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Kevin Brewer

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Orsett Psychological Services
PO Box 179
Grays
Essex
RM16 3EW
UK

orsettpsychologicalservices@phoncoop.coop

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Kevin Brewer BSocSc, MSc

An independent academic psychologist, based in England, who has written extensively on different areas of psychology with an emphasis on the critical stance towards traditional ideas.

A complete listing of his writings at <http://kmbpsychology.jottit.com>.

1. SOME ASPECTS OF INTERPERSONAL ATTRACTION

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1.1. RECIPROCITY

Reciprocity is seen as a key factor in relationships (ie: we like those who like us). Aronson (1976) called this the reward-cost principle. We like individuals who always make positive comments about us and dislike those who always make negative ones. This is definitely the case with platonic/non-romantic relationships, like friendship (Kenny 1994). There are a number of classic experiments showing this principle (appendix 1A).

But it may not automatically be so for romantic relationships. There are examples where "hard to get" individuals (ie: not liking) are desirable or individuals who are too forthcoming about their liking are unappealing (Eastwick et al 2007).

Kenny (1994) distinguished two versions of reciprocity - dyadic and generalised. The former refers to unique reciprocity between two individuals, and can apply to romantic and non-romantic relationships. Generalised reciprocity describes the situation where individuals with a tendency to like others are liked themselves. This works for friendships, but "demonstrating romantic liking for many others could convey unselectivity and even desperation" (Eastwick et al 2007 p317). So generalised reciprocity may be a negative factor in romantic relationships.

Eastwick et al (2007) investigated this idea in a speed-dating situation with 156 undergraduate students in the USA¹. Each participant had 9-13 four-minute speed dates with the opposite sex. After each "date", an Interaction Record was completed (table 1.1). Dyadic and generalised reciprocity were measured by:

¹ Situations like this one depend on judgments about the individual based on their behaviour, but can the assessment be trusted (appendix 1B)?

- Actor effect (eg: the average amount that a participant desired all of his or her interaction partners).
- Partner effect (eg: the average amount that the participant was desired by all interaction partners).
- Relationship effects (eg: the amount that the participant desired each particular partner independently of the participant's actor effect and his or her partner's partner effect) (Eastwick et al 2007 p318).

Participants used 9-point rating scales (1 = strongly disagree, 9 = strongly agree) to complete three-item measures of romantic desire and chemistry, and one-item of perceived unselectivity:

Romantic desire

- "I really liked my interaction partner".
- "I was sexually attracted to my interaction partner".
- "I am likely to say 'yes' to my interaction partner".

Chemistry

- "My interaction partner and I had a real connection".
- "We seemed to have similar personalities".
- "We seemed to have a lot in common".

Perceived unselectivity

- "To what percentage of the other people here today will this person say 'yes'?"

(Source: Eastwick et al 2007 p317)

Table 1.1 - Details of Interaction Record.

It was found that romantic desire and chemistry significantly positively correlated between individuals where dyadic reciprocity was involved (ie: unique desire for an individual was reciprocated) (figure 1.1). But with generalised reciprocity, there were significant negative correlations (figure 1.2) (ie: "If a participant generally tended to romantically desire others, those others tended not to desire him or her"; Eastwick et al 2007 p318).

Eastwick et al (2007) felt that dyadic reciprocity fulfils the need to feel special, while generalised reciprocity suggests unselectivity.

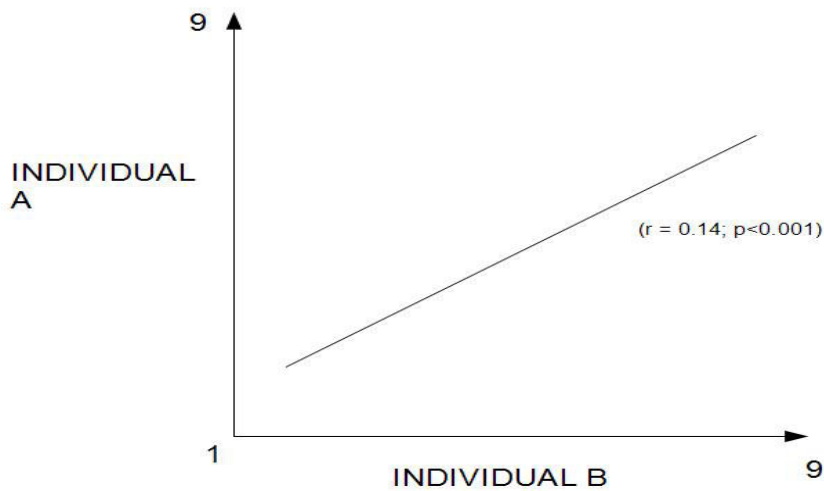


Figure 1.1 - Individuals' ratings of romantic desire with dyadic reciprocity.

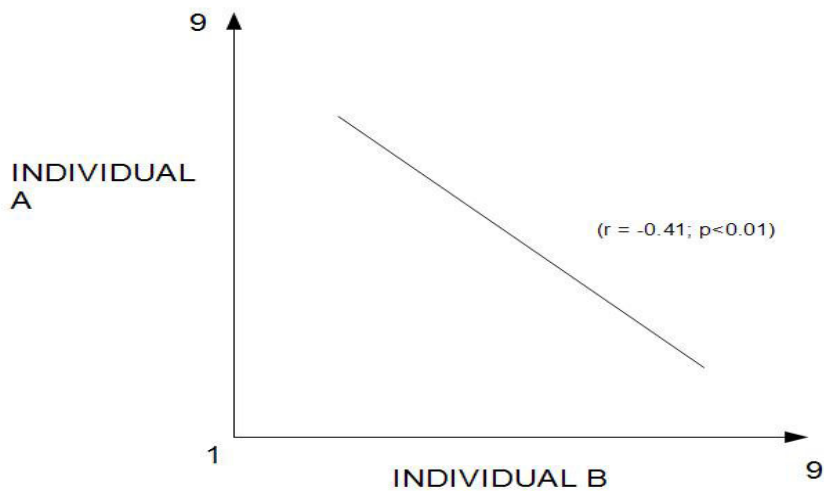


Figure 1.2 - Individuals' ratings of romantic desire with generalised reciprocity.

1.2. PHYSICAL ATTRACTIVENESS

1.2.1. Matching

There is a pattern in the level of physical attractiveness between two romantic heterosexual partners (ie: physically attractive men date physically attractive women and so on). This is sometimes called the

"similarity hypothesis" or the "matching hypothesis" (Gross 1990).

It has been studied with a variety of groups and in different ways:

- Stimulus used - choosing photographs; rating real-life couples.
- Type of relationship - dating couples (casual, steady, committed); married couples.
- Ratings used - observers; self-ratings of attractiveness.
- Sample - mostly students; middle-aged and older adults.
- Type of sample - volunteers; observation of real-life couples in public places.
- Method - cross-sectional study (rating of attractiveness of partners at one point in time); longitudinal study (level of similarity at point 1 and who still together at point 2).

In a classic study, Murstein (1972) compared the physical attractiveness ratings of 98 "new couples" among students at two US universities. The rating of physical attractiveness of each partner was significantly positively correlated by observers ($r = +0.38$) and by self-ratings ($r = +0.31$) (figure 1.3).

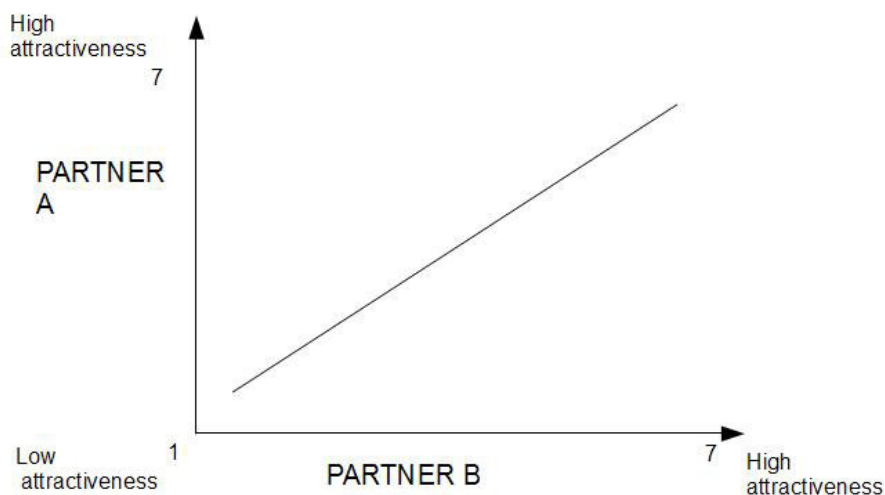


Figure 1.3 - Positive correlation for levels of physical attractiveness in romantic relationships.

Feingold (1988) performed a meta-analysis of

seventeen US studies (published between 1970 and mid-1987) of similarity in physical attractiveness of romantic partners and/or same-sex friends ². The mean correlation for romantic partners was 0.39 ³, but only 0.18 for friends. So, being at the same level of physical attractiveness is less important for friendships compared to romantic relationships.

More recently, Lee et al (2008) explored this matching idea using pictures on the website HOTorNOT.com. This is a website where photos are rated for physical attractiveness by visitors to the site (attractiveness-ratings data), and it is a dating site (meetings-requests data). From a ten-day period in August 2005, over 2 million meeting-requests and half a million attractiveness ratings were analysed as the data-set.

The researchers found a pattern showing that individuals used their own physical attractiveness as a "reference point" when considering meeting requests from other individuals and who to request to meet. Thus, more attractive individuals tended to prefer more attractive dates, and less attractive individuals less attractive dates. But "whereas less attractive people are willing to accept less attractive others as dating partners, they do not delude themselves into thinking that these less attractive others are, in fact, more physically attractive than they really are" (Lee et al 2008 p675).

In fact, in a follow-up study using speed-dating, it was found that individuals of different attractiveness use different criteria in a date selection. Before the speed-dating in Boston, USA, began, the 24 participants rated the importance of six criteria (eg: physical attractiveness, intelligence) when choosing a date. Physically attractive individuals tended to place more weight on physical attractiveness as a criterion, whereas less attractive individuals placed more weight on other criteria like sense of humour (Lee et al 2008).

1.2.2. Physical Attractiveness and Gender

The importance of physical attractiveness on heterosexual romantic attraction has been studied in different ways. Feingold (1990) performed a meta-analysis ⁴ of studies in North America between 1960 and 1989 using

² N = 1299 couples and 197 pairs of friends.

³ The sub-categories were 0.38 for casual, 0.35 steady, and 0.44 for committed dating couples.

⁴ Meta-analysis seeks the effect size (d) from pooling a number of studies. Different studies use different methodologies, so the data, when pooled, are based on means and standard deviations. Thus d in Feingold's (1990) study was calculated by "subtracting the female mean from the male mean and dividing the difference by the pooled within-sex standard deviation". A positive value for d meant that men rated physical attractiveness as more important than women, and vice versa for a negative value.

five such methods to see if physical attractiveness was more important for men or women in mate selection.

i) Mate selection questionnaire - Individuals are asked to judge the importance of different characteristics in choosing an ideal mate, a date, or romantic partner (appendix 1C). With the normative method, individuals rate each characteristic, while the ipsative method involves ranking the characteristics in order of importance.

Feingold (1990) found 23 studies with 19 541 participants using the normative method. Overall, men rated physical attractiveness as more important in choosing a female partner than did women in choosing a male partner.

ii) Attractiveness-popularity paradigm - This method correlates physical attractiveness with popularity by the opposite sex. Romantic popularity can be measured in different ways including self-reports of dating frequency or number of romantic partners in a certain period of time (eg: one year). Sometimes platonic popularity is also used (eg: number of opposite-sex friends). Physical attractiveness is usually rated by observers, either from photographs, video or live.

Feingold (1990) located eleven studies, with 1221 men and 1266 women, and the mean correlation between attractiveness and romantic popularity was 0.27 for men and 0.41 for women.

iii) Dyadic interaction paradigm - Single men and women are arranged to meet in random encounters, like blind dates, and the desire to meet the person again is correlated with physical attractiveness. The length of the initial encounter can vary from ten minutes to a full-length date. Occasionally, studies match the two daters for the level of physical attractiveness beforehand (appearance-matched dyads) as opposed to the usual random process (appearance-mismatched dyads).

From six studies Feingold (1990) found that the correlation between physical attractiveness and the desire to be met again was higher for women than men (mean: 0.32 vs 0.24) (ie: men wanted to meet physically attractive women again more than women wanted to meet such men again).

Cohen (1977) proposed the following rule of thumb for d - 0.20 (small effect), 0.50 (medium effect), and 0.80 (large effect).

iv) "Bogus stranger" attractiveness-similarity paradigm - Individuals are presented with "targets" (usually photographs) that are either attractive/unattractive or similar/dis-similar to the viewer, and asked who they would work with in an experiment.

Based on three studies, physical attractiveness was important for both sexes, but especially for men choosing the "target" (Feingold 1990).

v) Content analysis of personal ads paradigm - This method analyses the characteristics offered and sought in real-life personal ads ("Lonely Hearts ads").

In six studies, involving 1152 male advertisers and 1095 female advertisers, Feingold (1990) found that males were over twice as likely to mention physical attractiveness in their "seeking" characteristics than women.

Feingold (1990) concluded that more men than women valued physical attractiveness in romantic partners.

1.3. EVOLUTIONARY PERSPECTIVE

In terms of evolution, and in particular, sexual selection, females are seeking the genetically best males. To aid this process, males have evolved cues of their good fitness, like ornaments (eg: peacock's tail) or a particular coloration. If the best males have the best cues, then the cues are honest signals of fitness.

In humans male facial attractiveness is seen as a honest signal of male quality. Attractive (or masculine) faces are taken as a sign of better health, longevity, and good immune system quality (Prokop and Fedor 2011).

From this idea it can be predicted that facially attractive men will have more reproductive success (ie: more children). Prokop and Fedor (2011) tested this prediction.

In Slovakia, 480 volunteer students were asked to provide black and white facial photographs of 40 year-old men as they were twenty years ago. As well-known men were not allowed, most students used friends and family members. Along with the photograph, information was provided about his current marital status, and number of biological children. In total there were 499 photographs. Then 27 female students rated each face on a scale of 1 (not attractive) to 7 (very attractive).

The mean rating for the 284 currently married men was 2.95, which was significantly higher than 2.73 for the 176 currently single men (with 2.77 for the 39 divorced men). The married men had an average of 2.04 children compared to 1.23 for divorced and 0.02 for single men.

Overall, currently married men were more likely to be rated as facially attractive at 20 years old than single men, and were more likely to have more children. Thus facially attractive appeared to be linked to reproductive success.

1.4. DISCOURSES OF LOVE AND MARRIAGE

The idea of marrying for romantic love rather than for money and security grew in the 19th century in Western countries to become the dominant model today. From this came the concept of the "happy-ever-after" marriage. It has been suggested that such a concept is unrealistic, but it hangs over relationships leading to breakdown (eg: Coontz 2005). In other words, expectations are too high and "ordinary" relationships fail because they do not live up to such lofty expectations.

Shumway (2003) presented three traditional discourses about love and marriage - security, romantic love, and intimacy. Though these elements are still important, Leslie and Morgan (2011) argued that new discourses about romantic love are emerging in the West today, based on their interviews with thirteen single, childless 30-43 year-olds in New Zealand, and analysis of dating websites.

The new discourses are:

i) Compatibility - a marriage will be more successful with a partner who is a "good psycho-social match". One interviewee said: "I would rather have someone who can communicate and talk about things at your level than someone who just has a superficial interest in everything around them" (p18).

ii) Soulmates - the idea that there is a special person out there and one might meet them. Leslie and Morgan noted that "the assumption that one has a pre-destined soulmate enables hope and patience", particularly for older singles. As one of the interviewees said: "I believe that no matter where you are in the world if your path is to meet this person you will meet them, so... if that man of mine is here... the person I am meant to get into a relationship with... that gives me a little more confidence about being on my own.." (p19).

iii) Mystical soulmates - this combines the previous two discourses. One man said: "I do believe outside of the living body there's a spiritual kind of connection that binds... the universe together and I think when you find that right person it is part of that connecting up. You could call it soulmate... but I do believe there is a connection there beyond what we understand of the human

mind and the materialistic human way of living. When you find the right person it's a connection outside of what we know at this point of time" (p19).

These new discourses "privilege communication, negotiation, mutual support and co-operative learning over euphoric feelings of being 'in love' and the individualistic pursuit of pleasure, in order to achieve profound life, or 'soul' tasks" (Leslie and Morgan 2011 p20).

1.5. APPENDIX 1A - CLASSIC EXPERIMENTS ON RECIPROCITY

Dittes and Kelley (1956)

One hundred and three Yale university undergraduates in the USA volunteered to be participants of eighteen groups competing for cash prizes offered for the group "best in efficiency, smoothness of working together, and soundness of decisions" on mock legal discussions (eg: "the relative worthiness of two gangs of juvenile delinquents"). The groups were offered the opportunity to expel one detrimental member based on anonymous ratings⁵.

Each group member was given a summary of ratings by other group members (which were fictitious). Participants were randomly given higher than average ratings (high condition) (ie: liked by group), average ratings (average condition), below average (low condition) and well below average (very low condition) (ie: disliked by group)^{6 7}. This was the independent variable. The participant rated the group after seeing this information, and this was the dependent variable.

Participants in the high condition liked the group significantly more than the participants in the low and very low conditions. This experiment showed the basis

⁵ Each member anonymously rated each other member on this question: "How desirable is it that this person be kept in the group?"

- extremely desirable
- very desirable
- somewhat desirable
- not very desirable, but he should be kept in
- he should be rejected from the group" (Dittes and Kelley 1956 p101).

⁶ Eighteen participants in high, 33 in average, 34 in low, and 18 in the very low condition.

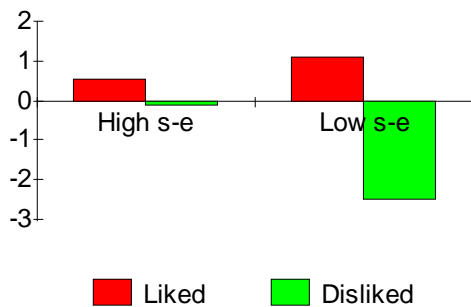
⁷ "The discussion of the gangs was interrupted three times to permit the members to rate one another as to the desirability of their remaining in the group. Each time, E [experimenter] quickly thumbed through the ratings, pretended that no S [subject/participant] had received low enough ratings to warrant discussing his possible rejection, and 'discarded' the ratings into a wastebasket.

At the end of the 'gangs' discussion, E suggested a rest period. While Ss were relaxing, he casually inquired whether they'd be interested in seeing how they had been rated. Before anyone could object, E retrieved the slips from the wastebasket and distributed them. In this manner, each S was allowed to see privately what he thought to be the ratings made of him by the other members" (Dittes and Kelley 1956 pp101-102).

principle of reciprocity in relationships with strangers. Put another way, "attraction toward the group functions directly with the level of acceptance experienced" (Dittes 1959 p77).

Dittes (1959)

This experiment was similar to Dittes and Kelley (1956) and involving 104 male undergraduates. It showed that an individual's self-esteem plays a role in reciprocity. Those with high self-esteem were little affected in their ratings of the group by the fictional positive or negative feedback from group members whereas low self-esteem individuals were greatly influenced (figure 1.4).



s-e = self-esteem
liked/disliked = liked or disliked by group

(Source: Dittes 1959 figure 2 p79)

Figure 1.4 - Approximate mean ratings of group members based on fictional feedback and self-esteem.

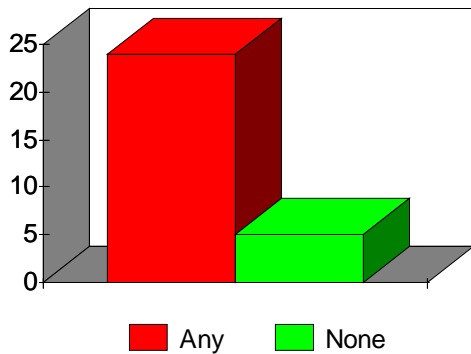
Backman and Secord (1959)

This experiment tested the hypothesis: "Other things being equal, the probability of Person A being attracted to Person B will be higher if B is perceived by A as liking A" (p379).

Three groups of ten were formed from new undergraduates who did not know each other at the beginning of an academic year. All participants completed a personality test, and the results of this was used as a cover to tell participants who in the group would like them.

Each group member subsequently received a list of the other members of the group with three names marked as those who would most probably like them. The names were chosen entirely randomly by the experimenters. After a fifteen-minute group discussion, each participant named three persons in the group who they would most like to be

paired with for future work. Participants were significantly more likely to choose a group member who was expected to like them (figure 1.5). This preference did not persist after further group discussions during the term.



(Source: Backman and Secord 1959 table 1 p381)

Figure 1.5 - Number of participants choosing individuals who were expected to like them.

Aronson and Linder (1965)

The gain-loss hypothesis contradicts reciprocity. This is the idea that individuals who initially dislike us but then like us are liked more than individuals who like us from the start, and the other way around for individuals who initially like us.

Aronson and Linder (1965) designed an experiment where participants received feedback about themselves from seven meetings. The feedback was given by confederates who were instructed to be either only positive, only negative, positive first then negative, or negative first then positive (table 1.2) ⁸.

The participants were 80 female students at the University of Minnesota, USA, who were randomly assigned to the four conditions.

In order to hide the real purpose of the experiment, the participants were deceived by an elaborate scenario and "cover story" (table 1.3). The actual experiment focused on the participant overhearing the other student (confederate) rating them on seven occasions.

⁸ Confederates described the participant as "a dull conversationalist, a rather ordinary person, not very intelligent, as probably not having many friends" in the negative conditions, and the opposite in the positive ones.

Session	N-P	P-N	Negative	Positive
1	very neg	very pos	neg	pos
2	less neg	less pos	neg	pos
3	less neg	less pos	neg	pos
4	change	change	neg	pos
5	pos	neg	neg	pos
6	more pos	more neg	neg	pos
7	more pos	more neg	neg	pos
Total	14 pos/8 neg comments	14 pos/8 neg comments	28 neg comments	28 pos comments

Table 1.2 - Ratings of participant in different conditions of the experiment.

The experimenter greeted the subject and led her to an observation room which was connected to the main experimental room by a one-way window and an audio amplification system. The experimenter told the subject that two students were scheduled for this hour, one would be the subject and the other would help the experimenter perform the experiment. He said that since she arrived first, she would be the helper. He asked her to wait while he left the room to see if the other girl had arrived yet. A few minutes later, through the one-way window, the subject was able to see the experimenter enter the experimental room with another female student (the paid confederate). The experimenter told the confederate to be seated for a moment and that he would return shortly to explain the experiment to her. The

experimenter then returned to the observation room and began the instructions to the subject. The experimenter told the subject that she was going to assist him in performing a verbal conditioning experiment on the other student. The experimenter explained verbal conditioning briefly... The experimenter explained that he would condition the other girl to say plural nouns to him by rewarding her with an "mmm hmmm" every time she said a plural noun. The experimenter told the subject that his procedure should increase the rate of plural nouns employed by the other girl. The subject was then told that her tasks were: (1) to listen in and record the number of plural nouns used by the other girl, and (2) to engage her in a series of conversations (not rewarding plural nouns) so that the experimenter could listen and determine whether generalisation occurred...

The experimenter made it clear to the subject that the other girl must not know the purpose of the experiment lest the results be contaminated. He explained that, in order to accomplish this, some deception must be used. The experimenter said that he was going to tell the girl that the purpose of the experiment was to determine how people form impressions of other people. He said that the other girl would be told that she was to carry on a series of seven short conversations with the subject, and that between each of these conversations both she and the subject would be interviewed, the other girl by the experimenter and the subject by an assistant in another room, to find out what impressions they had formed. The experimenter told the subject that this "cover story" would enable the experimenter and the subject to perform their experiment on verbal behaviour since it provided the other girl with a credible explanation for the procedure they would follow (p 159).

Table 1.3 - Details of elaborative deception used for experiment by Aronson and Linder (1965).

At the end of the experiment, the participant was

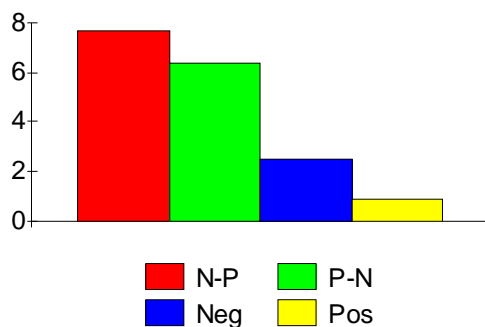
asked about her liking of the other student (confederate), but again a "cover story" was used (table 1.4).

Unless the interviewer could provide the subject with a credible rationale (consistent with the cover story) for asking her to evaluate the other girl, even the most naive of our subjects might have guessed the real purpose of the experiment. Therefore, the interviewer took a great deal of time and trouble to convince the subject that these data were essential for an understanding of the other girl's verbal behaviour. The essence of his story was that the attitudes and feelings that the "helpers" in the experiment had for the "subjects" in the experiment often found expression in such subtle ways as tone of voice, enthusiasm, etc. "For example, if you thought a lot of the other girl you might unwittingly talk with warmth and enthusiasm. If you didn't like her you might unwittingly sound aloof and distant"... The interviewer said that this source of variance was impossible to control but must be accounted for in the statistical analysis of the data. He explained that if he could get a precise indication of the "helpers'" feelings toward the "subjects" he could then "plug this into a mathematical formula as a correction term and then get a more or less unbiased estimate of what her gross verbal output would have been if your attitude toward her had been neutral".

(Source: Aronson and Linder 1965 p 161-162)

Table 1.4 - Details of elaborative deception used for getting rating of student (confederate).

Liking for the confederate was highest in the negative-positive condition, followed by positive only, negative only, and positive-negative last (figure 1.6).



(Source: Aronson and Linder 1965 table 1 p163)

Figure 1.6 - Mean ratings of liking of the confederate (-10 to +10).

Clore et al (1975) replicated Aronson and Linder's (1965) idea using non-verbal communication in the form of a woman's (confederate) behaviour towards a man.

1.6. APPENDIX 1B - IMPRESSION MANAGEMENT "ARMS RACE"

Observing another person is a good way to assess if they are trustworthy, for example. But individuals who know that they are being watched may change their behaviour to manage their reputation. So observers may covertly watch, while those observed may act as if they are not aware of being watched. It is an "arms race" between the observers and the observed (Rockenbach and Milinski 2011).

In the real world, public figures present a positive face when being watched, but behave badly when not. Thus the existence of investigative journalists, for example, to find out the truth (acting as the covert observers).

Rockenbach and Milinski (2011) studied this process in an experimental social-dilemma game. The public good (PG) game (simple condition; SPG) involved four players with 10 points each, and each one can contribute 0, 5 or 10 points to the public pot. The total amount in the public pot is doubled and divided evenly between all the players. So if all players contribute 5 points to the pot, they each receive back 10 points ($20 \times 2 \div 4$). But there is a possibility of a "free-rider" who can gain without contributing. For example, three players contribute 5 points each and one selfish player ("free-rider") puts 0 points into the pot. This latter player would receive 3-4 points back (ie: $5 \times 3 \div 4$) which is a profit at the expense of the other players.

In some rounds of the experiment, punishment of "free-riders" was added (PG-PUN). After a round, a player could impose a punishment of three points on any other player (and it costs them 1 point).

In other rounds, a player could give to other players after a round (indirect reciprocity game; PG-IR). Each point given is tripled for the receiver.

Each game involves 15 rounds and five players, of which one player was the observer. The observer could choose who to play with in the future. This choice cost as did the opportunity to hide the fact that a player was being observed, while players could hide their decisions from observers at a small cost.

The game created a conflict of interests as the observer seeks the most altruistic player, the selfish player tries to maximise their points while hiding their selfish behaviour.

One hundred and twenty undergraduates at a German university volunteered to participate in the experiment. It was found, not surprisingly, that selfish players were less likely to be chosen as future co-players. Selfish players paid to hide their low contributions (80% of occasions when contributing 0 points), while allowing

observers to see the high contributions to the public pot (around 60% of occasions when contributing 10 points). Observers paid to conceal their watching of high contributors to uncover the "true" behaviour.

Also players paid to hide their punishing behaviour in the PG-PUN rounds, but observers were not interested in this behaviour in choosing future co-players.

1.7. APPENDIX 1C - EARLY STUDY OF PHYSICAL ATTRACTIVENESS

In the 1920s, Perrin (1921) asked students at the University of Texas to name physically attractive and unattractive male and female students, and then to rate those named on a list of physical characteristics and behaviours. The following patterns emerged:

Attractive Females

- Clean hair
- Clean teeth
- Care taken to avoid unpleasant breath
- Care in coughing
- Care of eyes
- Tendency to arrange hair in prevalent fashion
- Aristocratic bearing
- General care of the body

Unattractive Females

- Shape of chin
- Properties of bust
- Shoulders and hips
- Lack of taste and neatness in dress
- Absence of aristocratic bearing
- Poor physical poise

Attractive Males

- Tendency to avoid unpleasant breath
- Care of the body

Unattractive Males

- Eyes, ears, mouth and lips
- Care of the hands and nails poor
- General care of the body poor
- Absence of aristocratic bearing

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2. FALSE OR RECOVERED MEMORIES EXAMINATION

QUESTION

1. a) What are "repressed memories"? (2 marks).
b) What are false memories? (4 marks).
 2. Explain two ethical implications related to false memories (8 marks).
 3. Discuss two explanations for false memories. Refer to empirical evidence in your answer (16 marks).
- TOTAL: 30 marks ⁹

ANSWERS

1a. Those memories pushed deep into the unconscious mind that the individual recalls at a later date; 1 mark = very muddled or substantially common sense; 2 marks = accurate answer.

1b. Reference to memories recalled usually in therapy that are not historically accurate. Maybe some distinction between historical and narrative truth.

2. Issues include therapists giving ideas to clients; use of hypnosis and suggestibility; implications for family of recovered abuse memories (2 x 4 marks)

1-2 = brief or muddled outline of ethical implication.
3-4 = detailed and accurate description of ethical implication.

3. This question is about the explanations for false memory syndrome. Most probably students will include Freud and another explanation (eg: Loftus).

Max 8 marks for answers without empirical evidence.
Max 10 for answers very good one explanation but weak on other.
Max 12 for answers restricted to one explanation.

⁹ This question and marking scheme is aimed at 17-18 year olds ("A" Level in England and Wales).

3. CHRONIC FATIGUE SYNDROME

- 3.1. Risk factors
- 3.2. CFS in practice
- 3.3. CFS in children and inheritance
- 3.4. References

3.1. RISK FACTORS

Chronic Fatigue Syndrome (CFS) (or sometimes called myalgic encephalomyelitis; ME) is characterised by extreme, long-term fatigue (lasting over six months), muscle and joint pain, poor concentration, and disturbed sleep. It is estimated that between 0.2% and 2.6% of the population suffer from it (Clark et al 2011).

There is interest in finding the risk or precipitating factors for the condition. One method is a retrospective study. This involves asking current sufferers about their past, which, in the case of CFS, includes childhood abuse and neglect, physical inactivity or overactivity, glandular fever, and severe stress, as well as characteristics like perfectionism (Clark et al 2011). Retrospective studies can be vulnerable to recall bias, particularly if independent verification of information is not possible.

On the other hand, prospective studies follow a group or cohort from before the condition develops. The birth cohort is a commonly used example. This includes all the individuals born at a particular time in a particular place who are followed for a certain length of time.

Clark et al (2011) made use of data from the National Child Development Study (NCDS), which is based on 18 558 births (98% of total) in England, Scotland and Wales in one week in March 1958. Data were collected at 7, 11, 16, 23, 33 and 42 years old. It was the last collection involving 11 419 individuals that Clark et al (2011) analysed.

Participants were asked, "Have you ever had CFS/ME?" (and if so, the age of onset). They were also asked about CFS symptoms separately. This was the outcome measure.

One hundred and twenty-seven individuals (75 of them female) (1% of the sample) reported having had CFS/ME (which began at the median age of 34 years old). CFS-like symptoms were reported by a total of 241 individuals (167 female) (2% of the sample). Female sufferers in both cases were significantly more than male sufferers.

Other information about adult mental health, childhood adversity, physical activity throughout life, body mass index (BMI), and childhood illness was amassed

from previous data collections. On all these measures, the CFS/ME sufferers and CFS-like group were compared to the rest of the cohort.

The CFS/ME and CFS-like individuals were significantly more likely to have:

i) Experienced childhood adversity including physical abuse, sexual abuse, neglect (eg: maternal or paternal absence; being unfed), being in care, and divorce.

ii) Suffered childhood illness including absence from school for over one month, and many colds and throat infections.

iii) Adult mental health problems.

There was little relationship between childhood BMI and activity levels and CFS, though adult obesity and leisure-time inactivity was related to CFS-like symptoms.

After further analysis of the risk factors (using multivariate analysis), physical abuse by parents, childhood gastro-intestinal symptoms, and many colds as a child were independently associated with self-reported CFS/ME, while only being female and adult mental health problems were associated with CFS-like symptoms. But the authors admitted that the risk factors did not affect all sufferers - for example, only 16% of CFS/ME sufferers reported physical abuse. This figure was lower than previous studies, and did not include non-parental abuse (Clark et al 2011).

It could be assumed that CFS leads to long-term sickness absence from work based on the severity of the symptoms (ie: more severe symptoms and more time off work). But Knudsen et al (2011) found that symptom severity and certain cognitive and behavioural responses were associated with long-time absence.

Knudsen et al (2011) studied 168 consecutive out-patients at a treatment unit for CFS. "Long-term sickness absence" was defined as more than three months off work or retired from work through the illness. The participants were asked about the severity of nine common CFS symptoms, like muscle pain, headaches, and unrefreshing sleep. The Cognitive and Behavioural Response Questionnaire (CBRQ) (Skerrett and Moss-Morris 2006) was also used. This measured how individuals reacted to their symptoms.

Seventy-one individuals were classed as the long-term sick group and 97 as working for comparison. Both groups had high levels of symptom severity, but physical fatigue and unrefreshing sleep were significantly worse for the long-term sick group. This group also showed

significantly worse scores on three of the CBRQ sub-scales relating to (figure 3.1) ¹⁰:

- Embarrassment avoidance - avoidance of social situations due to feelings of shame and embarrassment over symptoms (eg: CBRQ item: "the embarrassing nature of my symptoms prevents me from doing things").
- Avoidance resting behaviour - excessive rest and avoidance of activity (eg: "I stay in bed to control my symptoms").
- Fear avoidance - avoidance of activities due to fear of worsening symptoms (eg: "I am afraid that I will make my symptoms worse if I exercise").

This suggested that CFS sufferers on long-term sickness absence were more worried about their symptoms in different ways than individuals working.



(Source: Knudsen et al 2011 table 1 p431)

Figure 3.1 - Mean scores on 3 sub-scales on CBRQ with significant differences.

3.2. CFS IN PRACTICE

CFS is a contested concept with a history of medical uncertainty, particularly under prior names like ME. Is

¹⁰ There were no significant differences between the two groups on the following sub-scales:

- Catastrophising - catastrophic thoughts regarding severity of symptoms (eg: "I will never feel right again").
- Damage beliefs - beliefs that symptoms are sign of true damage to the body (eg: "the severity of my symptoms must mean there is something serious going on in my body").
- Symptom focusing - preoccupation with symptoms (eg: "when I am experiencing symptoms it is difficult for me to think of anything else").
- All-or-nothing behaviour - periods of high activity and subsequent prolonged periods of resting (eg: "I tend to do a lot on a good day and rest on a bad day").

it a disease previously undiscovered or a new term for an older psychological condition (eg: neurasthenia) (Horton-Salway 2007)?

The answer to this question is not straightforward. However, Horton-Salway (2007) was more interested in how doctors/GPs/medical professionals and patients/sufferers struggle to define a "genuine physical illness" or something that is "all in the mind". She collected data from GPs and ME support group members in unstructured interviews¹¹. Discourse analysis of the transcripts led to three themes.

1. The co-construction of a contested illness category - The speakers used different terms like post-viral syndrome, CFS, or ME, and there was a contest between doctors and patients over which term was used. Sufferers, for example, preferred the term ME, because it "emphasises the physical nature of the illness in contrast to some non-specific fatigue condition implied by the term CFS" (Horton-Salway 2007 p900).

2. GPs' "psychologised" accounts of false claims - GPs referred to "self-diagnosing" patients who had read about ME, and they were "motivated to seek a medical label for everyday social, lifestyle and relationship problems" (Horton-Salway 2007 p901).

For example, Dr.M saw ME as "a handy ticket" used by patients to avoid an underlying problem of depression. The "ticket" allowed access to resources related to the "sick role" and the "physical illness label" (eg: doctor's certificate to give to employer). Dr.S went further: "...It's a new fad for patients because it's a way of avoiding responsibility for psychological illness if you've got a physical label then it's not your fault nor can you do anything about it...whereas the people who we labelled neurasthenia or weak personalities y'know going back in the old psychiatric textbooks those at least you could confront so it's a useful label for avoiding in some patients internal conflict..." (extract 5 p902).

While Dr.W felt: "...people with problems of feeling 'tired all the time' which as I say is very common in general practice it's very often a presentation of other stresses problems that are making people feel a lack of energy because they're just weighed down with other problems in fact (.) and also the difficulty with separating them is that quite often people in that

¹¹ Ong et al (2005) explored the experiences of a female patient being diagnosed with ME and her GP's feelings on the diagnosis process.

situation will have latched onto something like ME or post-viral fatigue syndrome..." (extract 6 p903).

3. Constructing the genuine case in accounts of ME group members - Members of ME support groups were concerned to distinguish themselves as "real" cases as opposed to individuals (noted by the GPs above) who had jumped on the "ME bandwagon". For example, "BM describes, how people who are 'generally unwell'... are inclined to misappropriate the label 'ME' so that 'outsiders'... perceive the illness as something that can be 'got over in six months'... The term 'outsiders' here... constructs her own status and experience as an 'insider', giving greater authority to her claims. Outsiders lack personal experience that qualifies them to distinguish the 'genuine' case from less serious conditions" (Horton-Salway 2007 p906).

One way the sufferers were able to distinguish themselves was through the distancing from media stories. One interviewee reported knowing nothing about ME when their GP diagnosed it. This countered any accusation of prior motivation to gain the diagnosis (which is what "bandwagon jumpers" have).

3.3. CFS IN CHILDREN AND INHERITANCE

CFS has been reported in up to 2% of children in various studies in the UK and the USA (Crawley and Davey Smith 2007) ¹². This means that there could be a family history of the condition.

For example, Bell et al (1994) reported that 50% of children with CFS had a relative with the condition, while among students in New York State, CFS sufferers were over thirty times more likely to have a relative suffering than non-CFS students (Bell et al 1991). These two studies could be evidence for a genetic basis to CFS, but also for common environmental factors including an infection.

To distinguish which of these factors requires twin studies. Identical (MZ - monozygotic) twins share the same genes (100%), while non-identical (DZ - dizygotic) twins share 50% of genes (as with any pair of siblings). If a condition or behaviour is inherited, the concordance rate (both twins showing the condition or behaviour) will be higher among MZ than DZ twins. Studies find such a higher rate (eg: MZ 0.55 ¹³ vs DZ 0.19; Buchwald et al

¹² Rates tend to be often in the range of 0.06% - 0.5% in epidemiological studies, and 2.3% from a twin study, for example (Crawley et al 2011).

¹³ 0.55 = 55% of twin pairs both suffered from CFS

2001).

Once a genetic component is established, it is necessary to search for the likely (candidate) gene(s) involved. Association studies compare suspected gene(s) and chromosomal areas between sufferers and non-sufferers in the same genetic family. A number of different studies find different gene(s), but often the findings are not replicated or the study is small-scale. Furthermore, CFS is heterogeneous (ie: manifest with different symptoms in different individuals) (Crawley and Davey Smith 2007).

Recently, Crawley et al (2011) calculated a prevalence of 1% for CFS among 11-16 year-olds in three schools in Bath, England. Among 2855 enrolled children, those who had missed more than one-fifth of school time without a known medical illness were assessed by CFS/ME specialists. This assessment found 25 "new" cases of CFS, added to the three known cases to give a total of 28 children (figure 3.2).

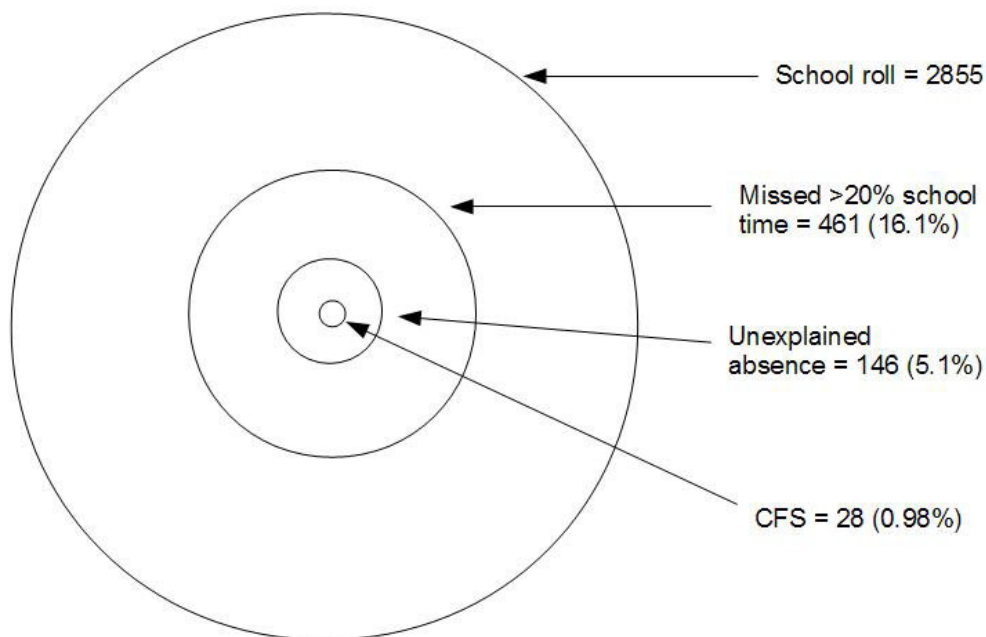


Figure 3.2 - Number of cases of CFS found by Crawley et al (2011).

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