesis that whilst 'asset comparisons' (such as comparisons on ability, out-appearance or social skills) are comparatively forced, 'lifestyle comparisons' (such as on personality, lifestyle or academic matters) are relatively sought. To substantiate their assertions Wheeler and Miyake made the observation that people tend to notice effortlessly differences between

---

24 Recent evidence shows that given the choice, people prefer to either, work with or compete against (in other words put themselves in a comparison situation) people who are of the same level of attractiveness as themselves, even on a task which is irrelevant to the way they look (Kownar, 1995).
themselves and others on abilities or physical attractiveness. On the other hand, differences in attributes such as scholastic achievements are only detected through sought interaction and conversation.

From the above, it becomes clear that the apparent conflict between the postulates of SC theory as the theory applies to context effects on attractiveness judgments of self, is resolvable. Still, we may not be out of the woods just yet. What if comparisons to others who are more attractive than ourselves lead to negative affect? Will the drive to compare to available others still prevail?

4.2.4 Upward versus downward comparisons

Evidence shows that comparing one's self to superior others can have a detrimental effect on affect. In a classic study, Morse and Gergen (1970) found job applicants to decrease the ratings of their self-esteem when a highly able and organized person was presented to them as the competition. The opposite effect of bolstering the applicants self-esteem, was obtained when the competition was presented as a highly unorganized and less able individual.

Affect has not only been found to be influenced by, but also to influence, the direction of a social comparison. Wills' Downward Comparison (DC) theory (Wills, 1981; 1991) suggested that a pre-comparison negative affect typically leads to downward comparisons (with inferior others). The theory also asserted that comparisons to inferior others, tend to increase one's subjective well-being. More recently however, DC theory's assertions have been challenged. Wheeler and Miyake (1992) found that those who felt bad or had a low self-esteem tended to compare upwards, whilst those who felt good or had a high self-esteem tended to compare downwards.
Other evidence shows that regardless of what the rater’s pre-comparison mood is, people may not hesitate to form upward comparisons. Zanna et al (1975) found that although comparisons with same sex, and in general, similar others remains our first priority, there is considerable motivation to compare ourselves to those who set the standards (upward comparisons). Arrowood and Friend (1969) suggested that the reason we sometimes wish to compare ourselves to standard-setters is to establish the range of the ability in question.

From the above it becomes apparent that even when comparisons with superior others, such as more attractive others, may have a negative effect on one’s affect, people will given the right circumstances engage in such comparisons.

As a summary, this chapter discussed the relevance of SC theory to context effects in self-ratings of attractiveness. Based on the postulates of the theory, people are expected to readily evaluate their looks through comparison with more attractive others, in particular with more attractive others who are similar to them on demographic characteristics. The following chapter examines the evidence on context effects on self-ratings of attractiveness and looks at how the predictions of SC theory fit the existing data.
CHAPTER FIVE

Context effects in self-judgments of attractiveness
5.0.1 General introduction

This chapter discusses the literature on context effects on self-judgments of attractiveness. Given that the similarity between the rater and the priming stimuli has been found to be of focal importance in this situation, the bulk of the evidence will be presented in terms of those variables on which this similarity has been formed. It will also be shown that unlike the situation where the target is a stranger, context effects on self-ratings of attractiveness have been rather elusive.

5.1.1 Self-ratings of attractiveness: Which effect would be expected, and the role of the prime-rater similarity

Given that in the standard experimental situation of context effects in self-ratings of attractiveness, subjects are exposed to photographs of people who are strangers to them (in other words no association between the primes and the 'target' is formed), it would be expected that the only effect that would result from this situation would be contrast (see chapters 2 and 3). People would be expected to rate their attractiveness lower following exposure to attractive stimuli, and higher following exposure to unattractive stimuli. Furthermore, the similarity between the primes and the rater would be expected to determine whether this contrast would occur in the first place. For in line with the SC theory, people should evaluate their attractiveness more readily by comparing themselves to others who are like themselves than through comparisons to people who are different. Nevertheless, as it will be shown the similarity between the raters and the primes determines not only if contrast will occur or not, but rather whether the obtained effect will be contrast or assimilation.
5.1.2 How the interaction between the sex of rater and the sex of the stimuli determines the type of context effect obtained

Perhaps the most readily available variable on which similarity between the rater and the primes is formed is their sex. The evidence shows that the case of raters judging their looks subsequently to exposure to attractive same sex stimuli, typically results in a contrast effect. On the other hand, self-ratings of attractiveness following exposure to opposite sex stimuli, has been shown to cause a bolstering effect for males but not females.

Kenrick and Gutierres (1978) found that women who were previously exposed to attractive female stimuli tended to suppress their assessments of their attractiveness compared to women who were exposed to unattractive female stimuli - a contrast effect. At the same time men who were exposed to the same female stimuli rated themselves in line with an assimilation explanation. Men who viewed the attractive females rated their attractiveness higher than those who viewed the unattractive females.

In order to explain this unanticipated assimilation effect, Gutierres (1978) put forward a hypothesis based on equity theories. The hypothesis was that when subjects are faced with beautiful members of the opposite sex (the primes), they perceive them as potential partners and as a result bolster their self-belief in their appearance so that they feel up to them. Gutierres' findings revealed that this effect was sex specific. Men's ratings followed the anticipated pattern.

25 From this point onwards "same (opposite) sex stimuli" refer to stimuli which are of the same (opposite) sex as (from) the raters.

26 These theories (e.g., Blau, 1968) maintain that for one to reap the benefits of being associated with a 'worthy other', they must have enough to offer to make it worthwhile for this 'other'.
When they were exposed to other attractive male stimuli, men’s self-ratings of attractiveness were highest following exposure to low attractive stimuli, intermediate following exposure to average attractive stimuli, and lowest following exposure to highly attractive stimuli – a contrast effect. On the other hand, when males were shown female stimuli their self-ratings of attractiveness revealed a pattern of self-bolstering (their ratings increased parallel with the attractiveness of the female stimuli – an assimilation effect). Contrary to males no such effect was found for the female raters of this study. Gutierres explained this sex difference in the ‘bolstering’ effect in terms of sex roles. She argued, that given that men are typically responsible for approaching the opposite sex, they feel a greater need than women to enhance their belief in their appearance when faced with the prospect of approaching a beautiful member of the opposite sex. The experimental situation of context effects was assumed to provide the right environment for the manifestation of this need.

Gutierres and Cialdini (1985) found further support for the suggestion that the reason the assimilation effect in self-ratings of attractiveness when faced with opposite sex others is a male effect is because of sex roles. In this study subjects were exposed to either attractive or unattractive opposite sex stimuli. In addition, subjects rated their public-consciousness and also reported how traditional they thought they were. In line with predictions women failed to rate their attractiveness any different depending on the level of attractiveness of the male stimuli they were exposed to, whilst their self-ratings were also independent of their level of public-consciousness or traditionality. On the other hand, men rated their attractiveness higher following exposure to attractive female stimuli than to unattractive ones, whilst this effect was more pronounced for those men who were both traditional and self-conscious.

Other evidence also shows that in order for raters to contrast
their attractiveness against that of the context, the primes should be of the same sex as them. Brown, Novick, Lord and Richards (1992) found that females rated their attractiveness as lower following exposure to a single attractive than a single unattractive female. No such effect could be found when the prime was a male.

Finally, although the bulk of the evidence makes a strong case for sex-compatibility between the rater and the primes leading to contrast, there also exists evidence which casts doubt over the robustness of this effect, at least for males. Kowner and Ogawa (1993), and Gutierres, Kenrick and Partch (1995) found a tendency for men to rate their looks more positively following exposure to attractive male stimuli than to less comely male stimuli.

5.1.3. Other bases of association between the raters and the stimuli

That the similarity between the rater and the primes influences context effects in self-judgments of attractiveness, has been shown on a number of different variables other than sex. Again however, the prediction of SC theory that subjects would use more readily as standards of attractiveness, context stimuli which are similar to them, is not unequivocally supported.

In Cash, Cash and Butters (1983) women were exposed to one of three groups of stimuli. One of the groups contained middle attractive females (the control), another contained attractive females stimuli, whilst a third contained the same stimuli as the second with the difference that this time the stimuli were made to appear as professional models. Compared to the control group, the subjects rated their attractiveness significantly lower following exposure to the ‘attractive’ group but not differently following exposure to the ‘model’
The authors argued that these results were due to the fact that subjects viewed models as too different from them (arguably because models are expected to be attractive) so that they could not use them as reference points for evaluating their own attractiveness.

This argument was also used by Martin and Kennedy (1993) in their attempt to explain the results of their study. They argued that their failure to obtain a contrast effect in judgments of self-attractiveness of pre-adolescent and adolescent females who were exposed to professional models, was due to the fact that subjects did not consider the stimuli as good standards for comparison due to age differences.

Increasing the similarity between the rater and the context has not however been always found to enhance comparability. For instance, Kowner and Ogawa (1993) found that similarity in race had no additional effect. Whether the priming stimuli were Japanese (as the Ss) or Caucasian had no effect on Ss’ judgments of their own attractiveness.

Furthermore, Brown et al (1992) found that when the raters perceived the context stimuli as similar to them in either, attitudes or even such a triviality as their date of birth, there was a tendency for raters to assimilate their self-judgments of attractiveness towards the attractiveness of the context. When no feeling of similarity was established, there was evidence of a contrast effect.

5.1.4 'Unclassified' evidence

The following studies of context effects in self-ratings of attractiveness cannot be categorized in terms of their relevance to the issue of similarity between the primes and the rater. In the following studies the primes used were of the same sex as the subjects whilst no further information was
provided about the stimuli. The findings show that these conditions will invariably lead to a contrast effect.

Exposing Ss to beautiful stimuli of their sex has been found to have an adverse effect on their ratings of their physical attractiveness (Kowner and Ogawa, 1993; Thornton and Moore 1993), their ratings of their sexual attractiveness (Irving, 1990), or their satisfaction with the way they look (Richins, 1991). On the other hand, exposure to same sex others who are less comely than the rater has been found to enhance the rater's evaluation of their appearance (Thornton and Moore 1993).

5.2.1 Is contrast in self-judgments of attractiveness an evasive effect?

Evidence shows that the contrast effect in self-ratings of attractiveness is an elusive phenomenon. Even the successful documented instances of the effect attest to that by often producing equivocal findings.

Some studies have failed to produce a contrast effect in a situation in which subjects were exposed to attractive same sex stimuli (Gutierres, 1978; Irving, 1990; Martin and Kennedy, 1993; Kenrick and Partch, 1995). Other studies have produced mixed results depending on the DV used. Richins (1991) obtained evidence of contrast on subjects' satisfaction with their physical attractiveness, but no such evidence for subjects' ratings of their attractiveness. Furthermore, Cash, Cash and Butters (1983) found support for contrast in subjects' self-ratings of attractiveness but not for their satisfaction with their body parts.

5.3.1 Artifacts or real perceptual changes?
Having in this chapter completed the evidence on context effects in judgments of physical attractiveness, it would be instructive to relate the evidence on the general question on context effects that we discussed in chapter 2. In other words, what exactly is it involved when the context alters people’s assessments of their attractiveness or their judgments of attractiveness of others? Are the effects underlid by a perceptual change, are they pure response artifacts, or is there a third explanation that could account for them?

Starting with the explanations that have been offered regarding the assimilation effects in judgments of attractiveness of others, Geiselman et al (1984), and Wedell et al (1987) maintained that the effect is best explained by Anderson’s ‘generalized halo effect’. According to this explanation, assimilation is the result of the subjects’ failure to separate the target from its immediate contextual set.

Sigall and Landy (1973) disagree with this view. These researchers opt instead for an attributive interpretation of assimilation along the lines: “For this attractive woman/man to be with the target there must be some desirable qualities that this target possesses”. Such a process, Sigall and Landy argue, may not only influence our perceptions of such characteristics of the target which are not directly accessible to us (e.g., personality traits), but also our perceptions of what is immediately apparent, i.e., the target’s physical attractiveness (“Since the partner is so attractive the target itself cannot be so bad after all”).

Regarding contrast effects the general consensus would be that they are underlid by a change in perception. A number of researchers (e.g., Kenrick and Gutierres, 1980) have implied that exposure to highly attractive (or unattractive) individuals cause a change in some kind of mental

80
representation that people have of their standards of attractiveness.

Perhaps the most prominent reason put forward in support of a perceptual explanation of the phenomenon is the standard methodology followed. For example Richins (1991) argued that a prerequisite for contrast to be a scaling effect (as Range and Frequency theories postulate) is that the stimulus set is evaluated in the same dimension as the target. This condition however is rarely met in studies of the contrast effect in judgments of attractiveness. Another shortfall of semantic interpretations of the contrast effect in this domain, Richins argues, is that in order for the rater to get a sense of the 'range' of the presented stimuli, it would require using a considerable number of primes. The evidence however show that the contrast effect can occur even in cases in which a single prime is used (Kenrick and Gutierez, 1980; Brown et al, 1992).

Wedell et al (1987) disagree that only a perceptual theory could account for contrast effects. These researchers argue in favour of the explanatory powers of the RF theory in interpreting contrast effects in judgments of attractiveness. They demonstrated theoretically but not empirically, that even the presentation of a single anchor may suffice for altering some concept of 'range' that subjects use to guide their judgments of attractiveness of other people.

The theoretical debate over the nature of context effects has been based on evidence on attractiveness judgments of others. Regarding the contrast effect in self-ratings of attractiveness the situation is probably not adequately explained by either, a single response bias theory, or a single perceptual theory. Brown et al (1992) proposed that when people are exposed to attractive others, a motivational process to preserve their feelings of self-worth will most likely mitigate the negative effect that this exposure will
have on their evaluations of their looks. This hypothesis appears to be valid in the light of evidence which shows that the level of attractiveness of the context can also have an inverse effect on self-judgments of personality. The following chapter examines this evidence.

Summarizing this chapter, it was shown that in general exposure to similar others (in terms of sex, profession etc) promotes a contrast effect in self-ratings of attractiveness. No straightforward prediction though can be made when subjects fail to perceive the primes as similar to them. Finally, a closer look at the debate over the nature of context effects in ratings of attractiveness revealed that even if perceptual explanations are the consensus, other explanations cannot be ruled out.
CHAPTER SIX

Context effects on self-judgments of personality
6.0.1 General introduction

Evidence shows that exposure to stimuli of different attractiveness than one’s own affects not only self-judgments of attractiveness, but people’s evaluation of their selves in general. This chapter outlines the relative evidence and examines parallel the context effects on self-judgments of attractiveness with context effects on self-judgments of personality.

6.1.1 The effects of the attractiveness of the context on the raters’ self-esteem

Exposure to attractive stimuli typically diminish one’s self-esteem. For example, Irving (1990) found that females rated their self-esteem as lower after exposure to thin professional models, than after exposure to middle attractive stimuli or to oversize models.

The majority of the evidence however qualifies the effect by a number of variables. One of these variables is the type of the self-esteem measure that is employed. Thornton and Moore (1993) found that subjects’ ratings on a global self-esteem measure were not influenced by exposure to attractive stimuli of their sex. On the other hand, subjects’ scores on a more specific self-esteem test that focused on the social and interpersonal competencies of the rater, produced evidence of both, a positive and a negative contrast. So, presentation with attractive others was found to lower one’s self-esteem, whilst exposure to unattractive others was on the contrary found to enhance it.

Other evidence shows that the relationship between the rater and the priming stimuli determines the direction of the context effect. Brown et al (1992) found that when the raters perceived the prime as similar to them (told they shared the
same birthday), they rated their self-esteem, as well as their feelings of self-worth (two different DVs) as lower when the prime was attractive than when the prime was unattractive - an assimilation effect. On the other hand, when no association was formed between the subjects and the prime, the effect was reversed. Subjects tended to rate their self-esteem, and their self-worth as lower following exposure to an attractive stimulus than to an unattractive one. The effects were independent of the raters’ pre-exposure self-esteem.

Finally, it has also been shown that whether or not exposure to attractive stimuli will have a detrimental effect on the subjects’ belief in themselves, depends on their sex. Gutierrez (1978) found that the level of attractiveness (low, moderate or high) of either, male or female stimuli that men were exposed to, had no effect on their self-esteem. On the other hand, following exposure to stimuli of the same sex as themselves, women scored their self-esteem highest when the stimuli were unattractive, intermediate when the stimuli were average attractive, and lowest when the stimuli were very attractive - a contrast effect. Furthermore, Kowner and Ogawa (1993) found that women who were exposed to attractive female stimuli rated their self-esteem as lower than women who were exposed to female stimuli of medium or low attractiveness. In contrast, men tended to rate their self-esteem higher following exposure to attractive male stimuli than to less comely ones.

6.1.2 The effects of context on other self-defining personality measures and affective states

The effect of the attractiveness of the context on the raters’ personality has been also demonstrated on a number of other self-variables other than self-esteem. For example, Thornton and Moore (1993) recorded Ss’ ratings on three different personality variables: self-consciousness, public-
consciousness and social anxiety. Compared to a control group those who were exposed to attractive same sex others showed heightened public self-consciousness and higher social anxiety. Exposure to unattractive same sex others however, was not found to produce the reverse effect of positive contrast.

Evidence of context effects also exists on the raters' mood. Kenrick et al (1993) found that exposure to attractive stimuli of the opposite sex increased subjects' mood, whilst exposure to attractive same sex stimuli decreased subjects' mood. Exposure to average attractive stimuli of either sex had no effect on subjects mood. Furthermore, the same study revealed that when the attractive series of opposite sex stimuli was interrupted by a middle attractive stimulus the heightened mood of the subjects returned to baseline. However, when the attractive series of the same sex stimuli was interrupted by a middle attractive stimulus, there was no change in the lowered mood of the Ss.

6.2.1 Comparing the effects of context on people's perceptions of themselves: Attractiveness vs., personality judgments

Taking the above findings together with those discussed in the previous chapter, it becomes apparent that whilst sometimes the attractiveness of the context affects self-assessments of attractiveness in the same way as it affects general assessments of self-worth (Brown et al, 1992; Kowner and

37 'Self-consciousness' measures the extend to which one is preoccupied with themselves as objects of the attention of other people, 'public-consciousness' measures one's attention towards their inner feelings and thoughts, whilst 'social anxiety' measures one's discomfort in the presence of others.

38 According to the authors this finding supported the idea that exposing people to attractive members of their sex creates such an unfavourable comparison that the resulting negative affect is not easily reversible.
Ogawa, 1993), other times the two are affected differently (Gutierres, 1978; Irving, 1990). Some researchers (e.g., Kenrick et al, 1993) have argued that the fact that context effects in self-ratings of attractiveness are not always paralleled by subjects’ ratings on some measure of self-esteem, is an indication that the two types of responses belong to two distinct processes. These hypothesized processes are a perceptual one for judgments of attractiveness, and an affective one for ratings of self-esteem. Others (e.g., Gutierres, 1978) have suggested that what determines which of the two types of self-judgments will be affected by context, is the importance that physical attractiveness plays for the raters’ self-identity.

As a summary of this chapter it should be noted that evidence of the attractiveness of the context effecting people’s assessment of their personality or their affective states exists. In addition, the effect of the attractiveness of the context may be different on self-ratings of attractiveness from self-esteem ratings. The following chapter examines the position of physical attractiveness in the media, and discusses the relevance of the latter to contrast effects on judgments of attractiveness.
CHAPTER SEVEN

Applying the contrast effect in real life: The role of the media
7.0.1 General introduction

This thesis deals with issues of a negative contrast in ratings of attractiveness of self and others. It has been claimed that a negative effect of an attractive context on people's judgments of attractiveness constitutes a "social problem" (Kenrick and Gutierrez, 1980). It is this author's belief that before we are in a position to state categorically that this is the case, we need to increase the ecological validity of the effect. In other words, how people's everyday experiences relate to contrast effects in judgments of attractiveness? It was believed that the first step towards this direction was to identify (if there was one) a real-life source of stimuli which are extremely attractive.

The media and in particular advertising, are arguably the most available source of people of high attractiveness for the contemporary man. We are on a daily basis surrounded by beautiful models and actors who feature in press advertisements, billboards, television or cinema. Fashion super-models such as Cindy Crawford and Claudia Schiffer have the last few years become common household names confirming the ever increasing popularity and influence of their profession. If the experimental findings on contrast effects in judgments of attractiveness are to have any real life applicability, showing that people's perceptions of what is attractive are influenced by media stimuli, would be a necessary prerequisite.

7.1.1 The pervasiveness of attractiveness in advertising

Does advertising promote a 'beautiful-is-a-must' ideology? It would appear the industry does no longer even make false pretences about it. Martini, a popular alcoholic drink, launched recently a series of commercials, the major plot of which is people cueing-up to undergo plastic surgery in order
to become beautiful - something which is portrayed as a 'necessary' condition in order to enjoy the drink. The slogan of the campaign is: "Martini. Making Britain a more beautiful place".

The pervasiveness of advertisements with an attractiveness theme is unquestionable. It is believed that we are confronted with over 5,260 attractiveness messages in a single year from which about 1,850 deal directly with beauty.\textsuperscript{29} Other researchers place the proportion of 'beauty' commercials to all commercials one is exposed to, between one in four (Downs and Harrison, 1985) and one in three (Tan, 1979). The fact of the matter is that researchers have accepted with considerable certainty that there are hardly any longer people who would be considered as even moderately 'virgin' to media portrayals of attractiveness (Pollay, 1986; Irving, 1990).

Given the ubiquity of portrayals of beauty in the media it is rather surprising that there has been a lack of systematic research on the effects of advertising on such issues as self-ratings of attractiveness or judgments of attractiveness of others. This lack of extensive research however, has not stopped advertising from being accused from almost all sides for almost all evils of this world (see Pollay (1986) for an extensive review).

\textbf{7.1.2 Advertising's excuse}

Perhaps the major, if not the only, 'official' reason that is offered by the advertising camp for using extensively extremely attractive people, is that "beauty sells". Although some researchers have found evidence that attractive models deliver more persuasive messages (see Patzer, 1985, and Chaiken, 1986 for a review), others have failed to find

\textsuperscript{29} Estimates quoted in Downs and Harrison (1985).
support for this claim (Tan, 1979; Caballero, Lumpkin and Madden, 1989), or have qualified it (DeBono and Telesca, 1990).  

7.1.3 Advertising and the two sexes

There have been suggestions that television commercials promote, as well as preserve sex-role stereotyping. Content analysis of commercials has been the standard method of testing this assertion. Evidence about twenty-five years ago suggested that commercials were guilty of reinforcing a wide range of sex-roles stereotyping (Dominik and Rauch, 1972). Subsequent analyses however have indicated that most differences in the portrayals of men and women in television advertising are gradually eradicated (Downs, 1981; Downs and Harrison, 1985; Bretl and Cantor, 1988; Ferrante, Haynes and Kingsley, 1988). Having said that, it appears there still exist some areas on which the two sexes differ in the way they are depicted in television advertising. One of them relates to the frequency each sex is portrayed in 'beauty commercials'.

Based on the findings which suggest that physical attractiveness is more important for the self-concept of women than of men, as well as on the evidence on the mate selection criteria of the two sexes (see chapter 1 for both), it would be expected that the advertising industry, sensitive as it tends to be towards social messages, would accommodate those differences, by using women more often than men in commercials

---

30 This study found that the effect is dependent on a number of personality characteristics of the consumer.

31 Two others are that women are still predominantly portrayed as housewives and in the home, whilst men are more often portrayed as businessmen and outdoors (Downs, 1981; Downs and Harrison, 1985; Bretl and Cantor, 1988; Ferrante et al, 1988).
in which an attractiveness theme is exploited. The evidence supports this hypothesis. Downs and Harrison (1985) found that 'beauty commercials' (e.g., selling cosmetic products, weight-loss products, or fitness services) were promoted significantly more by women than by men. On a similar note, Bretl and Cantor (1988) found that female actors and narrators were over represented in commercials which were dealing with body-care. Finally, in a study of commercials targeting children, Ogletree, Sue, Williams, Raffeld, Mason and Fricke (1990) found that the vast majority of those commercials which promoted an appearance enhancing effect, been it on a person, doll, or animal, were presented or voiced-over by females.

Another characteristic that is often associated with good looks, particularly for women, is youth (see chapter 1). Research in advertising has shown that those commercials dealing with an age theme (usually idealizing youth), utilize female actors and female voices significantly more often than male ones (Ferrante et al, 1988; Pollay, 1986).

Finally, even though content analyses of advertisements reveal that beauty is still be predominantly portrayed as a female 'thing', recent evidence shows that this may not be the case for much longer. It appears that one important feature of the emerging 'New man' is to worry about the way he looks as much as females always did. As it would be expected, advertising would be one of the first receptors of this message. Mishkind, Rodin, Silberstein and Striegel-Moore (1986) quote anecdotal reports which based on the portrayals of men in the media, indicated that men's concern with the way they look was increasing. More recently, a detailed analysis of the content of men's magazines has substantiated this belief, finding that men's pre-occupation with their body weight and body image is on the increase (Nemeroff, Stein, Diehl and Smilack, 1994).
7.2.1 But, do we really use the media to set our standards of attractiveness?

That we use media figures to shape our standards of attractiveness, particularly of ourselves, is a documented fact. The influence of advertising on self-assessments of attractiveness, is two-fold.

First, it creates a greater need for being beautiful particularly for the women. Evidence shows that exposure to commercials with a beauty theme and beautiful actors, make women perceive their physical appeal as being more important for "being popular with men" than otherwise (Tan, 1979).

Second, advertising can set specific standards of attractiveness through people’s idealization of the professional models. For evidence shows that people, and in particular women (Downs, 1990b), compare their looks to the looks of the models, and also, that such comparisons have a typically negative effect on those who engage in them. Richins (1991) presented reports from female college students which indicated that they compared themselves to models they saw in adverts. The evidence also shows that the extend to which people engage in such comparisons is inversely related to their self-evaluations of attractiveness, as well as to their satisfaction with the way they look (Richins, 1991; Martin and Kennedy, 1993). Some researchers have claimed that this over-representation of high attractiveness in advertising, and television in general, has arguably a greater impact on adolescents, who may use television as an informative medium for learning what the prevalent standards of attractiveness in their societies are (Faber, Brown and McLeod, 1979). In fact evidence exists that comparing one's appearance to the appearance of models may begin as early as

---

32 Downs notes that although at present women tend to compare themselves to models more than men, the latter's tendency to do so is increasing.
in adolescence. Martin and Kennedy (1993) examined reports of females of a pre- and pubertal age group which indicated that their tendency to compare to professional models increased with age, but stabilized at around the age of 13.

7.2.2 How the media may set standards of attractiveness?

The media is assumed to influence people's attractiveness standards through its 'cultivation' effect. According to this mechanism exposure to attractive media figures makes people overestimate the incidence of high attractiveness in the real world, a consequence of which is to raise their standards of attractiveness. Evidence shows that the standards that advertising imposes tend to be so high that are virtually unattainable by the average person. Failure to attain those standards leads often to frustration and despair, especially for women (Kenrick and Gutierres, 1980; Pollay, 1986; Brown et al, 1990).

7.2.3 The media's influence on the idealization of a particular physique

One way that the impact of the media on shaping people's attractiveness standards manifests itself is through its influence in determining the shape of the body parts that is in vogue at each point in time (Mazur, 1986; Fallon, 1990). As an example of how the media can establish the desirability

---

Vacker and Key (1993) maintain that the responsibility for the frustration that is caused by the pursuit of attractiveness standards which are impossible to achieve, lie not solely with advertising but with society in general. According to them this is because the western society emphasises only the physical side of beauty. However, the point that Vacker and Key appear to be missing, is the possibility that advertising may be the foremost responsible for the creation and maintenance of such a shallow view of human attractiveness.
of a particular feature, consider the size of the female breast. In the Twenties a flat, almost boys' chest, was considered attractive. Gradually, being influenced by fashion models as well as movie stars (e.g., Betty Grable, Rita Hayworth) who promoted a big bust ideal, women reached a state of "bosom mania" by the beginning of the 1960s. Subsequently, the decline in the 'big breasts' trend coincided with the emergence of a slender ideal as it was best personified by the English model Twiggy. This decline continued until the 1970s when publications such as Playboy brought big bosoms back in fashion. Continuing through time, the 1980s saw the industry of surgical breast enlargements enjoying its greatest boom particularly in places such as the American West-Coast. Finally, for the current decade, tentative evidence exists (Furnham and Dowsett, 1993) that the ideal is moving back towards a smaller bust size, a trend exemplified by Kate Moss, another contemporary English model.  

Evidence also exists that the media determines not only the attractiveness standards of one's own sex, but also the physical features that people desire from the opposite sex. For instance Wiggins et al (1969) found that readers of Playboy tended to emphasize the importance of a large bust in women.

7.2.4 Advertising's beauty ideals and their role in eating disorders

Another facet of the relationship between the media and people's standards of attractiveness which reveals the great influence of the former on the latter, is eating disorders. There is considerable evidence that the media promote a thin standard of attractiveness for the contemporary woman (see

---

34 It is worth noting that the observation of this new trend precedes the very recent medical scare concerning breast implants.
Brown, Walsh, Childers and Waszak (1990) for an extensive review. It is a common observation that the models themselves are, with very few exceptions, underweight (Irving, 1990). The evidence shows that advertising can be held responsible, if not for creating, at least for significantly contributing towards the predominantly female problem of eating disorders.

Silverstein, Perdue, Peterson and Kelly (1986) found that in television commercials more female than male characters could be regarded as slim, whilst more male than female characters could be characterized as heavy. It was found that women’s magazines contained significantly more articles about, or advertisements of weight-loss and body shaping, than men’s magazines. Furthermore, Irving (1990) reported that women acknowledge the media as a greater source of pressure to be thin, than either, their family or their peers. In the same study women’s satisfaction with their weight decreased parallel to the weight of the media models they were exposed to. Ogletree et al (1990) showed that the media’s pressure towards female thinness may start as early as in childhood.

Finally, objective measures of the female figure that is in vogue at each point in time reveal also that the media promote a ‘thin-is-in’ ideology. For instance, the weight of Playboy models and pageant competitors was found to be on the descend between 1960 and 1980, whilst during the same period there was also a steady increase in the number of dieting articles in women’s magazines (Garner, Garfinkel, Schwarz and Thompson, 1980). Similarly, evidence shows that the bust-to-waist ratio of female models and popular actresses, has been continually declining in the post-second world war period (Silverstein et al, 1986), eventually setting up the scene for an ideal female figure of a rather tubular shape (Morris, Cooper and Cooper, 1989).
7.2.5 More than one standards of attractiveness at each time?

Although the above discussion makes a case for the standards of attractiveness that media figures promote being each time unique and clear, some researchers have qualified this position. For instance, Brown et al (1990) pointed out that the existing plethora of advertising models may provide people with a much more diverse range of attractiveness standards than previously. The same researchers raised the possibility that unusual advertising images or images which are more immediately relevant to the consumer, may exert a greater influence than the prevalent portrayals of beauty. This influence, the authors argued, may be greater for young people who are more prone to breaking societal conventions and norms. Furthermore, Lavrakas (1975) found that the extend to which one’s standards of attractiveness of the opposite sex are shaped by media, may partly depend on their personality profile.

7.3.1 The evidence on the use of media stimuli on contrast effects in judgments of attractiveness

As we have seen there is indirect support for the view that people’s standards of attractiveness, are shaped to a considerable degree by the media. However, the influence of the media on the contrast effect in judgments of attractiveness has not been the target of systematic investigation. Although sometimes the attractive primes that are used in the relevant studies are photographs of models, these are presented outside their original source something which limits the applicability of the findings to real life situations. Most of the times, the fact that the stimuli are models can only be guessed by their level of their attractiveness or the pose they are depicted in. Only a handful of studies have used stimuli which were clearly
perceived by Ss as professional models.\textsuperscript{35}

Richins (1991) used as priming stimuli actual press advertisements depicting female models. He produced equivocal support for the contrast effect. Whilst subjects reported greater dissatisfaction with the way they looked following exposure to the advertisements, no such effect could be found on subjects ratings of their physical attractiveness.

Irving (1990) also found a tendency for those females who were exposed to photographs of models to rate their sexual attractiveness as lower compared to controls. The same effect however, emerged also when the stimuli were middle in attractiveness women who had been photographed in identical poses and background as the models. This finding raises two interesting possibilities. First, that people may not be very attentive to the actual level of attractiveness of the models they encounter in the media ("they are models so they must be beautiful"), and second, that the label 'model' enhances the others' perceptions of one's attractiveness.

Finally, evidence against the suggestion that media figures may act as a reference group for the average individual to assess their attractiveness exists also. As it will be recalled in Cash et al's (1983) finding that the raters contrasted their attractiveness against beautiful primes, disappeared when the primes were designated as professional models. In addition, Martin and Kennedy (1993) found also that subjects failed to suppress their self-judgments of attractiveness following exposure to advertisements with fashion models.

\textsuperscript{35} The findings of all the studies below have been examined in detail in chapter 6. They are reiterated briefly here in order to assess the success of this type of stimuli in obtaining the predicted effects.
attractiveness is over represented in the media. Observational evidence suggests that the influence of media figures on what is considered as attractive is great. However, the direct evidence on the role of the media on the contrast effect in judgments of attractiveness is very limited.
II

The experimental work
II.0.1 Overview

The second section of this thesis outlines the experimental work that was carried out. Before we examine in more detail the investigated issues, it is important to outline the general paradigm that was used throughout.

The current work was confined to the study of the negative contrast effect in judgments of attractiveness of either, one's self or, strangers. The general prediction of a contrast effect was based on the methodology that was followed. So the presentation of the primes and the target was sequential, whilst the primes were not designated as related to the target or the rater. It has been discussed in the previous section that those conditions promote the contrast effect. Typically subjects (Ss) were exposed to a number of attractive stimuli before they rated either, their own attractiveness, or the attractiveness of a target. Furthermore, Ss were naive to the real purpose of the experiments. This was achieved by designating their exposure to the priming stimuli and the rating of the target as two different tasks.

The first two chapters (chapters 8 and 9) deal with the contrast effect in judgments of attractiveness of strangers. Chapter 8 tests the ecological validity of the phenomenon by manipulating a number of experimental parameters. The latter included the exposure to primes paradigm used (experiment 1), the size of the stimulus set (experiments 1 and 2), the exposure-rating delay (experiment 2), and the use of 'real-situations' stimuli (experiment 3). Chapter 9 examines the effect of the similarity between the primes and the target on Ss' ratings of attractiveness of the latter. Towards this direction, experiment 4 performed a cross-modality test of the contrast effect, experiment 5 tested the primes-target similarity on two different characteristics, experiment 6 was designed to resolve a problematic finding of experiment 5,
experiment 7 was a replication of the original study, whilst experiment 8 tested the generality of the obtained findings.

Chapters 10 and 11 consider the contrast effect in self-ratings of attractiveness. Chapter 10 looks, at the effect of the similarity between the rater and the primes (experiment 9), and at the ecological validity of the effect (experiment 10). Chapter 11 attempts to account for the evasiveness of contrast in self-assessments of attractiveness, by manipulating two different factors (experiments 11 and 12).

Finally, chapter 12 reports a number of findings which emerged from here which were not directly related to the contrast effect in ratings of attractiveness, but were still of interest to peoples’ assessments of attractiveness of self and others.
CHAPTER EIGHT

Testing the ecological validity of the contrast effect in judgments of attractiveness of strangers
Experiment 1

Introduction

This experiment attempted to test two parameters of the experimental situation of contrast effects in judgments of attractiveness of strangers which were considered to lack ecological validity. One of these parameters was the method of presentation of the stimuli, and the other was the size of the stimulus set.

Studies of contrast on ratings of attractiveness have almost exclusively relied on a single-series-presentation paradigm. Subjects evaluate the attractiveness of an average in attractiveness stimulus, which is preceded by a series of attractive (or unattractive) stimuli. However, real life situations which such studies aim to emulate would appear to be quite different. Our exposure to attractive people (in the media or in our every day interactions) is a continuous process (read a fashion magazine, watch a movie, pass-by a billboard etc). Furthermore, ‘assessments’ of the attractiveness of a potential partner, or in general of another person, are usually dispersed between such ‘bouts’ of exposures to beautiful people.

The fact that real life exposure to attractive stimuli is multiple, leaves open a number of alternatives for how standards of attractiveness are shaped. One possibility is that such a continuous exposure has a cumulative, and as such an ever increasing effect. If this was true, then it would be expected that as throughout people’s lives their overall exposure to attractive people increases, so would their attractiveness standards. Although this situation is plausible, there are reasons that make it highly unlikely. For one, we know from demonstrations of positive contrast effects (e.g., Melamed and Moss, 1975) that exposure to
unattractive stimuli can lower our standards of attractiveness just as exposure to attractive stimuli can raise them. In addition, evidence exists that attractiveness standards which have been heightened as a result of exposure to beautiful stimuli, will return to 'baseline' if the attractive series is interrupted by even a single average stimulus (Kenrick et al, 1993).

From the above, given that in real life apart from our exposure to the media, we mainly encounter average attractive people, it is more likely that in the long run our attractiveness standards remain relatively stable. Having said this, it remains feasible that attractiveness standards can be increased within a shorter-term period. If an evaluation of one's attractiveness happen to occur within such a period it may suffer as a result. It follows that the examination of the effect of multiple exposure to attractive individuals on people's assessment of the attractiveness of others is of interest even if the effect is only transient. This examination was one of the aims of the present experiment.

The second issue of this study, which is akin to the issue of multiple exposure to attractive stimuli, was the effect of the size of the stimulus set on Ss' ratings of attractiveness of the target. In chapter 2 it has been shown that research in psychophysics has found no consistent effect of the size of the stimulus set on either the type (assimilation vs., contrast) or the size of the obtained context effects (e.g., Newman and Benassi, 1989). With respect to what is the minimum number of primes necessary to produce a contrast effect, some researchers (e.g., Simpson and Ostrom, 1976) have had problems to obtain an effect with anything less than 3 stimuli.

The effect of the number of stimuli used on the contrast phenomenon has not been the subject of systematic
investigation in the attractiveness area. The two studies which have considered this issue (Melamed and Moss, 1975; Geiselman et al, 1984), found no relationship between the size of the stimulus set and the size of the context effect that emerged. There are reasons however why we should hesitate to accept the findings of those studies as conclusive. Melamed and Moss for example, used only a pairing paradigm (prime and target presented in pairs) and manipulated the frequency of pairing the same target with a number of different primes. The manipulation of the number of primes on Geiselman et al was also very limited. Their study compared a pairing procedure to one where the target was surrounded by two primes. As it becomes apparent, the existing literature on the role of the size of the context set on the ratings of attractiveness of the target, lacks considerable generality. Furthermore, regarding the minimum size of the context set that is required to shift the attractiveness judgments of a target away from the attractiveness of the primes, the literature lacks the relevant data. Although the vast majority of the studies use a stimulus set of around 10 stimuli, evidence of contrast with even the use of a single stimulus exists (e.g., Kenrick et al, 1980).

One possibility with regard to the relationship between the number of the primes used and the size of the contrast effect, is that it is perfectly linear. In other words, as the number of primes increases the attractiveness of the target decreases. This prediction could be accommodated by most general theories of contrast (e.g., by AL theory, through the imposed changes in the adaptation level, or by RF theory through its frequency postulate). Alternatively, the relationship could be a quadratic function, where an increase in the number of primes would be accompanied by a decrease in the ratings of the target up to a point, beyond which, further increases in the number of primes would have no additional effect. Although direct evidence regarding the size of the stimulus set does not exist, there is evidence from
psychophysics of such a quadratic function regarding the extremity of the anchor (e.g., Maurer and Alexander, 1991).

The present experiment employed a multi-exposure to context sets paradigm, whilst at the same time manipulated the number of the priming stimuli of each set. This design made it possible first, to test the effect of the size of the priming set on judgments of attractiveness of others, and second, to investigate whether the shaping of attractiveness standards in the short-term is the result of a cumulative process, or whether interruption of an attractive series by a single average stimulus brings heightened standards of attractiveness back to baseline. To achieve those objectives, females were sequentially exposed to a) control stimuli (control), b) one attractive (one), c) five attractive (five), and d) ten attractive (ten) male stimuli. A middle attractive target was rated following each condition whilst a short delay between conditions was also introduced. This procedure aimed to approximate as closely as possible real life situations in which exposure to attractive people occurs in sprees which may be interrupted either, by a time gap or by exposure to less comely individuals. Overall, the targets in the experimental conditions were expected to be rated as less attractive than the control - a contrast effect.

There were two orders of presentations of the conditions. An ascending (control - one - five - ten) and a descending order (control - ten - five - one). The predictions regarding the descending order of presentation hinged on the stand that was adopted. If contrast effect was to prove solely dependent on the number of the immediately preceding priming stimuli, it was expected that Ss’ ratings of attractiveness of the target would decrease as the number of primes of the immediately preceding set increased. On the other hand, if the effect in the short-term operates as a cumulative process which is unaffected by either, time or other ‘standardizing’ procedures, the opposite prediction was made.
The prediction for the ascending order of presentation was the same regardless of the theoretical hypothesis adopted, since in that situation the increases in the size of the priming set were confounded with increases of the cumulative total number of primes that Ss were exposed to. Following, Ss’ ratings of attractiveness of the targets were expected to progressively decrease. The role of the ascending presentation order was to provide an additional test of the function between the attractiveness ratings of the targets, and the size of the preceding stimulus set. Especially in the case in which this function would prove a quadratic one, having two opposite presentation orders would help locating the point at which the function becomes parallel to the x-axis. In other words, it would help identifying that size of the stimulus set beyond which further increases of it would have no additional effect on the size of the hypothesized contrast effect.

Method

Subjects

Forty female students of University College London (U.C.L.) with a mean age of 24 (and a standard deviation (SD): 3) participated in this experiment as unpaid volunteers.

Stimuli

Stimuli pre-rating\textsuperscript{36}

The stimuli used in this experiment were selected based on the results of a pre-rating procedure. Forty-two black and white

\textsuperscript{36} The procedure and method of analysis for the pre-rating of the stimuli is outlined in detail here as an illustration of the way stimuli were selected in this thesis. Such a discussion will be omitted for the rest of the experiments.
waist-up photographs of unclothed males\(^3\) were collected from sources such as fitness, naturist and fashion magazines. Those 42 pictures were projected one by one as slides to ten female students of U.C.L., whose task was to rate each stimulus on both, physical attractiveness and muscularity using 7-point scales. The reason a rating of the muscularity of the men in the photographs was included was because given that a great number of the stimuli were recruited from fitness magazines, we wanted to test whether this feature would bias negatively Ss' ratings of attractiveness of those stimuli. For evidence exists (Freeman, 1988) that 'people with a 'professional bodybuilder' type of body are stereotyped against.

In order to make sure that Ss' ratings on each of the two categories were independent of each other, they were only told about the second category after they finished rating the stimuli on the first one. In other words, the stimuli were presented to Ss twice. Five Ss rated the stimuli first for attractiveness and then for muscularity, whilst five Ss rated the stimuli first for muscularity and then for attractiveness. The order of presentation of the stimuli was randomized for each of the two presentations for each rater.

The correlation between attractiveness and muscularity ratings was found to be significantly positive (Pearson's \(r = 0.67\), \(p < 0.05\)). This result supported a positive rather than a negative bias towards muscular men (a finding also encountered in Diamant et al, 1991). There was no reason therefore not to use those stimuli in a task in which required the rating of their attractiveness.

**Choosing the stimuli**

\(^3\)Unclothed stimuli were preferred to clothed ones given the evidence that people's garments can bias the way their attractiveness is perceived by others (see chapter 1).
The experiment required 16 photographs of attractive men and 4 photographs of men of average attractiveness. In choosing the photographs of the attractive men, the first step was to select the 16 photographs with the highest mean attractiveness ratings. However as it turned out, the mean attractiveness rating of those stimuli was only '4'. Given that this rating was indicative of average rather than high attractiveness, it was decided to select only the 10 most attractive photographs. The new mean attractiveness rating of those stimuli was '5.3'.

A Kendall test of concordance showed that no inter-rater agreement could be established for the ratings of those 10 stimuli (W = 0.17, \( \chi^2_{(9)} = 10.63, p > 0.05 \)). A hierarchical cluster procedure was performed in order to resolve this problem. Based on the resulting dendogram of this analysis, those raters in maximum disagreement with the rest were eliminated one by one, until inter-rater agreement was established. This occurred after the exclusion of the two raters with the most disparate ratings (Kendall's W = 0.52, \( \chi^2_{(9)} = 23.26, p < 0.05 \)). Following the exclusion of the two raters, the attractiveness ratings of all 42 photographs were once again ordered, and the ten most attractive photographs were selected and used in this experiment. Inter-rater agreement for this new set of stimuli was established (Kendall's W = 0.45, \( \chi^2_{(9)} = 20.19, p < 0.05 \)).

As target stimuli for this experiment acted four photographs with a mean attractiveness rating of '4'. Finally five colour photographs with animated themes (e.g., a bird, a Christmas-card picture) served as the control stimuli.

Procedure

---

38 Since there were more than four photographs with this mean rating, the choice was based on the frequency that those stimuli had been scored with a '4'. The stimuli finally selected were those with the highest four frequencies.
Subjects were randomly assigned to one of two groups. The groups differed in the order the three experimental conditions were presented. In the 'ascending' order, Ss were first presented with the control stimuli ('control'), then with a target, then with a single attractive stimulus ('one') followed again by another target, thirdly with five attractive stimuli ('five') followed by the third target, and finally with ten attractive stimuli ('ten') followed by the last target. In the 'descending' presentation order Ss were presented again with the control condition first, whilst the following conditions were presented in the opposite order from the 'ascending' one (ten - five - one).

Since there were only ten attractive stimuli, the photograph that appeared in the 'one' condition reappeared in the 'five' condition, and in turn all the five photographs that were used in the 'five' condition were part of the 'ten' condition. The primes and target associated with each condition, as well as the order of presentation of the stimuli was randomized for each experimental session. All photographs were presented one by one for 10 seconds each. There was a delay of 20 seconds from the offset of the target stimulus until the onset of the first prime of the following condition.

In order to disguise the real purpose of the experiment Ss were told that the experiment was on impression formations. Ostensibly their task was to rate each stimulus on a different trait. The priming stimuli were rated on one of 10 possible personality traits. Targets on the other hand were rated only on attractiveness. All stimuli were rated using 9-point bipolar scales. The two extremes of the attractiveness scale were labelled as "very unattractive" and "very attractive".

---

39 If nothing else repeating the stimuli was expected to increase the perceived attractiveness of them. For evidence exists that increasing the familiarity with the stimuli enhances the judgements of their attractiveness (Cavior, 1970; Marcus and Hackmiller, 1975; Geiselman et al, 1983).
Subjects were tested individually in a darkened room.

Apparatus

Stimuli were projected as slides by a Kodak 'Carousel S' slide projector, the action of which was timer-controlled.

Results

In relation to the ascending order of presentation (control - one - five - ten) the ratings of attractiveness of the target were found to differ between the four conditions (Friedman's $S_{(3)} = 20.83$, $p < 0.05$). Further follow up tests revealed that ratings of the targets that followed the 'five' and the 'ten' conditions were significantly lower than the rating of the target in the control (Friedman's follow up test, $p < 0.05$). On the other hand, no difference was found between the attractiveness ratings of the target following the control and the target following the 'one' condition (Friedman's test $p > 0.05$). As Figure 1.1 shows, Ss' ratings of the targets' attractiveness in the ascending order of presentation came out in the predicted direction. Highest for the target following the control, and lowest for the target that followed the 'ten' condition. This trend was found to be significant (Page's $L = 284$, $p < 0.05$).

With respect to the results in the descending order of presentation (control - ten - five - one), the attractiveness ratings of the targets corresponding to the four conditions proved again different from each other (Friedman's $S_{(3)} = 14.06$, $p < 0.05$). As Figure 1.2 shows the attractiveness of the targets which followed the three experimental groups were lower than the target in the control group. This difference however was statistically important only between the control and the 'ten' group (Friedman's follow up test, $p < 0.05$) and between the control and the 'one' group (Friedman's follow up,
Figure 1.1: Mean attractiveness ratings in the ascending order of presentation.
Figure 1.2: Mean attractiveness ratings in the descending order of presentation
p < 0.05, one tailed). As Figure 1.2 reveals none of the two opposite trends that were predicted for the three experimental groups was supported. As a result, no trend test was performed.

Discussion

This study lend support to a contrast effect in judgments of attractiveness of opposite sex strangers. As the 'control vs., experimental conditions' comparisons indicated, exposure to attractive individuals suppressed (although not significantly in all cases) Ss' judgments of the attractiveness of an opposite sex other. However, the attempt to discover more about the nature of the phenomenon proved only partially fruitful. Overall the size of the contrast effect was found to be positively related to the number of the priming stimuli used. What remained unclear was whether this was the result of a cumulative process or not.

Regarding the ascending presentation order, the predicted pattern of a progressively increasing contrast effect was born out. The question however remained whether the size of the effect related either, to the size of the stimulus set immediately prior, or to the total number of attractive stimuli Ss were exposed to until that point. This question was hoped to be answered by the results in the descending order of presentation. The findings in the latter however, were equivocal. Subjects mean ratings of attractiveness of the targets followed neither of the two predicted opposite trends, and by doing so failed to lend support to either, a cumulative interpretation of the observed contrast effects, or an explanation of it in terms of the size of the immediately preceding stimulus set.

Although, an examination of the results of each presentation order separately fails to provide conclusive insight as to the
nature of the obtained contrast effects, a collective analysis of the results could prove more fruitful. Such an approach reveals first, that in the ascending order although the suppression in the ratings from the ‘one’ to ‘five’ conditions is considerable, there is hardly any difference between the ‘five’ and the ‘ten’ conditions. Second, in the descending presentation order, the maximum suppression of attractiveness judgments was achieved straight away with the ‘ten’ condition with the other two additional conditions having no further effect. The hypothesis that is put forward here is that the size of the contrast effect is proportional to the total number of attractive stimuli one is exposed to (within a relatively short period of time) up to a threshold point. Once this point is reached further increases in the number of stimuli one is presented with has no additional effect. Based on the results from the ascending order of presentation this threshold would appear to be around 6 stimuli.

There are two important limitations of this study regarding the applicability of the offered interpretation of the findings to real situations. One of them is that even though a short delay and the interruption of the attractive series by a single average target did not bring the raters’ attractiveness standards down to baseline (if as we propose here the effect was a cumulative one), it remains to be seen if such a regression would be achieved with a greater delay or a greater number of intervening average stimuli.

The second limitation of this study regards the maximum size of the contrast effect that was achieved. Whether the latter represents the absolute maximum that the experimental situation was capable of producing, or whether the use of an even greater stimulus set would produce further suppression to Ss’ attractiveness ratings of the target remains to be seen. It is conceivable that in the present situation a ‘diminishing returns rule’ applies according to which in order to achieve for example the same decrement in the target’s attractiveness
ratings that was achieved here from the increase from 1 to 5 primes, the size of the context set may need to more than double.

Regarding the minimum size of the stimulus set that will inversely affect the attractiveness rating of a target, it would be concluded from here (ascending order) that a single stimulus is insufficient. On the other hand assuming the effect is cumulative, it would be concluded from this experiment that 6 primes are adequate to cause a contrast effect. This finding provides an experimental basis for the heretofore rather intuitive decision of researchers to use a minimum of around 5 priming stimuli. On the other hand, it is against Kenrick et al’s (1980) finding that even a single attractive stimulus may be enough for shifting the ratings of attractiveness of a subsequent target away from it. Further research may be necessary before one makes more conclusive remarks on this point.

Summarizing the results, this study found evidence for a contrast effect in ratings of physical attractiveness of male stimuli by female Ss. The size of the context set of attractive men appeared to be inversely related to ratings of attractiveness, although the process underlying this relationship appeared to be neither, simply cumulative, nor one which depended solely on the size of the stimulus set. A third explanation of the findings as a cumulative effect which is bound by a threshold, loomed a more attractive alternative.
Experiment 2

Introduction

The following experiment continues the quest of investigating the nature of some of the parameters of the experimental situation examining contrast effects in judgments of attractiveness of others that may be relevant to the applicability of the phenomenon to real life situations. One of those parameters that was examined in the previous experiment was the size of the stimulus set. Experiment 1 provided us with partial answers as to the relationship between the size of the priming set and the size of the emerging contrast effect. Although an increase from a single prime to five primes was paralleled by a decrease in the target's attractiveness ratings, a further increase to ten stimuli had no additional effect. One of the goals of the present experiment was to test whether the situation operated under a 'diminishing returns' law, a possibility that was put forward in the previous experiment. As it was suggested, as the number of primes of the stimulus set goes up, progressively greater-and-greater increases of it may be required in order to obtain any additional increments in the size of the obtained contrast effect. In the current study the increment step was from 6 to 142 stimuli. In line with experiment 1, the experimental hypothesis remained that the greater the number of the attractive stimuli Ss are exposed to, the lower their ratings of attractiveness of others.

The second issue that the present experiment examined, was the lifespan of the contrast effect in judgments of attractiveness. The vast majority of the studies of the effect have employed paradigms in which there is no delay between presentation of the last prime and the rating of the target. It would appear though that determining the pervasiveness of the effect through time would constitute one
of the most pedestrian moves in order to ascribe ecological validity to it. For in real life exposure to attractive stimuli and assessing the attractiveness of others are not necessarily two proximate events.

Examining the literature on latent demonstrations of contrast effects outside the attractiveness field, Mintz (1956) found that the inverse effects that the level of beauty of a room had on the mood of the experimenters testing in it were so profound, that they persevered for three weeks. In a different study, Buckley, Villanova, and Benson (1989) found that a delay of 3 weeks between presentation of the 'anchor' and the 'target' in judgments of interviewers, still produced a contrast effect. Evidence that a delay before the rating of the target eradicates contrast effects exists also. Samsom and Rachman (1992) found that a delay of one week was sufficient for contrast effects on a fear evoking situation to be eliminated.

With regard to judgments of physical attractiveness the evidence is equally scant. Two studies have obtained contrast effects on attractiveness judgments using a post-conditional paradigm (Melamed and Moss, 1975; Geiselman et al, 1984). In those studies there was a delay between the task in which the target was paired with the priming stimuli, and the task in which the rating of all stimuli (including the targets) took place. On both occasions however, this delay was a matter of a few seconds. In the only study to have used a considerable delay in this field, Zillman et al (1988) utilized a design in which Ss rated the attractiveness of their partner one week after exposure to the last priming session. Evidence of contrast still emerged after this period. The present study constitutes the first experimental attempt to compare a priming-rating delay to a situation of no such delay, on their effect on Ss' ratings of attractiveness of a stranger. The formulated hypothesis was that the size of the contrast effect would be smaller when a delay between exposure to the context
and rating the attractiveness of a stimulus existed than when it did not.

Given that this experiment manipulated, both the delay between exposure to the attractive set and the rating of the target, as well as the size of the context set, predictions could be afforded about the relative strengths of these two variables on the contrast effect. Having said this, given that these variables have not been considered in parallel until now, no single hypothesis was favoured from the outset. If the immediacy of judgment is more important than the size of the stimulus set, the anticipated order of the ratings was the following: 'delay-small set'-'delay-large set'-'no delay-small set'-'no delay-large set'. On the other hand, if the number of primes used is more important than the immediacy of the rating of the target following priming, the hypothesized order was: 'small set-delay'-'small set-no delay'-'large set-delay'-'large set-no delay'.

Another issue that was examined in this study was how individual differences between people may determine the extend to which their attractiveness standards are shaped by exposure to beautiful others. A number of researchers (e.g., Kenrick et al, 1989; Richins, 1991) have argued that the documented instances of the contrast effect in judgments of attractiveness of both self and others, may actually underestimate the real impact of the phenomenon in real life. We have argued previously in this thesis that this hypothesis remains questionable given people’s exposure to others who are predominantly average in attractiveness. However, it remains highly likely that people who through their life-style or habits happen to be disproportionately exposed to beautiful others, will have evolved higher attractiveness standards than their counterparts. A professional fashion photographer for example, would as a result of his daily exposure to beautiful models, be expected to have fostered harsher criteria of what constitutes a comely person than the average man on the
street. Following this argument, avid readers of fashion magazines, or viewers of television series or films which star attractive actors (e.g., "Baywatch", "Melrose Place") were predicted to have higher attractiveness criteria than casual consumers of those channels of exposure to comely people. Furthermore, the degree of exposure to attractive people in one's life would also be expected to have a similar influence. For evidence of contrast in judgments of attractiveness of strangers has been obtained in a situation which was set up as a haphazard real-life encounter with attractive people (Kernis and Wheeler, 1981).

Two obvious places where one is very likely to meet beautiful people are parties and night-clubs. The reason for this, is that typically people who visit such places attempt to enhance their out-appearance. When one considers that the participants of this study were in their early 20s, an age in which dating constitutes the main form of their relationships, the assumption that one tries their best to enhance the way they look on those occasions becomes more valid. The hypothesis that was put forward here was that personal habits which would imply greater exposure to either, available or unavailable (media figures) attractive others, would predict lower attractiveness ratings of the stimuli.

The final point regarding this study's contribution in increasing the ecological validity of the contrast effect in judgments of attractiveness, was its choice of the priming stimuli. In chapter 7 we discussed that very little experimental work has been carried out with primes other than photographs of attractive students, or photographs of models outside their original source. Here exposure to attractive stimuli was achieved through the use of actual magazines. Illustrated press comprises one of the chief sources of beautiful people (see chapter 7). In particular fashion magazines for women (and recently for men as well) are heavily 'picture orientated' towards models or other comely
Method

Subjects

Twenty-six female and 16 male students of U.C.L. (mean age 21 years, (SD: 5 years)) volunteered to take part in this experiment. Subjects were paid for their services.

Materials

Magazines

An issue of each of three different magazines were used in this study. The first magazine, Animal Action (AA), is the official magazine of RSPCA (Royal Society for the Protection against Cruelty to Animals) and deals with issues concerning the welfare of animals. The photographs of this magazine are almost exclusively of animals. The second magazine, Eva, would be classified as an illustrated ‘women’s magazine’ in the economical side of the market. Its themes include practical tips, various aspects of women’s lives, and news about models, actors, and other celebrities. It is heavily illustrated with the vast majority of its pictures depicting females. The third magazine used was The Clothes Show Magazine (CSM), a monthly publication of the BBC that would be characterized as a ‘fashion magazine’ for women. As all fashion magazines, CSM contains a great number of photographs of models dressed according to the latest fashion trends. This particular issue of the magazine contained 142 photographs of attractive females.⁴⁰

⁴⁰To arrive at this figure two independent raters (one male and one female) counted the photographs which depicted attractive females in that issue of the magazine. Any discrepancy between the two raters were resolved through
Stimuli

The photographs of 6 females and 3 males average in attractiveness were chosen as the targets for this study.

Procedure

Subjects were provided with written instructions. The ostensible aim of this experiment was to complete a battery of tests all of which fell under the umbrella of ‘consumer psychology’. Some of the tests, Ss were told, involved “browsing” a magazine. The term “browsing” was fully clarified in the instructions: Ss were to flick through the pages of the magazine, “look” at all the pictures in it, but not attempt to read any of the articles or part of them.

The order that the tasks were completed in this experiment was the same for all Ss. First, each subject was issued with one copy of AA magazine (the control) and was instructed to “browse” the first 5 pages. Subsequently, Ss were required to provide a rating using 9-point scales of a) how likely they were to buy this magazine, and b) how much sex orientated (male or female orientated) they considered the magazine to be. On completion, Ss were told that they were to view 3 photographs of people who “had auditioned as ‘doubles’ for professional actors”. Their task was to rate the physical attractiveness of each of the stimuli using again 9-point differential semantic scales with their extremes labelled as “very unattractive” and “very attractive”. The photographs of 2 women (the targets) followed by the photograph of a man (a filler item) were then presented to them one after the other.

Following, each subject was provided with a copy of Eva and was instructed to go straight to the centre of the magazine. In the two centre pages of the magazine there were the full-
body pictures of 6 females dressed in outfits that allowed Ss to form a quite accurate impression of the body figures of the pictured women (e.g., short skirts, sleeveless tight dresses). Depending on their sex, Ss were instructed to either choose the outfit they liked most for themselves (female Ss) or choose the outfit they would like to see on the woman they had a relationship with (male Ss). Once Ss noted their answers, they were informed that they would be exposed to the photographs of 3 people “who had entered a model competition”. Their task was again to rate the physical attractiveness of those stimuli using 9-point scales. At that point, Ss were told that only one of this pictures could be shown right away since the other two were used by a similar experiment which ostensibly run concurrently at another room in the department. Subjects were then presented with the picture of a woman whom they rated. The experimenter then rushed away, ostensibly going to bring the rest of the stimuli, and instructed Ss not to leave the room during the time he was away. The experimenter returned after exactly 10 minutes and asked Ss to inform him of the exact length of the delay. Subjects were told that given this “unforeseen inconvenience”, in order that the experiment remained as controlled as possible, a similar delay would be introduced in the next task of that nature. Following this explanation, the remaining 2 photographs of the interrupted condition, first a photograph of a woman followed by the photograph of a man were projected and rated.

The next task required Ss to first browse the entire CSM and then rate using 9-point scales a) “how likely they were to buy any of the garments found in the magazine (“for themselves” if subject a female, or “for their partner” if subject a male), and b) “to which extend were the clothes in CSM their type of clothes “(or “the type of clothes they liked on a woman”, for male Ss). The final task was once again the projection and the rating of 3 more stimuli which this time were designated as “applicants for cameo roles in television commercials”. Subsequently to the projection and the rating of the first
stimulus (a female), 10 minutes were allowed to elapse, ostensibly for standardising the circumstances under which the ratings of the second and third stimuli took place in the previous such task. This time during this interval the experimenter stayed in the room with the Ss. After 10 minutes exactly, the last two stimuli were presented (as usual with the female first and the male second) and rated.

As a summary of the experimental procedure, Ss were exposed in sequence, to control stimuli (AA), 6 attractive females (Eva), and 142 attractive females, whilst following each exposure they rated the attractiveness of an average female both, immediately afterwards, as well as following a delay of 10 minutes (delay only in two experimental conditions). Abbreviating the experimental situation we have: 1st) the 'Control' condition (AA - both female stimuli without delay), 2nd) the 'Smln-nd' condition (Eva - first female target), 3rd) the 'Smln-d' (Eva - the second female target following the 10 minutes delay), 4th) the 'Lrgn-nd' condition (CSM - first female target), and finally 5th) the 'Lrgn-d' condition (CSM - the second female target following the 10 minutes delay). In addition, following each experimental exposure to the primes and the two female targets, Ss rated the attractiveness of a male stimulus and also answered a few questions about each magazine. Both these acted as filler items. The assignment of the stimuli to each condition was randomized for each experimental session. Each photograph was presented for 10 seconds by a Kodak 'Carousel S' slide projector, the action of which was timer-controlled.

In the last part of the experiment Ss provided demographic information, as well as information about some of their habits. The latter were, "how many and which women's (men's) magazines they read", "how many television series and films they watched weekly", and also "how often they went to
cinema", parties", and night-clubs". The experiment was conducted in 4 cross-sex group sessions with the size of the groups ranging from 5 to 11 Ss.

Results

The main analysis was based on Ss' ratings of the female stimuli. In the control condition where Ss rated two female stimuli in a no delay situation, their ratings of attractiveness of the two stimuli were averaged. In effect each subject contributed one data point for each condition.

Figure 2.1 presents the mean attractiveness ratings of the targets in the 5 conditions. A 5x2 (Condition X Sex) ANOVA indicated that the mean ratings among the five conditions differed \( (F_{(4,140)} = 3.39, p < 0.05) \). Further analysis showed that none of the target's ratings in any of the four experimental conditions was lower than the ratings of the target in the control condition. In fact in the case of the control versus the smln-nd condition, the result turned out in the opposite from the predicted direction. The female stimulus following the smln-nd condition was rated as more attractive than the control \( (F_{(1,41)} = 4.79, p < 0.05) \). In all other cases the attractiveness ratings of the target in the control condition did not differ from the targets' ratings in the experimental conditions (for control vs., smln-d: \( F_{(1,40)} < 1, p > 0.05 \); for control vs., lrgn-nd: \( F_{(1,40)} = 2.27, p > 0.05 \); and for control vs., lrgn-d: \( F_{(1,40)} = 2.15, p > 0.05 \).

An analysis of orthogonal contrasts was used to compare within the two levels of each of the two factors that were manipulated in this study ie., 'delay vs. no delay', and 'small vs. large stimulus set'. The first comparison between

---

41 "Party" was defined to Ss as a gathering of many people of both sexes, most of whom were strangers to the Ss and looking for available mates.
Figure 2.1: Mean attractiveness ratings of the female stimuli
the 'small' and the 'large' stimulus set revealed that Ss' attractiveness ratings of the targets that followed the CSM (large set) were significantly lower than the corresponding ratings following Eva (small set) \( (F_{1,40} = 8.48, p < 0.01) \). On the other hand, the comparison between the delay and no delay conditions showed that the attractiveness ratings of the targets that were rated immediately after exposure to the magazines, were not different from the respective ratings when there was no such delay \( (F_{1,40} = 1.63, p > 0.05) \).

With regard to the relative importance of the size of the stimulus set and the absence or existence of a priming-rating delay, Figure 2.1 reveals, that neither of the two alternative hypothesized trends of the mean attractiveness ratings could be lend support by the results.

Finally, regarding the rest of the main effects of this analysis, the effect of the raters' sex failed marginally to attain significance \( (F_{1,40} = 3.81, p = 0.06) \) indicating that men tended to rate the attractiveness of the female stimuli higher than women (mean ratings: 6.94 and 6.23 respectively). There was also no Sex X Condition effect \( (F_{4,160} = 1.07, p > 0.05) \).

A series of stepwise regression analyses were employed in order to examine which, if any, of the demographic and other information that Ss provided predicted their ratings of attractiveness of the stimuli. There were four such analyses which resulted from the crossing of the sex of the raters with the sex of the stimuli. The reason that the attractiveness ratings of the male stimuli (which acted as filler items for the main analysis of contrast effects) were included was because unlike the experimental exposure which was controlled to be solely to female primes, habits such as watching a television series or going to parties constituted exposure to attractive people of both sexes. As DVs of this analysis Ss' attractiveness ratings of all the male and all the female
stimuli they rated were averaged into two composite scores. The independent variables (IVS) of each analysis were: number of women’s/men’s magazines read, number of television programmes/films watched, and frequency of going a) to the cinema, b) parties, and c) night-clubs. The analyses revealed the following.

No variable predicted either, the male’s or the female’s ratings of attractiveness of the male stimuli. On the other hand the male’s attractiveness ratings of the female stimuli were significantly predicted by their frequency of going to night-clubs ($R^2 = 0.40, F(1,14) = 9.51, p < 0.01$). The more frequently men visited such establishments the lower the attractiveness ratings they ascribed to the female targets ($r = -0.64$). Frequency of night-clubs visits also predicted the females’ ratings of attractiveness of the female stimuli ($R^2 = 0.24, F(1,23) = 7.12, p < 0.05$). Nevertheless, the direction of association was opposite from that of the men. The more often women visited clubs, the higher they rated the attractiveness of the female stimuli ($r = 0.49$). An additional significant predictor of women’s ratings of the female stimuli was the number of films or sequels they watched on television ($R^2 = 0.37, F(1,22) = 6.62, p < 0.01$). The greater the number of the programs watched, the lower their ratings of attractiveness of the female targets ($r = -0.4$).

Discussion

The major finding of the present study was that the experimental manipulations failed to produce a contrast effect on attractiveness ratings of same or opposite sex strangers. This failure to find evidence of the contrast effect coincided with the use, for the first time, of actual magazines for the priming of those judgments. Given that magazines constitute one of the most prominent sources of attractive stimuli in the western man’s life the conclusion drawn from here could only
be regarded as discouraging for the applicability of the contrast effect to real life situations. To argue that the choice of magazines in this study was in some way responsible for their failure to inversely influence attractiveness judgments of target stimuli, would not appear to be a valid criticism in the present situation. For both magazines were representative of two large sections of the 'for women' market (fashion and tattler), in which pictures of attractive individuals are found in abundance.

The focus of this study was the effect of two different factors on the contrast effect in judgments of attractiveness of strangers. The first factor was the delay between exposure to the primes and judgment of the target, and the second factor was the size of the stimulus set and more accurately the increment of increase in the number of its primes. Given that no evidence of contrast was obtained here, testing the effect of each of the two experimental variables on the phenomenon was rendered void. However, it remained of interest to find out how Ss' ratings of attractiveness of the stimuli compared between the two experimentally manipulated levels of each of the two variables.

The findings showed that in line with predictions, those female stimuli which were presented following the larger priming set (CSM), were in general rated as less attractive than the female stimuli which were primed by the smaller set (Eva). This finding together with the findings of the previous experiment lend support to the hypothesis that for further decreases in the attractiveness ratings of a target to occur, the size of the stimulus set may need to increase by a disproportionately greater increment to the one that brought up the last significant suppression of ratings. For an increase from 6 to 142 attractive stimuli (in the present experiment), was found, contrary to an increase from 6 to 10 stimuli (experiment 1), to suppress the Ss' attractiveness ratings.
Regardless of whether or not a delay was introduced before the rating of attractiveness of the target, Ss' ratings of attractiveness of the stimuli did not differ. Future research could test the effect of lengthier delays than the present one. In addition, future usage of 'impeding tasks', such as counting backwards, during the exposure-rating delay would provide an additional test of the robustness of the effect and its applicability to real life.

Another finding of this study was that men rated the attractiveness of the female stimuli higher than women. This finding is in line with previous research (e.g., Furnham et al, 1990; Gladue et al, 1990). In order to test if this tendency was reciprocal, the females' ratings of attractiveness of the male stimuli were compared to the respective ratings of these stimuli by the males. No difference however emerged from this comparison.

Finally, the predictions on the effect of Ss' habits, which were considered to denote their extend of exposure to beautiful individuals, on their ratings of attractiveness of the stimuli, were met with limited success. First, none of the recorded characteristics emerged as having any predictive value for the ratings of the male targets. On the other hand, some habits were found to be predictive of Ss attractiveness judgments of the female stimuli. One of them was the amount of television viewing. The more films or series female raters watched, the lower they rated the attractiveness of the female stimuli.

The effect of the second statistically important predictor of the attractiveness ratings that were assigned to the female stimuli, was rather unexpectedly found to depend on the rater's sex. So whilst the more frequently men went to night-

\[ F_{1,40} < 1 \]

\[ \text{Mean ratings were 5.25 and 5.55 for the males and the females respectively.} \]
clubs the lower their ratings of attractiveness of the female stimuli, the association was the opposite for women. The fact that men's attractiveness ratings of opposite sex others, were found to be negatively affected by their frequency of visiting night-clubs is compatible with evidence that shows that men who visit entertainment establishments are very attentive towards the women (and consequently their attractiveness) who are present (Gladue et al, 1990). On the other hand, the finding that the more often women visited night-clubs, the higher they rated the attractiveness of female stimuli could not be readily interpreted. In any case the present findings on Ss' habits open up another direction for ecological valid corollaries which may be implicated in people's judgments of attractiveness of others.

As a conclusion, the present experiment did not succeed in demonstrating the contrast effect in attractiveness ratings of strangers following priming by actual 'women's magazines'. The number of primes Ss were exposed to proved however an important variable with a larger stimulus set inducing lower attractiveness ratings of the targets than a considerably smaller set. The priming-judgment delay on the other hand, was found to have no effect on Ss' ratings. Finally, amount of television was found to inversely affect our judgments of attractiveness of other people, whilst sex differences in the way frequency of going to night-clubs affected Ss' ratings of attractiveness of the stimuli, created a need for further investigation.
Experiment 3

Introduction

In the previous study we found that exposure to attractive models or celebrities in magazines had no effect on the Ss' ratings of the attractiveness of a stranger. However, we obtained evidence that the greater the amount of viewing television programs with attractive actors, the lower the Ss' attractiveness ratings of the target. The following experiment examines directly the effect of television advertising on the contrast effect in judgments of attractiveness.

Television represents arguably the most prevalent channel of exposure to media portrayals of attractiveness. The vast majority of people use television as their primary medium of entertainment and information. Although most people are quite selective about the programs they watch, they have very little control over an integral part of television, commercial spots. The popularity of television advertising is on the ascend with a number of commercials and their actors often achieving a 'cult' status especially amongst young audiences (e.g., Coca Cola, Levi's). As we saw in chapter 7, actors with high levels of attractiveness are over represented in television commercials. The latter therefore provide an excellent medium for testing the generality of the contrast effect in judgments of attractiveness. Surprisingly, the use of stimuli of moving image has been extremely rare in this domain, and even when such stimuli are used they are not always representative of a person's typical exposure to them (for example, in Zillman and Bryant (1988) Ss watched about 6 hours of pornographic films).

\[^{43}\] This study was conducted together with experiment 10 as one single experiment.
In this study Ss were exposed to one of three different groups of commercials (the priming sets) which differed in the level of attractiveness of its actors. The target was also a commercial the actors of which were middle attractive. It was predicted that as the general level of attractiveness of the context (the group of commercials) increased, Ss would rate the attractiveness of the actors in the target commercial as lower.

As in experiment 2, this study also required from Ss to provide a number of information about habits which were believed to be indicative of the level of their exposure to attractive stimuli in their everyday lives. It was predicted that the greater "the amount of television viewing", "frequency of going to the cinema", and "number of fashion magazines read", the more stringent would be Ss’ judgments of attractiveness of others.

Finally, this study’s relevance extended to two other directions. The first one was to test the cross-cultural applicability of the contrast effect in judgments of attractiveness of others. With very few exceptions (Onodera and Miura, 1990; Kowner and Ogawa, 1993) studying the effect of the context’s attractiveness on judgments of attractiveness of strangers, has been confined to American samples. This experiment was conducted in Germany with university students. Germany was considered a more suitable place than Britain for testing the effect of television commercials on people’s judgments of attractiveness for two reasons. First, because the predominance of this medium of advertising is greater in that country (more than 4 channels, all of which are financed through commercials), and second, because of the greater explicitness of the commercials in German television. This last fact allowed for an easier selection of stimuli, the attractiveness of which was not confined to the facial level.
The second extension of the present experiment was specific to advertising. Subjects rated the commercials they were presented with for "how much they liked it", as well as for "how persuasive they found the transmitted message". Together with the ratings of attractiveness of the actors of the commercials that Ss provided, those questions were expected to contribute towards the debate over whether 'beauty sells' or not (see chapter 7).

Method

Subjects

Twenty-seven female and 26 male students of Bielefeld University, Germany, volunteered for this study. They were paid for their services. The mean age of the females was 23 (SD: 3), and of the males 25 years (SD: 3).

Materials

The commercials

All commercials were selected by the experimenter depending on the physical attractiveness of their actors, which was judged as either, high or average. Another naive experimenter gave also her opinion on the selected commercials. The single inconsistency that arose between the opinions of the two experimenters was resolved by replacing the debated commercial with another for which agreement was achieved. Some commercials contained only one actor whilst others more than one. Where there was more than one, care was taken that all actors were of the same attractiveness 'category' (either attractive or average). This did not prove a difficult criterion to meet given that most existing television commercials appear to be internally homogeneous on this characteristic. The actors in the commercials were depicted
sometimes as 'face-only', and sometimes as 'full-body' with minimal clothing (particularly the 'attractive' commercials)." All commercials used in this study were taken from German and English television.

Each of the three experimental conditions were represented by a single video-tape. The 'attractive' tape contained 13 commercials the actors of which were judged as highly attractive. The majority of these commercials were of products such as perfumes, women's cosmetics or toiletries, and men's shaving gear. The 'average' tape comprised of 14 commercials the actors of which were judged as being of average physical attractiveness. Some of those commercials were of the type in which people are ostensibly stopped in the middle of the streets, or are 'surprisingly' visited at home in order to give their opinion about a particular product. Other commercials were of the type in which the actor appears as the 'guy next door'. The 'neutral' tape contained a mixture of the two types of commercials of the other two tapes. It comprised of 8 commercials from the 'attractive' tape and 8 commercials from the 'average' tape, all of which were chosen randomly from their respective sets. Finally, a single commercial starring a male and a female actors was selected to play the role of the target. Both actors of this commercial were judged as average in physical attractiveness. This commercial appeared as last in each of the three tapes.

Procedure

To disguise the real goal of the study Ss were told they were taking part in a consumer research task. They were randomly assigned to watch one of the 'attractive', 'average', or

"Controlling for this difference was not considered necessary given Richin's (1991) finding that whether the photographs of models in press advertisements were either 'face or 'full-body', did not qualify Ss' attractiveness ratings of them."
'neutral' tapes, taking care for each sex to be equally represented in each condition. The playing of the tape was controlled by the experimenter. After a commercial was played the tape was paused (during pause television showed a monochrome background), and Ss were allowed time to rate this commercial. Each commercial was rated on three dimensions using 9-point scales, with '1' labelled as "not at all" and 9 labelled as "very much". The three DVs were: a) "How much you did you like this commercial?", b) "How convincing did you find this commercial?" and c) "How attractive did you find the actor/actors in this commercial?". In those commercials where there was more than one actors, Ss rated the attractiveness of all the actors as a whole, on a single scale.

At the end of the rating task Ss were asked to provide information about themselves on "the amount of television viewing", "frequency of going to the cinema", and "the number of fashion/trend magazines read".

Results

Manipulation checks

A linear trend analysis on Ss' mean ratings of attractiveness of the actors in the three conditions revealed a significant trend in line with the experimental assumptions ($F_{(1,47)} = 47.22, p < 0.01$). As Table 3.1 reveals Ss' ratings of attractiveness of the actors in the three groups differed in line with predictions. Subjects rated the attractiveness of the actors in the 'attractive' group as highest, the attractiveness of the actors in the 'mixed' group as intermediate, and the attractiveness of the actors in the 'average' group as lowest. commercials. The analysis found no effect of the Ss' sex ($F_{(1,47)} < 1$), and no effect of the Sex X Condition interaction ($F_{(2,47)} < 1$).
An ANOVA was used to compare the attractiveness ratings of the target commercial across the three different conditions. Table 3.1 summarizes those ratings. The analysis revealed a significant difference between the attractiveness ratings of the target in the three groups \( F(2,47) = 3.39, p < 0.05 \). There was no effect of the sex of the Ss \( F(1,47) < 1 \), and no interaction between Sex and Condition \( F(2,47) = 2.33, p > 0.05 \). Further analysis revealed that the 'attractive' group produced lower target ratings than the 'mixed' group \( F(1,47) = 5.95, p < 0.05 \), whilst there was no difference in attractiveness ratings between the 'attractive' and the 'average' groups \( F(1,47) = 2.84, p = 0.1 \), or between the 'mixed' and the 'average' groups \( F(1,47) < 1 \). However, as Table 3.1 reveals the predicted trend in the mean attractiveness ratings of the target commercial to increase as the attractiveness of the actors in the priming commercials decreased, was not found.

### The relationship between subjects' habits and their ratings of attractiveness of the actors
A multiple regression analysis examined whether the Ss' habits which were hypothesized as being indicative of their level of exposure to attractive people, had any influence on their ratings of physical attractiveness of the actors. The analysis showed that all IVS (amount of television viewing, frequency of going to the cinema, and the number of magazines read) failed to predict Ss' attractiveness ratings of the target.

**Liking for, and being convinced by the commercials**

In order to test the hypothesis that commercials are liked parallel to the level of attractiveness of their actors, a regression analysis was carried out regressing the Ss' attractiveness ratings of the actors in each commercial on their liking for this commercial. The analysis was found significant ($R^2 = 0.33$, $F_{(1,51)} = 26.09$, $p < 0.01$). The higher Ss' judgments of attractiveness of the actors in a commercial, the higher their liking for that commercial ($r = 0.58$).

Furthermore, in order to test the hypothesis that the 'convincing' powers of a commercial are a function of its popularity and the attractiveness of its actors, a regression analysis was carried out on the Ss' 'convinced-by it' scores, using as IVS the attractiveness ratings of the actors in each commercial, and Ss' liking for the commercial. Both predictors proved reliable ($R^2 = 0.75$, $F_{(1,51)} = 156.43$, $p < 0.01$; and $R^2 = 0.78$, $F_{(2,50)} = 94.65$, $p < 0.01$, for liking the commercials and for the rated attractiveness of their actors, respectively). The more Ss liked a commercial the more convinced they reported being by it ($r = 0.87$), and similarly the higher their assessments of the attractiveness of the actors of a commercial the more persuasive they considered its message to be ($r = 0.66$).

**Discussion**

139
This study produced evidence of a contrast effect in judgments of attractiveness of others using as stimuli actual television commercials. Those Ss who watched a number of ‘beautiful’ commercials, rated the attractiveness of the actors in a target commercial as lower than Ss who watched either, a compilation of commercials with beautiful and middle attractive actors, or only commercials with average in attractiveness actors. These findings reinforce the applicability of the contrast effect in judgments of attractiveness to real life. For it constitutes evidence that attractive stimuli found in the media, are capable of lowering people’s attractiveness judgments of others. In fact what could be argued from this study, is that the negative effect of exposure to attractive stimuli is not confined to judgments of attractiveness of a single individual, but has a more general effect on people’s standards of attractiveness. Attesting to this was that the evidence of the contrast effect was demonstrated on the ‘average’ attractiveness of two people (of opposite sex), rather than the attractiveness of a single one.

On a different note the fact that this study was carried out outside Britain or America where previous studies of context effects in judgments of attractiveness have been confined to, contributes towards the cross-cultural reliability of the phenomenon of contrast.

The prediction that the attractiveness ratings of the target would decrease inversely to increases in the general level of attractiveness of the commercials in the group, was not born out. One possible explanation of this finding is that once the attractiveness of the stimuli falls below a threshold level, further decreases in the stimuli’s attractiveness fails to bring about further increases in the size of the contrast effect. However, in the light of evidence of a gradual contrast effect using primes of three different levels of attractiveness (Melamed and Moss, 1975; Gutierres, 1978) this
is rather unlikely. Having said this, those studies that have successfully demonstrated a gradual contrast have used different stimuli for each condition. In the present situation the condition of 'middle' attractiveness was created by compiling stimuli from the other two conditions. To which extent this methodological difference accounts for the discrepancy between the current and previous results, remains to be seen.

No evidence was found that the extent to which Ss were exposed to instances of beautiful people in the media, had an effect on their judgments of attractiveness of others. Those judgments were found to be independent of Ss' amount of television or cinema viewing, and also of the number of fashion magazines they read. It is possible that those negative results were due to a floor effect. For this sample's experience with media sources of attractiveness might have been particularly low.45

The importance of this experiment to advertising

This study offered support for the established finding that 'beautiful' commercials are liked more (Tan, 1979). There was also support for the hypothesis that 'beauty sells' or more accurately, that 'beauty persuades'. The more attractive Ss assessed the actors of a commercial, the more persuaded they said were by it. Finally, liking for a commercial was also shown to enhance the effectiveness of its message. Those findings together with previous ones which have highlighted the importance of beauty in advertising, make a case for the significance of the contrast effect that was obtained here for the advertising industry. For if the persuasive powers of a commercial depend on how attractive the actors in it are perceived by consumers, context effects the contrast effect

45 The findings showed the average subject watched television around one hour daily, went to the cinema once a month, and read regularly only one fashion magazine.
situation that was identified here may force advertisers to think about the relative position of advertisements within a television commercial break.

As a summary, the robustness and generality of the contrast effect in judgments of physical attractiveness of others was reinforced by the present study. Exposure to television advertisements with attractive actors was found to adversely influence the attractiveness standards of the Ss. The importance of those findings may also be significant for the advertising industry.
CHAPTER NINE

Applying the 'universe of discourse' hypothesis to the contrast effect in judgments of attractiveness of strangers
9.0.1 General introduction

This chapter examines the effect of the similarity between the priming stimuli and the target on judgments of physical attractiveness of strangers. The background for this investigation is provided both, by experimental research on contrast effects, and also by the predictions of SC theory.

9.1.1 The evidence of the similarity between the primes and the target on the contrast effect

Helson's 'universe of discourse' hypothesis (Helson, 1971) constitutes the most formal addressing of the effect of the similarity between the primes and the target on the contrast effect. Helson noted that the use of anchors which although extreme in size they possess different characteristics from the target, will typically fail to induce a contrast effect. The hypothesis was that in those cases in which the organism perceives the anchor as belonging to a different "universe of discourse" from the target, it renders the two as incomparable.

Evidence compatible with the 'universe of discourse' hypothesis exists. In Brown (1953) the lifting of a heavy tray which interrupted a series of lifting weights of a different shape, failed to produce a contrast effect. Similarly, in judgments of psychopathology, Manis and Paskewitz (1984) found evidence of contrast only when both, the primes and the target were pathological definitions of the same type. Evidence also shows that very extreme primes are perceived by Ss as irrelevant to the rating task, and therefore fail to act as comparison standards against which the target is evaluated (Adamson, 1967; Bevan and Pritchard, 1963; Sarris, 1967a,b; Wilkening, Sarris and Heller, 1972).

Other evidence shows that a lack of similarity between the
primes and the target will not eradicate contrast completely, but rather will diminish its strength. For example, in a vowel identification task Fox (1985) found that the size of the contrast effect was greater when the anchors were of the same frequency type as the target. Furthermore, Cesare, Dalesio and Tannenbaum (1988) found that Ss' judgments of the ability of interview applicants shifted away from the ability of previously presented applicants by a greater extend when the applicants were of the same than of the opposite sex.

9.1.2 Similarity between the primes and the target in Social Comparison theory

Although SC theory deals with comparisons between one's self and other people, its postulate regarding the similarity between the rater and the 'comparison others' has been applied to contrast effects in judgments of attractiveness of others (Gutierres, 1978; Kenrick and Gutierres, 1980; Kenrick et al, 1989). The rational behind this application of SC theory is the following. For contrast effect to occur, the raters must perceive the target whose attractiveness they judge, as similar to the priming stimuli.

Regardless if one applies the 'universe of discourse' hypothesis or the SC theory to judgments of physical attractiveness of others (in fact Kenrick (Kenrick, 1989) does not differentiate between the two), the general prediction remain the same. Using primes which share similar characteristics with the target is expected to promote the shifting of the attractiveness of the latter away from the average attractiveness of the former.
Experiment 4

Introduction

The first step in examining the specificity of the contrast effect in attractiveness judgments of strangers was to test whether the effect is modality specific. In other words, test whether stimuli other than people can still affect Ss' ratings of the attractiveness of a target person. This question is viable given that although the bulk of the evidence shows that compatibility between the primes and the target is either, a prerequisite for, or an enhancing factor of the contrast effect, instances of contrast when the target is of a different modality from the primes are not absent from the literature (Levine, Broderick, and Burkart, 1983; Samsom and Rachman, 1992).

Using a cross-modality paradigm in an experiment where the target is judged on physical attractiveness is arguably more complicated than situations which employ other psychological measures. For in other areas of psychology although the primes can be of a different modality from the target, both are still characterized by the dimension upon which the target is judged. To illustrate the point, Brown (1953) used as an anchor a stimulus which differed in shape from the target. Still, heaviness (the DV) was a characteristic dimension of both stimuli. In the case of judgments of attractiveness, a cross-modality test would require that the difference between the prime and the target is more pronounced. This would mean that a stimulus other than a person is used as a prime. For attractiveness is arguably by definition associated with

---

46 Levine et al found evidence of contrast in a rating of enjoyment-for-a-task paradigm using two different types of tasks, whilst Samsom and Rachman found evidence of the effect in a fear evoking paradigm using two different types of fear evoking stimuli.
humans, and any other use of the term is usually a linguistic metaphor.

To come around the problem we started with the assumption that attractiveness is a specific instance of the general attribute of 'beauty' (Plato; Aristotle; Vacker and Key, 1993). If this is the case then any stimulus that would be characterized upon the general dimension of 'beauty' would be predicted to affect judgments of attractiveness of a target person in the same way that exposure to a number of attractive people does.

The type of stimuli that were chosen for this experiment were characterized by 'aesthetic beauty'. The idea that aesthetic beauty can influence our judgements of other people is not a novel one. Maslow and Mintz (1956) found an assimilation effect of the room in which the experiment took place on judgments of people's faces. The more "beautiful" the room the more positive Ss' ratings of the stimuli. Mintz (1956) found a similar radiation effect of the 'beauty' of the experimental rooms on the experimenters' behaviour. In the study however closest to an attempt to test a cross-modality context effect on judgments of attractiveness, Locasso (1988) found that the beauty of the rooms Ss completed the task in had no effect on their judgments of facial stimuli.47

The present study did a cross-modality test of the contrast effect on judgments of attractiveness of strangers by using as primes photographs of room interiors. There were 3 experimental conditions depending on the type of stimuli that were used as primes and as target. In two of the conditions both the primes and the target were of the same type (either both rooms or both males), whilst in the third condition the

47 Although the DV of that study was a compound score of Ss' ratings of a number of personality traits, physical attractiveness was one of those traits.
primes were rooms and the target a male. Based on the 'universe of discourse' hypothesis the contrast effect was hypothesized for the first two conditions whilst no context effect was predicted for the third condition.

**Method**

**Subjects**

Twenty-six female undergraduate psychology students of U.C.L. volunteered for this study and were paid for their services. The mean age of the subjects was 25 (SD: 8).

**Stimuli**

The photographs of five attractive males, three average in attractiveness males, ten beautiful rooms, two average in beauty rooms, and ten neutral stimuli, were used in this study.

The selection of the rooms was based similarly to the selection of the human stimuli in this thesis on a pre-rating procedure. Ten females rated 58 photographs of room interiors on a 9-point 'ugly-beautiful' scale. Inter-rater agreement was high (Cronbach’s alpha = 0.87). The ten most beautiful rooms, and the two most average ones were used as primes and as targets respectively. As a manipulation check of the underlying hypothesis of this study that beauty is a defining property of rooms, 10 females from the same population as the Ss in this experiment were offered 4 pairs of adjectives.

---

48 The reason the fourth combination, in which attractive males would be used to prime a room, was not included was because the aim here was not to investigate the specificity of contrast effects in general, but rather the specificity of the effect in ratings of physical attractiveness. Given that this was a within subjects experiment an additional condition would only increase the likelihood of fatigue effects.
(ugly-beautiful, small-large, dark-bright, dull-colourful) and were asked to indicate which one "characterizes a room best". The 'ugly-beautiful' dimension came first in the preferences of 7 out of the 10 raters.

The photographs of ten neutral stimuli (the 5 used in experiment 1 and five-frame comic strip story) acted as control stimuli in this experiment.

The five conditions were summarized as follows (primes-target): 1) control-man, 2) control-room, 3) room-man, 4) room-room, and 5) man-man. In each condition the priming set consisted of five stimuli whilst there was only one target.

Procedure

All Ss served under all five conditions. The presentation order of the conditions followed a number of rules: the 'control-man' and the 'control-room' conditions were presented always as the first two conditions whilst their relative order was counterbalanced; the 'room-man' and the 'room-room' conditions were presented as the third and fourth conditions, whilst their relative order was also counterbalanced; consequently the man-man condition was presented always last. The order the 5 primes were presented within each condition was randomized. The appropriate targets for each conditions were counterbalanced. Finally, the type of target (room or male) that was associated with each of the two sets of control stimuli was also counterbalanced.

In order to disguise the real scope of the study, Ss were led to believe that this was a memory experiment. Ostensibly their task was to memorize the 5 stimuli (the primes) in each of 5 sets. In order to make the attractiveness rating of the targets task appear unrelated to the preceding situation, Ss were told that between presentations of the 5 sets, they would perform two brief tasks which would supposedly impede their
memory processes. The first task was always counting backwards from a given number and writing down the figures, for 30 seconds. The second task was to rate upon a given dimension a stimulus (the target) that was presented to them. The participants were told that "so that it confused them more" the stimuli of that second interfering task would be of the same type with the stimuli they had to memorize throughout the experiment. Rooms were rated on a 9-point 'very ugly-very beautiful' scale whilst males on a 9-point 'very unattractive-very attractive' scale. Subjects were told that the memory test would come at the end of the interfering tasks of the fifth set of stimuli. No information was given as to the exact nature of this test. Subjects were tested individually, in pairs, whilst there were also two larger groups of 4 and 11 subjects.

Apparatus

All stimuli were presented as b/w slides on a Carousel timer controlled projector. Primes were presented for 10 seconds each whilst the targets remained on for as long it took the subject (or the last subject of the group) to come to a decision.

Results

Table 4.1 provides a summary of the mean ratings of the targets in all the conditions of this experiment. A series of pair-wise comparisons were used in order to test the formulated hypotheses. With respect to the ratings of the beauty of the room, there was no difference between the ratings of the target in the control (control-room) and the 'room-room' condition (t_{25} = 0.87, p > 0.05, one-tailed). On the other hand regarding the ratings of the male, Ss rated the attractiveness of the target stimulus in the 'man-man' condition significantly lower than in the 'control-man'
Table 4.1: Mean ratings (standard deviations in parentheses) of the targets in all five conditions. In the cases where the target is a room the ratings are of ‘beauty’, whilst in those cases where the target is a man, ratings are of ‘attractiveness’.

<table>
<thead>
<tr>
<th>condition</th>
<th>mean (SD)</th>
<th>mean (SD)</th>
<th>mean (SD)</th>
<th>mean (SD)</th>
<th>mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>control-room</td>
<td>4.38 (1.63)</td>
<td>4.04 (1.73)</td>
<td>5.31 (2.17)</td>
<td>4.58 (2.18)</td>
<td>3.19 (1.55)</td>
</tr>
<tr>
<td>room-room</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>control-man</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>room-man</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>man-man</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

condition \( t_{25} = 3.75, p < 0.01, \) one-tailed), and also significantly lower than in the ‘room-man’ condition \( t_{25} = 2.69, p < 0.01, \) one-tailed). There was no difference between the attractiveness of the target in the ‘control-man’ and the ‘room-man’ conditions \( t_{25} = 1.26, p > 0.05, \) two-tailed).

Discussion

The current findings supported the central hypothesis of the present experiment, that the contrast effect in judgments of human physical attractiveness is class specific. Females’ attractiveness ratings of a middle attractive male were contrasted against the attractiveness of the male stimuli they were exposed to just prior. More importantly, this contrast effect disappeared as soon as the modality between the primes and the target differed, even when they were both underlaid by the same general property of ‘beauty’. Exposure to a set of beautiful rooms had no effect on the Ss’ attractiveness ratings of a male target. In fact the effect of beautiful rooms on the attractiveness of a male stimulus was undistinguishable from that of neutral stimuli. From the above it is proposed that, in line with the ‘universe of discourse’ hypothesis, a prerequisite for the contrast effect in judgments of attractiveness of others to occur, is that the stimulus set is comprised of human stimuli and not any other.
type of stimuli that could be characterized along some dimension of the general property of 'beauty'.

In experiment 2 it was suggested that the use of 'impeding tasks' during the exposure-rating delay would increase the reliability of the phenomenon. The fact that evidence of contrast here was obtained using such a task (counting backwards) makes a case for the robustness of the phenomenon.

There was no evidence of a contrast effect in judgments of the beauty of room interiors. Given that beauty was pre-experimentally found to be a defining property of rooms, together with the fact that those rooms that were used as primes were previously established as beautiful, this finding poses no problem for the interpretation of the results regarding the attractiveness ratings of the male target. Furthermore, since no previous evidence of context effects using as stimuli photographs of room interiors exists, it is difficult to assess this finding. Although theoretically there is no reason why any type of stimulus should fail to be subject to context effects, it remains possible that some stimuli may be more susceptible to such effects than others.

An anticipated criticism of the present study is that the inferences that were made from the obtained findings were not warranted given the methodology that was employed. In particular advocates of a 'response-bias' view of context effects (see chapters 2 and 3) could argue that regardless of what the 'universe of discourse' hypothesis predicts in the present situation, the fact that exposure to beautiful rooms failed to affect the ratings of physical attractiveness of a male target, would be expected since the two types of stimuli were rated on two different scales. This criticism however, is not applicable to the present experiment, given that here Ss were merely exposed to the primes and did not rate them.

As a summary, this study found evidence that the contrast
effect in attractiveness judgments of others is class specific. Only a context comprising of human stimuli was found capable of altering Ss’ judgments of the attractiveness of a human target. The general condition that the context comprises of any type of ‘beautiful’ stimuli did not fulfill the requirements for obtaining a contrast effect on those judgments.
Experiment 5

Introduction

Having established in the previous experiment that the contrast effect in attractiveness judgments of others is modality specific, the following study examined the effect of the similarity between the primes and the target on judgments of attractiveness of the latter, when both the primes and the target were human stimuli. In psychophysics the manipulation of similarity between stimuli of the same modality is relatively straightforward. For instance, in the weight-size illusion (e.g., Anderson, 1970b) identical in shape and heaviness stimuli vary in size. The defining ‘properties’ of human stimuli on the other hand are a lot more diverse than those of objects. Still, identifying those features which may be the most defining of human stimuli is a prerequisite for manipulating the similarity between the primes and the target.

Arguably the most distinctive characteristic of people is their sex. Although the effect of the relationship between the sex of the primes and the sex of the rater on self-ratings of attractiveness has been the target of investigation (see chapter 5) no systematic study of the effect of this relationship on attractiveness judgments of strangers has taken place. The only instances of a cross-sex relationship between the prime and the target in judgments of physical attractiveness of others are those studies which have established the ‘radiation effect’ of beauty (Sigall and Landy, 1973; Strane and Watts, 1977; Onodera and Miura, 1990). The common characteristic of those studies however is that although the target and the prime are of the opposite sex, they are made to be perceived by Ss as associated (partners). The situation were the target and the prime are of the opposite sex whilst no association between the two is implied, is absent from the literature. Evidence from other
psychological fields shows that same sex comparisons promote the contrast effect more than opposite sex comparisons. Cesare et al (1988) found that the size of the contrast in ratings of the performance of interviewers was greater when the priming interviewers and the target interviewer were of the same sex than of the opposite.

Apart from sex, one’s profession can also be considered as another defining aspect of people, especially within the western culture. As in the case of sex the relationship between the profession of the primes and the profession of the target has been investigated in the case of self-ratings of attractiveness (see chapter 5). However, no evidence exists on the effect of this relationship on ratings of attractiveness of others.

This study manipulated both, the sex and the designated profession (models or students) of the priming stimuli and examined their effect on judgments of physical attractiveness of a male target stimulus which was designated as a ‘student’. Based on the ‘universe of discourse’ hypothesis the general prediction was that similarity between the primes and the target would promote contrast. More specifically, it was predicted that the attractiveness of a target would be rated as lower when the primes would of the same sex as it, than when they would be of the opposite sex. Furthermore, when the prime was designated as of the same profession as the target the attractiveness of the latter was expected to be rated as lower than otherwise. With respect to the relative importance of the two manipulated factors, given that sex was considered as a more defining characteristic of people than their profession (see chapter 4) it was predicted that Ss’ attractiveness ratings of the target would be lower when the latter shared the same sex with the primes but differed with them in profession, than when it was of the opposite sex from the primes but shared the same profession with them.
From the above depending on the type of the priming stimuli the predicted order of the Ss' attractiveness ratings of a 'male model' was the following: 'control' - 'male student' - 'male model' - 'female student' - 'female-model'. Given that no previous evidence exists on the similarity between the primes and the target on judgments of attractiveness of others, no outright prediction was made on whether a lack of similarity between the primes and the target would only lead to a contrast effect which would be smaller in size than the effect when the two types of stimuli are similar, or whether this situation would lead to no contrast effect at all.

Method

Subjects

Thirty female undergraduate and postgraduate students of U.C.L. served as paid volunteers. Mean age of the Ss was 21 years (SD: 2 years).

Stimuli

The experiment utilized as stimuli the photographs of 8 attractive males, and 8 attractive females (the primes), 5 average in attractiveness males (the targets), and 4 neutral stimuli (the controls).

The 8 photographs of the females were part of a stimulus pool of 59 waist-up photographs of women from various sources but predominantly from fashion magazines. The women in these photographs wore either, the top part of a two piece bathing-

\[49\] Given that this is the first experiment in this thesis which used female stimuli some more information are provided about the nature as well as the method of selecting those stimuli. Discussion of those issues will be omitted from future experiments that used the same type of stimuli.
suit or a bra so that as with the photographs of men their waist-up figure was unconcealed. Eleven females other than the Ss but from the same subject population rated those photographs on a 9-point bipolar attractiveness scale. Inter-rater agreement was satisfactory (Cronbach’s alpha = 0.78). The 8 most attractive photographs from this pre-rating procedure were selected for use in the present experiment.

There were 5 conditions in this experiment. Each condition comprised of 4 primes and a single target. Based on the sex and designated profession of the stimuli the 5 conditions were abbreviated as follows (primes-target): contr-Ms, Ms-Ms, Mm-Ms, Ws-Ms and Wm-Ms, (where Ms: male student, Mm: male model, Ws: female student and Wm: female model).

Procedure

Each subject took part in all 5 conditions. The real aim of the study was once again concealed. Subjects were told that this was an impression formation experiment. Ostensibly their task was to judge each stimulus person they would be presented with upon one of a number of personality dimensions based only on a piece of information that they would be provided with. This information was the supposed profession of the stimuli and it was given to Ss with the use of an abbreviation (‘S’ for ‘student’ or ‘PM’ for ‘professional model’) next to the corresponding ratings scale. The primes were judged upon one of the following personality scales: ‘sincere-insincere’, ‘witty-dull’, ‘energetic-lazy’, and ‘conservative-extravagant’, whilst the target was always judged on a ‘unattractive-attractive’ scale. All scales were 9-point ones. The assignment of primes and targets to the appropriate conditions as well as the order of the personality scales in each condition was randomized.

With the constraint that the contr-Ms condition was presented always first, 4 different presentation orders were created
using a Latin square randomization. These orders were the following: 1) contr-Ms - Ms-Ms - Mm-Ms - Ws-Ms - Wm-Ms; 2) contr-Ms - Wm-Ms - Ws-Ms - Mm-Ms - Ms-Ms; 3) contr-Ms - Mm-Ms - Wm-Ms - Ms-Ms - Ws-Ms; and 4) contr-Ms - Ws-Ms - Ms-Ms - Wm-Ms - Mm-Ms.

In order not to raise any suspicions regarding the projection of the neutral stimuli in the control condition, Ss were told that these stimuli were actually from a different experiment but given that they were "accidentally" found in the same set of stimuli of the current experiment "they could as well use them for focusing the projector". Furthermore, in order to justify the rating of the target that followed these stimuli, Ss were told that this was a practise trial to familiarize them with the type of rating scales they would be using throughout the experiment. Subjects were tested individually or in pairs.

**Apparatus**

All stimuli were projected as colour or b/w slides by a timer-controlled Carousel projector. Each stimulus was projected for 10 seconds.

**Results**

An ANOVA on the mean attractiveness ratings of the targets in the five conditions showed that they differed between them \( (F(4, 116) = 9.51, p < 0.01) \). Those ratings are presented in Figure 5.1. As it can be seen from this figure Ss' attractiveness ratings did not fall in the predicted order. However, closer inspection revealed that the only condition that was responsible for this failure was Mm-Ms. A trend

\[\text{\textsuperscript{50}}\text{A stimulus set comprising of a mixture of both b/w and colour stimuli has been previously used elsewhere in judgments of physical attractiveness (Cash et al, 1983).}\]
Figure 5.1: Mean attractiveness ratings for the 5 conditions
analysis excluding this condition produced a significant linear effect in line with the formulated hypothesis ($F_{(1,29)} = 27.45$, $p < 0.05$).

In order to examine whether the experimental conditions produced evidence of contrast, the attractiveness ratings of the target in the control were compared against the corresponding ratings of the target in each of the experimental conditions. The analysis showed that Ss' ratings of attractiveness of the target in the Mm-Ms condition did not differ from the control ($F_{(1,29)} < 1$), whilst the attractiveness of the target in all the other experimental groups was rated lower than the control (contr-Ms vs., Ms-Ms: $F_{(1,29)} = 30.63$; contr-Ms vs., Ws-Ms: $F_{(1,29)} = 15.06$; contr-Ms vs., Wm-Ms: $F_{(1,29)} = 19.25$; all three, $p < 0.01$).

**Discussion**

This study found equivocal support for the 'universe of discourse' hypothesis that the greater the congruence between the primes and target, the greater the contrast effect on judgments of attractiveness of a stranger. The condition which deviated from the formulated hypothesis was the one in which the male primes were designated as models. For this reason we shall separate the analysis of the findings into two sections. In the first section the results are discussed after the Mm-Ms condition has been excluded. The second section attempts to account for the problematic result of the Mm-Ms condition.

**The findings excluding the Mm-Ms group**

Excluding the ratings of attractiveness of the target in the Mm-Ms group, this study produced evidence of the contrast effect. A male target was rated as less attractive following exposure to attractive stimuli than exposure to neutral
stimuli. The more significant contribution of this experiment was towards the specificity of the effect. Towards this direction the findings were in accord with the general hypothesis of this paper. Ratings of attractiveness decreased as the congruence between the primes and the target increased. This effect however was solely due to the fact that the primes of the same sex as the target produced a greater contrast effect than the primes of the opposite sex from the target. Compatibility between the designated profession of the primes and the target was not found to promote the contrast effect (the ratings of the target in the Ws-Ms group were not lower than the corresponding ratings in the Wm-Ms group). This result is in line with the assumption that sex is a more salient factor on which a sense of similarity between the primes and the target can be formed than profession.

Given that all three experimental conditions produced evidence of contrast it would be argued from here that the stipulation that the primes and the target are of the same modality (humans) is a sufficient condition for the phenomenon to occur. Enhancing further the compatibility between the two only increased the size of the contrast effect. This finding has far-reaching implications for people's real-life assessments of the attractiveness of others. For especially for women (given the prevalence of female models in the media), the chances of one being exposed to attractive others who can exert influence on their standards of attractiveness of the opposite sex increase considerably. For example, for a woman to form a high attractiveness standard for potential partners she need not necessarily be exposed only to attractive male stimuli, but rather to attractive individuals of either sex.

Explaining the ratings of the Mm-Ms group

The above discussion of the findings is based on the assumption that an unforeseen variable in the Mm-Ms group has
rendered that condition inappropriate for its inclusion in the testing of the formulated hypotheses of this experiment. The following section attempts to substantiate this claim.

The results indicated that when the male primes were labelled as "professional models", Ss failed to use them as standards against which to compare the attractiveness of a male 'student'. It is proposed here that the information that the male primes were professional models alienated them so greatly from the student group (to which the target ostensibly belonged) that they could not be used as a reference group. There are a number of possible reasons as to why this was a consideration for the raters when the priming stimuli were males but not when they were females (recall that a contrast effect occurred for the ratings of the Wm-Ms group).

One possible explanation relates to the attitude people may have towards male models. We know from elsewhere (e.g., Freeman, 1988; Banziger and Hooker, 1979) that our attitudes towards a group can influence our judgments of attractiveness of the members of that group. Evidence also exists that one’s own profession may determine their liking for people of other professions (Satrapa et al, 1992). We also know that very attractive people are unfavoured for social interaction by average attractive people (Gallucci and Meyer, 1984). If in fact people hold negative attitudes towards male models it is possible that any information, including their physical attractiveness, that exposure to stimuli which are labelled as such may transmit is subdued. Consequently, if Ss in this study were indifferent towards the level of attractiveness of the male 'model' primes, the finding that these stimuli caused no contrast effect would be accommodated. To test this

The reason that this hypothesis was not applied to the case in which the primes were female 'models' (a condition which produced a contrast effect), is because the status which 'super models' have acquired in society is believed to have transformed people's perceptions of this group from 'dumb blondes' to competent business women.
hypothesis Ss' ratings of the personality traits which were used as filler items, were compared between the Ms-Ms and the Mm-Ms conditions. A MANOVA revealed that overall male models were not perceived as less positive than male students ($F_{4,55} < 1$), thus failing to lend any support to a negative stereotyping of the male 'models' hypothesis.

An alternative explanation of the attractiveness ratings of the target in the Mm-Ms group is that by designating the male stimuli as professional models, raters judged the looks of the depicted individuals more harshly than had they not been labelled as such. This prediction is compatible with the observation that the attractiveness ideal for men is less concrete than the ideal of female beauty (see chapter 1). If this was true, then male 'models' might have not been perceived as comely enough for acting as attractiveness standards against which the attractiveness of the target would be assessed.

At bottom, the present study found evidence that using primes of the same general modality as the target (humans) is a sufficient condition for attractive stimuli to adversely influence Ss' judgments of attractiveness of opposite sex others. It appears that the sex of the stimuli may play only an enhancing role for the effect, whilst additional information such as the profession of the stimuli is redundant. Suggestions were offered as to why male 'models' were perceived as an inappropriate standard against which Ss would contrast the attractiveness of the target.
Experiment 6

Introduction

The following experiment was designed to test the hypothesis that in the previous experiment labelling the male stimuli as "models" rendered them incomparable to the target. Two possible explanations for this were offered. One proposed that Ss' negative attitudes towards male models made them disregard the level of attractiveness of the latter when they were used as primes,\(^{52}\) whilst the other suggested that the label 'models' made Ss harsher in their internal assessments of the attractiveness of those stimuli.

In order to test those hypotheses, this study employed a simple attractiveness rating paradigm in which Ss rated the physical attractiveness of stimuli which ostensibly belonged to one of a number of possible occupational groups. There were three male and three female groups. Male stimuli were designated as 'students', 'models' or 'salesmen', whilst female stimuli as 'students', 'strippers' or 'estate agents'.

If one's profession influences people's judgments of their attractiveness, this was expected to be revealed by Ss' attractiveness ratings of the stimuli. On the other hand, the hypothesis that the unpopularity of a group has a negative effect on Ss' attractiveness ratings of its members, was tested here in two ways. The first was through the use of the 'female strippers' group. Based on the assumption that people

\(^{52}\) Although in experiment 5 an ad-hoc analysis of Ss' ratings of the primes on a number of personality traits found no support for the hypothesis that male models were negatively stereotyped, it was felt that a more systematic test of this hypothesis was warranted.
hold negative attitudes towards this profession, it was hypothesized that Ss’ attractiveness ratings of the female ‘strippers’ and the male ‘models’ would be lower than the corresponding ratings of the members of the other groups. Based on the ‘similarity hypothesis’ (e.g., Byrne et al, 1970; Stroebe et al, 1971; Banziger and Hooker, 1979; Seta et al, 1979; Martin and Seta, 1983; Suman and Kureshi, 1988; Caspi and Herbener, 1990; Wheeler and Miyake, 1992) Ss were expected to assign the highest attractiveness ratings to those stimuli which were designated as ‘students’.

The second way of testing the hypothesis that Ss’ attitudes towards a group influence their attractiveness ratings of the members of that group, was by noting Ss’ preferences for the profession they wanted a) “their future husband”, and b) “their best friend to have”. If the hypothesis that male models, as well as female strippers, are discriminated against was true, it was predicted that Ss would express the least desire to be married to, or be friends with a member of those groups. On the other hand based on the ‘assortative mating’ hypothesis (e.g., Berscheid and Walster, 1974; Caspi and Herbener, 1990; Suman, 1990) and the ‘similarity hypothesis’, Ss’ top preferences for marriage and friendships were expected to be for other students like themselves.

Method

Subjects

Twenty-nine undergraduate and postgraduate female students of U.C.L. acted as paid volunteers for this experiment. Their mean age was 22 years (SD = 4).

---

53 This assumption is based on evidence that shows that sexually permissive women are perceived unfavourably by other people (Janda et al, 1981).
Stimuli

Fifty-seven photographs of men and 42 photographs of women were used as stimuli in this experiment. Those stimuli were selected so that they covered a great range of physical attractiveness (based on pre-rating procedures). Photographs of people of extreme unattractiveness however were not included.

There were 6 conditions in this experiment depending on the sex of the stimulus and the occupation that was assigned to it. The 3 possible occupations for the male stimuli were: 'psychology students', 'professional models', and 'computer salesmen'. On the other hand, the occupations of the female stimuli were: 'sociology students', 'night-club strippers', and 'estate agents'. Nineteen stimuli were assigned to each of the male groups, and 14 stimuli in each of the female groups.

Procedure

All Ss were provided with the same written instructions. They were led to believe that they were taking part in an impression formation experiment in which each of them was given a different piece of information about the pictured person with their task being to rate each person on a specific personality trait. In reality, all Ss received the same piece of information about all stimuli, their occupation, and were asked to rate every stimulus on the same dimension, physical attractiveness.

Prior to presentation of the stimuli of each of the 6 groups, Ss read a brief statement about the ostensible profession and place of residence of the people in each group. For example, one of the conditions was introduced as follows: "The following women are estate agents in the city of Washington DC". Following the introductory statement the stimuli of each
group were presented one after the other. Subjects rated each stimulus on a 9-point attractiveness scale (the polarity of which was reversed for half of the Ss). Subjects were instructed to keep the profession of the stimuli people in mind when rating them. The same procedure was carried out for all 6 conditions. There were 4 different presentations orders. In one of them all three male groups were presented first, in another all female groups were presented first, whilst there were also two 'mixed' presentation orders (where presentation of female and male groups was interchanged). The relative position of the groups in each of those presentation orders was randomized. Finally, the assignment of stimuli to the groups was randomized for each experimental session.

Following the completion of the attractiveness rating task, Ss responded to two additional scales. They placed in order of preference, a) four different professions “they would like the person whom they marry (“or have a family with”) to have”, and b) seven different professions “they would like their best friend to have”. The options for the first question were: ‘psychologist’, ‘professional model’, ‘salesman’, and ‘civil servant’, whilst for the second question the options were: ‘male social science student’, ‘female social science student’, ‘male model’, ‘female model’, ‘female stripper’, ‘male business administration student’, and ‘female bus. adm. student’.

The experiment was completed in 6 experimental sessions with Ss’ groups ranging from 6 to 13 people.

Apparatus

Stimuli were presented as b/w or coloured slides by a timer controlled Kodak Carousel slide projector. Each stimulus was projected on its own for 10 seconds.
Results

Attractiveness ratings of the stimuli

Figure 6.1 presents Ss' mean attractiveness ratings of the stimuli in the 6 groups. Statistical analysis of those ratings found a significant difference between the conditions ($F_{(5,130)} = 51.05$, $p < 0.01$). Further analysis indicated that neither the attractiveness ratings of the 3 female groups, nor the attractiveness ratings of the 3 male groups differed amongst them ($F_{(2,52)} < 1$, and $F_{(2,52)} = 1.45$, respectively; both, $p > 0.05$). This main effect was due to the fact that overall, female stimuli were rated as significantly more attractive than their male counterparts ($F_{(1,26)} = 117.27$, $p < 0.01$). The predicted trend within each triplet of same sex groups ('unpopular group' - 'private sector employees group' - 'student group') failed to emerge within either the 3 male groups ($F_{(1,26)} < 1$), or the 3 female groups ($F_{(1,28)} < 1$).

Marriage and friendship preferences and their relationship to ratings of attractiveness of the stimuli

The most favoured occupation for a partner was 'psychology student'. This group was the first choice for 72% of the respondents. A distant second was the profession of 'salesman' which was the first choice of only 17% of the Ss. The vote for the least preferred profession to be married to, was almost shared by 'salesman', least fancied by 41% of the women, and 'models', the last choice for 37% of the Ss. With regard to the order of preferences for "best friend", 58% of the respondents reported that they wanted their best friend to be a 'female student of social sciences'. Ten percent of the Ss preferred 'the female business administration student'. Finally, the least desirable profession for best friend, was that of 'female stripper' (bottom choice of 48%), whilst an equal proportion of women (17%) had as their last choice the male and the female models. The inter-rater agreement
Figure 6.1: Mean attractiveness ratings.
(Key to table; 'M-stud': male student, 'M-prof': male salesman, 'M-mod': male model, 'W-stud': female student, 'W-prof': female estate agent, 'W-strip': female stripper).
regarding Ss' preferences for the 'unpopular' groups ('marry male model', 'friends with male model', and 'friends with stripper') was considerable (Cronbach's $\alpha = 0.8$).

Using a different analysis, Ss' attitudes towards the 'unpopular' groups were regressed on the attractiveness ratings that were assigned to the members of those groups. A stepwise analysis showed that Ss' attractiveness ratings of the stimuli of the 'male models' group were unrelated to their position of preference of either, "marrying" or "having as a friend" a member of this group. On the other hand, Ss' desire to have a 'female stripper' as friend, proved a marginally significant predictor of their judgments of attractiveness of the stimuli in that group ($R^2 = 0.13, F_{(1,26)} = 4.00, p = 0.06$). The more Ss preferred a 'stripper' to be their best friend, the higher they rated the attractiveness of the stimuli which were labelled as such ($r = 0.36$).

**Discussion**

No evidence could be found for either of the two alternative explanations that were put forward in the previous experiment in order to account for the lack of a contrast effect in judgments attractiveness of a male 'student' following exposure to attractive male 'models'.

First, no evidence could be found for the hypothesis that the information that these stimuli were professional models made Ss judge their appearance more harshly. The present findings showed that judgments of attractiveness of strangers are unaffected by their profession. This finding casts doubt over previous evidence which has led to the conclusion that the labelling of average attractive people as 'models' enhanced people's perceptions of their attractiveness (Irving, 1990).
Second, no support could be found for the alternative hypothesis that negative attitudes towards male models made Ss indifferent to the attractiveness level of the primes that were labelled as such. On the one hand, Ss spurned the idea of marrying a male model or be friends with either, a male model or a female stripper. On the other hand, Ss' ratings of attractiveness of the members of each of those two groups were not lower than the corresponding ratings of the members of the other two groups (students and private sector employees). In addition, Ss' negative attitudes towards male models did not affect the ratings of attractiveness they assigned to those stimuli. On the other hand there was a tendency for the attractiveness of the strippers to correlate positively with Ss' desire to have one as a friend. Finally, as further evidence against the idea that the results of the Mm-Ms group in experiment 5 were due to Ss' outlook of male models, this experiment found female models to be equally unpopular (regarding Ss' preferences for having one as a friend). As it will be recalled experiment 5 produced evidence of the contrast effect using a set of female primes that were labelled as professional models.

There were two other interesting findings from this study. First, women were judged as more attractive than men, a finding that is in line with previous evidence (Cross and Cross, 1971; Morse et al, 1979; Maret, 1983; Alley et al, 1988). Second, supporting the 'similarity' and the 'assortative mating' hypotheses respectively, Ss' expressed a clear desire to have as best friend another female student of the same discipline, and also to marry a fellow psychologist.

In summary, this study failed to find evidence that by

---

54 These findings are in line with the 'person-positivity bias' effect (Sears, 1983), in which individuals are liked more than the group they belong to. This effect has been shown to be especially pronounced in those cases where the group is generally disliked (Miller and Felicio, 1990).
labelling male stimuli as professional models has any effect on people’s judgments of attractiveness of them. Subjects were shown to have a negative outlook of models in general and a positive attitude towards similar others. Their attitudes however did not interfere with their judgments of attractiveness of stimuli that were labelled one way or the other. These findings leave the attractiveness ratings of the target in the Mm-Ms group in the previous experiment unexplained.
Experiment 7

Introduction

This experiment is primarily a replication of experiment 5. Following the previous experiment’s failure to lend support to any of the hypothesized explanations of the Ss’ ratings of attractiveness of the target in the Mm-Ms group in experiment 5, two possibilities were left open. Either the designation of the male stimuli as professional models hindered Ss from using them as appropriate attractiveness standards for a different reason from the two that were explored in experiment 6, or the result was due to chance. A replication of the study would allow to decide between those two alternatives.

There were two modification in the present experiment in comparison to the original one. The first was substituting a group of female ‘strippers’ for the female ‘models’ group. The rational behind this change was the following. Even though experiment 6 showed that Ss’ attractiveness ratings of strangers are independent of the popularity of the profession that is assigned to them, it remains possible that Ss’ attitudes towards the stimuli is implicated in the contrast effect situation through a different mechanism. If this was the case, the use of another unpopular group in addition to male models (in experiment 6 female strippers proved much more unpopular than female models) would provide a more adequate test of this possibility. The second modification of the present experiment was the use of raters of both sexes.

There were two alternative general predictions. If the ratings of attractiveness of the Mm-Ms condition in experiment 5 were due to chance, then the core of the ‘universe of discourse’ hypothesis as it was formulated in the original study remained intact. The hypothesis was that the greater the similarity between the primes and target the greater the
size of the contrast effect on the ratings of attractiveness of the target. On the basis of the results of experiment 5 however, this hypothesis was slightly updated. It was expected that whilst compatibility between the sex of primes and the sex of the target would promote contrast, compatibility in the ostensible profession of the stimuli would have would no additional effect. In addition, based on the findings of experiment 5, all experimental conditions were predicted to have a negative effect on Ss' ratings of attractiveness of the target.

Alternatively, if attractive male primes which are designated as professional models are not suitable anchors for evaluating the attractiveness of a male target which is designated as a student, the finding of experiment 5 was expected to re-emerge. Furthermore, if Ss' negative attitudes towards the priming stimuli is somehow implicated in the failure of these stimuli to produce a contrast effect in judgments of attractiveness of strangers, using female 'stripers' as primes was also expected to cause no such effect.

Method

Subjects

Twenty-one female and 13 male undergraduate and postgraduate students of psychology of U.C.L. volunteered for this experiment and were paid for their services. The mean age of the males was 22 years (SD: 4), and of the females 23 years (SD: 6).

Stimuli

The same stimuli that were used in experiment 5 were also used here. Four of the conditions of experiment 5 (contr-Ms, Ms-Ms, Mm-Ms, and Ws-Ms) were the same. The Wm-Ms condition of
the original study was replaced by another condition in which female stimuli were designated as 'night-club strippers' (Wstr-Ms).

Procedure

The same procedure of experiment 5 was also followed for this study. The only difference was that Ss were tested in groups ranging from 3 to 6 people.

Results

Data was analysed using a 2x5 (Ss' Sex X Condition) ANOVA. The analysis yielded a main effect of Condition ($F(4,124) = 12.79$, $p < 0.01$) indicating that Ss' ratings of the attractiveness of the target differed between the 5 conditions. There was no effect of the sex of the Ss ($F(1,31) < 1$). The interaction however, between Sex and Condition was significant ($F(4,124) = 4.18$, $p < 0.01$). The effect of Condition proved significant for the females ($F(4,124) = 19.88$, $p < 0.01$) but not for the males ($F(4,124) = 1.08$, $p > 0.05$). Further analysis revealed that this sex difference was solely due to Ss' attractiveness ratings of the target in the control (contr-Ms). Female raters judged the attractiveness of this target significantly higher than males ($F(1,31) = 9.77$, $p < 0.01$). For the rest of the conditions targets' ratings were comparable between the two sexes.

Given the significant Sex X Condition interaction of the main analysis, data was analysed separately for the male and the female raters.

The analysis for the females

Figure 7.1 presents the attractiveness ratings of the females. An analysis of the females' mean attractiveness ratings of the
Figure 7.1: Mean attractiveness ratings for the females
targets on the predicted direction (contr-Ms - Wstr-Ms - Ws-Ms - Mm-Ms - Ms-Ms) revealed a significant linear trend ($F_{(1,19)} = 97.76, p < 0.01$). Furthermore, the target was rated as less attractive following exposure to primes of the same sex as it than exposure to primes of the opposite sex (Wstr-Ms and Ws-Ms vs., Mm-Ms and Ms-Ms; $F_{(1,19)} = 17.38, p < 0.01$). The designated profession of the primes had no additional effect. There was also no difference in the attractiveness ratings of the target between the Wstr-Ms and Ws-Ms conditions ($F_{(1,19)} < 1$), or between the Mm-Ms and Ms-Ms conditions ($F_{(1,19)} < 1$).

In order to test the effect of each type of primes on Ss’ ratings of attractiveness of the target, each experimental condition was compared to the control. The analyses indicated that the attractiveness of the target in all experimental conditions was rated significantly lower than the control (contr-Ms vs., Wstr-Ms: $F_{(1,19)} = 13.9, p < 0.01$; contr-Ms vs., Ws-Ms: $F_{(1,19)} = 20.87, p < 0.01$; contr-Ms vs., Mm-Ms: $F_{(1,19)} = 45.1, p < 0.01$; contr-Ms vs., Ms-Ms: $F_{(1,19)} = 97.83, p < 0.01$).

**The analysis for the males**

Figure 7.2 shows the attractiveness ratings of the male Ss. A trend analysis of males’ attractiveness ratings of the targets in the 5 conditions showed that their ratings did not come out in the predicted direction (contr-Ms - Wstr-Ms - Ws-Ms - Mm-Ms - Ms-Ms; $F_{(1,12)} = 2.69, p > 0.05$). There was no difference between the attractiveness ratings of the targets that were primed by male stimuli and those that were primed by female stimuli (Wstr-Ms and Ws-Ms vs., Mm-Ms and Ms-Ms; $F_{(1,12)} = 2.42, p > 0.05$). Furthermore, no difference was found in the attractiveness ratings of the target between the Wstr-Ms and Ws-Ms conditions ($F_{(1,12)} < 1$), or between the Mm-Ms and Ms-Ms conditions ($F_{(1,12)} < 1$).

Finally, the attractiveness ratings of the males produced no evidence of a contrast effect (contr-Ms vs., Wstr-Ms: $F_{(1,12)} <$
Figure 7.2: Mean attractiveness ratings for the males
Discussion

The attractiveness ratings of the stimuli by the females

Since experiment 5 employed only female raters, the results of the female participants of this experiment provide the most direct replication of the original study. The present findings rendered the attractiveness ratings of the target in the Mm-Ms group in experiment 5 a chance occurrence. This time the results were in complete agreement with the formulated 'universe of discourse' hypothesis. As the similarity between the target and the primes increased the attractiveness ratings of the target decreased. As it was predicted from the findings of experiment 5, this effect was qualified by the variable on which this similarity was formed. So, although the sex of the stimuli provided a reliable basis on which a sense of compatibility between the target and the primes was founded, there was no additional effect of compatibility in the designated 'profession' of the stimuli. In experiment 5 it was stated that this result was in accordance with the fact that sex of a person is a much more salient characteristic than their profession. It remains possible that the procedures used in both experiments for denoting the stimuli’s profession lacked the necessary salience that would render this feature important for Ss ratings. Future research could test the influence of the saliency of secondary characteristics of the stimuli such as their profession on Ss’ ratings of attractiveness of strangers.

Finally, this experiment replicated the finding of the original study that exposure to attractive stimuli, regardless
whether these are of the same or the opposite sex from the target, is a sufficient condition for deflating the ratings of attractiveness of this target. As it was discussed in experiment 5 this finding strengthens the case for the importance of the contrast effect in judgments of attractiveness of strangers in real life.

**The attractiveness ratings of the stimuli by the males**

Although the attractiveness ratings of the male participants of this study effaced also the deviant character of the ratings of the Mm-Ms group in the original experiment, they failed to lend outright support to a contrast effect. No readily explanation could be offered for this finding. It is possible that social roles may hinder men from allowing their judgments of attractiveness of other men to be influenced by the level of attractiveness of the context. For men may have the general predisposition to assign average ratings of attractiveness to stimuli of their sex. The fact that there exist only two documented instances of the testing of the contrast effect in judgments of attractiveness of male targets by male raters (Gutierres, 1978; Kenrick et al, 1993) does not allow for an accurate assessment of this hypothesis.

Summarizing the findings of this study, first, it appeared that the ratings of the target in the Mm-Ms condition in experiment 5 were due to error variability. Second, all the findings of the original study were replicated. Compatibility between the sex of the primes and the sex of the target increased the size of the contrast effect in judgments of attractiveness of the latter, unlike compatibility between the designated profession of the primes and the target which had no over and above effect. Furthermore, the contrast effect occurred regardless of whether the primes were of the same or the opposite sex as the target. These findings however were confined to attractiveness ratings of targets of the opposite sex from the rater. No evidence of contrast was found on
men’s attractiveness ratings of male stimuli.
Experiment 8

Introduction

The following experiment's goal was to test the generality of the findings of experiments 5 and 7. Given that the interpretation of the contrast effect in judgments of attractiveness of others in terms of a 'universe of discourse' hypothesis is a new premise, it was felt necessary to investigate more fully its reliability. The latter was tested here in two ways. First, cross-culturally (Ss were Greeks), and second, through the nature of the sample (middle aged office workers of the private sector).

The experiment was based on the same paradigm of experiments 5 and 7. The similarity between the primes and the target was manipulated both, through sex and designated profession. There were however two important additions. First, the 'universe of discourse' hypothesis was tested both, on male and female targets. Second, the control stimuli were middle attractive people of the same sex as the target rather than neutral stimuli. The predictions remained the same as in experiment 7. As the similarity between the primes and the target increased, so was expected to do also the size of the contrast effect. Although sex was expected to be a significant basis for forming a sense of similarity, the ostensible occupation of the stimuli was predicted to have no additional effect.

There were 7 conditions in this study. Stimuli were either males (M) or females (W). They were labelled as either

---

This study was conducted together with experiment 9 as one single experiment.
employees (e), or as models (m). The targets were always average in attractiveness. On the other hand, primes were always attractive except the two control conditions in which they were middle attractive (Av). Using those abbreviations the conditions were (primes-target): AvMe-Me, Me-Me, Mm-Me, We-Me, (male target conditions), and AvWe-We, We-We, Wm-We (female target conditions). The predicted order of the attractiveness ratings for the male target conditions was 'AvMe-Me - We-Me - Mm-Me - Me-Me' whilst the predicted order for the female target conditions was 'AvWe-We - We-We - Wm-We'.

Method

Subjects

Thirty-seven male and 13 female employees of the pulses packaging company 'Tria Alfa' of Piraeus, Greece, took part as volunteers in this study. Mean age of both, men and women was 32 years (both sexes, SD 8).

Stimuli

Stimuli were selected from the same pool of photographs from which the stimuli of the previous experiments were drawn. Seven employees (3 males and 4 females) other than the Ss, took part in a pre-rating of all the stimuli on a 9-point attractiveness scale. Inter-rater agreement was relatively high (Cronbach's $a = 0.81$). Based on these ratings the

---

56 To emphasize the similarity between the Ss and the stimuli that were labelled as 'employees', Ss were told that "the people in the photographs were working people like them who had volunteered to pose as stimuli for an experiment in Britain".

57 The AvMe-Me and AvWe-We conditions were in fact the controls for the male target and female target conditions respectively.
photographs of the 8 most attractive men, 12 most attractive women, 8 average attractive men, and 7 average attractive women were selected for this experiment.

Each subject took part in all 7 conditions (within subjects design). Each condition consisted of 4 primes which were followed by the target. In the 5 experimental conditions (Me-Me, Mm-Me, We-Me, We-We and Wm-We)\(^{58}\) the primes were always attractive stimuli. In the 2 control conditions (AvMe-Me and AvWe-We) the primes were like the targets, middle in attractiveness.

**Procedure**

As usual the real purpose of the study was disguised, and the experiment was presented as dealing with people's impression formations. In the response leaflet that Ss were provided with, each page corresponded to a single condition. Subject had to rate the primes of each condition on a different personality trait, and the target on physical attractiveness. Personality traits were presented as two antonyms at the two extremes of each rating scale and were the following: 'lazy-industrious', 'patient-impatient', 'relaxed-jittery', 'pleasant-cantankerous'. The designated occupation of the stimuli was indicated to Ss by noting the corresponding Greek abbreviations of either, 'Empl' for employees or 'Mod' for models next to the each rating scale. All scales were 9-point ones.

With respect to the order of presentation of the conditions there were a number of restraints.\(^{59}\) First, the 2 'male primes'

---

\(^{58}\) The reason a Me-We group was omitted was that given that all Ss received all conditions, and one cross sex condition was already included (We-Me), an additional condition could have increased the risk of fatigue effects.

\(^{59}\) The reason for those restraints was that in the same study Ss rated their own physical attractiveness more than
(Me-Me and Mm-Me) and the 3 'female primes' conditions (We-We, We-We, and Wm-We) stayed always together. In other words, the sequences of the conditions of each category were not interrupted by a condition from the opposite category. Second, the control AvMe-Me was presented always immediately prior to presentation of the first condition of the 'male primes' conditions, and AvWe-We was presented always immediately prior to the first condition of the 'female primes' conditions. Female Ss were presented first, with the 'female primes' conditions, whilst male Ss with the 'male primes' conditions. Finally, there was a delay between exposure to the 'male primes' conditions and the 'female primes' conditions. To illustrate the above constraints, an example of a permissible order for a female subject would be: AvWe-We - We-Me - We-We - Wm-We -delay- AvMe-Me - Me-Me - Mm-Me, whilst for a male subject: AvMe-Me - Mm-Me - Me-Me -delay- AvWe-We - We-We - We-Me - Wm-We.

The relative order of presentation of the three 'female primes' conditions and the two 'male primes' conditions were counterbalanced. Finally, the assignment of attractive stimuli to primes, and of average attractive stimuli to targets or to primes in the case of the two control conditions, was randomized for each experimental session. Subjects were tested in mixed sex groups. The experiment was carried out in 4 sessions. Written instructions were provided for all tasks.

Apparatus

The stimuli were presented one by one as slides. They were projected by a timer controlled Kodak Carousel projector.

---

Once (this part of the study is reported in experiment 9), and those limitations were necessary for the simultaneous testing of all the experimental hypotheses.

---

60 During this delay Ss completed a questionnaire about themselves (see experiment 9).
Each stimulus was projected for 12 seconds.

Results

Data was analysed separately depending on the sex of the target. Following, there was a 4x2 (Conditions X Sex) ANOVA on the mean attractiveness ratings of Ss for the AvMe-Me, Wm-Me, Mm-Me and Me-Me groups (male target groups), and a 3x2 (Conditions X Sex) ANOVA on the ratings of the AvWe-We, Wm-We and We-We groups (female target groups). Figure 8.1 summarizes the mean ratings of the two analyses.

The analysis on Ss’ attractiveness ratings of the targets in the female target groups, revealed a main effect of condition ($F(2,74) = 9.46, p < 0.01$), no effect of the raters’ sex ($F(1,37) < 1$), and no Sex X Condition interaction effect ($F(2,74) < 1$). As Figure 8.1 shows the predicted linear pattern was established with AvWe-We, Wm-We, and We-We receiving the highest, intermediate, and lowest attractiveness ratings respectively ($F_{1,37} = 19.13, p < 0.01$). Further evidence of contrast emerged from the pair-wise comparisons between the control and the experimental groups. The target in the We-We group was rated as significantly less attractive than the target in the AvWe-We group ($F_{1,37} = 19.13, p < 0.01$), whilst the attractiveness of the target in the Wm-We, although lower than the control’s, failed to reach levels of statistical importance ($F_{1,37} = 2.81, p = 0.1$).

The analysis on the attractiveness ratings of the targets in the male target groups, found also a main effect of condition ($F_{1,114} = 3.57, p < 0.05$), indicating that those ratings differed between the 4 groups. There was no effect of the sex of the Ss ($F_{1,38} < 1$), as well as no interaction effect between Condition and the raters’ sex ($F_{1,114} = 1.2, p > 0.05$). As can be seen from Figure 8.1, the mean attractiveness ratings of the Ss did not fall in the predicted direction.
Figure 8.1: Mean attractiveness ratings
The comparisons of the control to each experimental conditions failed also to find any support for a contrast effect. No difference was found between the attractiveness ratings in the Me-Me group and the AvMe-Me \( (F_{1, 37} < 1) \). Furthermore, the attractiveness ratings of the other two experimental groups were more in line with an assimilation effect. The target in the We-Me condition was rated as more attractive than the control \( (F_{1, 37} = 5.85, p < 0.05) \), whilst the attractiveness of the target in the Mm-Me group was rated as tentatively higher than the control’s \( (F_{1, 37} = 3.10, p = 0.09) \).

**Discussion**

The present experiment enhanced the reliability and the cross-cultural generality of the 'universe of discourse' effect that was identified in this thesis regarding contrast effects in judgments of attractiveness of strangers. The attractiveness ratings of a female target by a Greek sample of middle aged office workers, revealed that in line with the hypothesis, they decreased as the similarity between the primes and the target increased \( (AvWe-We - Wm-We - We-We) \). The initial prediction of this study was that the ratings of the targets in the Wm-We and We-We conditions would not differ in respect to the control. This prediction was based on the fact that previously in this thesis (experiments 5 and 7) although the stimuli's sex comprised a basis on which Ss established similarity between the primes and the target, the profession stimuli were designated with failed to do so. Here however the significant contrast effect between the control and the WeWe conditions was only paralleled by a tentative result between the control and the Wm-We condition. Whether students (on whom the previous findings were based) consider models as less 'different' from themselves than middle aged professionals do, is an issue for further investigation.
The support however that this study lent to the 'universe of discourse' hypothesis, was equivocal. For, Ss' ratings of attractiveness of the male targets lend no support to a contrast effect in the first place. In fact with the exception of the Me-Me group, which represented the case of absolute compatibility between the primes and the target, the attractiveness ratings of the other two experimental conditions were in line with an assimilation effect. The conflict between the present and previous results (experiment 5 and 7) cannot be readily interpreted. Subsequent research should examine the effect of each of the cultural, age, or socio-economic differences between the samples on the type of context effect obtained.

In summary, using a very different subject population from the previous studies, the present experiment provided mixed support for the contrast effect and its interpretation in terms of a 'universe of discourse' hypothesis, in judgments of attractiveness of strangers. Whilst the attractiveness of female stimuli was rated lower as their similarity to their corresponding attractive primes increased, no contrast effect was found in Ss' ratings of attractiveness of male stimuli.
CHAPTER TEN

Clarifying some issues of the contrast effect in self-judgments of attractiveness
Experiment 9

Introduction

The following study examined three issues. The first two issues related to aspects of the effect of an attractive context on people's self-assessments of attractiveness, for which the relevant literature has produced conflicting results. These aspects were first, the effect of the interaction between the sex of the subject and the sex of the priming stimuli on self-ratings of attractiveness, and second, the effect of the exposure to an attractive context on one's self-esteem. The third issue that this study examined was the relationship between self-esteem and self-appraisals of attractiveness.

Predicting the self-ratings of attractiveness of the females

In chapter 5 we discussed that the evidence on the relationship between the sex of the rater and the sex of the primes, especially for the case of male raters, has been rather contradictory. Based on this evidence a number of alternative hypotheses were tested in this experiment against each other. The present study exposed both, males and females to attractive stimuli of either sex. In line with the existing literature (e.g., Brown et al, 1992) women were expected to suppress their ratings of their attractiveness following exposure to attractive female stimuli, whilst no such effect was predicted for when they were exposed to attractive male stimuli. In the case of male raters however there were two alternative predictions for each of the two situations, exposure to male stimuli and exposure to female ones.

---

61 This study was conducted together with experiment 8 as one single experiment.
Self-ratings of attractiveness for the males: The 'Social Comparison' hypotheses

The first hypothesis was based on the postulates of SC theory that people seek comparisons with similar others more than with dissimilar ones. Chapter 4 discussed that the sex of one is a central characteristic on which similarity between themselves and the 'comparison others' will be easily formed. It was therefore expected that men would consider male stimuli, but not female ones as appropriate standards to assess their attractiveness. Following, the first hypothesis was that males who were exposed to attractive male stimuli would rate their attractiveness lower than controls, whilst exposure to attractive female stimuli was expected to have no effect on male's self-ratings of their appearance.

Self-ratings of attractiveness for the males: The 'alternative' hypotheses

The alternative hypothesis with regard to males' exposure to opposite sex stimuli was based on the evidence on the 'bolstering' effect (Kenrick and Gutierres, 1978; Gutierres, 1978; Gutierres and Cialdini, 1985; See chapter 5). Based on this evidence the prediction was that males' exposure to beautiful female stimuli would enhance their assessment of their looks compared to controls. The alternative hypothesis regarding the situation in which males are exposed to stimuli of their own sex, was based on the findings of two studies. As it was outlined in chapter 5 Kownar and Ogawa (1993) and Gutierres et al (1995) found tentative evidence that men who were exposed to attractive male stimuli enhance, rather diminish, their evaluations of their looks. It would follow from this evidence that males would assimilate rather than contrast their self-ratings of attractiveness following presentation with attractive males.

On a different note, given that this study recorded self-
ratings of attractiveness of both men and women, a prediction was afforded regarding sex differences on those ratings. Based on the existing research on this issue (see chapter 1) it was expected that men would be more satisfied than women with the way they look, and would as a result rate their attractiveness as higher.

The relationship between self-esteem and self-assessments of attractiveness

With regard to the third issue of the present study, the relationship between Ss' self-esteem and their self-evaluation of their attractiveness was, based on previous evidence (see chapter 1), expected to be positive. This relationship was also predicted to be higher for women than for men (see chapter 1). As a result exposure to an attractive context was predicted to have a negative effect on women's regard for themselves (Gutierres, 1978; Brown et al, 1992).

No single hypothesis was put forward regarding the effect of the context on the males' self-esteem. For evidence exists that exposure to attractive stimuli can have on males' self-esteem a positive effect (Kowner and Ogawa, 1993), a negative effect (Thornton and Moore, 1993), or no effect (Gutierres, 1978).

Summarizing the predictions of this experiment, women were expected to contrast their ratings of their attractiveness following exposure to attractive female stimuli. Exposure to attractive males was expected to have no effect on the self-ratings of attractiveness of the women. On the other hand, the effect of men's exposure to either a male or a female attractive context, depended on the alternative hypothesis that was adopted. Furthermore, exposure to attractive stimuli was expected to have a negative effect on women's self-esteem, whilst no clear prediction was put forward for men. Finally, self-esteem was expected to be positively related to Ss'
assessment of their attractiveness, and this relationship was predicted to be stronger for females.

Method

Subjects

See experiment 8.

Stimuli

See experiment 8.

Procedure

(For the procedure of Ss' exposure to the stimuli see experiment 8).

Subjects were required to rate themselves on three different occasions. One before the exposure to the stimuli, one after the presentation and the rating of the 3 male primes conditions (AvMe-Me, Mm-Me, and Me-Me), and finally, one after the 4 female primes conditions (AvWe-We, We-Me, Wm-We, and We-We). There were 3 different batteries of questions on which people judged themselves. One of them was a self-esteem test (Bachman and O'Malley, 1977) which was modified by including 3 additional items. Those items were: "I like my appearance just the way it is", "If I could, I would change a lot of things on my body", and "I think I am amongst the handsome men/beautiful women". Subjects were asked to note their agreement for each item on 9-point scales. The second group of questions recorded a) demographic characteristics of the Ss, and b) required from Ss to rate themselves on the same personality traits they rated the stimuli (physical attractiveness was one of those 'traits') on 9-point scales. The final battery of questions was also divided into 2
sections. In the first section Ss had to rate in turn, a) their face, b) upper-body, and c) lower-body on 9-point attractiveness scales. The second section required Ss to score themselves on a number of characteristics (intelligence, belief in their selves, attractiveness, politeness, friendliness, popularity to the opposite sex). The response method was this time a percentile one, with '0' indicating "not at all characteristic of me", and '100' labelled as "very characteristic of me".

Regarding the position of those 3 batteries of questions, the constraint was that the self-esteem test appeared for half of the Ss before the presentation of the stimuli, and for the rest of the Ss at the end of the experiment, when all primes had been presented. The position of the other 2 questionnaires was counterbalanced.

Results

Self-attractiveness judgements

Subjects’ scores on the physical attractiveness items of each of the three batteries of questions were averaged into three single scores which were standardized on a 1-9 scale. The score that corresponded to the set of the questions that Ss were administered before their exposure to the stimuli acted as the Baseline Score (BslSc), the score that corresponded to the test that followed the male prime conditions (AvMe-Me, Me-Me, Mm-Me) was called 'Score after Men' (ScaM), whilst that score which corresponded to the female primes conditions (AvWe-We, We-Me, We-We, Wm-We) was called 'Score after Women' (ScaW). Data was analysed separately for the males and the females.

Analysis for the males
The mean self-attractiveness scores for the males are summarized in Figure 9.1. An ANOVA revealed that the three scores differed between them \( F_{(2,52)} = 5.36, p < 0.01 \). Compared to their baseline scores, males rated their attractiveness lower following exposure to either, attractive male stimuli (BslSc v ScaM: \( F_{(1,26)} = 7.24, p < 0.05 \)), or attractive female stimuli (BslSc v ScaW: \( F_{(1,26)} = 7.54, p < 0.05 \)).

Analysis for the females

The mean self-attractiveness scores of the females can be seen in Figure 9.2. Again as with males, an ANOVA found a main effect of Condition \( F_{(2,24)} = 4.01, p < 0.05 \). Further analysis revealed that females' self-scores of attractiveness following exposure to female attractive stimuli (ScaW) did not differ from their baseline scores \( F_{(1,12)} = 1.19, p > 0.05 \). On the other hand, there was a tendency for females to rate their attractiveness higher following exposure to attractive male stimuli (ScaM) compared to the controls \( F_{(1,12)} = 3.62, p = 0.08 \).

Finally, in order to test the hypothesis that women were less satisfied than men with their out-appearance the BslSc of the males were compared against the BslSc of the females. This test revealed that men considered themselves to be more attractive than women (mean self-ratings: 6.89 and 5.77, for the males and the females respectively; \( F_{(1,36)} = 4.48, p < 0.05 \)).

The effect of exposure to attractive stimuli on one's self-esteem

Before a test of the effect of exposure to an attractive context on Ss' self-esteem was performed, an analysis was carried out to test the effect of the overall exposure on Ss' appraisals of their attractiveness. The difference with the
Figure 9.1: Self-attractiveness ratings for the males
Figure 9.2: Self-attractiveness ratings for the females
analyses on the previous section was that this time the sex of the priming stimuli was partialed out. Subjects' baseline attractiveness scores were compared to those attractiveness scores they provided following exposure to all stimuli (FinSc). The analysis revealed that exposure to attractive stimuli of either sex had a negative effect on Ss' evaluations of their looks (means were: BslSc: 6.53, and FinSc: 5.83; $F_{(1,38)} = 3.99, p = 0.05$). This effect was not qualified by the sex of the raters (Sex X Condition: $F_{(1,38)} = 2.93, p > 0.05$).

Given that the exposure to an attractive context was found to have a detrimental effect on Ss' evaluation of their attractiveness, an analysis was carried out to see whether this effect was paralleled by changes on their self-esteem. The self-esteem scores of those who were administered the test prior to exposure to the stimuli were compared against the equivalent scores of those who were administered the test after presentation of the stimuli. The analysis showed that there was no difference between the two scores ($F_{(1,34)} < 1$), no effect of the sex of the raters ($F_{(1,34)} < 1$), and no Sex X Condition interaction ($F_{(1,34)} = 3.35, p > 0.05$).

**The relationship between self-assessments attractiveness and self-esteem**

A regression analysis of the self-esteem score on the BslSc of those Ss who were administered the self-esteem test before presentation of the stimuli, showed that one's self-esteem was a reliable predictor of the rating of his attractiveness ($R^2 = 0.17, F_{(1,20)} = 5.32, p < 0.05$). The relationship between the two variables was a positive one ($r = 0.46$).

**Discussion**

**The interaction between the sex of the rater and the sex of the primes on self-ratings of attractiveness**

199
Starting with interpreting the results on the interaction between the sex of the rater and the sex of the stimuli on self-ratings of attractiveness, men’s self-ratings were lowered as a result of exposure to attractive male primes. This effect was in line with the SC theory prediction. The same contrast effect was found with men’s attractiveness ratings following exposure to attractive female stimuli. This effect was unanticipated by either, SC theory or, by the evidence on the ‘bolstering’ effect. The present finding suggests that a negative effect on people’s appraisal of their looks occurs not only as a result of exposure to attractive same sex stimuli, but also as a result of exposure to attractive stimuli of the opposite sex. Women’s ratings of their attractiveness provided no support for a contrast effect. In fact following exposure to beautiful males, women tended to bolster their attractiveness.

In line with previous findings, the present study found that women rated their attractiveness lower than men. This finding is certainly congruent with the well established idea that in general, women are less satisfied with the way they look than men (see chapter 1).

The present findings have a number of important implications for the contrast effect in self judgments of attractiveness. First, they strengthen the robustness of the effect. This is because evidence of contrast was obtained for the first time using a within subjects design. Second, the fact that contrast failed to emerge in the case of females, strengthens further the case for the elusiveness of the effect. Thirdly, the current findings contradict previous ones which have shown that the ‘self-bolstering’ of one’s attractiveness following exposure to beautiful opposite sex others is a male effect. This study pointed to the opposite direction, that the effect is a female one. Gutierres and her fellow researchers (see chapter 5) have argued that bolstering one’s attractiveness is associated with males because they are traditionally the sex
which initiates contact with the opposite sex. The current finding opens up the possibility that the effect is not underlid by differences in sex-roles, but rather that is dependent on socio-economic characteristics, or even the age of the rater. For 'girls' may still expect to be picked by the 'boys' amongst American freshmen (on whom previous experiments of the effect were carried out), but this may not be the case in a mature working population like the one used in this study.

The effect of an attractive context on subjects’ self-esteem

In line with past findings the Ss' self-esteem correlated positively with their assessments of their attractiveness. Attaching causality to that relationship however would be not warranted from the present study.

Although exposure to attractive stimuli (of either sex) was found to suppress the rater's evaluations of their attractiveness, there was no effect of this exposure on the rater's self-esteem. This finding suggests that although people's perceptions of their looks may be a corporate part of their self-esteem (as suggested by the positive relationship between the two), the latter by being a much more stable postulate of one's self-concept than the former, is not easily altered by contextual influences.

Summarizing this study, evidence of the contrast effect was obtained on men's self-ratings of attractiveness following exposure to either, attractive male or female stimuli. Women's self-ratings of attractiveness on the other hand were not affected by the attractiveness of the context. Self-esteem was found to be positively related to Ss' assessment of their appearance, whilst there was no effect of the attractiveness of the context on the raters' self-esteem.
Introduction

The aim of the present study was to test the generality of the contrast effect in self-judgments of attractiveness as well as examine the effect of the level of attractiveness of the context on a general measure of self-identity. Experiment 3 examined the generality of the contrast effect on the ratings of attractiveness of strangers using actual television commercials. This experiment looked at the effect of television commercials on Ss' self-appraisals of their looks. In the previous study we obtained evidence that attractive stimuli of either, the same or the opposite sex from the raters can have a negative effect on their self-ratings of attractiveness. This finding is of great importance for the applicability of the contrast effect in real life where our exposure to beautiful people is rarely confined to members of only one sex. Television in general, and commercials in particular, offer such an exposure to attractive stimuli of both sexes within a confined space of time.

In this experiment Ss viewed a set of one of three types of commercials. A set of 'attractive' commercials, a set of 'mixed' commercials, and a set of 'average' commercials (see experiment 3). In addition, Ss were required to rate their attractiveness both, before and following the viewing of the commercials. This design allowed for both, a within subjects as well as a between subjects test of the effect of the commercials on their self-ratings of attractiveness. It was predicted that following the viewing of either, the 'attractive' or the 'mixed' commercials Ss' self-ratings of their attractiveness would be deflated. No such effect was

---

This study was conducted together with experiment 8 as one single experiment.
predicted for those Ss who were exposed to the 'average' commercials. Furthermore, those Ss who watched the 'attractive' commercials were expected to rate their attractiveness lower than those who watched the 'mixed' commercials, who in turn were expected to rate their attractiveness lower than those who viewed the 'average' commercials.

Subjects’ habits which were assumed to indicate their level of exposure to attractive people in their lives were also used in this experiment to relate this time to Ss' self-ratings of attractiveness. For the reasons that were outlined in experiments 2 and 3, Ss’ “amount of television viewing”, “frequency of going to the cinema”, and “the number of fashion magazines read”, were, expected to be inversely related to their appraisals of their out-appearance.

The second goal of this experiment was to examine the effect of the attractiveness of the context on people’s self-concept. As chapter 6 revealed, the majority of the existing research on this issue has utilized some measure of self-esteem. As a result the extend to which the benefits of being attractive may generalize beyond feelings of self-worth, has remained a rather unexplored issue. This study used a more general measure of self-identity in an attempt to test the relationship between one’s physical attractiveness and their satisfaction with their selves in general.

Method

Subjects

See experiment 3.

Materials

The commercials
The 'test'

Subjects rated their selves, on a test which was based on the 'Body- and Self-Cathexis' scales of Secord and Jurard test (1953). The original Secord's and Jurard's test (SJ), consists of a number of personality traits and other characteristics which define one's self. As examples of these characteristics are one's Christian name (self-cathexis scale), and one's eyes (body cathexis scale). The test that was used here was a modification of the prototypical SJ scales. It used a number of the original items of the SJ test, whilst adding some new ones which dealt specifically with satisfaction with one's physical attractiveness.

The items of the present test were the following: **Self characteristics**: intelligence, sense of duty, creativity, age, Christian name, memory, conscience, popularity, sense of humour, tolerance, orderliness, manners, love life, and fears. **Physical characteristics**: hips, facial profile, physical attractiveness, lips, thighs, eyes, tummy, hair, body build, sex appeal, waist, legs, hair structure, face, weight, breast, and hands.

The items were randomly split in two equal parts (A and B) with the constraint that each part contained an equal number of self items and physical items. This procedure was performed one more time so that at the end, there were two different 'split-in-two' versions of the test (A-B and C-D). In a variation of the original SJ procedure, Ss rated each characteristic on how satisfied they were with it using a 9-point scale with its two extremes labelled as 'I wish I could completely change it', and 'I consider myself fortunate to have it'. A statement of intermediate satisfaction accompanied each of the 7 remaining points of the scale.
Procedure

(For the general procedure of the presentation of the commercials see experiment 3).63

Subjects were randomly assigned to one of the two test versions (A-B or C-D). Furthermore, the presentation position (before or after exposure to the commercials) of the two components of each test version (A and B, or C and D) was randomized.

In order to disguise the real aim of the study a cover story was used which led Ss to believe that they were participating in two different tasks. The first task was supposedly, to test the split-plot reliability of the SJ test. For this reason, Ss were told, they were going to be administered with two different parts of the test. Ostensibly, in order that some time elapsed before they were administered the second version of the test, they were required to take part in a different task - the presentation and rating of the commercials - which was made to appear as a consumer research study.

As a general overview of the followed procedure, Ss completed the first half of the test, then watched and rated the commercials, and finally completed the second half of the self-test. At the end of the experiment Ss provided information about amount of television they watched, frequency they went to the cinema, and number of fashion magazines they read.

63 The important feature of this procedure with regard to the present experiment was that in the 'attractive' condition, the target commercial was not the last commercial Ss viewed. Instead two additional 'attractive' commercials were presented before Ss rated themselves. This procedure was adopted given previous evidence which shows that the effect of an attractive stimuli series can be mitigated by its interruption by an average in attractiveness stimuli (Kenrick et al, 1993).
Table 10.1: Mean self-ratings of attractiveness (standard deviations in parentheses) before the viewing of the commercials (Bsln. attr), and following the viewing of the commercials (Attr a. ads), for the 'attractive', 'mixed', and 'average' conditions.

<table>
<thead>
<tr>
<th></th>
<th>'Attr/ve'</th>
<th>'Mixed'</th>
<th>'Average'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bsln. attr</td>
<td>5.56 (1.15)</td>
<td>5.32 (1.43)</td>
<td>5.77 (1.38)</td>
</tr>
<tr>
<td>Attr a. ads</td>
<td>5.51 (1.12)</td>
<td>5.23 (1.14)</td>
<td>6.09 (1.32)</td>
</tr>
</tbody>
</table>

Results

Self-ratings of attractiveness

A single data point was calculated for each of the two parts of the test (pre- and post-exposure) by averaging Ss' ratings on all 'physical' items of the test. The means of those ratings are summarized in Table 10.1.

Before a between subjects test of the self-attractiveness ratings was carried out, the Ss' baseline self-ratings of attractiveness were compared between the three groups. The analysis showed there was no difference between the baseline attractiveness scores of the Ss in the three conditions ($F_{(2,40)} < 1$). Furthermore, there was no interaction between those scores and any of the other variables (Condition X Sex: ($F_{(2,40)} = 2.75$, $p > 0.05$); Condition X Test version: ($F_{(2,40)} = 1.79$, $p > 0.05$); Condition X Sex X Test version ($F_{(2,40)} < 1$)). Finally, there was no effect of the sex of the Ss ($F_{(1,40)} < 1$).

Table 10.1 shows that Ss' post-exposure ratings of their attractiveness did not fall in the predicted diminishing trend as the attractiveness of the actors in the commercials increased ('average'- 'mixed'- 'attractive'). A 2x2x3 (Sex X
Test version X Condition) ANOVA on those ratings, revealed a statistically marginal difference between the three conditions ($F_{(2, 41)} = 2.2, p = 0.1$). There was no effect of the Ss' sex ($F_{(1, 41)} < 1$), no effect of the test version used ($F_{(1, 41)} = 2.22, p > 0.05$), and no interactions between any of the variables (all, $F_{(1, 41)} < 1$, and $F_{(2, 41)} < 1$).

Further analysis revealed that Ss rated their attractiveness significantly higher following exposure to the 'average' group than exposure to the 'mixed' group ($F_{(1, 41)} = 4.24, p < 0.05$). Furthermore, those Ss who viewed the 'attractive' commercials tended to rate their attractiveness lower than those Ss who viewed the 'average' commercials ($F_{(1, 41)} = 1.99, p = 0.1$). There was no difference between the self-ratings of attractiveness between the 'attractive' and the 'mixed' conditions ($F_{(1, 41)} < 1$).

As a within subjects test of the experimental hypothesis, Ss' pre-exposure self-ratings of attractiveness were compared to their corresponding post-exposure ratings ('Time' variable). A 2x2x3x2 (Sex X Test version X Condition X Time) ANOVA showed that overall, Ss' post-exposure self-ratings did not differ from their baseline self-ratings ($F_{(1, 40)} < 1$). More importantly, this result was not qualified by an interaction with any other variables (Time X Condition: $F_{(2, 40)} < 1$; Time X Sex $F_{(1, 40)} < 1$; Time X Test version: $F_{(4, 40)} < 1$; Time X Sex X Condition: $F_{(2, 40)} = 1.25, p > 0.05$; Time X Sex X Version: $F_{(1, 40)} < 1$; Time X Condition X Version: $F_{(2, 40)} = 1.54, p > 0.05$; and Time X Sex X Condition X Version: $F_{(2, 40)} < 1$).

The relationship between subjects' habits and their self-ratings of attractiveness

---

64 The remaining results of this analysis which were of no importance to this experiment were (Condition: $F_{(2, 40)} = 1.41, p > 0.05$; Sex: $F_{(1, 40)} < 1$; Version: $F_{(1, 40)} = 2.97, p > 0.05$; Sex X Condition: $F_{(2, 40)} = 1.81, p > 0.05$; Sex X Version: $F_{(1, 40)} < 1$; Condition X Version: $F_{(2, 40)} < 1$; Sex X Group X Version: $F_{(2, 40)} < 1$).
A multiple regression of "amount of television exposure", "frequency of going to the cinema", and "number of fashion magazines read" on the Ss' self-ratings of attractiveness was carried out. Given the lack of a difference between the pre- and post-exposure self-ratings of attractiveness of the Ss, the average of these two scores (Avattr) was used as the DV for this analysis. The analysis produced no significant predictor of those scores.

The relationship between self-ratings of attractiveness and satisfaction with self

The 'self' characteristics of both, the pre-exposure and post-exposure parts of the test were averaged into a single score for each subject (Avself). A regression analysis of the Avattr scores on the Avself scores indicated that Ss' satisfaction with their looks was a significant predictor of their satisfaction with various aspects of their selves ($R^2 = 0.18$, $F_{1,50} = 11.14$, $p < 0.01$). The relationship between the two factors was found to be positive ($r = 0.44$).

Discussion

Self-judgments of attractiveness

This experiment produced evidence of a contrast effect in self-judgments of attractiveness. Those Ss who viewed a number of commercials with middle in attractiveness actors, rated their own attractiveness higher than those Ss who were exposed either to commercials with attractive actors or to a mixture of 'attractive' and 'average' commercials. This result constitutes evidence of a positive rather than a negative contrast. Even though it was not predicted from the outset, this finding is justified when one considers that although commercials were experimentally designated as 'attractive' and 'average', Ss' ratings of the attractiveness
of the actors in those commercials revealed that they considered them to be 'average' and 'unattractive' respectively (see experiment 3).

The fact that self-ratings of attractiveness did not fall in a decreasing order as the level of attractiveness of the actors in them increased, could be due to the fact that the 'mixed' condition did not comprise of stimuli of intermediate stimuli per se (a point that was also brought up in the discussion of the findings of experiment 3).

Contrary to the between subjects comparison, there was no evidence of contrast within subjects. Exposure to the 'attractive' commercials did not lower Ss' evaluations of their attractiveness, neither exposure to the 'average' commercials enhanced them (in the light of the finding that the 'average' commercials were in fact assessed by Ss as 'unattractive'). Whether this result was due to a conscious attempt by Ss to be consistent between their pre-exposure and post-exposure ratings of their attractiveness, is an issue for future investigation.

On a different note, Ss' individual characteristics which revealed their level of exposure to attractive media figures were found to have no influence on their assessment of their attractiveness. This finding questions whether the contrast effect in self-judgments of attractiveness is only a transient effect which is confined to the experimental situation within which it is studied.

Contrary to expectations, males' satisfaction with their looks was comparable to those of the women. The fact that this sex difference emerged in the previous experiment in an older population, lends support to the notion that the emerging 'New man' worries about his body and the way he looks as much as women do (Mishkind et al, 1986; Thornton and Ryckman, 1991; Jacobi and Cash, 1994; Nemeroff et al, 1994). It is also
possible that satisfaction with one’s body becomes more contrasted between the two sexes as they grow older (Pearlman, 1993).

The importance of this study for the contrast effect in self-judgments of attractiveness can be summed up in a number of points. First, this is the first time that evidence is obtained that actual television stimuli can affect people’s evaluations of their appearance. Second, contrary to popular belief, this effect may not be always negative. Thirdly, the fact that the commercials that Ss were exposed to starred actors of either sex, supported the findings of experiment 9, that the effect of the context on self-ratings of attractiveness is independent of the sex of the stimuli.

The relationship between self-ratings of attractiveness and satisfaction with self

As this study revealed being physically attractive is not only associated with a greater belief in one’s self, but also more generally with a greater satisfaction with a diverse set of aspects of self-identity. Future research could explore further the limits of the positive effect of physical attractiveness on people’s self-perceptions.

As a summary, this study obtained between subjects evidence of a positive contrast effect in self-judgments of attractiveness when the context was actual television commercials. The same effect however, failed to emerge within subjects. In addition, Ss’ satisfaction with their attractiveness was found to be positively related to general satisfaction with their self-identity.
CHAPTER ELEVEN

Accounting for the evasiveness of the contrast effect in self-ratings of attractiveness
11.0.1 General introduction

The results of experiment 9 (on females) and 10 (within subject comparison) represent additional evidence that the contrast in self-judgments of attractiveness is an elusive effect. Given publication biases towards positive findings, the plethora of the known instances of a lack of such an effect (see chapter 5) would suggest that the extend of its elusiveness may have even been underestimated.

The predominant explanation of the fact that exposure to beautiful others has often no negative effect on people's assessment of their attractiveness, is that attractive stimuli are perceived as threatening stimuli (Gutierres, 1978; Kowner and Ogawa, 1993) especially by those with a relatively lower self-esteem (Brown et al, 1992). The hypothesis is that mechanisms of preserving self-worth hinder people from putting themselves down as a demonstration of a negative contrast effect in self-ratings of attractiveness requires.

From a different perspective, the fact that Ss do not always contrast their self-evaluations of their attractiveness could be related to what is known as the "uniqueness bias" phenomenon (Myers and Ridl, 1979; Allison, Messick and Goethals, 1991; Furnham and Dowsett, 1993). According to this bias people have a tendency, against the law of averages, to perceive themselves as better than average. If this bias is in operation in every aspect of self-evaluation, it is conceivable that people will hesitate to rate their looks in a way which would indicate they are equally or less attractive than the norm (the kinds of ratings that would be necessary to reveal a contrast effect).

The following chapter tested two possible explanations of the effect is also known as the 'Mohammed Ali effect' based on the boxer's constant claim of being "the greatest".

212
evasiveness of the contrast effect in self-judgments of attractiveness. Experiment 11 examined the role of the DV used, whilst experiment 12 looked at the individual differences in the role that physical attractiveness plays for one’s self-concept.
Experiment 11

Introduction

The following study was a primary attempt to examine the role of the DV used on the elusiveness of the contrast effect in self-judgments of attractiveness. The studies of context effects on self-ratings of attractiveness have typically used one of three types of DVs. 'Direct' measures such as 'How attractive are you?', 'satisfaction' measures such as 'How satisfied are you with your looks/face/body etc), or 'compound' measures which are an average of the other two types of DVs. A number of researchers (Kenrick, and Gutierres; personal communications, 1995) have suggested that the elusiveness of the contrast effect in self-evaluations of attractiveness may be measure specific. A meta-analytic look of the evidence however does not lend support to this hypothesis.

Table 11.1 summarizes the findings of all known studies on the contrast effect on self-ratings of attractiveness of females. The DVs of each study have been categorized into 'direct', 'satisfaction', and 'composite' measures. As it can be seen the successful demonstrations of the contrast effect are evenly split between the three types of measures.

It remains possible however that a particular aspect of the DV used can determine whether evidence of contrast will be obtained or not. This aspect is the 'directness' of the measure on which Ss rate their looks. This hypothesis is conceivable given that one of the suggested explanations for the evasiveness of the effect is that Ss may perceive the

---

The reason the evidence on males was not included was because there are only two documented studies on the effect using male Ss.
<table>
<thead>
<tr>
<th>Study</th>
<th>Dependent Variable used</th>
<th>Direct</th>
<th>Satisfaction</th>
<th>Composite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin et al, 1993</td>
<td>-</td>
<td></td>
<td>F</td>
<td>-</td>
</tr>
<tr>
<td>Cash et al, 1983</td>
<td>S</td>
<td></td>
<td>F</td>
<td>-</td>
</tr>
<tr>
<td>Richins, 1991</td>
<td>F</td>
<td></td>
<td>S/S/F*</td>
<td>-</td>
</tr>
<tr>
<td>Kowner et al, 1993</td>
<td>-</td>
<td></td>
<td>S</td>
<td>-</td>
</tr>
<tr>
<td>Kenrick et al, 1978</td>
<td>S</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gutierres, 1978</td>
<td>F</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Brown et al, 1992</td>
<td>-</td>
<td></td>
<td>-</td>
<td>S</td>
</tr>
<tr>
<td>Irving, 1990</td>
<td>-</td>
<td></td>
<td>F</td>
<td>-</td>
</tr>
<tr>
<td>Thornton et al, 1993</td>
<td>-</td>
<td></td>
<td>-</td>
<td>S</td>
</tr>
<tr>
<td>Gutierres et al, 1995</td>
<td>-</td>
<td></td>
<td>-</td>
<td>F</td>
</tr>
<tr>
<td><strong>Total S-F</strong></td>
<td>2-2</td>
<td>3-4</td>
<td>2-1</td>
<td></td>
</tr>
</tbody>
</table>

Table 11.1: Successes (S) and failures (F) of demonstrating a contrast effect on self-ratings of attractiveness of females who were exposed to female stimuli, depending on the DV that was used. (*) This study used 3 different “satisfaction with self-attractiveness” measures.

There is also indirect evidence for this contention. Gutierres (1978) found that although exposure to attractive female primes had no effect on women’s ratings of their attractiveness, it had a negative effect on their belief in themselves. In addition, in Gutierres et al (1995) women failed also to contrast their self-judgments of attractiveness away from the level of the attractiveness of...
the female stimuli they were presented with. However, the same study produced evidence of contrast on the females' ratings of their "suitability as marriage partners", and also tentative evidence of the same effect on females' "suitability as dates", and their "suitability as sexual partners".

Taking as its underlying assumption that the attractiveness of the context has an inverse effect on people's assessments of their out-appearance, which however is not always detectable this paper put forward the following general hypothesis. Subjects were expected to contrast their assessments of their attractiveness more readily on measures which they perceived as less threatening to their self-worth, than on more direct measures which required from them to 'admit' they were not attractive. To test this hypothesis, this study compared conventional self-measures of assessing attractiveness against some other more indirect ones.

One such indirect measure was the extend to which Ss compared their looks to those of professional models. We know from previous work (see chapter 7) that people have often followed the trends that professional models have set, and also that they consciously engage in comparisons with them. This is indicative that the average person considers this group as the standard of contemporary attractiveness. Those who are less satisfied with the way they look would be expected to engage more in such unfavourable comparisons (Martin and Kennedy, 1993). This effect could be also transitional, in other words, subject to experimental manipulations. The hypothesis was that those who were exposed to attractive same sex others would report a greater need than controls to assess their attractiveness by comparing themselves to models.

Two other DVs examined the effect of the attractiveness of the context on Ss' expectations from their partners. Both variables were based on substantiated premises. The first measure was the attractiveness level that was required from a
partner. Given that evidence for 'assortative mating' in terms of attractiveness exists (e.g., Berscheid and Walster, 1974; Caspi and Herbener, 1990; Suman, 1990), it was hypothesized that exposure to attractive same sex others would inflate Ss' expectations of the level of attractiveness they required from a partner.

The second measure was how jealous Ss required their partner to be of them. Evidence shows that those who feel inadequate, particularly as partners, and those who feel threatened by the 'competition' (same sex others), have a propensity to be romantically jealous of the people they are involved with (White and Mullen, 1989; Mathes, 1992). We also know that one of the commonest causes of feeling threatened by same sex others, is to perceive one's self as inferior in terms of physical attractiveness (White, 1981; Buunk, Bringle and Arends, 1984; Mathes, 1992). A reasonable consequence of such feelings of insecurity is for people to seek reassurances of their worth as mates. From this, as well as from the fact that in our culture a 'jealous man' is often perceived as a 'loving man' (Murstein, 1971), it was predicted that exposure to an attractive context of same sex others, would make women require that their partners are more jealous of them.

A different way in which this study tested the effect of the directness of the measure used on the contrast effect, was to compare two versions of the same measure. For example, the direct measure of the "How satisfied are you with you body?" was compared against the indirect equivalent "Do you agree with statement: "If I could I would change a lot about my body"". The prediction remained that following exposure to an attractive context suppression of Ss' self-ratings of attractiveness would be greater on the relatively indirect measure than on the relatively direct one.

Given that many variables were similar, only phrased differently, they were split into two questionnaires. The
ratings of those Ss who were exposed to attractive stimuli of their sex were compared to a control group who only rated themselves on all DVs that this study utilized.

Method

Subjects

Sixty-one female psychology students of UCL acted as paid volunteers for this experiment. The mean age of Ss was 21 (SD: 5).

Stimuli

Each of the photographs of 7 attractive female models were photocopied on a single A4 sheet using a Canon high resolution colour photocopier.

The cover stories

The real purpose of the experiment was disguised. The cover story that was used for the two experimental conditions in which Ss were exposed to attractive stimuli, was that the task was a product survey. The experimenter presented Ss with a women’s magazine (Vogue) and turned to a page in which there was an advertisement of a recently launched women’s perfume. The Ss were informed that this perfume was not selling as good as it was hoped, so that its makers were considering a new marketing campaign the first step of which was a new advertisement. This advertisement, Ss were told, required a female model which would be pictured together with the product. The perfume targeted ostensibly the younger market so the advertising agency wanted to examine the preferences of potential customers (such as students), for a number of alternative professional models which were considered for the advertisement. To consolidate the fact that Ss had to respond
to a number of questions about themselves, they were told that the advertising company wanted to know more about the profile of the potential customer.

In the control condition where Ss responded only to the questionnaire, they were told that the task was part of a consumer survey of an advertising agency with the aim to draw the profiles of various consumer strands.

Measures

Rating the stimuli

Each stimulus was rated on two dimensions, 'sexiness' and 'narcissism'. Subjects had to choose between three alternatives for each dimension. For the dimension 'sexy' they had to choose between "too sexy", "not sexy enough" and "just right on this dimension". Similarly, the three options for the other dimension were: "too narcissistic", "too bashful" and "just right on this dimension".

Self-ratings

All DVs of interest were separated in two different questionnaires. In the case where the same measure had two versions (direct and indirect) these were separated. There were also a number of filler items in each questionnaire. The two questionnaires that were used in the two experimental groups can be seen in Exhibits 11.1 and 11.2. Those items with an asterisk next to them, were those on which the contrast effect was expected to be more enhanced. Subjects in the control condition responded to the items of both questionnaires.

Procedure

Subjects were randomly assigned to one of three groups
<table>
<thead>
<tr>
<th>Questionnaire A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) &quot;To be my partner a man has to be very attractive&quot;</td>
</tr>
<tr>
<td>2) &quot;If I could, I would change a lot about my body&quot; *</td>
</tr>
<tr>
<td>3) &quot;Fashion should be a concern for everybody&quot;</td>
</tr>
<tr>
<td>4) &quot;I wish I would look like a model&quot; *</td>
</tr>
<tr>
<td>5) Based solely on your imagination how good an interior decorator would you be?</td>
</tr>
<tr>
<td>6) Based solely on your looks how good a model would you be? *</td>
</tr>
<tr>
<td>7) Based solely on your memory how good an accountant would you be?</td>
</tr>
</tbody>
</table>

(Items 1-3 were rated on a 'agree-disagree' scale whilst items 4-6 on a 'lousy-good' one. All scales were 9-point ones)

Exhibit 11.1: Questionnaire 'A'.

<table>
<thead>
<tr>
<th>Questionnaire B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) How attractive are you?</td>
</tr>
<tr>
<td>2) How extroverted are you?</td>
</tr>
<tr>
<td>3) How satisfied are you with your figure?</td>
</tr>
<tr>
<td>4) How self-confident are you?</td>
</tr>
<tr>
<td>5) For a man to be a suitable partner for you how attractive need he be? *</td>
</tr>
<tr>
<td>6) For a man to be a suitable partner for you how responsible need he be?</td>
</tr>
<tr>
<td>7) For a man to be a suitable partner for you how jealous of you need he be? *</td>
</tr>
<tr>
<td>8) Do you compare your looks to those of models? *</td>
</tr>
</tbody>
</table>

(All items were rated on appropriate 9-point bipolar scales)

Exhibit 11.2: Questionnaire 'B'.

220
Table 11.2: Mean ratings (SDs in parentheses) for self-judgment variables. Key to table: 'ch bod': 'desire to change body', 'good mod': 'based on your looks how good a model would you be', 'attr': 'how attractive are you', 'fig': 'satisfaction with figure', 's-conf': 'satisfaction with self-confidence', 'look mod': 'desire to look like model', and 'comp mod': 'do you compare your looks to those of models'.

<table>
<thead>
<tr>
<th></th>
<th>ch bod</th>
<th>good mod</th>
<th>attr</th>
<th>fig</th>
<th>s-conf</th>
<th>look mod</th>
<th>comp mod</th>
</tr>
</thead>
<tbody>
<tr>
<td>control</td>
<td>5.45 (1.7)</td>
<td>4.40 (1.93)</td>
<td>5.60 (1.14)</td>
<td>4.80 (1.67)</td>
<td>5.42 (2.19)</td>
<td>4.55 (1.91)</td>
<td>4.25 (2.15)</td>
</tr>
<tr>
<td>Q/re 'A'</td>
<td>5.65 (2.28)</td>
<td>4.30 (2.13)</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>4.05 (2.78)</td>
<td>*</td>
</tr>
<tr>
<td>Q/re 'B'</td>
<td>*</td>
<td>*</td>
<td>5.35 (1.18)</td>
<td>4.40 (1.85)</td>
<td>4.75 (2.15)</td>
<td>*</td>
<td>5.10 (2.77)</td>
</tr>
</tbody>
</table>

Results

Data was analysed by using two separate MANOVA on the DVs of interest of each questionnaire. The mean ratings on all DVs that were statistically analysed can be found in Tables 11.2, and 11.3. The first MANOVA compared the ratings on the following measures: agreement with statements: 'change my body', 'wish I would look like a model', and 'to be my partner man should be very attractive', and rating of the: 'based on
<table>
<thead>
<tr>
<th></th>
<th>man attr</th>
<th>prtn attr</th>
<th>prtn jeal</th>
</tr>
</thead>
<tbody>
<tr>
<td>control</td>
<td>4.7 (1.78)</td>
<td>5.45 (1.32)</td>
<td>2.45 (1.54)</td>
</tr>
<tr>
<td>Q/re 'A'</td>
<td>4.8 (1.7)</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Q/re 'B'</td>
<td>*</td>
<td>6.1 (1.17)</td>
<td>3.7 (2.15)</td>
</tr>
</tbody>
</table>

Table 11.3: Mean ratings (SDs in parentheses) on the measures of the desired attractiveness and required jealousy from a partner. Key to table; 'man attr': agreement with 'a man should be very attractive'; 'prtn attr': rate how 'attractive should a suitable partner be'; and 'prtn jeal': rate how 'jealous of you should a suitable partner be'.

my looks how good a model would I be', between the experimental group (questionnaire 'A') and the control. This analysis was not significant \( F_{(4,35)} < 1 \).

A second MANOVA was used to compare the Ss' ratings on the rest of the DVs of interest (rating self-attractiveness, satisfaction with figure, satisfaction with self-confidence, degree of comparison to models, desired attractiveness from a partner, and required jealousy from a partner) between the experimental condition (questionnaire 'B') and the control. This analysis was significant \( F_{(6,33)} = 2.64, p < 0.05 \). Further univariate analyses indicated that the only statistically important measure was the 'required jealousy from a partner'. Those women who were exposed to attractive female stimuli reported a greater desire for a jealous partner than the controls \( F_{(1,38)} = 4.46, p < 0.05 \).

Discussion

The only evidence of a negative effect of an attractive context on Ss' assessments of their looks was obtained on the indirect measure of Ss' required jealousy from their partners. In line with predictions, those Ss who were exposed to attractive stimuli expressed a greater desire for jealous
partners than the controls. Subjects' ratings on all the other DVs that were used, did not produce any of the predicted effects of their exposure to an attractive context.

Looking at the results in more detail, no effect of the exposure to attractive stimuli could be detected on any of the 'direct' measures of attractiveness or their more 'indirect' versions that were tested here. Whether females were asked "How attractive are you?" or "How good a model would you be?", or whether they were asked "How satisfied are you with your figure?", or "Would you like to change anything about your body?", there was no difference between the corresponding experimental condition and the control. Furthermore, no effect was found on any of the other measures that were introduced here, (comparison to models, expectations from partners attractiveness), regardless of the relative subtleness of the measure ("Would you like to look like a model?" vs., "Do you compare your looks to those of models?", and "My partner should be very attractive", vs., "How attractive should your partner be?"). Finally, exposure to attractive stimuli was found to have no effect on the self-confidence of the Ss.

Before we evaluate the findings of this study, it is important to assess its methodology. It was noted from the outset that the nature of the present experiment was rather speculative. The reliability of the measures that were tested here was not an issue for their selection, whilst their validity was also based on theoretical premises than on experimental results. However, even with those limitations taken into account there are a number of conclusions that could be drawn from here. First, in our attempt to account for the evasiveness of the contrast effect in self-ratings of attractiveness, we obtained another instance of the problem we were set out to clarify in the first place. Second, overall, the directness of the self-measure that was used to test the effect of the context was not found to play a significant role in the elusiveness of the
contrast effect in self-ratings of attractiveness. Finally, the fact that an indirect measure such as the required jealousy from a partner proved successful in detecting a negative effect of the exposure to attractive same sex others on one’s appraisal of their looks, should be put into perspective. For given that this study tested a great number of DVs it faces the problem of increasing the probability of an alpha error. A replication of the effect would be essential before we can attach greater value to this DV.

As a conclusion, this pilot investigation provided only very limited support for the idea that the ‘directness’ of the DV used can account for the elusiveness of the contrast effect in self-ratings of attractiveness. However, given the methodological shortcomings of this study regarding the reliability of some of its measures, it would appear rather premature to abandon research towards this direction.
Experiment 12

Introduction

The final experiment of this thesis tested another possible explanation of the elusiveness of the contrast effect in self-evaluations of attractiveness. It examined the effect of the saliency of physical attractiveness to the rater, on self-ratings of their attractiveness.

It is conceivable that certain personal characteristics of the raters may have a significant effect on their self-ratings of attractiveness. Chapter 6 for example discussed how people's self-esteem is related to their evaluation of their out-appearance. Another important characteristic may be the centrality of physical attractiveness to one's self-concept (Kenrick et al, 1993). Those people to whom their out-appearance is more important, would be expected to be more susceptible than their counterparts to situational influences which could affect their attractiveness value. Following, people's reactions to such influences would also be expected to be sensitive to salience manipulations. The hypothesis that was put forward here was that increasing the saliency of physical attractiveness to the rater would increase the negative effect of an attractive context on the rater's self-evaluation of their looks.

The saliency of physical attractiveness was manipulated here by reading either, a script for a television commercial in which physical attractiveness was a central feature, or a neutral script. Furthermore, in order to increase the strength of the manipulation, Ss were required to imagine themselves in a situation which, either brought one's looks into question ('attractiveness script'), or a neutral situation ('neutral script').
Method

Subjects

Seventeen male and 29 female students of U.C.L. acted as paid volunteers for this experiment. Mean age for both sexes was 22 years of age (both SDs 3).

Stimuli

The photographs of 10 attractive males and 10 attractive females were used as priming stimuli

The cover story

The real aim of the experiment was disguised. Subjects were told that the experimental task was simulating decision making in the advertising industry. Their task was first, to read the scripts of two television commercials (salience manipulation) that advertisers were planning to launch on the market, and second, to rate a number of actors (the priming stimuli) on how appropriate they were to play the leading role in each commercial. Ostensibly, the situation of interest which the present task simulated, was that before Ss rated the prospective actors, they had to imagine themselves in a situation similar to the one that was described in the commercial (enhancing the saliency manipulation). This procedure, Ss were told, was a common practise of the advertising agencies. Finally, following the rating of the actors for each commercial, Ss had to answer a few questions about themselves (the DVs). This task was presented as another practise of the advertising agency industry ostensibly used in order to correlate the rater’s preferences to their consumer profile.

67 Seven other Ss failed to return for the second part of the experiment and were as a result excluded from the analysis.
**Story A (the neutral story)**

The commercial advertises careers in a high street Bank. It aims to show that there are good prospects for promotion.

**Background:** The voices of the actors are not heard. Throughout the commercial plays music of an intense beat.

**Story line:** A male walks into a building (looks like a bank) talks with someone behind the counter who tells him to have a seat. As he seats there waiting, he imagines a story. He sees himself behind the counter doing one after the other the following tasks: making photocopies, dealing with customers, seating behind a desk doing calculations and finally leaning against a bigger desk, smartly dressed, dictating some notes to a seated secretary. His day dreaming is interrupted when a male (seems like the manager of the branch) comes towards him, shakes hands with him and takes him into an office where they appear to have a job interview. The commercial ends with the logo of the bank and a message about career opportunities for working there.

**Imagining task following the commercial:** “Imagine yourselves as bank trainees in a major high street bank”

*Exhibit 12.1:* The script and its accompanying ‘imagine-yourself-as’ task of the neutral commercial.

Given that the experimental design was a within subjects one, in order that some time elapsed before Ss rated their attractiveness (part of the questions on self task) for the second time, they were told that the experiment was run concurrently at another department. Ostensibly only one set of the photographic stimuli was available, therefore Ss could only complete immediately the task for only one of the two
scripts. Given that Ss were recruited en mass just prior to two lectures (in one lecture were recruited only males and in the other only females), it was agreed that they completed the task with the available script just prior to the lecture and complete the exercise at the end of the lecture.\textsuperscript{68}

Procedure

Subjects were administered randomly one of the two scripts. Following the reading of the script, Ss were instructed to perform the ‘imagine-yourself-as’ task for a few seconds. The two scripts and their corresponding imagining tasks can be seen in Exhibits 12.1 and 12.2.\textsuperscript{69} Following, Ss were presented with the photographs of the 5 ‘actors’ (attractive stimuli). The actors were always of the same sex as the rater. Each stimulus was rated on “how appropriate they were to play the role in the commercial in question” on a ‘very inappropriate-very appropriate’ 9-point scale. Following the rating of the stimuli Ss were allocated randomly one of two sets of items which enquired about their person. The first set required Ss to rate their: facial attractiveness, body attractiveness, humour, friendliness, and confidence. The second set required Ss to rate themselves on: efficiency, punctuality, looks (‘very unappealing-very appealing’), self-belief, and communication skills. All items were rated using appropriate 9-point bipolar semantic scales. Following, the interim (duration of lecture) the same procedure (read script - ‘imagine self-in-X situation’ - rate stimuli - rate self) was followed for the second condition.

\textsuperscript{68} The fact that Ss of the same sex were part of the same lecture ensured that the level of attractiveness of the context outside the experimental situation was controlled for.

\textsuperscript{69} Exhibits 12.1 and 12.2 contain the versions for the male Ss. Females were administered the same stories with the exception that the sexes of the people mentioned in the scripts were reversed.
Story B (the 'attractiveness salient' story)

The commercial advertises a new concept in computer dating according to which the information about the participants is not provided by themselves, as it is usually the case, but instead, by an opposite sex panel after an extensive interview. The aim of the commercial is to indicate that with this dating agency you get reliable and objective information about potential partners.

Background: Soft erotic music plays throughout the commercial. A female voice explains why computer dating is no longer only for those unable to find a partner through other conventional ways. She goes on to explain how the agency operates, why it is a better concept and finally gives telephone and fax information about the agency.

Storyline: A male seats on a couch apparently looking bored and constantly changing the channels on television. In one of the channels there seems to be a commercial about a dating agency. He grabs a pen and writes down the displayed telephone number. Next we see of him is with a female seating together on the same couch laughing and joking. This time he switches the television off as they slowly disappear behind the couch kissing and fondling each other.

Imagining task following the commercial: “Imagine yourselves as customers of this dating agency being interviewed by an opposite sex panel”

Exhibit 12.2: The script and its accompanying 'imagine-yourself-as’ task of the commercial which made physical attractiveness salient.

Apparatus
Table 12.1: Mean self-ratings of attractiveness (SDs in parentheses) for the two conditions for each sex.

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>5.29 (1.72)</td>
<td>6.14 (1.02)</td>
</tr>
<tr>
<td>Attr. salient</td>
<td>5.59 (0.73)</td>
<td>5.33 (1.21)</td>
</tr>
</tbody>
</table>

The stimuli (10 actors) were presented to Ss as slides by a Kodak Carousel slide projector. Each stimulus was presented on its own for about 10 seconds.

Results

A single score of the Ss’ self-ratings of attractiveness was calculated for each of the two sets of self items. For the first set Ss’ self-ratings on facial and body attractiveness were averaged into a single score. For the second set the DV used was Ss’ ratings on the ‘looks’ item. A 2x2 ANOVA (Sex X Condition) was used to analyse those scores. Table 12.1 provides Ss’ mean self-scores of attractiveness for each of the two conditions for each sex. The analysis showed that there was no main effect of Condition ($F_{(1,44)} = 1.52, p < 0.05$), or main effect of the sex of the Ss ($F_{(1,44)} < 1$). However, the interaction between the two factors was statistically important ($F_{(1,44)} = 6.95, p < 0.05$). Further analysis indicated that whilst males’ self-ratings of attractiveness did not differ between the two conditions ($F_{(1,44)} < 1$), females rated their attractiveness significantly lower following the ‘attractiveness salient’ condition than following the ‘neutral’ one ($F_{(1,44)} = 10.13, p < 0.01$).

Discussion

This study offered support to the hypothesis that increasing
the saliency of physical attractiveness to the rater, promotes
the negative effect of a context of attractive same sex others
on their self-judgments of attractiveness. In fact the
present experiment would appear to represent strong evidence
of the significance of the saliency of physical attractiveness
to the rater on the contrast effect. For the evidence of the
effect in this experiment was over and above the high
attractiveness of the stimuli. In other words, following
exposure to an attractive context, increasing the saliency of
attractiveness to raters decreased Ss' self-ratings of
attractiveness in comparison to a group which was also exposed
to the same attractive context. This finding raises the
possibility that the recurring inconsistency of the contrast
effect in self-ratings of attractiveness could be due to
individual differences in the importance of good looks between
the samples.

The saliency of attractiveness in this study was manipulated
by reading appropriate passages and also by momentarily
imagining one's self in different situations. Future research
could test different methods, such as making Ss anticipate an
encounter with the opposite sex, or by manipulating the sex
or the attractiveness of the experimenter.

The fact that the effect of the saliency manipulation emerged
only for the females, is certainly consistent with the
knowledge that physical attractiveness is more important for
women than for men (see chapter 1). Although evidence of the
contrast effect in self-judgments of attractiveness with males
exists (Gutierres, 1978; Thornton and Moore, 1993) the vast

---

70 Kenrick (personal communication, 1995) is currently
testing a procedure in which Ss are led to believe that
subsequent to the experiment they would be photographed, and
their photograph would be used in a study of reactions of the
opposite sex to potential dates.

71 The sex of the experimenter has been shown to have an
effect on Ss' responses towards human stimuli (Kenrick,
Stringfield, Wagenhals, Dahl, and Ransdell, 1980 (b)).
majority of the documented instances of the effect are on females (see Table 11.1). Given publication trends to accept only positive results, one suspects that findings such as the present one of an absence of the contrast effect for males may be common.

Summarizing, this study suggested that individual differences in the centrality that physical attractiveness has on one's self-concept, could be to some extend accountable for the elusiveness of the contrast effect in self-judgments of attractiveness. The fact that evidence for this hypothesis was only obtained for females may represent another facet of the different importance that out-appearances play for the two sexes.
CHAPTER TWELVE

Miscellaneous findings of interest from this thesis regarding judgments of attractiveness in general
12.0.1 Overview

This chapter summarizes the results on two issues that were examined in this thesis during the process of investigating the contrast effect in judgments of attractiveness of self and others. The first issue is how personal characteristics of the Ss may shape their ratings of attractiveness of others. The second issue examines how self-bias may skew people's evaluations of their looks.

12.1.1 The 'derogation of others' effect

One of the issues that was examined in one of the experiments of this thesis was the effect of the Ss' relationships on their ratings of attractiveness of opposite sex stimuli. A number of researchers (e.g., Festinger, 1957; Symons, 1979) have suggested that one of people's common practices is to derogate opposite sex alternatives. This process, they argued, serves a relationship maintenance role. Substantiating this assertion, Johnson and Rusbult (1989) found that Ss derogated consciously alternative partners on a number of dimensions such as intelligence or faithfulness. The effect was particularly pronounced when the alternative partners were attractive - for as such they posed a greater threat to the Ss' relationships.

Simpson, Gangestad, and Lerma (1990) found evidence of this derogation effect on Ss' ratings of attractiveness of opposite sex others. Those Ss who were involved in relationships judged young models of the opposite sex as less physically and sexually attractive than single Ss. Evidence also shows that the 'derogation of others' effect may be further qualified within those who are in a relationship. This evidence is nevertheless equivocal. So whilst Johnson and Rusbult found that the greater the strength of the Ss' relationship the greater the derogation of opposite sex others, Simpson et al
did not replicate this finding.

The 'derogation of opposite sex others' hypothesis was tested in this thesis in experiment 8. The prediction was that those Ss who were involved in a relationship, and particularly those who were highly committed to them, would rate the attractiveness of opposite sex stimuli as less attractive than their counterparts.

Taking the above evidence together with evidence which shows that physical attractiveness is an important determinant of the self-concept of women, and in fact the attribute which most of their intra-sexual mate selection is based on (see chapter 1), a new hypothesis was formulated regarding women's judgments of attractiveness of female stimuli. It was suggested that those women who were involved in a relationship, and particularly those who considered their relationships as rather secure, would rate the attractiveness of female stimuli as higher than single women. This expectation was based on the assumption that women who are romantically involved feel less threatened by the 'competition'. Given the relatively lower importance that physical attractiveness has been shown to play for the self-concept of men, the latter's ratings of attractiveness of other males were expected to be independent of their relationship status. This 'derogating the attractiveness of same sex others' hypothesis was also tested in experiment 8.

Method

Procedure

Before the beginning of the experiment, along the demographic

\footnote{The comprehensive description of the method for each of the experiments mentioned in this chapter is given in the respective section of each experiment.}
characteristics that Ss provided, they gave information about their marital status (married, single, etc) and the strength of their relationship (where applicable). The strength of the Ss' relationship was measured using a 9-point 'most unlikely-most likely' scale by the question "How likely is it you will be with your current partner for ever?"

Results

A series of regression analyses were carried out to test the derogation hypothesis on Ss' attractiveness ratings first, of opposite sex others and second of, same sex others. The attractiveness ratings of the targets in the AvMe-Me and AvWe-We conditions acted as DVs for those tests since those were the only conditions which preceded exposure to any group with attractive primes. The first two analyses revealed that Ss' judgments of attractiveness of opposite sex stimuli (males' ratings of the target in the AvWe-We, and females' ratings of the target in the AvMe-Me conditions) were independent of both, the relationship status, and the strength of the relationships of the Ss.

However, for women their attractiveness ratings of same sex others, (females' ratings of females) were significantly predicted by the strength of their current relationship ($R^2 = 0.38, F_{(1,9)} = 7.14, p < 0.05$). The more stable women felt their relationship was, the higher they rated the attractiveness of female stimuli ($r = 0.66$). No such effect was found for the male's attractiveness ratings of male stimuli.

Discussion

No evidence was found for the hypothesis that those Ss who perceive their relationships as rather stable, derogate the
attractiveness of opposite sex others more than their counterparts. On the other hand, in line with predictions, evidence for the derogating hypothesis emerged for females', but not for males' judgments of attractiveness of same sex others. Women's judgments of attractiveness of other women were predicted by the level of security they felt in their relationships. The greater this security (as expressed by their expectation to be with this partner until the end of their lives), the higher they rated the attractiveness of female stimuli. This finding makes a case for the importance of personal characteristics of the raters on their judgments of attractiveness of others.

12.1.2 The 'uniqueness bias' hypothesis

The 'uniqueness bias' hypothesis is that people tend to see themselves as better than average. This thesis tested the applicability of this assertion to judgments of attractiveness in 'experiment' 3/10 and 'experiment' 8/9. The hypothesis that was formulated here, was that this self-bias would be a characteristic of males but not females. There were two reasons for this expectation. First, because women were expected to have a lower regard for their looks than men, and second, because evidence shows that men exhibit this self-bias more than women in evaluations of physical attributes (Furnham and Dowsett, 1993).

It will be recalled that studies 3 and 10 and studies 8 and 9 were in fact carried out within two single experiments.

Furnham and Dowsett hypothesized that women have to deal with well specified reality constraints of what is considered as attractive. Men on the other hand, may lack similar constraints given that attractiveness ideals are more diverse and less rigid for their sex.
Method

See the method of the respective experiments.

Results

'Experiment' 8/9

Males' BslSc (baseline self-attractiveness score) was compared to their attractiveness ratings of the target in the AvMe-Me group. Female’s BslSc was compared to their attractiveness rating of the target in the AvWe-We condition. This comparison revealed that females did not rate their attractiveness higher than the attractiveness of the female stimuli ($F_{(1,11)} < 1$). Males on the other hand considered themselves significantly more attractive than the males they were exposed to ($F_{(1,26)} = 18.77$, $p < 0.01$). For the mean ratings of this analysis see Table 13.1.

'Experiment' 3/10

Subjects' self-attractiveness ratings (composite score) were compared to their mean attractiveness ratings of the actors in the commercials. The analysis indicated that Ss perceived themselves as more attractive than the actors of the commercials ($F_{(1,46)} = 33.63$, $p < 0.01$). There was no effect for the raters’ sex ($F_{(1,46)} < 1$), and no Sex X Condition interaction ($F_{(2,46)} = 1.86$, $p > 0.05$). On the other hand, the main effect of condition was qualified by the group of commercials Ss were assigned to ($F_{(2,46)} = 16.39$, $p < 0.01$). Further analysis revealed that whilst Ss did not rate their selves as more attractive than the actors in either, the 'attractive' or the 'mixed' groups ($F_{(1,46)} < 1$, and $F_{(1,46)} = 2.32$, $p > 0.05$, respectively), they considered themselves to be more attractive than the actors in the ‘average’
Table 13.1: Baseline self-attractiveness scores and attractiveness ratings of same sex others ('Others' stands for the ratings of the AvMe-Me condition for the males and the ratings of the AvWe-We condition for the females) by rater’s sex.

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>BslSc</td>
<td>6.89 (1.55)</td>
<td>5.77 (1.74)</td>
</tr>
<tr>
<td>Others</td>
<td>4.78 (2.42)</td>
<td>6.17 (2.98)</td>
</tr>
</tbody>
</table>

Discussion

The results lent support to the 'uniqueness bias' hypothesis on self-judgments of attractiveness. Subjects were found to evaluate their beauty as higher than the beauty of stimuli which had been objectively established as being of middle attractiveness. In 'experiment' 3/10 Ss even considered their attractiveness to be comparable to attractive models in television commercials. These results make a case for the idea that the 'uniqueness bias' phenomenon could well be one of the reasons for the elusiveness of the contrast effect in self-ratings of attractiveness. The hypothesis that was put forward here, that the effect would be more pronounced for males, was supported in 'experiment' 8/9 but not in 'experiment' 3/10. Age differences between the two samples could have been accountable for this discrepancy (Ss in experiment 8/9 were on average about 10 years older than the Ss of experiment 3/10 who were in their early twenties). For if as the majority of the evidence shows women’s dissatisfaction with their out-appearance increases with age (see chapter 1), the difference between men and women in the way they rate their attractiveness against the attractiveness of the average person would be expected to polarize with age also.

239
Conclusion
III.0.I Overview

This last section summarizes the findings of this thesis, the inferences that can be drawn from those findings, whilst we also suggest some future directions for the issues under investigation.

III.I.I The contrast effect in judgments of attractiveness of strangers

One of the issues of this thesis was to examine the parameters of the experimental situation used in researching contrast effects in judgments of attractiveness. One of those parameters was the size of the priming set. The results supported the rather intuitive decision of the majority of the researchers to use at least 5 or 6 primes. This was shown here to be a sufficient minimum for contrast effect to occur (experiment 1).

The evidence also suggested that the size of the contrast effect was a linear function of the priming set up to a point. Beyond this point, the graphical representation of the relationship between the two variables was more accurately portrayed by a ‘step-wise’ function. In other words, a ‘leap’ increase in the number of the priming stimuli was required for further increases in the size of the contrast effect to be obtained (experiments 1 and 2). Whether the identified relationship between the size of the contrast effect and the number of primes used related to the immediately prior stimulus set Ss were exposed to or, to the total number of primes they were presented with during the course of the experiment, remained unclear (experiment 1).

On the basis of the presented results, no conclusive statement can be made on the effect of the delay between exposure to the stimuli and rating the target on Ss’ attractiveness ratings of
the latter. In experiment 5 a short delay (30 seconds) did not hinder the emergence of contrast even when during that delay Ss were engaged in a mentally taxing task. However, a direct manipulation of the presentation-rating delay in experiment 2 produced no effect on Ss’ ratings of attractiveness of the target.

The second major issue regarding ratings of attractiveness of strangers that was examined here, was the specificity of the contrast effect. First, it was established that the phenomenon is modality specific (experiment 4). The suppression of the target’s attractiveness was not achieved through exposure to different modality stimuli which were still characterized as 'beautiful'. A prerequisite for the contrast effect to occur was that the primes were also human stimuli. Second, regarding the similarity between the primes and the target, there was considerable support for the 'universe of discourse' hypothesis. Experiments 5, 7, and 8 showed that as the similarity between the primes and the target increased, in general so did, the size of the contrast effect. In addition, it was shown that not all variables on which compatibility between the primes and the target was formed, were comparably effective. Compatibility in the sex of the stimuli was a more reliable determinant of the size of the contrast effect than the designated profession of the stimuli. The evidence however on the effect of the similarity between the primes and the target on the contrast effect, was often qualified. Experiment 7 showed that the experimental predictions could be limited to judgments of opposite sex others, whilst the findings of experiment 8 made a case for the importance of the socio-cultural characteristics of the sample.

III.I.II The contrast effect in self-judgments of attractiveness
In line with previous findings the evidence on the hypothesized negative effect of an attractive context on Ss’ evaluation of their attractiveness, was tenuous. Evidence of a negative contrast emerged in experiment 9 for males but not for females. Interestingly, the sex of the primes was found to have no effect.

Furthermore, experiment 10 found evidence of a positive but no evidence for a negative contrast. Exposure to stimuli which were perceived by Ss as unattractive, enhanced their satisfaction with the way they looked. On the other hand, exposure to attractive stimuli had no effect. Regarding the last finding however, it is fair to mention that Ss’ ratings revealed that they did not consider the used stimuli as attractive.

The ‘bolstering effect’, according to which exposure to opposite sex stimuli enhances one’s assessment of their appearance, was in experiment 9 tentatively associated with females. This finding contradicted previous ones that have shown this to be a male effect. Cultural and age differences between the samples were put forward as likely candidates for this discrepancy.

Given the inconsistency of the contrast effect in self-judgments of attractiveness both, here and in previous research, the last two studies tested two hypothesized explanations of this. The findings of experiment 12 showed that the saliency of physical attractiveness to the rater determines the effect that an attractive context has on self-ratings of attractiveness. The effect of this saliency manipulation was so strong that it was over and above the level of attractiveness of the primes. On the other hand, experiment 11 found very limited support for the hypothesis that the directness of the DV that is used determines whether the contrast effect on self-evaluations of attractiveness will be experimentally detected or not. Subjects ratings were
compatible with a negative effect of the context only on a DV which measured how jealous they wanted their partner to be of them.

III.I.III The relationship between the raters’ self-esteem and their evaluations of their attractiveness

On the question of the relationship between a person’s self-esteem and their self-ratings of attractiveness, the findings showed this to be a positive one (experiment 9). The same relationship was also found between a more general measure of satisfaction with self-identity and self-ratings of attractiveness (experiment 10). To attribute causality to those relationships would be unwarranted from the current findings. However, the fact that exposure to an attractive context did not affect the raters’ self-esteem (experiment 9) or their confidence in themselves (experiment 11) suggests that by virtue of being the more stable attribute of the two, self-esteem affects self-assessments of attractiveness rather than the other way around.

III.I.IV Other findings of interest from this thesis

There were a number of interesting findings which were not strictly related to the contrast effect in judgments of attractiveness, but rather to judgments of attractiveness in general. First, regarding the effects of the interaction between the sex of the rater and the sex of the stimuli on Ss’ attractiveness ratings of the target, the results supported previous findings. Men rated the attractiveness of female stimuli higher than women (experiment 2), whilst females were considered as more attractive than males (experiment 6). Second, the findings revealed that although in middle age, men are more satisfied with the way they look than women (experiment 9), this sex difference is not present in younger
This finding is compatible with recent findings which highlight the increase of the importance of physical attractiveness for men. Third, the findings supported the 'similarity' hypothesis. Subjects expressed a preference for marrying fellow students of the same discipline as them and also a preference for being friends with students from their sex as well as their area of study (experiment 6). Fourth, the evidence for a general 'derogation of others' effect was mixed. The results lent no support to the hypothesis that those Ss who are engaged in a relationship evaluate the attractiveness of opposite sex others as lower than their counterparts (chapter 12). However, this thesis identified such a derogation effect for women's ratings of the attractiveness of other women (chapter 12). Fifth, support was lent to the 'uniqueness bias' hypothesis (chapter 12). That is, the attractiveness ratings of the Ss revealed a tendency to think 'they were better than average'. The evidence for the hypothesis that this effect would be a male one was equivocal (chapter 12). Sixth, Ss' judgments of attractiveness were independent of the designated profession of the stimuli (experiment 6). More importantly, Ss' negative attitudes towards a profession did not bias their judgments of attractiveness of the members of this group. Finally, there was support for the popular belief that 'attractiveness sells' (experiment 10). Advertising messages transmitted from attractive actors were liked more, and judged as more persuasive than messages from less comely actors.

III.II.I The importance of this thesis to the contrast effect in judgments of attractiveness and future directions

This thesis reinforced the idea which first emerged before less than 20 years ago, that 'physical attractiveness' as defined by judgments of it, is relative. An attractive person can be judged as such only because others are less comely. Although experimental psychology has shown attractiveness
standards to be much less subjective than popular belief suggests, situational factors still play an important role. The evidence presented here showed that people’s assessments of their own attractiveness or the attractiveness of other people are affected by the context in which they take place. Together the present work suggests that exposure to an attractive context has a negative effect (negative contrast), whilst exposure to an unattractive context has the opposite effect (positive contrast).

Although not directly examined, the current work supports the view that the contrast effect in judgments of attractiveness is the product of a perceptual change rather than the result of response artifacts. The position that would appear to be advocated from the current findings, would be that exposure to a context of extreme attractiveness or unattractiveness invokes a change to the rater’s standards of attractiveness. The main reason for adopting this stand is that with the exception of experiment 10, the priming stimuli in the current work were not rated on attractiveness. Subjects were either, only exposed to them, or rated them on a dimension other than physical attractiveness. Furthermore, the fact that evidence of contrast was obtained with the use of different response scales (experiment 9) make it more unlikely that a response bias explanation can account for the obtained effects.

An important contribution of this thesis, was the finding that the specificity of the contrast effect is rather limited. With the prerequisite that the primes were of the same modality as the target (humans), a high level of attractiveness of the primes was the only necessary condition for contrast effect to emerge in judgments of strangers. Regarding self-judgments this effect was qualified by the raters sex. Although men contrasted their self-judgments of attractiveness following exposure to either, attractive males or attractive females, no such effect was found for women.
The finding that the suppression of the attractiveness of the target was achieved by primes of either, the same or the opposite sex has far reaching implications for the prevalence of such a contrast effect in real life. For it implies that the media figures people are exposed to in their lives, do not only increase their particular standards of attractiveness for the sex these stimuli belong to, but rather raise their general standards of attractiveness. For example, following exposure to female models in the media women may judge the attractiveness of a potential partner harsher, whilst men may evaluate their own attractiveness more unkindly. Whether this generality of the contrast effect is culturally bound, and whether it depends on the sex of the rater (there was a suggestion for this in this thesis), are two questions meriting further clarification.

This thesis represents the first documented within-subjects demonstration of a contrast effect in self-judgments of attractiveness. This finding makes a strong case for the severity of the negative effect that exposure to attractive stimuli has on people’s evaluations of their attractiveness. For it shows that such exposure can make people contradict a self-assessment of their out-appearance within the space of a few minutes. The fact that the contrast effect in self-ratings of attractiveness is detectable within-raters, is a direction for future research. Temporal Comparison theory (Albert, 1977) states that at any point in time people will not only compare themselves socially (against other people), but also temporally (against their selves in the past). This would predict that the level of attractiveness people have in youth may determine their satisfaction with their appearance later in life. This effect would be expected to be especially apparent first, in women between the ages 50 and 60 when "late mid-life astonishment" (Pearlman, 1993) make this group disillusioned with the way they look, and second, in people for whom their youthful looks had a central position in their self-concept.

247
The findings of the current work on the contrast effect in self-judgments of attractiveness added also more weight behind the view that the phenomenon is elusive. From the evidence in experiment 12 it seems that a possible reason for this are individual differences in the importance of physical attractiveness to raters. On the other hand, the idea that the evasiveness of the effect is due to the threatening nature of the situation found no substantial support. Future research should test factors other than the DV, on which the perceived threat from the situation can be manipulated.

The present thesis looked also at the cultural generality of the contrast effect in judgments of attractiveness. Although evidence of the contrast effect in ratings of attractiveness of self or others emerged from three different societies (Greek, German, and British) some of the findings were disparate between the samples. Given that the Ss in the three populations differed also on characteristics such as age, education, and other socio-economical indicators, it would be unwarranted to attribute these discrepancies to any single variable.

A ubiquitous aim of this work was to increase the ecological validity of its findings. A number of experiments simulated the way we are exposed to attractive others in everyday life, an attempt which was met with mixed success. First, no conclusion could be drawn on whether the effects of exposure are transient, or cumulative and enduring. Furthermore, Ss' habits which was assumed they revealed the extend to which they were exposed to attractive people were not predictive of the contrast effect in judgments of attractiveness of self, and in their majority not predictive of their attractiveness judgments of others. Taking those findings together, questions such as whether the rise to one's standards of attractiveness which is induced by exposure to an appropriate context, intensify over the long term, or whether exposure to average attractive others bring standards of attractiveness
back to baseline, remain yet unanswered.

Regarding this thesis' attempt to test the effect of exposure to real-life stimuli on people's judgments of attractiveness, whilst browsing fashion magazines produced no contrast effect in attractiveness ratings of strangers, the viewing of actual television commercials resulted in a contrast effect on both, self-ratings of attractiveness as well as ratings of attractiveness of others. The testing of other sources of attractive stimuli, such as erotic or pornographic material should be the goal of future research.

As a conclusion, this thesis strengthened the case for a contrast effect in judgments of attractiveness of self and strangers. Two of its major contributions were to assess the significance of the similarity between the priming stimuli and the target on those effects, and also to offer possible explanations for the elusiveness of the contrast effect in self-ratings of attractiveness. The current work suggests that more research is needed before we are in a better position to assess whether or not the phenomenon constitutes - as Kenrick and Gutierres (1980) proposed - a "social problem".
A.0.1 Overview

This section examines in more detail a number of theories that have dealt with contrast and assimilation effects.

A.1.1 The Adaptation Level theory

The most influential of all theories of context effects is Helson's Adaptation Level theory (AL). The rest of the theories discussed here represent either a modification of or a reaction to this theory.

The interaction between the rater (or 'organism' as Helson refers to it) and the stimuli, assumes a focal position in the AL theory. According to Helson, judgments are "acts of adjustment of the organism to external and internal forces". Helson (1959) quantified his theory by introducing an operational criterion of this adjustment of the organism. He begins with the observation that organisms respond to situations in a bipolar way, either positively or negatively. A direct consequence of this bipolarity of judgment, Helson argues, is the existence of a neutral point on any psychological continuum. Helson calls this neutral point the 'adaptation level'.

The adaptation level is the major construct of the AL theory. Helson asserted that each organism possesses an adaptation level at which point equilibrium exists. At that point is predicted a total absence of a response or if a response is

---

75 Helson, 1959; p. 566

76 Helson claimed that this behaviour is independent of the psychological continuum of the rater's judgment, impression or response.

77 A psychological continuum is assumed to underlie each judgmental task. Raters are therefore hypothesized to have separate continuums for say, judgments of weight, colour or attractiveness.
emitted, it is expected to bring no change in the state of the organism.\textsuperscript{78} The adaptation level is assumed to be a pooled effect of all stimuli both, outside and inside the organism, that may exert influence on the organism at a given point of time. The major importance of the adaptation level in the theory is that it represents a reference point to which all other responses are referable. In effect, 'judgment' in the theory is considered to be the result of the comparison of the value of the judged stimulus against the predominant adaptation level that the rater possesses for the relevant psychological dimension.

A.1.2 The mathematical model

Before we examine how 'judgment' is formulated within the AL theory, we shall consider the mathematical model of its central coefficient ie, the adaptation level.

Algebraically, the adaptation level is a weighted geometric average of all the types of stimuli that affect the organism at any particular point in time. Helson distinguishes between three general classes of stimuli: 1) 'focal stimuli', which are stimuli of immediate interest to what Ss have to respond to, 2) 'background stimuli', which represent all other stimuli which may act as background or context for the focal stimuli, and 3) 'residual stimuli', which are those stimuli that form the past experience of the organism, and are usually outside experimental control. The following model presents how the adaptation level relates to the three kind of stimuli (Helson, 1964):

\textsuperscript{78} To explain the concept of the adaptation level Helson (1964) uses terms such as 'cognitive homeostasis'. He nevertheless points out that an important difference between his model and other homeostatic ones, is that the point of equilibrium in his model is ascribed dynamic rather than static status.
\[
A = X^p B^q R^r
\]  

where \( A \) stands for the adaptation level, \( X, B \) and \( R \) stand for the geometric means of the focal, background and residual stimuli respectively, and \( p, q \) and \( r \) stand for the corresponding weights of those stimuli.\(^79\)

One of the AL theory's postulates is that the best approximation of the adaptation level is a logarithmic mean. In a task of judging the colour of objects under different background viewing conditions Helson (1948) produced the following logarithmic formula:

\[
\log A_r = k_1 \log \bar{R}_r + k_2 \log R_b + k_3 \log R_r
\]

where \( A_r \) stands for the adaptation reflectance (in other words the adaptation level in this situation), \( R_b \) is the reflectance background, \( \bar{R}_r \) is the mean reflectance of all other stimuli other than the background, \( R_r \) is the residual factor, representing all the uncontrolled variability of the situation (e.g., the colour sensitivity of the Ss), whilst the three \( k_s \) represent the weighting coefficients of the stimuli.

Having mathematically defined the adaptation level we move on to see how the theory relates it to 'judgment'. The following formula is also based on the paradigm of colour identification (Helson, 1948):

\[
J = \frac{k (x - A)}{x + (b + b)} + 0.5 k
\]

\( 79 \) In all mathematical models to be discussed here, the weights denote the relative importance of the stimulus they are assigned to.
where $J$ stands for the organism’s judgment in numerical terms, $A$ stands for the adaptation level, $k$ stands for the top of the numerical scale where ratings are made, and $b$ is a constant ($b$ is actually the $y$ intercept were the equation to be presented in its linear form).

Before we close the mathematical discussion of AL theory we ought to highlight one important technical feature of its models. As Equation 2 and Equation 3 stand, they both assume that the relationship between the adaptation level (and consequently context effects) and the value of the anchor is monotonic. This assumption has been the cause of a number of theoretical attacks on AL theory (e.g., Sarris, 1967a,b). In particular, it has provided the ground for the common criticism that AL theory cannot account for assimilation effects (e.g., Cambell, Hunt and Lewis, 1957).

A.1.3 Assimilation and contrast in Adaptation Level theory

The way that AL theory deals with context effects such as assimilation and contrast, is through the assumption that the adaptation level is dynamic rather than fixed. The theory stipulates that in a situation where stimuli are introduced sequentially, the adaptation level of the rater is continually shifted a notch towards the value of the last presented stimulus. The theory asserts that anchoring stimuli do not act as the direct frame of reference against which stimuli are judged but rather that the adaptation level plays a mediating role between these stimuli and the rater.

Let us consider how AL theory explains contrast effects. When at some stage of the stimuli presentation, an anchor is introduced, the rater’s adaptation level shifts momentarily towards the direction of this anchor. Given that the adaptation level represents the zero point of the subject’s judgment scale, judgments of subsequent stimuli tend to ‘move’
in the opposite direction from the anchor. For example, if
the anchor is an extreme positive one, the adaptation level
shifts towards the positive end of the rating continuum.
Given that the zero point of the response scale has now been
raised, those stimuli which prior to the anchor's presentation
were judged as marginally positive, will now be judged as
marginally negative - a contrast effect.

A.1.4 Assessing the theory

The AL theory is arguably the most complete and general theory
of judgment behaviour. Consequently the theory has proved the
most influential in explanations of context effects. Although
the theory was initially formulated in order to explain
psychophysical phenomena (e.g., Helson, 1938; 1947; 1948), it
has found applications to a large number of psychological
areas including learning, impressions of personality,
interpersonal relations, or even behaviour pertinent to
everyday activities such as making gifts or signing petitions
(the evidence is summarized in Helson, 1964).

Problems with the theory however, have not been absent with
the assumption of monotonicity that AL theory invokes, being
probably the most serious one. Evidence shows that the theory
fails to deal with non-monotonic functions of the adaptation
level (Sarris, 1967a,b), and also that without this assumption
assimilation effects can become uninterpretable by the theory
(e.g., Cambell, Hunt, and Lewis, 1957).

A.2.1 The Similarity Classification theory

A theory very similar to AL is Saris' Similarity
Classification (SCL) theory (Sarris, 1967a,b). In fact the
only difference between the two theories is that Saris
abandons the assumption of monotonicity between the adaptation
level and the values of the context stimuli.

In a replication of Helson's (1947) paradigm of assessing the weight of objects, Sarris (1967a,b) found evidence against the monotonicity assumption. Sarris showed that the function of the adaptation level to the values of the anchor was not monotonic but cubic. The existence of a cubic function meant that the size of the contrast effect (the type of effect that was illustrated in this paradigm) increased parallel with the size of the anchor, up to a point, beyond which further increases of the anchor resulted in the gradual elimination of the effect. In order to explain those findings Sarris argued that Ss perceive very extreme anchors as irrelevant to the test series. As a result, such stimuli do not affect the Ss' prevalent adaptation level, hence the absence of a contrast effect in those cases.

A.2.2 The mathematical model

The algebraic model of the adaptation level that accommodates Sarris' findings, is very similar to that of Helson's. In fact the only modification of the original model, is allowing the weighting coefficients to be variable rather than constant. Sarris found that the best fit for his data was produced by a model that used weights which were a parabolic function of the value of the anchor. To illustrate the difference between Helson's and Sarris' models consider the model that Helson (1947) put forward to explain contrast in the original study of lifting weights (reproduced by Sarris, 1967b):

$$\log (A + c \times d) = \frac{k \log \bar{S} + \log C}{k + 1}$$

(4)

where \(A\) is the adaptation level, \(k\) is a constant and the weighting coefficient of the stimuli series \(\bar{S}\), when the anchor is \(C\). The coefficient \(d\) stands for the step interval.
between the stimuli series and the anchor, whilst \( c \) represents the time-order effect resulting from the fact that presentation of the stimuli in this paradigm was successive.

Sarris replaces Equation 4 with the following:

\[
\log (A + s) = \frac{v \log S + \log C}{v + 1} \tag{5}
\]

\( v = f(C) \)

As it can be seen this model replaces the product \((c*d)\) of Equation 4 with the constant \( s \), but more importantly replaces the constant weight \( k \) with a variable weight \( v \), which Sarris assumes to be a cubic function of the value of the anchor used.

A.2.3 Assessing the theory

In the light of the fact that the monotonicity assumption of Helson's AL theory has often proved problematic for explaining data, SC theory can be considered an improvement. In addition, the reliability of Sarris' assertion that the relationship between the value of the anchor and the adaptation level is a cubic one has been enhanced by subsequent studies (e.g., Adamson, 1967; Wilkening, Sarris and Heller, 1972).

Perhaps the only criticism of this theory is its originality. For Sarris appears to merely solidify mathematically the most obvious way out for AL theory regarding non-monotonic patterns of responses.\(^{80}\)

\(^{80}\) Helson and Masters (1966) obtained an adaptation level function with both a minimum and a maximum inflection points (a cubic function). So that AL theory could still predict
A.3.0 Range and Frequency theories

The following section examines theories the common feature of which is that they view context effects as the result of a characteristic of either, the stimulus or the response distributions.

A.3.1.0 Frequency theories of context effects

As their name implies those theories consider the frequency characteristic of the response distribution as the major postulate in their explanation of context effects. The major idea underlying those models is that context effects are the result of a response 'artifact' that is commonly encountered in psychophysical tasks. This artifact is the Ss' tendency to use all responses that are available to them with equal frequency.

A.3.1.1 The Response Frequency Equalization theory

Perhaps the most well known Frequency theory is the Response Frequency Equalization (RFE) theory (Erlebacher and Sekuler, 1971; Sekuler and Erlebacher, 1971). The model of this theory assumes that judgment is the product of two sequential processes, a sensory and a decisional process. Erlebacher and Sekuler illustrated how these two processes operate by using a paradigm in which 'comparison' stimuli (Co) which vary in size are judged against a fixed 'standard' stimulus (St) in a bipolar response scale (greater vs., smaller).

those results, these researchers allowed for the weighting coefficients of the adaptation level model to vary for very extreme stimuli rather than remain constant over the entire stimulus intensities continuum.
On the sensory level, the model assumes that each presented Co generates one of three sensory states. The state 'lesser' in which the organism perceives the St as of a smaller value than the Co in the dimension of judgment, the state 'greater', in which the St is perceived as of a greater value than the Co, or a third state of 'uncertainty'.

The decisional process of the model explains how the rater converts their sensory state to overt responses (judgments). In the case of the states 'lesser' and 'greater' decision is straightforward. The state 'lesser' evokes the response "less" whilst the state 'greater' the response "greater". It is when the comparison task evokes the 'uncertain' state, that the RFE model assumes a response bias on the part of Ss. The model asserts that in situations of uncertainty, Ss will give this response which attempts to equalize the frequency with which the two possible responses have been used until that point.

In other words, if the rater is not certain whether the value of the Co is smaller or greater than the value of the St, if they feel that until that particular judgment they have judged stimuli as "greater" more frequently than as "smaller", they will judge the stimulus at hand as "smaller". On the other hand, if they feel they have responded more frequently with "smaller" than with "greater", they will judge that stimulus as "greater".

---

81 It can be shown that the probabilities of the states 'lesser' and 'greater' as a function of the size of the Co can be represented as the decreasing, and the increasing side respectively, of a normal distribution. To obtain the probability of the third state, that of 'uncertainty', one of the distributions of the other two states is plotted against the (1 - p) distribution of the opposite state (where p the probability of this state). The probability of the 'uncertain' state for each value of the Co, is then given as the vertical difference between the two curves.
Sekuler and Erlebacher use this equalization of frequencies principle to account for context effects. For example, with respect to contrast, the introduction of an anchor increases the frequency with which the response associated with this part of the rating scale is used. Subsequently, as an attempt to address the balance of the response frequencies, the rater judges the following stimulus using a response which is slightly in the opposite direction from the anchor, compared to the response they would have given to the same stimulus had the anchor not been presented.

A.3.1.2 Assessing the theory

As an assessment of the RFE theory, although the development of the theory was in fact a reaction to the AL theory (in particular to the findings of Bell and Bevan, 1968, and Levison and Restle, 1968), the interpretation of data by both theories has proven comparably good. This, together with the fact that as with other Frequency theories the applicability of the RFE model is relatively narrow, is probably the major reason why this approach to context effects never really took off the ground.

A.3.2.0 Range theories of context effects

The following theories have centred the interpretation of context effects around a range principle. The range principle goes that raters attempt to fit the response scale they use, to the stimulus set they judge. This section does not aim to present the most prominent Range theories, rather those theories which have applied a range criterion in explaining context effects such as assimilation or contrast.\footnote{For the most influential range theories of judgment the reader may wish to consult McGill (1960), Holland (1968), Gravetter and Lockhead (1973), Braida and Durloch (1972).}
A.3.2.1 Volkmann's influence on range theories

Volkmann's (1951) essay on the importance of Range has probably been the major influence of all subsequent range theories of judgment.\textsuperscript{83} Volkmann noted that the typical behaviour of Ss in psychophysical tasks is to attempt to match the successive response categories they are provided with (in other words the rating scale), to the successive subranges of the stimuli (Volkmann assumes that Ss sort out the stimuli in subranges during the course of the stimuli presentation). The most crucial determinant of this 'matching' process is according to Volkmann, a range effect according to which the rater matches the two most extreme opposite stimuli they are presented with to the two opposite extreme ratings of the rating scale (a process Volkmann refers to as 'anchoring').\textsuperscript{84}

A.3.2.2 Variable Perspective theory

The first range theory of context effects that will be discussed here is Ostrom's and Upshaw's theory of Variable Perspective (VP) or Variable Series. This theory is a direct application of Volkmann's concept of perspective (see note 83) to judgments of social stimuli, and in particular to judgments of attitudes.

The first version of VP theory dealt with judgments of one's

\textsuperscript{83} Volkmann extended his range theory of judgment beyond psychophysics. He claimed that the major prerequisite of an orderly and analysable world is to produce perspectives of it. Such perspectives, Volkmann argued, would only be formed by creating adequate scales of judgment for all measurable things (including opinions and attitudes). The range of those things was held to be the major determinant of these scales.

\textsuperscript{84} The usage of the term 'anchoring' in this context should not be confused with the usual meaning of the term i.e., the introduction of an extreme stimulus.
own attitudes (Ostrom and Upshaw, 1968). It identified three major components of judgment. The first one, 'attitude content' can be viewed as the equivalent of a stimulus in a psychophysical task, and it represents the belief of the individual about a particular issue. The second component, the 'attitude rating scale' is as its name suggests, the graded dimension upon which attitudes can be measured. Finally, the third postulate, 'perspective' is defined as the range of attitudes on the issue in question that the rater is aware of when rating their own attitude.95

Central to the VP theory is the proposition that perspective mediates the relationship between the attitude content and the rating of the attitude. Putting it a different way, the range of attitudes one knows to exist on a particular issue is assumed to guide the process of assigning a particular rating to their own attitude on the same issue. The following is the algebraic model of VP in judgments of one's own attitudes (Ostrom and Upshaw, 1968):

$$R = f\left(\frac{C - L}{U - L}\right)$$

(6)

As this model indicates, $R$ (the rating of the subject's own attitude) is a function of the position of content $C$ of the rater's attitude, in relation to the upper point $U$, and the lower point $L$, of the rater's attitude perspective.

A.3.2.3 Assimilation and contrast effect in Variable Perspective theory

Not surprisingly the way the VP theory accommodates context effects is through changes in the rater’s attitude perspective.

---

95 In line with Volkmann, attitude perspective in this model is also assumed to be delineated through 'anchoring'.

262
Importantly, each of the other two components of the theory are associated with opposite effects. Attitude ratings are found to contrast, whilst attitude content to assimilate.

Starting with contrast effects, an increase of the attitude perspective towards one direction, is hypothesized to displace one’s rating of their attitude towards the opposite direction. To illustrate this interpretation of the effect consider the following example. When prior to a perspective manipulation someone rates their position towards the ‘Negro’ as ‘very pro’, after learning that there exist other positive attitudes on this issue which are even more extreme than what they considered previously to be the most extreme (a positive increase of their perspective), they are expected to rate their attitude as probably only ‘pro’. This sequence of events has been experimentally supported in a number of studies (Upshaw, 1964; Upshaw, 1969; Ostrom, 1970; Upshaw, Ostrom, and Ward, 1970).

With regard to assimilation, the theory accommodates the phenomenon in two different ways. In one of them the effect is the result of social influence. When one is confronted with the attitude of an authority figure, they tend to displace their own attitude in the same direction (Upshaw, 1964; 1978). The second interpretation of assimilation is through perspective manipulation. In the case when someone judges their attitude prior to perspective manipulation, an increase of their perspective towards one end, has been found to displace their attitude content towards the same direction (Ostrom, 1970).

A.3.3.1 Johnson’s and Mullally’s Correlation and Regression model

The second range approach to context effects that will be reviewed here is too specific and simplified to be called a
theory. It would more accurately be described as a simple model of context effects. The Correlation and Regression model was presented by Johnson and Mullally (1969) with the aim to show that judgments of stimuli on ordered scales (the typical psychophysical task) could be explained through a simple correlation and regression analysis. Johnson and Mullally did not put forward any algebraic model of judgment as the previously examined theories. Instead, they applied a correlation and regression statistical procedure on their results, and in the light of the obtained good fit proposed a process which underlies judgment behaviour. The hypothesis was that when judging stimuli on a given dimension, raters attempt to correlate the whole of the judgment scale to the whole of the stimuli series. The correlation coefficient of this process acts as an indicator of the rater’s accuracy on the task, whilst the regression equation is used to estimate the values of the stimuli.

A.3.3.2 Contrast effects in the Correlation and Regression model

Johnson’s and Mullally’s model has accounted only for contrast effects. The main assumption of their interpretation of contrast is that the extreme stimulus (the anchor) is perceived as part of the stimulus series. Given this, the introduction of an anchor increases the range of the stimuli series, and causes a readjustment of the judgment category to this new series, so that one of the most extreme responses (depending on the polarity of the anchor) is now reserved for the new stimulus. The consequences of this readjustment are first, a lowered judgment coefficient (until the rater is accustomed on applying the old response scale to the new stimulus series) and second, a displacement of ratings of the original stimuli series away from the anchor - the contrast effect.
A.3.3.3 Assessing range models

Range models have never become popular explanatory frameworks of context effects. One point they seem to collectively lack is an explicit consideration of those psychological processes that underlie the relationship between the physical range of the stimulus set and the variability in judgment. Another weakness of the majority of those models is their limited scope. Having said that, if there would be one single reason that range, as well as frequency accounts of context effects, have been relatively uninfluential, this would be the next theory to be presented in these pages.

A.4.1 The Range and Frequency theory

The Range and Frequency (RF) theory of context effects (Parducci, 1965; Parducci and Perrett, 1971; Parducci, 1983) incorporates both, the range and the frequency principles in order to explain judgment. In line with individual Range theories, the range principle of the model assumes that the rater divides the subjective stimulus range into as many subranges, as the number of categories of the rating scale used. Again, similar to individual Frequency theories, the frequency postulate of the RF theory presumes that the rater's judgment behaviour is biased towards using all available rating categories with equal frequency. Perhaps the major contribution of RF theory is that in its model the range and frequency principles are independent of the type of distribution of the stimulus set.86

A.4.2 The mathematical model

86 Parducci (1965) found a very good fit of the RF model to judgments of stimuli sets of great distributional diversity (normal, \(U\) shaped, positively or negatively skewed as well as distributions with different means or medians).
The model of the RF theory considers the rater's overt judgment to be a compromise between the range and the frequency postulates (Parducci and Perrett, 1971; Parducci, 1983). Each stimulus is assigned, a) a range value, which is defined as the position of the presented stimulus with respect to the two most extreme stimuli of the series, and b) a frequency value, defined as the mean rating of the current stimulus if the response categories were to be used with equal frequency. The algebraic representation of the RF model is summarized as follows (Parducci, 1983):

\[ C_{ic} = w R_{ic} + (1 - w) F_{ic} \]  

where \( C_{ic} \), the category rating of the \( i \)th stimulus in context \( c \), is assumed to be a weighted average of the stimulus' range and frequency values, \( R_{ic} \) and \( F_{ic} \) respectively. The weight \( w \) is generally assumed to be equal to 0.5.

A.4.3 Assimilation and contrast in the Range and Frequency theory

The fact that the RF theory uses both, the range and frequency axioms to predict judgment, has allowed it to explain a greater number of contrast situations than individual Range or Frequency theories.

---

87 The predecessor of RF model, a 'limen model' (Parducci, 1965) was also based on a range and a frequency axioms. The RF model that replaced it was found by Parducci and Perrett (1971) to explain half as much error of judgment.

88 Parducci and Perrett note that the model increases its predictability if rather than setting \( w = 0.5 \), one determines the best weighting coefficients empirically. For example Riskey, Parducci and Beauchamp (1979) produced a better fit of their results using a model which assigns a greater weight to the frequency than to the range value. Nevertheless, given that the benefits of differential weights are usually minimal, Parducci and Perret prefer using the simplified model where the two weights are equal to 0.5.
In perhaps the only direct application of a theory of context effects on the area of interest of this thesis, Wedell, Parducci and Geiselman (1987), tested the applicability of the RF model in explaining contrast and assimilation effects in judgments of attractiveness of strangers. We shall use this study to illustrate how the RF theory has been applied to contrast effects.

The RF theory has applied its range principle in order to account for contrast effects in situations where the range of two contextual sets differ. Given that the raters are assumed to divide the stimulus range into as many intervals as the number of categories in the rating scale, the attractiveness of an average attractive person, is judged as higher within a series of unattractive to average people, than within a series of unattractive to attractive people (the latter series has a greater range). The frequency principle on the other hand has been used to explain contrast effects in those cases where the ranges of the contextual sets are equal. Assuming that raters tend to assign the same number of stimuli to each rating category, an average person is judged as more attractive within a series of predominantly average people than within a series of predominantly attractive people, even if the most attractive and most unattractive people in the two series are the same (the two series have the same range).

Unlike contrast, the applicability of the RF theory on assimilation effects has been low. Even advocates of the RF model concede that alternative theoretical positions can provide a better account of this effect.

A.4.4 Assessing the theory

With regard to assimilation in judgments of attractiveness, Wedell et al (1987) showed that the effect was best explained by an averaging model such as Information Integration.
The fit of the RF model for data across a great variety of stimuli sets has been more than adequate (Parducci, 1965; Parducci and Perrett, 1971). Furthermore, although the theory was developed based on the evidence from a small number of psychophysical paradigms, it has been applied successfully to other domains of judgment (e.g., Riskey, Parducci, and Beauchamp, 1979; Wedell et al, 1987). The theory has been shown to have greater generality than either, simple Range or Frequency accounts of contrast effects. Nevertheless, as with most other theories of context effects, the value of the RF theory is usually assessed against the value of the AL theory. Although the RF theory has been in some instances found to account for data better than the AL theory (Parducci and Perrett, 1971), the general consensus would be that Helson's theory remains the more general theory of the two.

A.5.1 Information Integration Theory

Anderson's Information Integration (II) theory (Anderson 1962a,b,c, 1968, 1971, 1973, 1974a,b) is one of the more influential theories of judgment. The theory offers a number of algebraic representations of how information is integrated in order to form judgments. Although through the years the model has been regularly modified, its major components remain the same. The main postulate of II theory is that judgement is a linear function of the values of all information items (stimuli), which are assumed to be processed independently. As a result, each information item (stimulus) is assigned a weight parameter, w, which represents its importance or its relevance to the decision process, and also a value parameter,

---

90 Parducci and Perrett found that the RF model could account for around 80% of the variance associated with contextual effects.

91 The major advantage of the RF theory over the AL theory, is that the projected judgment functions of its model are not bound by a linearity (monotonicity) assumption.
s, that represents the value of the item in the dimension of judgment. Anderson (1968) produced the following equation to summarize his model:

$$ J = C + \sum w_k s_k $$

(8)

where $J$ is the judgement, $C$ is a constant, and $s_k$ and $w_k$ are the value and weight respectively of the $k$th informational stimulus in the set. An implicit assumption of the model as presented in Equation 8 is that the DV is numerical and not categorical.

An important issue regarding Anderson's model of judgment has been the way that information is integrated. The two alternatives are through an additive, or an averaging rule. Depending on which rule is adopted, the rater is assumed to either, summate or average the information that is available to them in order to arrive at a judgment (Equation 8 represents the additive version of the II model in its most general form).

A.5.2 The mathematical models: the additive vs., the averaging model

In order to compare the additive and the averaging versions of the II model, it is easier to consider the specific case, where the rater has to consider only two stimuli. Anderson (1974a) offers the following additive model for this situation:

$$ R_y = C_0 + w_{Rj} s_{Rj} + w_{Cj} s_{Cj} + \epsilon_y $$

(9)

where $R_y$ stands for the subject's response to the stimuli combination (equivalent to judgment $J$ in Equation 8), $s_{Rj}$ and $s_{Cj}$ stand for the values of stimuli $S_{Rj}$ and $S_{Cj}$ respectively, on the subjective rating scale, whilst $w_R$ and $w_C$ represent the
relative weights of those two stimuli. The remaining parameters of the model, $C_0$ a constant, and $\epsilon_{ij}$ an error term, represent response variability and are frequently omitted for reasons of simplicity.

To transform Equation 9 into an averaging model, Anderson (1974a), adds the provision that the stimuli weights be orthogonal (sum to unity)\(^{92}\). The model then becomes:

$$R_{ij} = C_0 + \frac{w_{RL}s_{RL} + w_{CL}s_{CL}}{w_{RL} + w_{CL}}.$$  \hspace{1cm} (10)

The debate over whether averaging or additive models are best is outside the scope of this thesis. Anderson appears to favour the averaging rule for being the most informative of the two.

A.5.3 The constancy assumption

The theory's assertion that informational stimuli are processed independently of each other, is represented in the algebraic model by an assumption known as the 'constancy assumption'. This assumption is in fact a construct of two separate assumptions of independence. The first one asserts that the scale value of each of the stimuli is constant regardless of the value of the other stimulus that it may be combined with. The second assumption states that the weighting coefficients are constant for each scale value of a stimulus, again regardless of the value of the other stimuli they may be integrated with. The constancy assumption is also known as 'parallelism'.\(^{93}\)

\(^{92}\) The proviso that weights add to unity has not been a rigid one. Other averaging models which use unrestricted weights have been put forward also (Anderson 1968, 1971).

\(^{93}\) As an illustration of this assumption, consider the case where the subject is presented only with two stimuli.
A.5.4 Assimilation and contrast in the Information Integration model

The parallelism’s assumption that the values of a stimulus remain constant regardless of the stimulus they may be combined with, would appear to preclude the existence of context effects such as assimilation or contrast. Nevertheless, Anderson addresses formally both phenomena.

Regarding assimilation, Anderson (1966) found evidence of it in an impression formation task in which Ss rated the likeability of three traits that ostensibly described a person. That study showed that the likeability of the target trait was assimilated towards likeability of the other two context traits (which were of comparable positiveness). Anderson put forward the following model to explain the situation:

\[ s' = ws + (1 - w)I \]  

(11)

where \( s' \) and \( s \) are the component ratings of the stimulus (trait) in, and out of context respectively, \( I \) is the overall impression of the person whose traits are judged,\(^{94}\) whilst \( w \) and \( (1 - w) \) represent the weighting coefficients.

From Equation 11 it follows that the rating of a particular

---

\(^{94}\) The theory considers \( I \) to be itself the result of a separate averaging process in which all trait information about the person is averaged.
trait shifts towards the rater's predominant general impression of the person whose trait is being judged (in other words towards the average value of the other traits) - an assimilation effect. The interpretation of the assimilation phenomenon that the II theory advocates, is that it results from the failure of the subject to separate the target from its immediate contextual set. This view of assimilation is also known as the 'generalized halo effect'.

As an illustration of how the theory accommodates contrast effects, consider the following model that Anderson (Anderson, 1970b) put forward to explain the size-weight illusion:

\[
R = (1 + w)s - ws^* \tag{12}
\]

where \( R \), the rated heaviness of the object, \( s \), the heaviness value directly related to the actual weight, \( s^* \), the heaviness value directly related to the size of the object, and \( (1 + w) \), and \( w \), the weighting coefficients of those values respectively.

From Equation 12 it becomes apparent that as the size of the object increases so does its \( s^* \) value, something which causes its heaviness judgment \( R \) to decrease - the contrast effect.

---

95 In this paradigm Ss have to guess the weight of different sized objects. The illusion is that there is a tendency to estimate the weight of large objects as lighter than smaller objects of equal mass. In this paradigm the context and the target are two characteristics of the same stimulus. The size of the object represents the context, whilst the target is the weight of the object.

96 Although the models of assimilation and contrast as described in Equations 11 and 12 appear unrelated, it can be shown that when applied to the same paradigm, the only difference between the two models is the algebraic sign between its two components (positive in the case of assimilation and negative in the case of contrast).
A.5.5 Assessing the theory

As it stands, the II theory cannot be easily assessed. The problem is that what is known as II theory is not a single theoretical framework, but rather a collection of integration models which make a number of different assumptions and explain a number of different situations. Having said this, goodness of fit tests of the various theoretical models have generally been quite successful. The generality of the theory has also been wide, including applications of it on social stimuli (Anderson, 1966; Lampel and Anderson, 1968; Anderson, 1972b; Anderson, 1974b). A measure of the influence of the theory is given by the fact that other more limited theoretical frameworks of context effects have been developed based on its postulates (e.g., the Meaning Shift theory). Regarding the shortcomings of the theory, perhaps the most notable one is the failure of the model when non-parallelism occurs (e.g., Birnbaum, Parducci, and Gifford, 1971). To come around this problem, advocates of the II model have typically resorted to ad hoc interpretations of the data (e.g., Anderson, Lindner and Lopes, 1973).

With respect to context effects, the theory may be better suited for predicting when these effects will not occur (due to the constancy assumption) rather than when they will. Even when the theory addresses those effects, Anderson appears

---

97 Anderson (1962c) reported a very high correlation (.967) between predicted and obtained data.

98 The Meaning Shift theory (Hamilton and Zanna, 1974; Zanna and Hamilton, 1977) is a model of assimilation effects in impression formation. Its predictions are so much influenced by the II theory that observers (e.g., Kaplan, 1975; Ostrom, 1977) have claimed the two theories are indistinguishable.

99 Anderson (1974a) addressed specifically the problem of non-parallelism. The solution, he argued, is to accept a model without the constraint of constancy for its weights. In this case parallelism could be ensured by the use of monotone transformations of the obtained data.
preoccupied to explain the effects mathematically rather than psychologically. The theory also fails to specify the conditions that underlie assimilation and contrast. Finally, regarding the relative predictability of the theory for the two effects, II explains assimilation more adequately than contrast. Perhaps this is due to the fact that the core assertion of the theory, that information is integrated, is more suited to account for the situation in which the judgment of a stimulus is assimilated towards, than shifted away from its context.
BIBLIOGRAPHY


Anderson, N.H. A simple model for integration formation. In


In D.H. Krantz, R.C. Atkinson, R.D. Luce, & P. Suppes (Eds.), *Contemporary developments in mathematical psychology, V II*, San Francisco: Freeman, 1974. (b)


Buss, D.M. Do women have evolved mated preferences for men with resources? *Ethology and Sociobiology*, 1991, 12, 401-408.


Byrne, D., Baskett, G., & Hodges, L. Behavioral indicators of interpersonal attraction. *Journal of Applied Social Psychology*, 1971, 1, 137-149.


Cash, T.F., Dawson, K., Davis, P., Bowen, M., & Galumbeck, C. Effect of cosmetics on the physical attractiveness and body


Cavior, N., Physical attractiveness, perceived attitude similarity, and interpersonal attraction among fifth and eleventh grade boys and girls. Doctoral dissertation, University of Houston, 1970. The study is summarized in Berscheid and Walster, 1974.


Cox, C.L., & Glick, W.H. Resume evaluations and cosmetics use:
When more is not better.  Sex Roles, 1986, 14, 51-58.


Diamant, L., Long, G.T., & Masterson, M.L. Attraction and


Downs, A.C. Objective and subjective physical attractiveness judgments among young adults. *Perceptual and Motor Skills*, 1990, 70, 458. (a)


Durham, T.W., & Grossnickle, W.F. Attitudes toward


Feingold, A. Gender differences in effects of physical attractiveness on romantic attraction: A comparison across


Freeman, H.R. Somatic attractiveness: As in other things, moderation is best. Psychology of Women Quarterly, 1985, 9, 311-322.


Gallucci, N.T., & Meyer, R.G. People can be too perfect: Effects of subjects' and targets' attractiveness on interpersonal attraction. Psychological Reports, 1984, 55, 351-360.

Garner, D.M., Garfinkel, P.E., Schwarz, D., & Thompson, M.


Gutierres, S.E., Kenrick, D.T., & Partch, J.J. Contrast


Holmes, T., Chamberlin, P., & Young, M. Relations of exercise to body image and sexual desirability among a sample of university students. Psychological Reports, 1994, 74, 920-922.

Hyman, H.H. The psychology of status. Archives of Psychology, 1942, No. 269.


Kenrick, D., & Gutierres, S. Contrast effects on judgments of physical attractiveness: The people’s case against Farrah Fawcett. Paper delivered at the American Psychological Association Meetings, Toronto, Canada, August, 1978.

Kenrick, D.T., & Gutierres, S.E. Contrast effects and judgments of physical attractiveness: When beauty becomes a social problem. *Journal of Personality and Social Psychology*, 1980, 38, 131-140. (a)


Kenrick, D.T., Neuberg, S.L., Zierk, K.L., & Krones, J.M.


Marcus, M.G., & Hackmiller, K.L. Effects of frequency, duration of study trial, and total duration of exposure on affective judgments. Psychological Reports, 1975, 37, 195-200.


298


Montgomery, R.L. Reference groups as anchors in judgments of other groups: A biasing factor in "rating tasks"? Psychological Reports, 1980, 47, 967-975.


Myers, D.G., & Ridl, J. Can we all be better than average?
Psychology Today, 1979, August, 89-98.


Ostrom, T.M., & Upshaw, H.S. Psychological Perspective and


Radeloff, D.J. Role of color in perception of attractiveness.

302


Rosenberg, S. Mathematical models of social behavior. In G.


Sarris, V. Comments on Helson and Masters' "Study of inflection-points in the locus of adaptation levels as a function of anchor stimuli. *American Journal of Psychology*, 1967, 80, 304-309. (a)

Sarris, V. Adaptation level theory: two critical experiments on Helson's weighted average model. *American Journal of Psychology*, 1967, 80, 331-344. (b)


Siever, M.D. Sexual orientation and gender as factors in socioculturally acquired vulnerability to body dissatisfaction


Suman, H.C. Towards choosing a mate: Perceived dimensions of


Tooke, W., & Camire, L. *Patterns of deception in intersexual*


Vacker, B., & Key, W.R. Beauty and the Beholder: The pursuit of beauty through commodities. *Psychology and Marketing*, 309


