Freud describes fixation as an internal resistance to transferring the libidinal energy to a new sets of objectives and activities.

Fixation can occur at of the stages of psychosexual development and is an indication that the child has failed to progress satisfactorily through that stage.

Evidence of fixation can be observed in the personality and behaviour of affected adults, according to Freud.

It is claimed that fixation at the oral stage is linked to the seeking of excessive oral stimulation in adulthood, such as smoking, chewing gum or excessive eating.

The adult who was over-indulged at the oral stage is described as having an oral receptive character, being overly dependent on other people for gratification of their needs.

Oral under-indulgence can lead to the oral aggressive personality, where the individual has an exploitative attitude towards others and tries to get as much as possible for them.

Freud argues that the child who has received sufficient oral stimulation will transfer their libidinal energy to the next stage.

Anal stage:

As the child matures, the lower trunk becomes physiologically more developed and comes under increased voluntary control.

Freud suggests that the baby comes to receive sensual pleasure from bowel movements. At the same time parents emphasise toilet training and reward the child when they demonstrate control of their bladder and bowel.

These two developments come together and help to shift the child’s attention from oral stimulation and the mouth to the anal region and this becomes the new erogenous zone.

At this stage, toilet training is the issue that has to be handled appropriately by parents; otherwise fixation may occur.

Toilet training can involve the child and the parent in interpersonal conflict, if the parents make demands on the child to become toilet trained.

The child may resist these demands and a battle of wills can commence.

Freud suggested that this experience of conflict with demanding carers may lead individuals to rebel against authority figures throughout their lives.

When toilet training is handled badly, fixation at the anal stage can occur, resulting in the anal-retentive personality.

This personality type is described as having a constipated orientation, in that they are very orderly, stingy, stubborn, with a tendency to hoard things and to delay gratification until the last possible moment.

These behaviour patterns are thought to come from meeting parental exhortations and delaying their bowel movements until their parents deemed it appropriate.

The opposing type resulting from anal fixation is the anal-expulsive personality

These individuals resists’ others attempts to control them, in the same way they resisted their parent’s attempts at toilet training

They are untidy, disorganised and disregard accepted rules about cleanliness and appropriate behaviour.

The appropriate approach for the parents to adopt is to be relaxed about the child’s preferences and positively reward successes.
• They include things like giving love unselfishly, increases in drive, like curiosity and the thirst for knowledge; developing skills and having new experiences.
• Maslow felt that the personal growth involved in these B-motives was exciting and rewarding for the individuals and served to stimulate them further.
• This is a crucial difference between deficiency motives and growth motives.
• Deficiency create a negative emotional state that can be changed only by satisfying the need; in contrast, growth motives can be enjoyable, and satisfying these needs can act as further motivation to achieve personal goals and ambitions.
• In this way, deficiency motives are seen to ensure our survival, while growth needs represent a higher level of functioning that can result in us becoming happier, healthier and more fulfilled as individuals.
• Maslow suggested that the psychoanalysts had overemphasised drive reduction as a motivator for human behaviour because this tended to be true of the clinical populations that were their focus.
• He acknowledged that human motives were complex and that behaviour could be motivated by several needs.
• For example, an apparently simple behaviour like eating might be motivated by hunger, the need to be with others or by the need for emotional comfort when a love affair goes wrong; we are sure you can think of other motives.
• If ate only to fulfil our hunger needs, obesity would not be such a health problem in western societies.
• Hierarchy of needs:
• Maslow felt that it would be difficult to produce lists of human needs given the complexity of human motivation and the way that behaviour could be motivated by several needs.
• However he argued that needs vary significantly in terms of their importance for ensuring our survival.
• To this end he developed what has become his famous hierarchy of needs.
• Some needs have to be met before other needs are acknowledged and begin to motivate our behaviour.
• Maslow’s hierarchy of needs is displayed below.
• It begins with lower-level or survival needs, which have to be satisfied first before we seek gratification of our higher-order needs.
• Our physiological needs:
• include hunger, thirst, sleep, oxygen, the elimination of bodily waste and sex. Most of these are deficiency needs, and once they are satisfied, the motivation to pursue the activity ceases.
• If we are thirsty we have a drink of water, and the need is satisfied. The exception are sexual drive, the need for elimination and sleep, these are considered to be growth needs.
• Sexual needs, for example, do not decrease with gratification but frequently increase.
• Rarely in western cultures are individuals in the position of being motivated only by their physiological needs; however we can imagine that if you were starving, food be your number one priority and all your other needs for respect, love and the like would be of little importance.
• Once our physiological needs are satisfied, we then turn our attention to the next level of needs as a source of motivation.
• The safety needs:
It is a growth need that emerges only after the other basic needs have been addressed.

For this reason, Maslow describes it as coming to prominence only in older people.

Maslow is clear that not all individuals achieve self-actualisation, although many strive to do so.

He suggests that the model of motivation we have just described does not fit these self-actualised individuals.

He suggests that the needs of self-actualisers are qualitatively different; he describes them as metaneeds.

The foci of metaneeds are very different, ebing concerned with higher aesthetic and moral values such as beauty, truth, justice and ethics.

**Discussion of basic needs:**

Maslow’s model appears very neat and simple at one level, but he stressed that his hierarchical model is an **oversimplification of the actual relationship between needs and behaviour**.

The reality is that, while the order makes sense for most people, there will be individual exceptions.

The priority of our needs will vary depending on our personal circumstances across time, so that is it not a static model.

At any level, a need does not have to be totally gratified for us to be motivated by higher-order needs.

Maslow estimated some average figures for need fulfilment in the average American, suggesting that on average around 85% of individual physical need are met, 70% of safety needs, 50% of belongingness and love, 40% pf self-esteem needs, and 10% of self-actualised needs.

**Thinking about percentage needs in this way helps to get across Maslow’s idea that the degree to which a need is fulfilled will influence the impact it has on the individual.**

For example, if a long term relationship ends, the belongingness and love needs are likely to be much less satisfied than they were previously.

This results in the individual becoming more motivated to seek solace and the person will derive comfort from being with friends and other relatives as this helps increase their sense of belonging.

Maslow claimed that his model had **universal applicability**, but that the means of gratification might change within cultures.

He felt that we share many of the basic needs, such as physiological and safety needs, with other animals, but the **higher order needs are distinctly human**.

The higher apes display a need for love and belongingness, but Maslow felt that self-actualisation is a **uniquely human pursuit**.

He stressed that motivation for behaviour is frequently immensely complex and that many behaviours are motivated by a variety of needs.

Using the example of sexual behaviour, Maslow pointed out that it can be motivated by a physiological need for sexual release, or it can be a need for love and affection, a wish to feel masculine or feminine or to express a sense of mastery in a situation and so on.

**Thus, the activities we engage in may also satisfy more than one set of needs at a time.**

Maslow also acknowledges the importance of unconscious motivation. He perceives the **instinctoid tendencies** as being quite weak and easily overcome by situational factors, and consequently we may often not be consciously aware of how they affect our motivation.
• This raises the issue of whether and how these artificially induced experiences relate to self-actualisation.

• Ravizza (1977) reported that many athletes report peak experiences but are not self-actualisers in any other aspects of their lives. Thus, questions are raised about the relationship between peak experiences and self-actualisation.

• The basis for Maslow’s selection of the five basic needs is also unclear.

• He does not provide a rationale for their selection, and many other human needs can be identified. His theorising embraces many assumptions about human behaviour that are stated authoritatively, but the supporting evidence is either absent or weak.

• He did argue against the empiricism of existing psychological methodologies, but this does not excuse his lack of attention to providing objective support for his theory (Maslow, 1970).

• Most of the concepts in Maslow’s theory are imprecisely defined, so they are difficult to research.

• There have been more systematic attempts to measure self-actualisation.

• Shostrum (1966) developed a measure called the personal orientation inventory (POI).

• It is a self-report questionnaire with 150 items that are answered positively or negatively.

• It measures the degree to which individuals are inner-directed on one major scale and whether they use their time effectively on the second major scale, both of which are thought to relate to self-actualization.

• There are 10 subscales measuring self-actualizing values, feeling reactivity, existentiality, self-regard, spontaneity, self-acceptance, nature of humankind, synergy, acceptance of aggression and capacity for intimate contact.

• While the validity and the usefulness of the measure was established using several samples, there are problems with it.

• Participants do not like the forced-choice response mode, feeling that it does not give an accurate reflection of their view, and other researchers have reported that it correlates poorly with other related measures such as the purpose in life test (PIL) divided by Crumbaugh and Maholick (1969).

• Mittleman (1991) reviews much of this work on self-actualisation and concludes that self-actualisation is difficult to measure, but the most reliable aspect of it relates only to possessing openness to experience.

• **Comprehensiveness:**

• Maslow’s theory is really focused on positive growth and as such, it is not a comprehensive theory. His approach was new and creative, making a welcome change to the previous theories with their emphasis on psychopathology. He did attempt some discussion of psychopathology and adopted aspects of Freud’s model, but this was not done in a systematic or comprehensive fashion.

• The explanation of human motivation is also limited. There is much more emphasis on self-actualisation, but even here the precise detail is missing. Maslow does not spell out exactly how self-actualisation can be achieved. Similarly, he talks only in very general terms about the development of personality.

• **Parsimony:**

• Maslow’s theory is very concise for a theory of human personality. We have already discussed how his concept of motivation is limited and how the selection of five basic needs is somewhat arbitrary. TH description of personality development is lacking in detail. We have also discussed the limitations of Maslow’s treatment of psychopathology and how the
• He, like Maslow, saw human beings as being future-oriented and believed that our future goals influence our current behaviour. In this way, he saw individuals as having the power to shape their own lives.
• This focus on the power of the individual to change their lives is reflect in the title of his approach. He first named it client-centred therapy.
• The term patient was the norm at the time among therapists and is very much associated with the medical model of illness where the doctor/therapist is the expert who provides treatment and hopefully a cure to the patient.
• In this relationship, the therapists is the expert and the patient is less powerful and receives the expert’s knowledge.
• Therefore, the medical model has traditionally assigned a relatively passive role to the patient.
• Adopting an existential humanistic stance Rogers (1951), felt that individuals are the best experts on themselves, not the therapist. He selected the term ‘client’ to suggest a more equal role, similar to that of customer and provider.
• The term ‘client-centred’ reflects Roger’s view that clients are the experts on themselves and that the role of the therapist is to help the client to better recognise their problems and formulate their issues.
• In this way, the therapist acts more as a facilitator. Once clients understood what the problem was, Rogers felt that they would know how to solve it in a way that suited their particular life situation.
• Later he changed the term to person-centred’ feeling that the term ‘person’ is more power-neutral than the word ‘client’.
• Rogers adopted a phenomenological position about the nature of reality. He stressed that we all function within a perceptual or subjective frame of reference (Rogers, 1956).
• He denied the possibility of an objective reality that we all share. Instead, we all perceive our own reality.
• Instead we all perceive our own reality.
• Rogers point out that how we perceive a situation depends on our mood, the type of person we are, our beliefs, our past experiences and so on.
• Rogers, like Ellis, accepts that everyone perceives situations differently; therefore, to understand an individual, you have to try to understand how they see the world.
• Self-actualisation:
• Rogers stressed the uniqueness of each individual.
• He felt that clients are the best experts on themselves and that people are capable of working out their own solutions to their problems. He believed that each person has a natural tendency towards growth and self-actualisation.
• His definition of self-actualisation is the same as Maslow’s: it is an innate, positive drive to develop and realise our potential. Individuals are described as having an innate actualising tendency.
• It is our single basic motivating drive, and it is a positive drive towards growth.
• From birth Rogers suggested we all have a drive towards actualising our potential, to become what we are capable of becoming.
• Rogers claimed that we can all cope with our lives and remain psychologically healthy as long as our actualising potential is not blocked.
• Blocks in our actualising tendency are the cause of all psychological problems.
• This role for the actualising tendency differs from Maslow’s conception.
He acknowledged that there is a variability in everyone’s behaviour, but that there is also some constancy.

- Personality traits constitute this constant portion of behaviour.
- Although interest in traits, Allport adopted a unified approach to personality, suggesting that it is the way that the component traits come together that is important.
- It is how the traits come together that produces the uniqueness of all individuals, which he was keen to stress.
- Together, these traits produced a unified personality that is capable of constant evolution and change.
- Allport made the distinction between nomothetic and idiographic approaches to the study of personality.

**Difference between nomothetic and idiographic approaches:**

- The *nomothetic* approach comes from the Ancient Greek term for ‘law’ and is based on the assumption that there is a finite set of variables in existence that can be used to describe human personality.
- The aim is to identify these personality variables or traits that occur consistently across groups of people. Each individual can then be located within this set of variables. By studying large groups of people on a particular variable, we can establish the average levels of that variable in particular age groups, or in men and women, and in this way produce group averages, generally called norms, for variables.
- Individuals can then be described as being above or below the average or norm on a particular variable.
- The nomothetic approach concentrates on the similarities between individuals.
- The *idiographic* approach focuses on the individual and describes the personality variables within that individual.
- The term comes from the ancient Greek *idios*, meaning ‘private or personal’.
- Theorists, who adopt this approach in the main, are only interested in studying individuals one at a time.
- They see each person as having a unique personality structure.
- Differences between individuals are seen to be much greater than the similarities.
- The possible differences within the idiographic approach produce a unique understanding of the individual’s personality. These approaches are usually based on case studies of individuals.
- Raymond felt that both approaches bring unique insights into our understanding of personality. He felt that the nomothetic approach allows the identification of common personality traits.
- He saw these common traits as ways of classifying groups of individuals, with one group being classified as being more dominant, happier or whatever than another comparable group.
- He felt that such comparisons based on common traits are not particularly useful.
- Of more use is what he termed the personal disposition of the individual.
- The personal disposition represents the unique characteristics of the individual.
- This approach emphasises the uniqueness of each person, and Allport felt that this was potentially a more fruitful approach towards developing a real understanding of personality.
- The other major contribution that Allport made to personality theorising relates to the concept of self. He emphasized the important of the concept to any theory of personality as he felt it is crucial to the development of identity and individuality.
- He hypothesized that children are not born with a concept of self, but that it gradually develops.

**Raymond Cattell and the emergence of the factor analytic approach:**

- The real advances in trait approaches were only possible after the invention of the technique of factor analysis.
- Raymond Cattel made full use of the technique, having been instructed in it by Spearman, the inventor of factor analysis.
- Cattel was keen to apply empirical methods to discover the basic structure of personality.
• **Factor Q-controlled causal**
• **Factor Q-tense-relaxed.**
• As we have seen, Cattel was keen to develop a comprehensive, empirically based trait theory of personality.
• He acknowledged the complexity of factors that all contribute to explaining human behaviour, including genetics and environmental factors as well as ability and personality characteristics.
• Cattel was adamant that the test of any good personality theory was its ability to predict behaviour.
• The Sixteen Personality Factor questionnaire has become a standard measure of personality and has been used consistently since its publication.
• Researchers have demonstrated the 16PF was a good predictor of success in different school subjects (Barton et al., 1971).
• What we need to remember at this point is that Cattel suggested that the underlying structure of personality consists of 16 factors.

**Hans Eysenck’s trait theory of personality:**

• Eysenck was stressing the importance of genetic inheritance, a view that has gained ground within psychology.
• We know from physiology that there are differences in physiological functioning between individuals and that these biological differences often translate into different behaviour.
• Eysenck’s claim that there is a large biological determinant to personality was originally met with skepticism, however, it has become accepted as supporting evidence has emerged from biological research.
• Eynseck defines personality as being the way that individual’s character, temperament, intelligence, physique, and nervous system are organised.
• He suggests that this organisation is relatively stable and long-lasting.
• Traits are the relatively stable, long-lasting characteristics of the individual.
• Eynseck utilised factor analysis.

**Eynseck’s structure of personality:**

• Beginning with observations of individual behaviour that he calls specific responses, Eynseck developed a hierarchical typology.
• An example of the methodology he used will make this clear.
• For example, you would watch someone talking with their friends one evening and carefully observe their specific responses.
• If this person spends a great deal of their time talking with friends, you can begin to observe some of what Eynseck calls their habitual responses.
• Thus habitual responses are the ways that individuals typically behave in a situation.
• Form continued observations of the same individual, you might observe that this person seeks out occasions to interact with others and really enjoys social events.
• The conclusion would be that this person is very sociable, or in personality terms, they possess the trait of sociability.
• Specific responses that are found together in the individual make up habitual responses, and collections of habitual responses that the individual produces make up the next level of personality traits.
• Using factor analyses, Eysenck argued that traits such sociability, liveliness, activity, assertiveness and sensation-seeking are highly correlated.
• This means that an individual’s score on each of these traits are likely to be very similar. This collection of traits then forms a supertrait or personality type.
• Each supertrait represents a continuum along which individuals can be placed, depending on the degree of the attribute they possess.
• **Eysenck originally suggested that there are two supertraits.**
Similarly, intelligence is important because it refers to capacities to think and reason about information.

Salovery and Mayer brought about these two areas together into one: emotional intelligence.

Salovery and Mayer divided the concept of emotional intelligence into four capacities: Accurately perceiving emotions, using emotions to facilitate thinking, understanding emotional meanings and managing emotions.

By 1997 Mayer and Savoley had expanded on their model.

In this more detailed model, they expanded the four branches as follows:

Perceiving branch: perception, appraisal and expression of emotion- if you were high in this aspect of emotional intelligence, you would be able to recognise emotions in other people, particularly through their use of language, sound and behaviour. However within this branch of emotional intelligence, you would be able to identify accurately your own emotions in relation to your own thoughts and feelings.

Facilitating branch: emotional facilitation of thinking- if you were high in this aspect of emotional intelligence you would be able to use your emotions as an aid for your memory and to make judgements about certain feelings to prioritize your thinking. You would be to emotions to encourage the consideration of multiple viewpoints and to understand that particular emotions can be used in problem-solving.

Facilitating branch: understanding and analysing emotions; employing emotional knowledge- if you were high in this aspect of emotional intelligence, you would be to label emotions accurately and recognise the relationships between the emotions. You would also be able to understand the meaning behind emotions and know that some emotions are linked together in a process. You would also understand that there are transitions among emotions.

Managing branch: reflective regulation of emotion to promote emotional and intellectual growth- if you were high on this aspect of emotional intelligence, you would have the ability to stay open to feeling that are both pleasant. You would have the ability reflect or detach from a specific emotion to see whether it is informative to you. You would be able to monitor emotions in yourself and others, and assess whether the emotion expressed is typical, is influencing you or is unusual. Finally, you would show the ability to manage emotion in yourself and others by monitoring emotions and, on some occasions, using them for personal, intellectual or emotional growth.

Furthermore, the authors have further broken these four branches into two main areas:

Experiential (relating to, or derived from, experience)- this area comprises the perceiving brand and the facilitating branch.

Strategic (related to intended objective, or plan of action) –this is comprises the understanding branch and the managing branch.

This model of emotional intelligence is known as an ability model because it involves abilities in having and dealing with emotion, using emotion to enhance thought and to reflect and engage with a variety of emotions.

Mayer and Salovey arranged the four aspects of emotional intelligence in an order of sophistication of ability. The order of sophistication ranging from lowest to highest.

The Mayer-Salovey-Caruso Emotional Intelligence Test V2.0 is a 141-item scale used to measure the emotional intelligence abilities described earlier: perception, integration (facilitation), understanding and management.

In this test, the test-taker performs a series of tasks that are designed to assess their ability to perceive, identify, understand and work with emotion.

For example, here are some typical items:

Ability to identify emotion- the participant would be shown a picture of a face and asked to assess to what extent different emotions are shown in the face.

Ability to use (facilitate) emotion- the participant would rate on a 5-point scale to what extent a number of moods might be helpful when meeting a partner’s family for the very first time.
• Externera and Fernandez-Berrocal (2005) found that emotional intelligence was related to life satisfaction and Chamorro-Premuzic et al. (2007) found that it was related to higher levels of happiness.
• Trait emotional intelligence is able to predict a number of successful outcomes, e.g. life satisfaction, lower levels of rumination and better coping, after controlling for personality factors (Petrides et al., 2007).
• Downey et al. (2008) found that emotional intelligence was significantly associated with higher levels of academic achievement across a range of subjects among 209 Australian secondary school students, suggesting the usefulness of emotional intelligence in education.
• But what about the dark side of emotional intelligence? Well, in 2007, Elizabeth Austin and her colleagues looked at the association between Machiavellianism and emotional intelligence (Austin et al., 2007).
• Machiavellianism is generally viewed as a trait which reflects the tendency to be cunning and deceptive in everyday behaviour and interactions with others, particularly in terms of trying to gain advantage for oneself.
• Austin and her colleagues suggested that, as emotional intelligence comprises traits that enable the individual to manage the emotions of others, then perhaps the emotional manipulation capability of emotional intelligence might not always be used positively.
• That is, would someone who was able to manipulate people emotionally, manipulate emotions in other people in a negative way.
• To examine this idea, Austin et al. constructed an emotional manipulation scale and used it to examine the relationship between Machiavellianism and emotional intelligence.
• Austin et al. found that machiavellianism was found to share a significant negative correlation with emotional intelligence, and emotional manipulation shared a significant positive relationship with machiavellism but was unrelated to emotional intelligence.
• Austin et al. concluded, that although people high in Machiavellism endorse emotionally manipulative behaviour, the evidence did not support the view that such people were successful in emotionally manipulating people owing to the negative relationship between Machiavellianism and emotional intelligence.
• Furthermore, they found that emotional manipulation was unrelated to emotional intelligence, suggesting there was no dark side to emotional intelligence.

Sex differences in emotional intelligence:

• ‘Do women and men differ in their emotional intelligence?’ Well, theoretically, Goleman thinks they do.
• Goleman (1995) provided separate descriptors of an emotionally intelligent man and woman.
• However, the distinctions are not so easy to make when we consider whether women score higher than men do on measures of emotional intelligence.
• The evidence examined sex differences in emotional intelligence among the samples in the population suggests results are mixed, or that the effect size of any significant difference is small.
• For Mayer and Salovey’s ability model of emotional intelligence, women are found to score significantly higher than men across the four aspects of emotional intelligence: perception, integration (facilitation), understanding and management.
• Canadian psychologists Arla L. Day and Sarah A. Carrol found, among 246 undergraduate students, that the effect size for emotional intelligence was higher in women and ranged from 0.18 to 0.30.
• However, findings with Bar-On’s Emotional Quotient Inventory (EQ-i) among a US sample of over 3,000 individuals suggest a different picture.
• Bar-On found no significant difference between men and women for overall emotional intelligence scores.
4) British Regional Heart Study (Johnston et al., 1987) In this British Study, 6,177 men in 19 towns in the UK were assessed using a self-report measure of Type A behaviour. The researchers found no significant relationships between Type A personality and cardiovascular disease.

Several reviews of the research literature have been undertaken to try to identify the reasons for the lack of consistent findings.

A review panel, set up in the USA, concluded that there was a relationship between Type A personality and cardiovascular disease, but that improved measures were required as different studies used different measures, making comparisons difficult.

Booth-Kewley and Friedman (1987) carried out a meta-analysis of the literature. Meta-analysis is a statistical technique that allows the results of many studies to be entered into a communal data set to test hypotheses relevant to the topic area.

The meta-analysis found Type A to be reliably but modestly associated with cardiovascular disease.

They also concluded that studies using interviews to assess Type A/B produced more reliable results than studies using self-report questionnaires.

Miller et al (1991) produced an excellent review of the area and concluded that the differences in findings were because of the differences in the ways of assessing Type A behaviour and the use of different outcome measures.

Further psychological research on Type A personality

The second strand of research in Type A behaviour has been undertaken mainly by personality theorists as opposed to clinicians, and this has been fruitful.

Glass (1977) identified three separate components that made up Type A personality: These were as follows:

1) Striving competitively for achievement in many areas of life.
2) A sense of urgency in everything they do.
3) High levels of hostility.

There have been several attempts to explain the sources of these differences.

Glass (1977) suggests that one concept underlies all three concepts, namely a desire to exert control over the environment.

The evidence for this claim is a little tenuous, though it is not very convincing.

Rhodewalt and Davison (1983) reported that Type A’s are more likely to want something after they are told that they cannot have it.

Christie (1987) found that Type A’s have high levels of motivation and high need for self-appraisal, indicative of a need for ongoing monitoring and/or control in a situation.

Other researchers have focused on trying to identify what they call the toxic components of Type A behaviour. By toxic component, they mean the behaviour that is causally linked to the development of cardiovascular disease.

For example, Wright (1988) suggested that time urgency may be toxic.

However, the majority of evidence relates to hostility being the toxic component.

There have been several meta-analyses of all the published studies that examine hostility and cardiovascular disease (Dembroski and Costa, 1989; Ravaja et al., 1996; Miller et al., 1996).

The results are shown to be heavily dependent on the measures the researchers had used to assess Type A personality, again emphasising the importance of methodology.

Structured interviews produce the highest correlations, but all the results supported a relationship between hostility and cardiovascular disease.

Since then, two further meta-analyses have been conducted, which reported some association between hostility and cardiovascular disease but suggested that there is inconsistency in the measures appearing to be more reliable than others (Rozanski et al., 1999; Hemingway and Marmot, 1999).

However, an excellent meta-analysis of 45 studies where the methodology was judged to be sound, concluded that hostility/anger was associated with a 20% increased risk of coronary heart disease developing in people who are originally healthy, and also led to poorer outcomes in patients with coronary heart disease.