SAMPLE CHAPTER:
RELATIONSHIPS

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A2 LEVEL Psychology

the student's textbook

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Relationships

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You are expected in the examination to show both the skills of knowledge and understanding and the skills of analysis and evaluation in relation to the topic Relationships.

Where opportunities for their effective use arise, you will need to demonstrate an appreciation of issues and debates. These include the nature/nurture debate, ethical issues in research, free-will/determinism, reductionism, gender and culture bias and the use of animals in research.

You will also need to demonstrate an understanding of How Science Works. You can do this through the effective use of studies in your answer (as description or evaluation) or where appropriate by evaluating methodology and findings.

WHAT YOU NEED TO KNOW

THE FORMATION, MAINTENANCE AND BREAKDOWN OF ROMANTIC RELATIONSHIPS

- Theories of the formation, maintenance and breakdown of romantic relationships: e.g. reinforcement-affect theory, social exchange theory, sociobiological theory

HUMAN REPRODUCTIVE BEHAVIOUR

- The relationship between sexual selection and human reproductive behaviour
- Evolutionary explanations of parental investment: e.g. sex differences, parent-offspring conflict

EFFECTS OF EARLY EXPERIENCE AND CULTURE ON ADULT RELATIONSHIPS

- The influence of childhood and adolescent experiences on adult relationships, including parent-child relationships and interaction with peers
- The nature of relationships in different cultures

THE FORMATION, MAINTENANCE AND BREAKDOWN OF ROMANTIC RELATIONSHIPS

How and why relationships form and how they are then maintained is a substantial area of research in psychology, and a number of theories have been developed to explain this process. Some theories tell us that relationships are formed and maintained on the basis of an exchange of some kind between those taking part. These are known as 'economic' theories. Another approach focuses on evolutionary pressures that play a vital role in our relationships. Before we address these, though, we'll discuss an important theory that indicates that relationship formation and maintenance is essentially a learning process – the reinforcement/affect theory.

THE REINFORCEMENT/AFFECT THEORY

The Reinforcement/affect theory developed by Byrne and Clore (1970) is based on learning theory, that is, classical and operant conditioning. Classical conditioning involves learning by association, whilst operant conditioning involves learning by consequences – we are more likely to do things that are reinforced and less likely to do things that are punished. The two forms of learning are not entirely separate: they tend to co-occur. So, for example, we might initially make a pleasurable association between two events (classical conditioning) and then, because the association was pleasurable, engage in similar behaviours again (operant conditioning).

Having a good knowledge of learning theory will be very useful in everything you cover on the A2 course. You will have come across it on your AS course – if you didn't get it then, now is the time to really put the effort in to ensure that you do 'get it'. Get it?

The theory has a *reinforcement* component (something which increases the likelihood of a behaviour occurring again) and an *affect* component (an emotion or feeling). In simple terms, the reinforcement/affect theory suggests experiences in the relationship may or may not 'reinforce' a positive affect. We are attracted to people and wish to form relationships with them if their company is rewarding to us in some way, making us feel good, and when thier company is no longer rewarding the relationship may well come to an end as we no longer feel good in the relationship.

Interestingly, this theory also suggests that a person does not have to be the direct cause of the positive feelings in order to benefit from the positive association. For instance, if you meet somebody under pleasant circumstances then you are more likely to have positive feelings towards them than if you meet them under unpleasant circumstances because you associate a person with

LEARNING THEORY

Classical conditioning says that animals learn by association. It is a simple passive form of learning, based on reflexes. The original research was by Pavlov, who demonstrated that dogs salivated to the sound of a bell because they 'associated' the sound with the presentation of food. He showed that if each time food was presented a bell was also sounded then eventually the sound of the bell itself could make dogs salivate. This salivation is new learning, called the conditioned response. Emotions are also sensitive to classical conditioning, so that humans might learn a new association between a stimulus and an emotion. In this case we call the new learning a conditioned ***emotional*** response.

In operant conditioning, learning is said to occur because an animal is either rewarded or punished for a behaviour. A reward is said to be ***reinforcing***, (that is, it increases the likelihood of a behaviour occurring again), whilst punishment reduces the likelihood of a behaviour occurring again. This form of learning is voluntary in that an animal does something first and learns as a consequence of its behaviour.

These two kinds of learning complement one another in that they often occur together. For example, we make an initial association between two previously unrelated things – this is the classical conditioning element. Based on this initial learning we either escape/avoid these stimuli in future, or we are attracted to them. This is sometimes called two-factor learning.

FORMATION	MAINTENANCE	BREAKDOWN
The theory suggests that if we are experiencing positive affect (ie positive emotions) then we will like the people who are around us at the time. Consequently we may wish to form a relationship with these people. On the other hand, when experiencing negative affect (or negative emotions) we will dislike the people around us and will not wish to form relationships with them. The reinforcement/affect model can explain relationship formation as follows. You meet somebody and they make you laugh. This results in your experiencing positive affect. Consequently you wish to spend more time with them because you now associate them with good feelings and you wish to continue to experience these positive feelings. You now engage in behaviours (maybe courtship ones) which increase the likelihood that you will have these experiences again.	The reinforcement/affect model says that being in a relationship that develops positive feelings (positive affect) results in your wishing to remain in that relationship. If the relationship continues to produce these feelings then it is more likely to continue. As relationships develop, those in them may require different things: for instance, companionship and flexibility may become more important than sexual gratification. The flexibility with which a relationship responds to these changes in needs will partly determine the level of reinforcement maintained.	If the relationship no longer generates positive effect, it may begin to break down. Just as in learning theory, when the reinforced behaviour no longer generates a reward, that behaviour will not be reinforced and will not be expressed (leading to 'extinction'). For instance, a rat taught to push a lever when it sees a light may be rewarded with some food. If the food is no longer provided when the lever is pressed then the lever-pressing behaviour will no longer happen. In a relationship, loving behaviour is rewarded by happy pleasant feelings. If the loving behaviour no longer provides this positive affect, the reward reduces, the loving behaviour may cease, and the relationship may begin to break down.

the feelings you had at the time. By this argument a wedding might be a better place to strike up a friendship than a funeral. However, a funeral might provide you both with some notion of 'similarity'. You are both there for the same thing after all, to pay your last respects to the same person, and the feelings or emotions in both you and the others attending the event may provide a basis for some form of relationship. There are many things other than aspects of the environment that might influence the affective component. For example, the physical attractiveness of the person might give us a positive feeling, or having a similar attitude or opinion with someone about something.

With each theory we present we will first describe the theory then offer separate explanations of how that theory explains formation, maintenance and breakdown. What you must do in an exam answer is explain the theory and then apply it according to the demands of the question. So, if you are asked to explain the formation of relationships, explain one theory, apply it to formation, evaluate, and so on with the other theories. Straightforward, yes?

RESEARCH INTO THE REINFORCEMENT/AFFECT THEORY

A good deal of this research suggests that mood can be a positive reinforcer for behaviour and in such conditions a person will be more motivated to form a relationship. It follows that a negative mood can be a negative influence on a relationship because feeling unhappy is in effect a punisher in that it does not positively reinforce a desire to be close to someone.

Research suggests that having a positive or negative affect can alter the degree to which we find someone attractive. If a happy or positive affect is generated a person feels positively towards the potential recipient of their affections; a negative mood does the opposite. May and Hamilton (1980) asked their female participants to rate photographs of attractive and unattractive males under three experimental conditions: whilst listening to rock music (meant to produce a positive affect); listening to avant-garde music (meant to produce a negative affect); or in silence. They found that assessments of physical attractiveness were influenced by the music, with photographs in the rock music condition being evaluated as more attractive than photos viewed whilst listening to avant-garde music.

IF YOU LIKE ME I'LL LIKE YOU BACK

It may not come as a surprise to learn that we tend to like those who we believe like us too. Psychologists call this *reciprocal liking*. Aronson & Linder (1965) conducted an experiment in which participants held conversations with another person; they then 'overheard' the other person giving an opinion of them to the experimenter. This happened on 7 occasions, so the other person could appear to change their opinions. Finally the participants were asked how much they liked the other person. There were 4 conditions

1. The other person was entirely positive
2. The other person was entirely negative
3. The other person was negative at first and then became positive
4. The other person was positive at first and then became negative

Aronson and Linder found that the other person was most liked under condition 3. Overhearing an opinion that the other person had grown to like them during their conversation was attractive to the participants.

Research has found that the most popular girls in a youth detention centre were those who helped, protected and encouraged others. By definition, 'popular' means those that most people would wish to form a relationship with. Being helpful, protecting and encouraging can be regarded as rewarding behaviours and so a relationship with one of these girls would be likely to be rewarding. Presumably, if we dislike someone and are repulsed by them, then we will not wish to form a relationship with them because we do not find their company rewarding.

In a study by Griffith and Veitch (1971) statements by strangers were presented to participants who were in either uncomfortable surroundings or physically comfortable surroundings. Results suggested that in the more uncomfortable conditions, the stranger was liked less. It was concluded that the stranger's statements had become associated with the participants' negative feelings about their surroundings. In another study, Veitch and Griffith (1976) found that people who interacted with a stranger after listening to a radio programme of good news rated the stranger more positively than when they had listened to a programme of depressing news.

Rozin, Millman and Nemeroff (1986) conducted a laboratory experiment where participants were asked to smell a shirt worn by either a liked or a disliked person. They found that a shirt was considered less desirable when it was thought to have been worn by a disliked person, than when it was thought to have been worn by a liked person. (In reality the same shirt was used for all trials!)

Cunningham (1988) asked male participants to watch either a sad or a happy movie and later interact with a female confederate. Those who had watched the happy movie interacted with the confederate more positively and disclosed more information than those who had watched the sad movie.

CRITICISMS OF REINFORCEMENT/AFFECT THEORY

We can see that there is research evidence to support the idea that we form relationships with people whose presence we find rewarding. However, there are a number of criticisms that can also be made of this theory.

» The supporting evidence may lack ecological validity. Most of the research has been conducted in laboratory settings using artificial tasks. After all, how many times have you smelt the shirt of a stranger? Remember, this is social psychology and replicating a natural social environment in a laboratory may be impossible. On this basis, the research evidence could be accused of lacking validity and may be limited in its ability to explain real life behaviour.

Watch out for the chance to make these kinds of comments. This is a ***methodological*** *issue, and your examiners will be looking out for your ability to spot problems associated with how the research was carried out. Be careful though: don't just say 'It lacks ecological validity'. That's not enough – to get the best marks, you have to explain why this is a problem and what the implications may be for any conclusions based on the findings of the research.*

» The reinforcement/affect theory may be culturally biased and may therefore lack generalisability. Lott (1994) suggests that men and women may find different behaviours rewarding in different cultures. In Western societies women may focus on the needs of others as they are socialised into being attentive to the needs of others such as their husbands and children. The theory also implies that we are self-centred and only form relationships which give us pleasure.

This may not be the case with all relationships in all cultures.

» It is a simple theory, maybe even simplistic. We are dealing here with extremely complex behaviours involving hard-to-investigate issues such as emotion and motivation. Reducing these behaviours to a set of rewards and associations may well oversimplify what is actually a very complex process. It could be argued therefore that this explanation is a reductionist and a deterministic one, because it suggests that not only is the process rather simple, but we have little or no control over our choice of relationships.

This kind of thing is absolutely fine, but once again, don't just write "It's reductionist", "It's deterministic". That's not nearly enough to get marks. And besides, being reductionist and deterministic isn't necessarily a bad thing! Prove to your examiner that you really know what you're talking about – explain what you mean.

SOCIAL EXCHANGE THEORY

According to Homans (1961), people weigh up the costs and benefits of an action before deciding what they do. In terms of relationships, he suggests that we consider the actual and potential past, present and future rewards and costs before deciding whether a relationship is likely to be profitable. For Homans, choices about relationships are essentially rational economic decisions.

Homans (1974) suggests that we are attracted to those who provide us with economic rewards. An important principle here is that of 'satiation', which suggests that if something is in short supply, we appreciate it more. For instance, if you are thirsty from a lack of water, then a small glass of water will be very much appreciated. In a relationship, if a partner is supplying you with something you are short of, for instance attention or social approval, then you are likely to find their company attractive.

Social exchange theory states, then, that relationships involve the exchange of resources. The extent to which a relationship develops will depend on how mutually beneficial the relationship feels, i.e. how rewarding it is.

Careful here! It is easy to confuse social exchange with reinforcement/affect theory, since both use some of the same concepts and terminology, like 'reward'. This is because both theories have their origins in ideas drawn from operant conditioning.

The rewards associated with relationships are anything positive which make us feel valued: this could include gaining access to money, or receiving attention, status, gratification, pleasure etc. Determinants of attraction such as similarity could also be regarded as rewarding because we feel supported by a partner if their views are similar to ours. The costs involved in relationships are anything that is unpleasant: they could be financial costs, but might equally be emotional, such as pain, disappointment, embarrassment, putting up with annoying habits etc. Sedikides et al (1994) suggested that things like happiness and feeling loved are among the most important rewards of a relationship, while stress and worry about the relationship were significant costs. Whereas females thought intimacy and self-growth were rewards, males tended to emphasise sexual gratification as a reward and monetary losses as a cost.

Sampling	people consider the potential costs and rewards of a relationship and compare it with others
Bargaining	there is a giving and receiving of rewards at the beginning of the relationship which tests whether the relationship should continue
Commitment	focus is on the relationship and the costs and rewards are stabilised
Institutionalisation	norms of rewards and costs are established by the partners as they "settle down"

Thibaut and Kelley (1959) proposed that, when in a relationship, we try to minimise costs while maximising benefits (known as the 'minimax' strategy). A relationship will be maintained as long as the rewards exceed the costs. Thibaut and Kelley suggested that relationships progress through a number of stages, as can be seen in the above table.

Social Exchange theory suggests that people's feelings about a relationship depend upon a number of factors.

1. How they perceive the rewards
2. How they perceive the costs
3. Perceptions about the relationship they deserve ('comparison level')
4. Perceptions about their chances of getting a better relationship elsewhere ('comparison level for alternatives')

Individuals will calculate the outcome of the relationship quite simply by using a basic formula:

Outcome = Rewards – Costs

Whether your outcome is regarded as satisfactory depends on two factors: your *comparison level* and your *comparison level for alternatives*. Your comparison level is the standard by which all other relationships are judged. It is based on past experiences of relationships, so for example if you've had a bad relationship in the past then your comparison level will be lower than if you've had some very good relationships. The comparison level for alternatives depends on whether we believe that there is an alternative relationship that can provide us with a better outcome. Our comparison levels are likely to change over time as we experience different relationships, or as the current relationships changes in terms of costs and benefits – and they may also be affected by things like our level of self esteem.

Rusbult (1983) extended the social exchange theory into the *investment model*. She suggested that the maintenance of a relationship also depends on how much we have invested in it. Investments are defined as anything that would be lost if the relationship were to end, and could include material possessions as well as security for the future. If we feel that we have made a large investment then we may stay in the relationship, even if the rewards are low and the costs high. According to Rusbult, we are committed to a relationship if it gives us a high degree of satisfaction, if alternatives are of a low quality and if we have invested highly by making sacrifices for the sake of the relationship.

RESEARCH INTO SOCIAL EXCHANGE THEORY

Floyd et al (1994) found that commitment develops when couples are satisfied with and feel rewarded in a relationship and when they perceive that equally or more attractive alternative relationships are not available to them. Cate and Lloyd (1988) found that the level of rewards from a relationship is a determinant of satisfaction: the more rewarded we feel, the more satisfied we are.

Social exchange theory does appear to have some useful predictive value. The theory has been used to successfully predict how long a premarital relationship would last (Cate and Lloyd 1992). Sprecher (2001) found that comparison levels for alternatives were a strong predictor of commitment in a relationship and that rewards were important as a predictor of satisfaction, especially for women. The comparison level for alternatives was also found to be important in predicting relationship outcome. If an alternative relationship compares more favourably then the cost of staying in the current relationship is increased. Similarly, if alternative relationships do not compare favourably then the costs of the current relationship are reduced.

The role of available alternatives has also been investigated. Simpson et al (1990) suggest that

FORMATION	MAINTENANCE	BREAKDOWN
Economic theories tell us that relationships are formed simply on the basis of costs and rewards. In entering into a relationship we ask ourselves whether there are more rewards than costs. If there are, then the relationship may form. Similarly, if we are in a position to choose between entering a number of different relationships we consider which one will provide us with the largest difference between rewards and costs, or put more simply, which one will provide the largest and most positive outcome.	In order to maintain a relationship the balance between costs and rewards must remain favourable to each party. Once we start investing more than we get out of it we may begin to question whether it is sensible to maintain that relationship. Of course, this involves effort on both sides! It is important for each party to maintain a positive outcome, and to do this, costs must be kept down and rewards must be kept as high as possible. As long as the rewards do not fall below the costs the outcome will remain positive and the relationship may be maintained.	It may be that the costs of a relationship begin to outweigh the rewards. If this happens then the relationship may be regarded as damaging, or too costly to continue, and it may start to break down. For instance, it may begin to require a great deal of effort to gain the same feelings of happiness. When the effort gets too much, the reward (the feelings of happiness) may become so small that, overall, the outcome is negative.

members of the opposite sex are perceived differently, depending on whether we are in a relationship or not. They found that people who were dating someone viewed members of the opposite sex as less attractive that did those who were single. However, Buunk (1987) suggests that attractive alternatives are still a major contributor to the breakdown of some relationships. According to Duck (1994), the attractiveness of an alternative might be influenced by the state of the current relationship.

Rusbult (1983) used heterosexual college students in a study which lasted over seven months and involved the completion of questionnaires every few weeks. She found that people's satisfaction, alternatives and investments all predicted how committed they were to their relationship and whether it lasted. These findings have been supported by other researchers with different samples of both married couples and homosexual relationships, and also in different cultures.

Rusbult and Martz (1995) suggested that their investment model could explain why some people return to abusive relationships. Women who had sought refuge at a shelter for battered women were interviewed. It was discovered that the women who were more likely to return to an abusive partner were those who had poorer economic alternatives to the relationship; were more heavily invested in the relationship (married and had children); and were less dissatisfied with the relationship (reported less severe forms of abuse). As Rusbult's model would predict, they demonstrated more commitment to their relationships because of a greater investment.

CRITICISMS OF SOCIAL EXCHANGE THEORY

As we have seen, there is evidence to support the social exchange theory and Rusbult's extension of the theory. The theory can also account for individual differences which may result in different perceptions of costs and rewards and for people's perceptions changing over time as their circumstances change. However, criticisms of the theory have also been made.

» Costs may not be important at all stages of a relationship. Rusbult (1983) suggests that costs are of little importance during the first few months of a romantic relationship, but may become more important at other times. The theory therefore may be best suited as an explanation of the maintenance of relationships rather than of their formation, because during formation costs are, according to Rusbult, not terribly important.

» Most of the research has been based on short-term relationships, often with samples of students. This questions the validity of the research. If the results of the research relate to the short-term relationships of students they may not be applicable to longer-term relationships of non-students. The theory therefore is of limited use as the dynamics of long-term relationships are different from those of short-term ones. Also, romantic relationships are only one of many different kinds of relationship. Social exchange theory has difficulty explaining situations in which economic exchanges do not seem to apply, such as family care for children and elderly relatives.

» The model does not predict at what level a relationship becomes so unsatisfactory that we decide to leave even if there is no alternative relationship available. We can say that in this respect it is a descriptive model rather than a predictive one. The theory is good at describing how costs and rewards may change, but exactly *how* unrewarding a relationship needs to be before it breaks down is unclear; and just how much more rewarding an alternative relationship has to be before it is chosen over the current relationship is also uncertain.

» Clarke and Mills (1979) have distinguished between two types of relationship based on the norms of giving and receiving benefits. In communal relationships there is a principal concern for the other's needs and welfare, so that there is no expectation that a benefit given will be repaid. In exchange relationships, the benefits are given by one partner in response to actual or possible benefits received in return. This suggests therefore that social exchange theory, which emphasises exchange norms, only applies to certain kinds of relationship, and has less validity in relationships which do not emphasise 'economics'.

» The majority of research relating to social exchange theory has been conducted in Western individualistic cultures and may therefore be culturally biased. The perceived costs and rewards of relationships may be different around the world. For example, in some cultures where basic subsistence is a lifestyle, it may be sufficient to be in a relationship where a partner helps to provide just enough to eat. In more wealthy cultures on the other hand, a comfort-

able house in a good neighbourhood may be a more important consideration.

SOCIOBIOLOGICAL THEORY

A very different explanation for the formation, maintenance and breakdown of romantic relationships is the sociobiological theory, which has its origins in evolutionary theory. Sociobiology attempts to apply the principles of evolution to an understanding of social behaviours such as relationships. We have already suggested that physical attractiveness appears to play a role in the formation of relationships and the sociobiological approach attempts to explain why this should be the case. Similarly, if we are no longer attracted to the person with whom we are in a relationship, there is the possibility that the relationship may break down. According to this approach, both males and females are seeking to produce healthy offspring in order for their genes to survive into the next generation. Consequently, sexual partners will be sought who can produce and provide for healthy children.

Whilst, technically speaking, sociobiology and evolution theory are different, in reality when talking about human behaviour, the terms mean more or less the same thing. Sociobiology is normally the term used when applying evolution theory to human social behaviours, but don't get hung up on terminology. Sociobiology / evolutionary psychology – call it what you want.

Females produce few eggs in comparison to the millions of sperm produced by males, and also invest heavily in the nine months of pregnancy, and the childbirth, lactation and child dependency period. Clearly, the male contribution to the reproductive process is minor in comparison. Females are limited in the number of children they can produce during their reproductive years whereas males can produce a seemingly unlimited number of offspring throughout their life. These biological differences have led males and females to develop different strategies and tactics to maximise their chances of reproductive success.

Females are programmed to mate with carefully chosen partners with plentiful resources, whereas males are programmed to maximise their chances of producing offspring by mating frequently and 'sowing their seed' with as many partners as possible. Promiscuity for males is a way of increasing their chances of reproducing, whereas monogamy is a more appropriate strategy for females, who may seek older, reliable males for long-term relationships who can provide good resources for a potential family. Males may seek younger, attractive females who are likely to be more fertile and produce healthy offspring.

RESEARCH INTO SOCIOBIOLOGICAL THEORY

Males and females look for different things in their partners. Buss (1989) conducted an extensive study which involved analysing over 9,000 questionnaires completed in thirty seven cultures. Respondents were asked to rate the importance of a number of characteristics such as age, intelligence, physical attributes etc in a sexual partner. The results support the sociobiological theory, as males valued physical attractiveness while females valued earning potential and occupational status. Both males and females felt the male should be the older partner in the relationship.

Both males and females seek indicators that they can reproduce successfully. Research supports the idea that men prioritise youth and beauty (taken to indicate child-bearing potential). Singh (1993) found men are attracted to women with a low waist-to-hip ratio. Even though the American beauty ideal has become increasingly thinner over the years (as measured by Miss America contestants and Playboy centrefolds) a low WHR has consistently been seen as more attractive. Singh suggests that this is because a low WHR (0.7) is not only considered feminine and the most attractive figure shape, but is also linked to higher conception rates.

More recently Montoya (2007) found that both males and females were interested in body parts predictive of health (eyes, skin and complexion). Males preferred body parts predictive of fertility (hips, legs, buttocks, breasts and waist) while females preferred body parts predictive of strength and overall fitness (general muscle tone, arms, shoulders, height). A male V-shaped muscular body is thought to be attractive to females because it indicates the presence of high levels of testosterone required for muscle development (Dabbs and Dabbs 2000). Taller males are also found to be more attractive than shorter males. Dunbar et al (2000) found that childless men are on average shorter than those men with children and suggests that height preference may therefore be programmed into women's genes.

FORMATION	MAINTENANCE	BREAKDOWN
As we have already noted, according to sociobiological theory, males and females may enter into a relationship for different reasons and each looks for something different in their chosen partner. Men seek to form relationships with women with physical indicators of fertility, who show potential to produce strong healthy children. Women on the other hand look for men with good genes who can provide for them and their potential offspring.	In order to maintain the relationship the male must continue to provide for the female and her offspring. Similarly, the woman must continue to furnish the male with the opportunity to further his genetic line. Women may opt to provide as many children as possible within their means (both physical and financial) therefore maintaining the relationship, and/or might demonstrate good nurturing skills, thus maximising the investment of the males. Men may choose to remain monogamous and devote themselves to a single relationship in order to provide for their offspring, and ensure their survival and growth to promote the genetic line.	If the male cannot offer good resources, the woman may begin to seek support elsewhere, providing children for a stronger more supportive male in a different monogamous relationship. If the woman refuses to provide children or can no longer reproduce, the male may look elsewhere, engaging in promiscuous behaviour, and ultimately damaging the relationship, often beyond repair.

In evolutionary terms it might make sense for females as well as males to have multiple sexual partners. Females could then benefit by using, for example, the genes from one partner and the resources from another. This idea might be supported by the suggestion that many fathers are thought to be bringing up children they falsely believe are biologically theirs (Brown 2000).

There is a whole section in this chapter on human reproductive behaviour, which explains human relationships from an evolutionary perspective – you will find loads of research and evaluative material there! Don't treat the sections as entirely separate – each section contains material relevant to all other sections.

CRITICISMS OF SOCIOBIOLOGICAL THEORY

» A good theory should be testable, but unfortunately sociobiological theory cannot be tested experimentally. In order to show that evolutionary forces are governing our choice of romantic partner, a good scientist would remove evolutionary pressures to see what happens. This of course cannot be done.

» This theory has explanatory rather than predictive powers and can be accused of being non-falsifiable. By this we mean that whatever the behaviour, sociobiological theory can account for it. For instance, males who act promiscuously are regarded as maximising their reproductive chances while males who opt for a monogamous relationship are viewed as acting to improve the chances of their offspring surviving by being in a two-parent family. Any which way, evolution theory has an answer.

» Sociobiological theory assumes that attractiveness and child bearing are linked but is this really the case? Surely a plain woman can breed as well as an attractive woman? Why are cute baby features (such as large eyes and small noses) in females often liked by males? Does having large eyes make you a good child bearer? It may well be that there is a correlation between attractiveness and healthiness, but correlation does not mean cause and so the link between good looks and potential for bearing healthy children is no certainty.

» Sociobiological theory assumes that sexual relationships are always concerned with reproduction. Consequently this theory has difficulty explaining homosexual relationships and heterosexual relationships where the partners have chosen not to have children.

» It is difficult to separate the effects of culture from those of evolution. Historically, women have had lower social status and resources than men. In order to improve their position women have to trade their youth and beauty for an older male partner with status and resources. It could be argued from a feminist perspective that women seek a wealthy partner because they are economically dependent upon men.

» It is both a deterministic and a reductionist theory because it suggests our behaviour is pre-determined by our genes and therefore we have a lack of free will.

Remember, each of the individual theories discussed previously can explain relationship breakdown. The theories we've included here can either be used as alternatives to those earlier explanations or, perhaps more wisely, used to add breadth and depth to an exam answer.

FURTHER EXPLANATIONS FOR THE BREAKDOWN OF RELATIONSHIPS

The different theories we've already covered (reinforcement/affect, social exchange and sociobiological theory) can all explain why relationships break down. There are, however, a number of other well-known theories that can help us understand how relationships end.

Research has uncovered a number of factors which make it less likely that a relationship will succeed, for example:

» Young couples – especially if they have become parents at a young age – are more likely to get divorced than older couples.

» Lower socioeconomic groups, lower educational levels and different demographic backgrounds are all likely to result in less stable marriages.

» Having experienced a large number of sexual partners before marriage.

» Experiencing at a young age your parents getting divorced

Duck (2001) suggests there are three categories of relationship break-up:

Pre-existing doom	Incompatibility seems almost predestined (e.g. Granny marries teenage toyboy)
Mechanical failure	This is the most common – the couple find they just cannot live together
Sudden death	Betrayal or infidelity is discovered which causes the immediate end of the relationship

DUCK'S MODEL OF RELATIONSHIP DISSOLUTION

Duck proposed a model of relationship dissolution (breakdown) which views the breakdown of a relationship as a process rather than a single event, going through a number of stages, or phases. Each phase begins when a threshold of dissatisfaction has been reached, as illustrated below.

Stage 1: The intrapsychic phase

One or both of the partners is experiencing dissatisfaction with the relationship. This stage begins when the threshold "I can't stand this any more" has been reached. This dissatisfaction might be shared with others or might remain private.

Stage 2: The dyadic phase

Reached once the threshold "I'd be justified in withdrawing" is crossed. Here the faults are brought out into the open and the partner may be confronted if it is a serious relationship. In a less serious relationship it might end informally with a "See you around" or "I'll ring you". During this phase, discussions on how to either repair or end the relationship are started.

Stage 3: The social phase

Reached when the "I mean it" threshold is crossed. Dissatisfaction and plans to break up are now openly expressed. Outside help from a counsellor or friends might be used to try to repair the relationship, or the two partners may begin creating 'their' versions of the breakdown.

Stage 4: The grave-dressing phase

Occurs when the "It's now inevitable" threshold has been crossed. During this phase a credible, socially acceptable version of the life and the death of a relationship is created. Partners are likely to place the blame for the unsuccessful relationship on their partner or on conditions that existed before the relationship – "He changed", "She never really loved me" etc.

Harvey et al (1995) have found that the version of why the relationship ended that we present to close friends can be very different from the version we give to others such as neighbours. Duck (2001) identified a number of formats for the break-up story and found that the stories are constructed so that the speaker is seen to be open to new relationships, is not too critical of others' deficiencies, is willing to work on a relationship and only ends relationships after making a real effort to make things work. For Duck, the 'official' reasons given to others for the break-up are of far more interest psychologically than the real reasons.

Duck's model suggests that certain repair strategies will be more effective during some phases of the relationship than during others. In the intrapsychic phase for instance, it is suggested that repair should concentrate on re-establishing liking for the partner rather than focusing on the negative. Duck's model thus shows how the dissolution and the repair of relationships are intertwined.

LEE'S MODEL OF RELATIONSHIP DISSOLUTION

Lee (1984) devised a model of relationship dissolution which was based on his study of premarital romantic breakdown. After surveying 112 romantic break-ups, he suggested that such relationships went through 5 distinct stages.

Stage 1: Dissatisfaction
One partner become dissatisfied with the relationship

Stage 2: Exposure
One partner reveals their dissatisfaction to the other

Stage 3: Negotiation
Discussions take place about the dissatisfaction

Stage 4: Resolution
Attempts may be made to resolve the problems

Stage 5: Termination
This is where the relationship breaks down

Lee suggested that Stages 2 and 3 were the most exhausting parts of the process. Not all relationships go through all five stages. It is possible for couples to go straight from dissatisfaction to termination, for instance, if they just walk out of a relationship. Lee also suggested that those partners who spent a long time moving through each of the stages feel more attracted to their ex-partner and experience the greater loneliness during the breakup.

EVALUATION OF DUCK'S MODEL AND LEE'S MODEL

As both Duck's and Lee's models are stage models they have similar strengths and weaknesses. However, the focus of the models differs slightly – Lee's emphasis is on the earlier stages when the relationship might be saved, while Duck's emphasis is more on the beginning and end rather than the middle of the process.

- As with all stage models, these two can be criticised because they cannot be applied universally. Relationships are individual and dynamic and do not necessarily all resemble each other by going through all the stages at the same speed.
- The theories can also be accused of being culturally specific, in that they only apply to certain groups of people in Western individualist cultures. It is unlikely for example that the same processes apply to arranged marriages in non-Westernised cultures.
- Breakdowns are usually studied in retrospect because it is difficult to investigate the dissolution of a relationship as it is actually happening. For ethical reasons, researchers are reluctant to investigate at such a time in case they adversely affect the relationship. Retrospective data collection can of course be problematic because it is difficult to test whether the data is objective or accurate.
- Both theories are essentially descriptive. They both view the breakdown of a relationship as a process rather than an event and therefore describe the process of breaking up rather than explaining why relationships break up or what is the starting point of the dissatisfaction. Other theories are more helpful in this regard. Femlee (1995) put forward a 'fatal attraction' hypothesis for relationship breakdown which suggests that the qualities which attract two people also contribute to the breakdown. In the initial stages of a relationship, individuals are captivated by certain attributes in a partner. This in effect 'blinds' them to undesirable qualities. As time passes it becomes more difficult to overlook these things or to see them in a more positive light. According to Argyle and Henderson (1985) *rule violation* is a reason for relationship breakdown. Some relationship rules are *prescriptive* in that they say what is expected in a relationship (e.g. respect for privacy, being polite), whilst other rules are *restrictive* in that they say what is not permissible (e.g. not keeping confidences, not providing emotional support). Argyle and Henderson suggest that violating these rules could be interpreted as a betrayal and could lead to the breakdown of a relationship.

HUMAN REPRODUCTIVE BEHAVIOUR

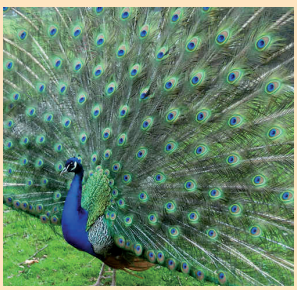
THE RELATIONSHIP BETWEEN SEXUAL SELECTION AND HUMAN REPRODUCTIVE BEHAVIOUR

Darwin's theory of natural selection suggests that the most successful animals will end up with characteristics which enable them to out-perform their rivals. It appears however that some animals have characteristics which do not immediately appear to be beneficial to their species. It is argued that certain physical features and behaviours evolved specifically to help make animals attractive to the opposite sex. *Sexual selection* is the process whereby individuals advertise both their own requirements in a mate and their own attractive characteristics as a mate. Selection involves attracting the mate with the greatest fitness whilst at the same time maximising the chances of being selected as 'fit' themselves. Fitness in the context of evolution theory refers to the ability to reproduce and leave offspring. How animals select their mate is crucial to the species as it has a direct effect on the gene structure within their populations, and an effect on the future of the entire gene pool.

There are two basic types of sexual selection. *Intra-sexual selection* refers to competition for reproductive success between members of the same sex – for example males competing with other males for reproductive opportunities. *Inter-sexual selection* refers to selection by female choice.

Having a good understanding of the sociobiological theory covered in the last section will be really useful here, especially an acquaintance with evolution theory. There is a lot of overlap and you will find that knowing about sociobiological theory will pay dividends.

SEXUAL SELECTION VERSUS NATURAL SELECTION



Sexual selection and natural selection can sometimes appear to be at odds with each other. Natural selection says that an animal's behaviour is directed towards increasing reproductive fitness. Sometimes, however, sexual selection pressures seem to have given rise to the development of characteristics, usually in the male, which contradict this aspect of natural selection. For example, the peacock and mandrill have both developed physical features which make them more of a target for predators.

Also consider the case of the wolf-spider. Male wolf spiders search for female spiders and court them by drumming dry leaves with their abdomen. Higher drumming rates are preferred by females, but this energetic drumming comes at a cost – not only is it highly demanding in terms of energy but also it makes them more likely to be caught by predators. So in order to appear attractive to the female the male is putting itself at risk. It seems the risky nature of this courting procedure might be the reason females find the behaviour so irresistible. It might also be that the more energetic spiders are more fertile, as demonstrated in an experiment conducted by Hoefler (2008). He starved one group of male spiders and let a second group gorge on crickets. When presented with a female, well-fed males raised their legs eight times as often as their hungry peers. After mating with a male who naturally waved his legs a lot, the females laid more eggs, their spiderlings hatched sooner and they survived better.

However, sometimes it is difficult to understand either natural or sexual selection. In the case of the Evarcha culicivora (an East African jumping spider) the male is bigger than the female (a reversal of the usual pattern in spiders). Larger males are more cannibalistic towards their female mates. It is therefore strange that virgin female spiders choose bigger males to mate with initially and settle for smaller mates thereafter – there seems to be little explanation for this unusual pattern of behaviour.

Natural selection refers to a struggle for survival and reproduction, and sexual selection is a special form of natural selection whereby animals struggle for reproductive success. In the animal world, there appears to be a fine balance between the benefits of sexual selection and the costs of natural selection.

	Research findings	Evolutionary advantage
Human female mating preferences **Females were looking for males:**	who could financially provide	Men with greater resources are better mates because access to resources can improve female reproductive success.
	who were tall, physically strong, and healthy	Typically, physically strong males would have been better hunter/gatherers and therefore successful providers for their families.
	who were older than themselves	Older men typically have greater resources therefore increasing reproductive success.
	who had symmetry of face and body.	Symmetry is associated with health, so healthy offspring are more likely and there is less genetic predisposition to ill health.
Human male mating preferences **Males were looking for women:**	who were younger than themselves	Female fertility declines with age, therefore younger females are more likely to be fertile.
	who were healthy and physically symmetrical	Symmetry is associated with good genes and health.
	with a good waist-to-hip ratio.	Improves chances of child bearing – women with high waist-to-hip ratios tend to have more problems conceiving.

Summary of the findings of Buss (1989)

*It is very important that, when you are asked to describe human reproductive behaviour, you do just that. Information from non-human animal research is useful when you want to illustrate what you mean or want to support your idea with non-human animal research – but you will be asked to talk about **human** reproductive behaviour, so you really should stick to research with **humans**.*

INTER-SEXUAL SELECTION

As complex animals but animals nevertheless, humans are subject to the same laws that govern lower animal behaviour. As with other, non-human animals, the fundamental goal of human behaviour is to reproduce and pass on our genes to the next generation, and so human reproductive behaviour has also been influenced by sexual selection pressures.

Evolutionary psychologists suggest that men have evolved to be responsive to females who are young and attractive, since these are physical cues to a woman's reproductive value. Women on the other hand are sensitive to cues from a male that he has (or could get) the resources necessary for her survival and the survival of her offspring. When it comes to selecting a partner then, women seek indicators of socioeconomic status, whilst men emphasise physical appearance.

This idea is supported by Buss (1989), who conducted a large cross-cultural study investigating human mating preferences. He surveyed more than 10,000 people drawn from 37 cultures. If the evolutionary theory of human sexual selection is correct then we would expect to find differences in the characteristics favoured by males and females and we would expect to find these differences regardless of culture. Buss did indeed report consistent gender differences across cultures. The table above outlines some of his findings.

INTER-SEXUAL SELECTION AND THE 'BIOLOGICAL MARKETPLACE'

Noë and Hammerstein (1995) have likened the process of sexual selection to a 'biological marketplace'. Because it is highly unlikely that individuals will get exactly what they want, mate choice can be seen as a trade-off between what an individual wants and the demands of the pool of potential mates. This means that individuals in a strong bargaining position (i.e. they possess desirable qualities) can increase their demands and become more selective. On the other hand, those who have fewer of these desirable qualities are in a weaker position and might have to lower their demands as a consequence (i.e. become less selective).

A good insight into the mating strategies of men and women can be gained from studying the nature of personal advertisements (sometimes referred to as 'lonely hearts' ads). Using relatively few words both men and women have to portray themselves in a way which maximises their attractiveness to the opposite sex. Evolution theory would predict that men and women would advertise the qualities that have evolved to give them the best chance of attracting the most appropriate mate.

Virtually every study conducted on the content of newspaper and magazine personal advertisements has found that women with youth and beauty and men with resources are most in demand, supporting the notion of a biological marketplace. Waynforth and Dunbar (1995) for example found that the sexes tended to use different kinds of descriptions in their search for a partner. Female advertisers appeared concerned with wealth and commitment in prospective mates, whilst male preferences in their advertisements tended to reflect female fecundity. They also found evidence of advertisers adjusting their descriptions according to how they perceived their status in the marketplace, as predicted by the economics of the biological marketplace.

The idea that mate selection is determined by a perception of 'market value' is further supported by Campos et al (2002). In the personal ads they studied, they found that as women aged they became less demanding in their mate selection. Males on the other hand became more demanding in terms of partner characteristics as they aged. A very different pattern of results however was seen in a study by Strassberg and Holty (2003). They placed four 'female seeking male' advertisements on internet dating bulletin boards, differing only slightly in wording, and discovered that the most popular advertisement was the one which described the woman as "financially independent... successful...and ambitious", which received 50% more responses than the one describing her as "lovely... very attractive and slim". It seems that, amongst the perhaps atypical male internet user population at least, financial independence may be preferred to physical attractiveness.

INTRASEXUAL SELECTION

One consequence of males competing with each other for access to mates is *sexual dimorphism*. This refers to the observation that, in many animal species where there is intrasexual competition, the male looks different from the female. Human males for example are on average about 12 to 15% larger than human females. Our close primate cousins the great apes show greater body dimorphism, with gorilla and orang-utan males being up to 50% bigger than females. Sexual selection accounts for a great deal of dimorphism, most frequently seen as secondary sexual characteristics. In animals these take many forms, such as the long tail feathers of the peacock or the manes of lions. Examples in females include the reddening of female rhesus monkey hindquarters, and smooth pectoral fins in carp. In male humans it includes size (e.g. height, physique), facial hair and deepening voice; whilst in females it includes enlargement of breasts and changes in body fat distribution (e.g. widening hips), and smooth hairless skin.

OWNER OF A LONELY HEART

Waynforth and Dunbar (1995) were looking to see whether the content of lonely hearts advertisements reflected evolutionary pressures to promote reproductive success. This would mean that women placing adverts would be seeking men who were older than themselves, reflecting a desire for greater wealth, resources and commitment. Men on the other hand would seek younger women, with particular physical attributes indicating greater fertility.

They conducted a content analysis of personal advertisements published in four newspapers. Their sample consisted of 479 advertisements placed by males and 402 placed by females.

They found that men included indications of material wealth in their own descriptions 1.7 times more often than women, whilst women demanded wealth in a potential partner 4.5 times more often than men. These demands for wealth were most often made by women who were in their 'peak' reproductive years (20 – 39).

Females were twice as likely as males to provide information about their physical attractiveness, with men of 40 – 49 most likely to express such preferences (a time in life when personal resources were most likely to be highest).

Waynforth and Dunbar conclude that human courtship is influenced by the same rules that govern the sexual selection preferences of other (non-human) animals.

Secondary sexual characteristics are honest indicators of male reproductive fitness, as they are not expressed to the same degree in unfit males. Unfit males do not seem to be able to tolerate the physical investment that the development of secondary sexual characteristics requires. The testosterone levels needed to promote their development suppress immune system functioning and therefore increase the chances of disease and illness. Consequently, only males in prime condition are able both to develop and to carry these features. This makes them particularly attractive to females who are looking for good genes in their potential mates.

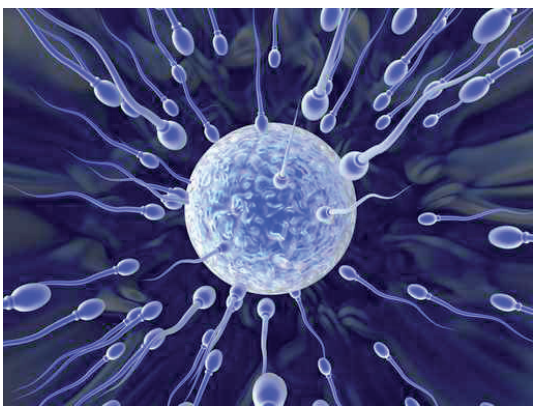
In many non-human animals, dominant males carefully control impregnation rights. In some species non-dominant males have developed strategies which will allow them to mate with the females while the dominant males are unaware. This is called 'sneak copulation'. The dominant male must attempt to stop this from happening. In elephant seals for example, one large dominant male may possess a harem of up to 50 females, and ferociously defends the exclusive right to mate with them. Sneak copulation occurs when a non-dominant male quietly joins the female harem, posing as a female. He takes the opportunity to copulate when the bull is occupied elsewhere and then retreats before he is spotted by the dominant male.

It is argued that some human behaviours can be viewed in this way. For instance, human males can display aggression if their relationship with a female is threatened in some way by another male. Daly and Wilson (1988) point out that over 90% of all same-sex murders involve men at an age when mate competition is most intense and that a large proportion of this violence is connected to sexual rivalry. Buss (1988) also found that men are significantly more likely than women to make threats of violence towards men who were perceived to have made sexual advances towards their mate. In contrast to males, females are more likely to engage in verbal rather than physical aggression towards potential rivals. Buss and Dedden (1990) indicate that it is often the attractiveness or the sexual conduct of their competitors that will be targeted. Females' verbal aggression appears to be aimed at reducing the attractiveness of their competitors in the eyes of the male.

SPERM COMPETITION THEORY

Sperm competition occurs when sperm from two or more males compete to fertilise a female's egg. This is not an uncommon phenomenon in the animal world. For example, when males of the common fruit fly copulate they not only deposit sperm but also a protein from another gland whose function appears to be either to displace sperm from previous matings or to prevent the storage of sperm from future matings (Promislow and Tatar 1997).

Sperm competition is also thought to occur in humans. Whilst humans are a largely monogamous species, they are nonetheless fairly promiscuous animals where sex with multiple partners is not uncommon, even amongst people in committed sexual relationships. Indeed, exclusive relationships are extremely rare in the animal world, where social monogamy does not necessarily indicate sexual monogamy (Burke at al 1989). Research with many animal species has shown that females actively seek multiple partners to mate with, in order to ensure that they get the best sperm possible to fertilise their eggs. It is also important however for males to ensure fidelity in their mates. Males may invest a lot of time and resources in mating and subsequent offspring care, not to mention sacrificing other mating opportunities in the process. The possibility of female infidelity therefore has put an evolutionary pressure on the male to detect and correct this infidelity. One way of doing this is to ensure that his sperm stand the best possible chance of successfully fertilising the egg.



Reproductive success in females is limited by offspring production, whereas males are only limited by the numbers of available females. Whilst males produce huge numbers of sperm, their production is not limitless. This has resulted in the evolution of mechanisms whereby males can vary the ejaculate size. When males face high sperm competition they need to maximise their chances of fertilising an egg with a large ejaculate, and when they are experiencing low competition, sperm will be

preserved. This is supported by the observation that larger testes, relative to body weight, have evolved in species where there is the greatest sperm competition.

Sperm are produced and stored in the testes, so it might be expected that testis size is related to the amount of sperm competition experienced by the male – the more competition, the larger the testes. This does indeed appear to be the case. The large testes however appear to have evolved as a result of female infidelity, not necessarily to allow males to impregnate as many females as possible. After all, large testes producing huge quantities of sperm would not be necessary if there was female fidelity, since after a single mating a female would have no use for further couplings and would simply retire to prepare for pregnancy. For example, female chimpanzees are extremely promiscuous and will copulate many hundreds of times with many different males for each pregnancy. Male chimpanzees have therefore as a result evolved very large testes: they produce vast quantities of sperm, and are able to ejaculate over a dozen times a day. Humans compare poorly to chimpanzees, despite their being our closest animal cousins, with human males generally unable to ejaculate more than half a dozen times a day, quickly running out of sperm. This suggests that our human ancestors experienced less sperm competition than chimpanzees and as a result evolved much smaller testes.

Where there are many opportunities to copulate, or where chance copulations are possible, it pays to be prudent with sperm allocation. Whilst the rate of sperm production is impressive (male humans for example can produce 3000 sperm a second), the amount of sperm ejaculated with each successive copulation reduces, and as it does, so too do the chances of fertilising an egg in the face of competition from other males. Wedell et al (2002) suggest that the optimum quantity of ejaculate is a trade-off between the likelihood of sperm competition and future mating opportunities. For example, in species where there are more females than males, it pays to be economical with sperm in each ejaculate in order to increase the likelihood of fertilising as many females as possible. On the other hand, where females are fewer in number males will invest more in each ejaculate. Where there are opportunities for chance copulation, some males will keep some sperm in reserve. Evidence for sperm allocation comes from Packer and Pusey (1983) who observed that male lions, who experience competition from other males, may copulate with lionesses in their pride over 100 times a day, but only ejaculate a limited number of sperm each time.

Baker and Bellis (1993) suggest that females are more than passive providers of environments for

THE KAMIKAZE SPERM HYPOTHESIS

Competition between males can even occur after copulation has taken place. According to Baker (1996) human ejaculate consists of several different types of sperm, each with a different function. The existence of these different types of sperm suggests that humans were not monogamous in the past – otherwise the need for these different types would not have evolved. The kamikaze sperm hypothesis suggests that when there has been a 'double mating' (which must usually occur within five days), sperm from different males interact and compete with each other.

Blockers	These are the older, slow sperm which lodge themselves in the cervical channels in order to block any rival sperm entering. Approximately 100 million in the average ejaculation.
Killer sperm	These are the most common 'seek and destroy' sperm, containing chemicals which can kill rival male sperm. Approximately 500 million in the average ejaculation.
Egg-getters	These are the fewest in number and are athletic sperm whose job is to fertilise the egg. Approximately 1 million in the average ejaculation.
Family-planning sperm	These try to destroy the egg-getters because sometimes it is not in the male's interests to get the female pregnant. They are thought to be produced in greater number when the male is stressed.

Moore et al (1999) however could find no evidence for killer sperm in their study. They mixed the sperm of several human donors and could observe no significant changes in their action after one to three hours. The kamikaze sperm hypothesis therefore remains unproven and its application to human reproductive behaviour somewhat controversial.

egg fertilisation, and that they influence the sperm competition in many ways. In some non-human animals, females are actually able to eject sperm from less desirable males. The research further suggests that in humans, the female orgasm serves an important function. Orgasms are not necessary for conception so it has been suggested that they have evolved in order to manipulate the outcome of sperm competition, to ensure that the sperm from males with the highest indicators of reproductive fitness are favoured. The muscular contractions during orgasm increase the ability of sperm to remain in the reproductive tract and also serve to transport them closer to the cervix, hence increasing the probability of conception. In effect, orgasms can pull sperm closer to the egg. Therefore, the sequence and frequency with which the female copulates with competing males, and the timing, intensity and frequency with which she orgasms during copulation, all affect the outcome of sperm competition.

Shackelford et al (2000) supported the idea that the female orgasm is adaptively designed for discriminating male quality. Using a self-report method they gathered information from 388 female university students in committed heterosexual relationships from the United States (239) and Germany (149). The participants were asked to complete a survey containing questions about their partner (e.g. age, attractiveness) and their relationship (e.g. length of relationship, sex). Controlling for women's relationship satisfaction, relationship duration, and the ages of the woman and her partner, they found that women mated to more attractive men were more likely to report an orgasm at their most recent copulation. This study however relies on a volunteer sample with quite a limited range. A study by Pollet and Nettle (2009) on the other hand employed a large representative sample, using data gathered from the Chinese Health and Family Life Survey (a large-scale investigation of sexual attitudes and behaviour conducted in 1999/2000). They found a strong positive correlation that could not be explained by age, happiness, health, educational achievement etc: women's self-reported orgasm frequency increases with the income of their partner. This appears to support the evolutionary idea that the female orgasm is an adaptive response which promotes conception with higher quality males.

EXPLANATIONS FOR FEMALE MATE CHOICE

Females rather than males appear to be the more choosy sex. So why do females select some males rather than others as mates? Two evolutionary theories have been proposed to explain this: Fisher's 'runaway effect', also known as the 'good taste' or 'sexy sons' hypothesis; and Zahavi's handicap theory, or 'good genes' hypothesis.

The 'sexy sons' or 'good taste' hypothesis (Fisher 1930)

This hypothesis suggests that populations of animals could develop preferences for characteristics which have no particular evolutionary adaptive value. For example, a female barn swallow might arbitrarily choose a mate with a long symmetrical tail. This selection means that this characteristic is passed on to her male offspring. Since other female swallows might also find this characteristic 'sexy', these sons are more likely to be selected as mates. The tail itself need serve no purpose other being a desirable accessory. Eventually, having long tails becomes the norm which then disadvantages those with shorter tails. By producing 'sexy sons' who will be desired by other females, the parent is enabling its genes to be passed on to future generations. If a female chooses a mate with a short tail this would result in short-tailed sons who would not be desired by other females and consequently she would have fewer descendants. Following this argument, it may well be that in humans a woman might choose a man because he has a characteristic regarded as 'sexy', such as a muscular physique. Any male children she might have would also then be more desirable to women, since they would inherit this attractive feature. Over generations of mate selection, this characteristic will become more and more pronounced – this is known as the 'runaway' process. The process only stops through a balance with natural selection (the trait becomes too costly) or a change in female preference.

The handicap process or 'good genes' (Zahavi 1975)

Zahavi's hypothesis suggests that males who survive *in spite* of having a 'handicap' will be genetically superior to other males. For instance, a woman may select a partner not because he drives an expensive car but because he still manages to survive even though he has the *handicap* of running an expensive car. It may be that women who prefer 'handicapped' males are selecting those who have good survival genes. This is more obvious,

perhaps, in the animal world. Consider the peacock's tail.

Although it might initially be thought that possessing a large ornate tail reduces a male's chance of survival (because having one means it is more easily caught by predators), such a tail may also serve as a 'badge' of healthiness. Recent research by Petrie (2008) has suggested that peahens actually choose the peacock with the highest density of ocelli (the coloured 'eyed' feathers) rather than the longest tails. The density can only be assessed by the peahens when the males spread their tails during the mating ritual. The researchers involved took pictures of the displaying peacocks in order to count the number of ocelli and captured them in order to measure their tails. Petrie suggests that a high density of ocelli is thought to represent good health.

The handicap process can be seen in *parasite-mediated sexual selection*. Maintaining an effective immune system is one of the most costly activities in the body, equalled only by brain maintenance. The immune system is essential for survival as it fights off viruses and bacteria that might otherwise harm us. Another advantage in evolving an efficient immune system is that it provides defence against the weakening effects of parasites. However, the functioning of the immune system is compromised by the development of secondary sexual characteristics – the increased testosterone levels needed for this weaken the immune system, thus increasing vulnerability to parasites. It follows therefore that males with the best secondary sexual characteristics are demonstrating high levels of reproductive fitness, since it takes a great deal of strength and resilience to maintain these features whilst remaining strong and healthy. Females select these males because of the handicap of superior secondary characteristics.

*Whilst, for the exam, the discussion must be on **human** sexual selection, you can use examples from non-human animals to support your argument. Use such examples sparingly, and when you **do** use them, use them **effectively**. The peacock's tail is a good example of this – parasite-mediated sexual selection is not so easy to spot in humans, so noting that ragged-tailed male peacocks are least successful at mating can usefully illustrate your point!*

EVOLUTIONARY EXPLANATIONS OF PARENTAL INVESTMENT

Having considered how evolutionary explanations of sexual selection might affect our reproductive behaviour, we will now focus on how evolutionary explanations can be applied to parental behaviour. Sexual selection and parental investment are of course closely linked. For example the ultimate goal of sexual selection is to choose the right mate – which includes being the mate that will best satisfy the parental needs of the offspring.

Many of the issues in the previous section on sexual selection apply here to parental investment. After all, one of the most important tasks for a female is to select the best possible mate to provide strong genes and, where appropriate, parental support. It is easy to become confused! It is probably a good idea to do what we have done here and treat them as separate issues.

SEX DIFFERENCES IN PARENTAL INVESTMENT

Male parental investment (paternal investment) is more variable than female (maternal) investment. This is possibly due to the fact that, whilst females can always be sure that their child is biologically theirs, males can never be 100% sure of their paternity. Estimates vary, but as many as one in seven people may not be the biological child of the man he/she thinks is the father (Brown 2000). Birkhead (2000) reports one study where seventeen women who were on a long NHS waiting list for artificial insemination became pregnant before treatment began, even though their husbands produced absolutely no sperm. Paternity confidence has been found to affect the investment males make in the offspring. Cues such as physical and character similarity may be used to assess paternity, along with a perception of their mate's fidelity. Apicella and Marlowe (2004), in a London based study, found that as men's paternal resemblance and mate fidelity increases, so does the reported parental investment. However, among men who were no longer in a relationship with the mother of their children (and thus less likely to be investing in mating effort with them) paternal resemblance rather than mate fidelity predicted investment. Similarly, Anderson et al (2007) found that in their sample of men in New Mexico, low paternity confidence reduced the time fathers

spent with their children, and their involvement in their education.

The specification refers to ***explanations*** *– this is a plural so you had better know about two things. We've included* ***sex differences in parental investment*** *and* ***parent-offspring conflict*** *here. Don't worry, you don't have to have a balance between the two in your examination answer (which is just as well – there is much more research on the former!).*

BATEMAN'S PRINCIPLE

An important and widely accepted explanation for the behaviour of animals during courtship is Bateman's principle. This says that 'the sex which invests the most in producing offspring becomes a limiting resource over which the other sex will compete'. For Bateman (1948), the origin of this unequal investment lies with the differences in the production of gametes.

For example, the human female is born with all the eggs that she will ever produce. Males produce many small gametes (sperm) while females produce fewer, larger gametes (eggs). Whilst female egg production is limited to about 300, a single male ejaculation might contain anywhere from 40 to 600 million sperm. Since the female invests more in the production of an egg than a male does a sperm, she is going to be discriminating in her choice of mate. Sperm are clearly plentiful and cheap to produce so a male is going to benefit more from mating freely and spreading them widely. From his studies of the mating behaviour of fruit flies Bateman observed that promiscuity benefited males much more than females. In effect, the reproductive success of a male increases with each female he mates with, whereas mating with more males does not increase the reproductive success of females. As a consequence, sexual selection occurs, whereby males compete with each other for females and females become more choosy about which males they mate with.

Whilst Bateman's principle became an important biological concept and still inspires a great deal of research, there are a number of problems with it:

» It is not necessarily the case that females expend more energy making gametes than do males. Although it is true that producing one egg is a greater investment than producing one sperm, many sperm are produced to ensure fertilisation of each egg: in some species with internal fertilisation this results in the male investing more in the process than females. In species that reproduce by spawning (i.e. releasing eggs and sperm into water) the investment from each sex is roughly equal.

» The assertion that all a female requires is fertilisation from one carefully selected male is also challenged by observations of some animal species which indicate that females have more offspring if they mate with a larger number of males. For example Taylor et al (2008) found that female fruit flies housed continually with males (thus with opportunities for multiple matings) produced more offspring than singly mated females housed alone or with virgin females.

» There are many examples in the animal kingdom that contradict Bateman's assertion that a male's reproductive success will depend on the number of females he mates with. The clown shrimp for example, rather than mate with as many females as possible, will spend many weeks diligently guarding a single female. The macaw is a monogamous bird and the same pair remain together for the majority of their 40 to 60 year lifespan.

» Given that a single ejaculation provides more than enough sperm to fertilise an egg, Bateman's principle has difficulty explaining the extra energy costs incurred by species that engage in multiple copulations which tip the balance towards a more equal investment. Dewsbury (1979) found that female hamsters need to be stimulated by multiple ejaculations in order to release a hormone necessary for pregnancy.

» Another problem for Bateman's principle arises with examples of sex-role reversal, where parental care is the main responsibility of the male. One example is the wattled jacana, a type of water bird where the female has the colourful plumage instead of the male. Emlen and Wrege (2004) noted that the only contribution that a female jacana makes to chick care is in defence against predators. Otherwise, females rarely intervene. Direct brood care was only observed when the male was not himself available to help (e.g. when the male died, or when the male was too busy with another brood to care for a new clutch of eggs).

*One of the most straightforward ways to address the issue of sex differences in parental investment is to describe and evaluate **both** Bateman's principle **and** Trivers' theory. They are quite similar so be careful not to confuse the two. We've provided plenty of evaluation here. Whilst an emphasis on human behaviour is good, it is not essential in this section, so don't be afraid of using non-human animal research.*

TRIVERS' THEORY OF PARENTAL INVESTMENT

Trivers (1972) developed Bateman's principle so that the entire investment made by parents, such as gestation, protection, care and feeding is taken into consideration, not just their gametes. Trivers' theory of parental investment suggests that when the amount of energy that each sex must devote to reproduction and parental care is different, the sex with the greater burden will be the choosier.

This principle can be seen clearly working in the parenting behaviour of many species, especially where one sex (usually the male) makes little contribution to the rearing of offspring. For example, Hoffman et al (2007) found that female fur seals are particularly choosy when selecting a mate. Not only do they carefully discriminate between males according to size, behaviour and smell, but they are also willing to travel long distances in their search for the right mate, sometimes travelling up to 35 miles between colonies. Whilst female fur seals devote much of their adult lives to raising young, male fur seals make no contribution at all beyond mating. It is in the interests of the female in this case to get the best possible biological contribution to her offspring, and since this is all that the male is offering, females therefore select very carefully from available mates.

Trivers' theory also applies to human parental investment. The 'cost' of an egg does not stop with its production. After conception, a woman has to invest heavily in the support of her offspring with a long gestation and extended period of offspring dependency. Whilst it may be the ideal that both partners share equally the burden of offspring, it is clearly the case that in the vast majority of human cultures child-rearing responsibilities lie with the female. It has been estimated that only about 1% of men take on significant parental responsibilities by staying at home to look after children. Also, female fecundity declines rapidly after about 30 years, so the average female could expect to have a maximum of about 12 pregnancies during her lifetime. Men, however, start to produce sperm at about 13 years and continue to do so until they die. So, whilst female fertility is

"WOMEN NEED A REASON TO HAVE SEX. MEN JUST NEED A PLACE" *Billy Crystal*

In line with evolutionary predictions that men are the less choosy sex, research seems to suggest that men would have sex more often with strangers if it were easily available. Women on the other hand are generally less interested in this kind of behaviour.

This is reflected in the findings of Clark and Hatfield (1989). They had attractive confederates approach opposite-sex strangers on a university campus and ask one of three questions. The questions and main findings are summarised in the following table:

I've noticed you around and I find you very attractive...	% positive response	
	female	male
a) ...would you go out with me tonight?	50	50
b) ...would you come over to my apartment tonight?	6	69
c) ...would you go to bed with me tonight?	0	75

Of the 96 students asked, no woman agreed to have sex; in contrast, three-quarters of the men readily consented.

It has been suggested that the lower acceptance of women was due to women's fear for their safety. However, it has been pointed out that such fears were not expressed during debriefing interviews, nor demonstrated in the behaviour of the 50% of women who were willing to date. In measuring what people actually *do* rather than what they *say* they would do, Clark and Hatfield's findings could be considered valid. They appear to demonstrate that females are somewhat more choosy than men when it comes to sex, and that indeed there may be some truth in the saying: 'women mate wisely whilst men mate widely'.

limited by egg production and age, male fertility is only limited by the number of females available to inseminate. Mistakes in mate choice then can be very costly for women, so they should be very selective.

There are, however, problems with Trivers' theory:

- Males are expected to be less demanding in their choice of a mate because they invest less than females. However, research is uncovering more and more situations where males are the choosy sex. Werner and Lotem (2003) studied sexual selection in cichlid fish. In this species, the weight of a female is positively correlated with the number of eggs spawned. Given a choice of courting two females differing in size, male cichlids preferred the larger female. This suggests that when males are not able to fertilise many females they tend to be the choosy sex.
- Male choosiness has also been shown to vary with the extent of intra-sexual competition. Bel-Venner et al (2008) studied mate selection in orb-weaving spiders. Like cichlids, the male spiders show a preference for large females. A male spider will find an immature female and guard her from other males until, with her adult moult, she reaches sexual maturity. In this way he can be the first to court her and mate. The researchers found that mate selection varied according to competitive ability. With high competition, larger males showed a preference for larger females, and smaller males smaller females. There was no size preference when competition was weak.
- Trivers' theory assumes that choosiness is the opposite of competition – if one sex is choosy, the other will compete for mates. This is not, however, always the case. There are many examples in the animal world of biparental care, where both sexes invest equally in these responsibilities. Pairs of crested auklets for instance breed once a year, nesting on sea cliffs and sharing equally in incubation and feeding of young. When Jones and Hunter (1993) presented birds of both sexes with stuffed models, they were equally selective in preferring to mate with models with enlarged crests.

PARENT-OFFSPRING CONFLICT

Parent-offspring conflict occurs when the needs of the parent are at odds with the needs of the offspring. Parents need to treat offspring equally and divide their energy between them while the offspring want all the attention and care for themselves. Parent-offspring conflict can begin prenatally (before birth) when the interests of the mother might be in conflict with the needs of the foetus. The mother needs to maintain her own health while the foetus makes increasing demands on her body. In humans it is suggested morning sickness might be due to the foetus attempting to avoid certain food-based toxins; and pregnancy-induced diabetes might occur because the foetus requires more glucose. High blood pressure could also be a consequence of the foetus demanding more blood via the placenta, which consequently increases the mother's blood pressure and could result in kidney damage.

Another aspect of parent-offspring conflict may occur much later in life, over the choice of prospective mating partners. Evolutionary theory would suggest parents would prefer their offspring to choose mates that maximise the fitness of their grandchildren. Parents of females should be particularly choosy because mating involves greater investment for the female than the male. Mating decisions can be influenced by parents and other kin – an aspect not really considered by evolutionary approaches until recently. Parents may attempt to impose their own mating choices on their offspring while the offspring may attempt to escape this control. According to Apostolou (2008) both parents and offspring have evolved mating preferences which enable them to select those mates who maximise their inclusive fitness (i.e. the fitness of the family). Parents are thought

FEMALE INFANTICIDE

Whilst most common amongst animals, infanticide is sometimes committed by humans. Most cases of infanticide involve the killing of females, which reflects the low status of females in some parts of the world. For example, there is a long history of female infanticide in such countries as India and China. Both female infanticide and female foeticide (the selective abortion of girls in the womb) are significant issues in India, partly as a result of the patriarchal nature of Indian society. In China the One Child Policy was introduced in 1979 with the intention of keeping the population within sustainable limits. This policy of not allowing parents to have more than one child resulted in the estimated killing of more than 250,000 girls after birth between 1979 and 1984 (Ridley 1993). Female infanticide has existed in China for a long time, however, and although the One Child Policy added to the problem, it didn't cause it.

to want their offspring to engage in long term mating rather than short term mating, which provides them with little if any benefits. A short term mating strategy can be costly to the parents since it can damage the reputation of their family, while their offspring may commit their investment to an individual their parents do not approve of.

Parent-offspring conflict hypothesises that children may have a relative preference for mates with traits indicative of heritable fitness, whereas parents may have a preference for traits indicative of parental investment in their children's mates.

Parental influence on mating is supported by the 'grandmother hypothesis' which suggests that the menopause may have an evolutionary purpose. In humans it makes more sense for an older female to help care for her grandchildren rather than continuing to reproduce herself which would be physically draining (Alvarez 2000). If females have evolved to invest in grandchildren then it makes sense for them to maximise this investment by ensuring that their children mate with partners who can produce healthy grandchildren.

Buunk et al (2008) found in their cross cultural research that there is likely to be some conflict between individuals and their parents over mate choice. Characteristics which indicated a lack of heritable fitness (e.g. being physically unattractive, lacking a sense of humour, having a bad smell) were considered more unacceptable to the participants themselves while characteristics which were undesirable in terms of parental investment (e.g. being divorced, being from a different ethnic background) were unacceptable to parents. This pattern was consistent across the cultures studied.

The most extreme and infrequent form of parent-offspring conflict among humans is infanticide. Infanticide occurs when parents kill infants. Conversely, it is not uncommon for non-human animals to kill and in some cases eat their young.

The killing of dependent infants by adult males is a widespread phenomenon amongst primates. Most primate infanticide seems to be caused by a colony's new dominant male killing the offspring of the usurped male. It is also know to occur in many non-primate societies. For instance, male lions will readily kill the offspring from neighbouring prides. Also, when a new male lion becomes the pride leader, it will set about systematically killing all the cubs of that pride.

According to sexual selection theory, infanticide occurs as a result of reproductive competition between males. There are several advantages for a male in killing an unrelated infant. For example, after losing a dependent infant, a female primate resumes sexual activity much sooner than a female still caring for young. This means that killing the infant increases the chances of the male fathering the next infant. This strategy only works of course if the male is not related to the infant. This is supported by the observation that cases of males deliberately killing their own offspring are very rare indeed in the animal world. Hardy (1979) has noted that females sometimes use this as a strategy to protect their offspring against infanticide. She suggests that female langur monkeys use promiscuity as a defence against infanticide, since this confuses issues of paternity. Male langurs would therefore be increasing the risk of destroying their own genetic line by infanticide and are thus less likely to kill infants.

COMMENTARY ON EVOLUTIONARY EXPLANATIONS FOR HUMAN BEHAVIOUR

» Evolutionary psychology has been used to explain human sexual selection, parental investment and parent-offspring conflict. The general prediction that males prefer younger, fertile women and females prefer older, higher-status males has been supported in many cross cultural studies. We are, however, *generalising* here and talking in terms of behavioural trends – there will always be many individual cases which appear to contradict the predictions of evolutionary theory.

These are general criticisms of evolutionary psychology, so you can use them to get evaluative marks in any answer you give to questions in this section. Be selective and use them wisely and they will earn you extra marks.

» Many criticisms can be made of evolutionary explanations when they are applied to human behaviour. One of the major criticisms of evolutionary psychology is that it largely ignores or at least underestimates the social and cultural influences on behaviour. Whilst reproductive behaviours may be part of our biological inheritance, the way that these they are expressed may be changed significantly by environmental pressures, almost to the point where the instinctive nature of the behaviour becomes unrecognisable.

» Human sexual behaviour and attitudes towards sex have changed dramatically over the past

few decades – and the changes have not been accounted for by evolutionary psychology. For example, homosexuality is now becoming increasingly more acceptable in many societies. Why should some humans be homosexual and form relationships where they will never be able to procreate? Such behaviour poses difficulties for evolutionary explanations.

» Evolutionary explanations on the face of it are common sense. They do however suffer from *non-falsifiability* – how can such explanations be proved false? It has been pointed out that when empirical evidence contradicts some evolutionary principle, then the theory is adjusted to fit the data. For example, the evidence suggests that most men are monogamous, which is at odds with the important evolutionary premise that men are naturally promiscuous. Monogamy is therefore explained away as an atypical behaviour resulting from men not having the required 'market value' to compete successfully for women.

» Many evolutionary claims are difficult to test directly, under controlled conditions, so we can never be sure that these explanations are the best, or that alternative explanations are not just as relevant. Weiderman and Allgeier (1992) for example point out that human female mate choice might just as readily be explained as a rational choice made in the light of their lacking the economic resources that males possess.

» Evolutionary psychology has been accused of lacking parsimony – that is, of overlooking more plausible explanations for behaviour. For example, Wright (1975) explains that people who are infertile should, according to evolution theory, be psychologically disinclined to have sex since sexual behaviour in these individuals serves no adaptive purpose. He cites as evidence for this the reduced sex drive of nursing mothers, but does not seem to consider a rational explanation – that nursing a young child is exhausting.

» There are many aspects of human behaviour that cause difficulties for evolutionary psychologists. For example, how can evolutionary explanations account for women having affairs if they have already chosen a mate with resources? Why should older females choose younger males (with fewer resources) as partners, and why would such 'toy boys' have older females as partners especially if they are unable to provide them with offspring? Why do many women choose not to have children, and why do some men invest greatly in step-children?

» Most of the evidence cited in favour of evolutionary explanations of human behaviour comes from surveys, statistics, anecdotal evidence from anthropology and comparative observations of lower animal species. These methods are problematic and often not very scientific. It has been suggested that generating universal rules of behaviour from such evidence is flawed science.

EFFECTS OF EARLY EXPERIENCE AND CULTURE ON ADULT RELATIONSHIPS

THE INFLUENCE OF CHILDHOOD AND ADOLESCENT EXPERIENCES ON ADULT RELATIONSHIPS

Our early experience in childhood and adolescence may well shape our experiences of adult relationships. Some psychologists suggest that we form certain kinds of relationships as children, and this influences how we approach relationships for the rest of our lives. The first kind of relationship we form as children is with our parents and caregivers, but as we get older, relationships with peers become more and more important to us. Both kinds of relationship, with parents and peers, have significant influences on our later romantic relationships.

You need to be aware of the influence of parent-child relationships and *interaction with peers which occur in childhood* and *adolescent experiences. This makes four distinct questions you* could *be asked in the exam. Whilst you might also be asked more general questions on childhood and adolescence, we have organised this section in such a way that it makes what you need to know in either case as clear as possible.*

THE INFLUENCE OF CHILDHOOD EXPERIENCES ON LATER ADULT RELATIONSHIPS

What happens to children has consequences throughout their lives. The first few years after

Attachment style	Caregiver and infant behaviour	Adult behaviour
Secure attachment style (Type B)	Caregivers are responsive to the infant's needs. Infants trust their caregivers and are not afraid of being abandoned.	Develop mature trusting and long lasting adult relationships
Anxious/avoidant insecure attachment style (Type A)	Caregivers are distant and do not want intimacy with the infant. Infants want to be close to the caregiver but learn that they are likely to be rejected.	Difficulty with trusting others and developing trusting intimate relationships
Anxious/resistant insecure attachment style (Type C)	Caregivers are inconsistent and overbearing in their affection. Infants are anxious because they never know when and how the caregivers will respond.	Want to be close to partners but worry that their partners will not return their affections
Disorganised/ disorientated insecure attachment style (Type D)	The child does not know whether to approach or avoid the caregiver when they have been absent. A mixture of type A and C	Chaotic; insensitive; explosive; abusive; untrusting even while craving security

Attachment style and adult relationship behaviour

birth are a time of rapid social and emotional growth and development, and the experiences of the child provide the building blocks for later life. At first, a child is dependent on caregivers for these experiences, but as the child matures and becomes more independent it is possible to see the increasing influence of other important people, especially peers.

Parent-child relationships

One theory dominant in psychology is that our adult relationships are based on the kinds of relationships we developed with our main caregivers early in life. Attachment theory suggests that the attachment styles we learn as infants and young children become an *internal working model* for what we believe relationships are like. Bowlby's classic studies of mothers and infants suggested we develop an *attachment style*. An attachment style consists of two attitudes. First is an attitude about ourselves, termed *self esteem*. Second is an attitude about other people – termed *interpersonal trust*. These two attitudes develop from and are based on our earliest interactions with caregivers. If our caregiver leads us to believe that we are highly valued and that they are dependable and reliable then we are likely to develop high self esteem and to trust other people. This is the basis of a secure attachment style. The absence of these conditions might result in the development of an insecure attachment style.

Remember this? Attachment was an AS topic, but here it is again. This is a good reminder that A Level psychology is a whole course, not two individual halves. You are expected to bring to the A2 course what you learned at AS. Don't be afraid of using all *your knowledge, as long as it is relevant.*

In their research, Ainsworth et al (1978) suggested there were three types of relationships between infants and their mothers. (A fourth attachment type – Type D – was added by Main and Solomon 1986). Later research suggests that these early attachment relationships might affect adult behaviour as demonstrated in the table on page 26.

There have been few studies which have investigated Bowlby's claim that attachments developed in infancy remain relatively stable over a lifetime. One reason for this is that attachment theory and methods of assessing attachment are relatively new ideas, so it is only in recent times that longitudinal research of this kind could be conducted. Waters et al (2000) retested adults for their attachment style twenty years after having first assessed them at 12 months old. They found a high degree of stability, with 72% of adults receiving the same classification from adult attachment tests as they did in infancy from the Strange Situation. Lewis et al (2000) on the other hand reported much lower attachment stability from their longitudinal study. They compared the attachment classification of children at one year of age with their classification at eighteen years of age. With a stability of 42%, no strong evidence for consistency over time was

CHILDHOOD ATTACHMENT AND ADULT LOVE STYLES

Hazan and Shaver (1987) argued that the patterns of attachment described by Ainsworth were similar to the "love styles" seen among adults, and could thus be seen to have a significant effect on the way that adults think, feel and act in relationships.

They asked readers of "The Rocky Mountain News" (a newspaper in Denver, Colorado) to complete a questionnaire on their attitudes towards love. Participants were asked to complete a three part questionnaire, assessing love style, gathering details about their current and past relationships, and measuring attachment style and history.

Participants were required to read the three paragraphs below and reflect on their history of romantic relationships to select which of the three descriptions best summed up their general experience of relationships:

"I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, others want me to be more intimate than I feel comfortable being."

"I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't worry about being abandoned or about someone getting too close to me."

"I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to get very close to my partner, and this sometimes scares people away."

The first described an avoidant attachment style, the second secure and the third a resistant one.

After analysis of over 600 questionnaires the researchers found that the distribution of categories was similar to that observed in infancy. In other words, about 56% of adults classified themselves as secure, about 24% described themselves as avoidant, and about 20% described themselves as anxious-resistant.

Participants with these different attachment styles differed in their experiences of romantic love. Securely attached adults readily trusted others and had satisfying romantic relationships. Anxious/avoidant style adults were uncomfortable being close to others and found them hard to trust; while adults with anxious/resistant styles were likely to be possessive and preoccupied about their relationships. These individuals want to be loved and needed, and Hazan and Shaver describe the relationships of these people as characterised by "emotional extremes, jealousy, obsessive preoccupation, sexual attraction, desire for union, desire for reciprocation, and falling in love at first sight." Basically, they are "over-ready for love".

found. Whilst these two studies disagreed on the degree of change, they did agree that change, when it occurred, was most often associated with negative life events. For Lewis et al (2000) the key life event was parental divorce. The effect of divorce on the child was not linked to any specific attachment classification, so that divorce had an impact regardless of whether an infant was securely or insecurely attached.

Whilst there is some evidence that early relationships can affect those we form as adults, much of the research comes from studies which have examined the correlation between attachment and adult relationship styles as measured by self-report questionnaires. One such study was conducted by Hazan and Shaver (1987), who suggest that infants and caregiver and adult romantic partners share similar relationship features such as feeling safe when the other is nearby, engaging in close contact, and feeling insecure when the other is unavailable.

Whilst concerns have been expressed about the methodology adopted by Hazan and Shaver, these findings have received some support from other researchers. Generally, those adults who were securely attached as children are more likely to have successful long term relationships than adults with other attachment styles. It appears that it might also be helpful if both partners shared the same attachment style. In a German study of the relationship between attachment type and marital satisfaction, satisfaction was highest in those couples where both partners had Type B (secure) attachment styles (Banse 2004).

Those with an anxious/resistant attachment as children have the most short-term romantic relationships, often entering into relationships quickly and becoming angry when their love is not reciprocated. Indeed, Senchak and Leonard (1992) found that anxious/resistant men acquired their marriage licences after shorter courtships than secure or anxious/avoidant men. Better marital adjustment was seen in relationships where both partners were securely attached than when one or both partners were insecurely attached.

Finally, anxious/avoidant individuals are the least likely to enter into a romantic relationship: they are most likely to keep their distance and the most likely to say that they've never been in love (Campbell et al 2005). McCarthy et al (1999), in their follow up study of women who had been assessed in childhood, found that Type Ds fared worst in all relationships.

There is some evidence to suggest that attachment styles have an effect on the quality of a relationship. Collins and Fenney (2004) found that attachment styles affected couples' behaviour and interpretation of their partners' behaviour. Secure individuals were unlikely to be affected when their partners appeared unsupportive, but anxious and avoidant participants were particularly upset, interpreting such unsupportive behaviour as evidence that their partner could not be relied upon (avoidant individuals) or was likely to reject them (resistant individuals).

Whilst attachment styles might affect adult relationships, individuals with very different styles of attachment can become partners. Kirkpatrick and Davis (1994) point out that anxious/avoidant and anxious/resistant individuals can be attracted to each other because resistant people expect to invest greatly in a relationship while avoidant people expect to be less committed than their partners. According to Morgan and Shaver (1999), if the female is the resistant partner and the male the avoidant partner, then their relationship is likely to be stable: otherwise the relationship is unlikely to be either satisfying or long lived.

Another factor to consider is that attachment styles might change as a consequence of experiencing different relationships. It is possible that we might display different attachment styles in different relationships. Whilst having one kind of partner might result in our displaying a secure attachment style, experiencing a partner of another type might make us more anxious (Campbell and Wilson 2003).

Childhood interaction with peers

It is not only our early relationships with our families that affect our adult relationships – early childhood interaction with our peers can also have a significant influence. Whilst the family is the most important factor in socialisation during the early years, as the child grows the impact of friends and peers becomes noticeable. In childhood, and especially after school begins, friendships become central to healthy social and emotional development. Friendships with peers provide children with important information about the world during a time of rapid development. They are a means for developing important life-long social skills. Peers can be an important source of emotional support, and provide information about rules and values, about what is or is not acceptable behaviour.

There is a growing body of research which suggests that difficulties with peers during childhood, such as the failure to form close friendships, can have implications for the adjustment we are able to make as adults. According to Parker and Asher (1987), the friendships between peers during childhood are 'training grounds' for important adult relationships, including marriage. They distinguished between *rejected* children (those who are actively disliked by their peers) and *neglected* children (those who are neither especially liked nor disliked). It is the rejected child, with the lower peer status who feels the greatest sense of loneliness, and who is most likely to suffer negative long-term outcomes as a result. According to Hartup (1989), adults who spent lonely childhoods have lower self-esteem and are less capable

EARLY PEER BEHAVIOUR AND LATER ROMANTIC RELATIONSHIPS

Ostrov and Collins (2007) conducted a 29 year prospective longitudinal study. The original sample of 267 women were recruited in 1975 – 1977 from a prenatal health clinic in a large American city. The sample were ethnically diverse and, because they were living in poverty, were considered "at risk". A sub-sample of 70 children (and their partners) of the original sample were used in the 2007 study.

The original participants had previously been assessed at the age of 5 by their classroom teachers for social-emotional and behavioural problems. At age 20-21 they were invited to participate in a 30 minute observational session with their romantic partners. In this session they had to complete two problem-solving tasks, and during this their behaviour was coded by experts in terms of tone, hostility, conflict resolution and overall relationship quality.

It was found that early peer behaviour was linked to later romantic relationship interactions. Children who had exhibited social-emotional problems with their peers when young were socially dominant (eg controlling and manipulating) in their later romantic relationships. No significant gender differences were observed.

of maintaining intimate relationships than adults who had close peer friendships in their early years.

Whilst some children are rejected by their peers, others have unavoidable life experiences which prevent them developing the relationships with peers that are available to most other children. One such disadvantaged group are those children that suffer long-term chronic illness, which has the effect of denying them important peer-related experiences at critical stages in their development. Thompson et al (2008) investigated whether childhood cancer survivors experience difficulties in later romantic relationships. They found that, whilst survivors of childhood cancer do not in general suffer less "satisfaction with, conflict in, and duration of romantic relationships", they tend to report fewer relationships and a sense of greater distress when relationships break down than control participants. Moreover, these feelings are greatest with those who have experienced the most severe treatments during childhood. Such treatments usually involve multiple hospitalisations and extended school absences, reducing opportunities for peer interactions and friendships. This appears to support other research in this area which suggests lower rates in marriage and cohabitation, and older age at first romantic relationship and marriage (Dolgin et al 1999).

There are clearly many factors influencing later adult romantic relationships. Zimmer-Gembeck et al (2004), for example, considered the effects of friendship *quality* during childhood. They found that the quality of friendships in sixth grade (i.e. at around 11 years) has a direct effect on the age of first romantic relationship: children who have more intimate friendships in middle childhood form romantic relationships earlier than those who have not experienced such earlier friendships.

It also appears that being a bully during childhood can have long term effects: studies of both male and female middle school children who were identified as bullies showed that in later years they were more likely to report using physical aggression with a romantic partner (Connolly et al 2000). In turn, those who have been bullied or teased are also likely to feel the effects in later romantic relationships. Ledley et al (2006) explored the relationship between childhood teasing and later social and emotional functioning. The sample consisted of 414 volunteers in university psychology classes. The students completed a number of questionnaires – some of which

FAMILY CLIMATE AND ADOLESCENCE

Bell and Bell (2005) looked at the importance of the family environment during adolescence. The researchers wanted to know whether family climate during adolescence had an effect on young people's wellbeing as adults.

Structured home interviews were held in the 1970s with 99 families with adolescents. Families were recruited through three high schools in one white, middle class, suburban district. There were further controls for family health, parents' education, family size, and position of identified adolescent (e.g. oldest, middle, youngest).

Family interactions were taped and coded in order to measure two things:

- *connection* (empathic and responsive caregiving from parents which encourages the development of internal working models that are carried through to later relationships).
- *individuation* (caregiving which encourages the development of autonomy through a family system of clear boundaries, encouragement of independent thought and speech, and acceptance of individual differences).

Twenty five years later, telephone interviews were conducted with members of 82 of these families who were adolescents at the time. Of the original 199 participants, 174 now mid-life adults were interviewed and measured for wellbeing using Ryff's wellbeing scale. Marital history and current marital status were also recorded.

The researchers found that the quality of the family system during adolescence was directly related to midlife well-being for both men and women. A significant positive correlation was found between family connection at adolescence and intact first marriage at midlife. There was a similar correlation for family connection and midlife wellbeing. The effect of the family appeared to be slightly different on men and women. For women, a connected and individuated family during adolescence had an effect on marriage stability (i.e. whether at the time of the later interviews they were in an intact first marriage), whilst for men it influenced whether they would be married at all.

Bell and Bell concluded that, despite the innumerable life experiences that occur after individuals have become independent of their families, the effects of family life during adolescence can still be seen after 25 years, and may have lifelong implications.

involved questions about their past. It was found that those college students who recalled frequent teasing in childhood were less comfortable with intimacy and closeness, and felt less comfortable in trusting and depending on others. They also experienced a greater degree of worry about being unloved or abandoned in romantic relationships. In addition, being teased about social matters, appearance, or performance was significantly related to later attachment difficulties.

The influence of childhood peers on later relationships was also investigated by Ostrov and Collins (2007). They suggest that the kinds of social and emotional behaviours that children show with their peers during middle childhood (5 – 11 years) is a good predictor of some of the problems seen in their later adult relationships.

THE INFLUENCE OF ADOLESCENT EXPERIENCES ON LATER ADULT RELATIONSHIPS

Traditional theory has it that adolescence is a period of psychological and emotional turmoil, and a time of great conflict between parent and offspring. Most contemporary psychologists however reject the idea that 'storm and stress' during adolescence is universal and inevitable. For example, according to La Freniere (2000), despite rows and conflicts the bonds between adolescents and their parents are perhaps not as weak as the early research suggested. Indeed, Stalin and Klackenberg (1992) found that adolescents who had conflicts with their parents already had poor relationships with them prior to puberty. Although the number of arguments is likely to increase during adolescence, often the arguments are mild. In a review of European studies, Jackson et al (1996) found similarities in the nature of disagreement. Reasons for disagreement included:

- Parents expecting greater independence of action from their teenage offspring.
- The adolescent wanting more autonomy (freedom) than the parents will allow. (Girls experience more conflict regarding this than boys.)
- Personal tastes and preferences.

Arguments may well be seen therefore as an attempt to change the power balance from one-sided parental authority to a more equal adult relationship.

Evidence suggests that adolescents differentiate between their parents in terms of their role, and that this process is influenced by gender. Hendy et al's (1993) longitudinal study in Scotland showed that adolescents chose to discuss personal problems with friends but matters like career and school with parents. Mothers were preferred over fathers as confidantes in all areas except careers and sex (boys only) and problems with the mother (boys and girls). Most girls and nearly half of the boys in the sample chose to confide in their mother over problems with friends. Half the girls and a third of the boys discussed doubts about their own ability with their mother. Hendy concluded from his research that adolescents disengage themselves from their fathers and girls are particularly uncomfortable when it comes to discussing issues of puberty. The mother's role is in enforcing family rules and this brings her into conflict more with her teeenage offspring. The mother, however, is still seen as supportive and caring, not 'distanced' like the father. The importance of the mother-child role during adolescence is emphasised by Apter (1990), who studied 65 mother-daughter pairs in Britain and the US and found that girls said their mother was still the person they were closest to and the one who provided most emotional support.

The influence of parents

Ryan and Lynch (1989) suggest that in some respects adolescents are no different from infants. Just as securely attached infants are well equipped to form relationships away from the main caregiver, adolescent independence is likely to be a result of good rather than poor family relationships. Adolescence can be seen as a period during which young people reshape the internal working models of relationships formed earlier in their childhood into new models which will affect their adult experience.

Adolescence has traditionally been regarded as a time of re-adjustment for both child and parents, when a renegotiation of roles occurs to allow adolescents greater independence. Relationships with parents become more equal and reciprocal and parental authority comes to be seen as open to discussion and negotiation. This is also a transitional time for parents, who may well be reassessing their ability as parents, their life goals, career and family ambitions.

Relationships within the family may well act as a 'training ground' for later adult relationships. For example, longitudinal research by Crockett and Randall (2006) has suggested an association between the quality of adolescents' family relationships and the quality of their adult romantic relationships. Through a process of socialisation,

adolescents learn relationship behaviours that they carry with them into adulthood. Parent-child relationships during adolescence appeared to have a particular influence on conflict resolution tactics used in adulthood. Adolescents who experienced less physical and verbal conflict with parents tended to show interpersonal behaviours which enhanced the quality of their adult romantic relationship, such as greater use of discussion to resolve discord.

Some studies have found associations between the quality of parent–adolescent conflict resolution and styles of conflict resolution in later romantic relationships. For example, Reese-Weber and Bartle-Haring (1998) point out that parents try to minimise the effects of their arguments on their children by avoiding such behaviour in front of them. However, it seems that what parents do to each other is much less important than what adolescents directly experience. In their study, parental conflict had much less of an impact on later relationships than parent/child conflict. So, if parents and adolescents adopted an attacking, avoiding or compromising style of conflict resolution, this approach was more likely to be used in later romantic relationships.

Generally, evidence suggests that adolescents achieve independence and competence best when within a secure family environment where the exploration of alternative ideas, identities and behaviour is allowed and encouraged. If parents are highly critical or rejecting, then adolescents can become negative about their own identity (Curry 1998). Feldman et al (1998) found in a US sample that adolescents' reports of family interaction patterns predicted their happiness and distress in romantic relationships in early adulthood. This is supported by Seiffge-Krenke et al (2001) who conducted a six year longitudinal study in western Germany which involved annual surveys with 72 adolescents. The participants were visited in their own homes and took part in semi-structured interviews on parents, peers and romantic relationships. The results showed that the quality of relationships with parents at age 14, 15 and 17 was related to the quality of romantic relationships at age 20. Closeness and trust with parents were found to be directly related to positive aspects of romantic relationships. Similarly Joyner and Campa (2006) found adolescents' ratings of the quality of their relationship with parents were associated with the quality of their own romantic and sexual relationships as adults. Boys who reported close relationships with their parents had higher self-esteem whilst girls who reported close relationships had fewer sexual partners, both leading to higher quality romantic relationships.

Conger et al (2000) found that having the experience of supportive, involved parents during adolescence was associated with greater commitment and satisfaction at age 20. It seems that adolescents who experience positive family relationships have a distinct advantage in their later adult romantic relationships. Conversely, Linder and Collins (2005) found that individuals with a history of hostile parent–child interactions during early adolescence were more likely to experience romantic relationship violence as young adults. In particular, they found that parent–child boundary violation at age 13 was positively related to whether individuals would later become perpetrators or victims of aggression at age 21 and 23. They defined boundary violation as overly familiar behaviour. As examples of such behaviour they listed *spousification* in which the adolescent met the caretaking needs of the parent; *parentification*, in which the adolescent displayed nurturance or limit-setting as a parent would; and *peer-role diffusion*, in which both the adolescent and the parent acted in a manner similar to adolescents. They point out however that violence in later relationships is not solely due to these boundary violations during adolescence but is also influenced by complex interactions among a range of experiences throughout childhood, including those of families, peers and siblings.

The influence of peers

As a child grows into adolescence, peer relationships and friendships become more important. Adolescents tend to interact with their peers more frequently and for longer periods than they did when younger. It is generally accepted that adolescence is a time when the peer group assumes vital importance. Palmonari et al (1989) for example found that 90% of 16 – 18 year olds identified themselves as part of a peer group. Kirchler et al (1991) say adolescents who do not develop peer relationships and remain close to their families may have trouble establishing their autonomy and forming adult relationships. Peers do not necessarily replace parents however: rather they tend to coexist with them and the adolescent moves between the two contexts.

Erikson (1968) argues that adolescence is characterised by the establishment of 'ego identity', that is, a sense of one's own identity as a separate unique person, independent of one's family. An

important psychological task during this time is to avoid 'role confusion', that is, an identity crisis caused by uncertainty about one's place in the world. Erikson viewed the peer group as providing a significant ego defence against role confusion. However, over-identification with peers can occur, especially when they provide details of identity, and this can result in cliques and 'out' groups of adolescents who become divorced from mainstream society and in some cases can be involved in destructive activities (e.g. drugs, alcohol, nihilistic subcultures).

The changing dynamic in relationships between adolescents and parents is aided by changes in relationships with peers. Blos (1967) describes this as a process of separation from parents and finding substitute parents. Peers help the process of separation and individuation as they help the adolescent avoid loneliness and provide the adolescent with a secure group away from the family.

It has been suggested that relationship skills appear to be learned in the 'best friend' relationship during adolescence and that these skills can then be transferred to a later romantic relationship. Indeed it is suggested that relational styles with romantic partners correspond to those with friends rather than those with parents. For example, Meeus et al (2007) looked at the psychological importance of best friends and parents during adolescence in a longitudinal study of 1041 adolescents and early adults aged 12-23. They suggest that commitment to a best friend is a predictor of commitment to an intimate partner six years later.

According to the 'cycle of violence' hypothesis, individuals who witness or experience violence in the family subsequently become victims or perpetrators of aggression themselves. Linder and Collins (2005) however point out that whilst family experiences have a significant effect on later relationship violence, research has tended to underestimate the role of peers in romantic relationship aggression. Connolly et al (2000) suggest that middle-school children identified as bullies are more likely to report using physical violence with a partner later in life, whilst Lackey and Williams (1995) suggest that peers can moderate the effects of family violence experienced during childhood. In their research, Linder and Collins followed participants from birth to 23 years of age, examining familial and extra-familial childhood and adolescent relationships in connection with couple violence in early adulthood. They suggest peers contribute to the development of aggression in romantic relationships, above and beyond the influence of parents. Indeed, individuals who had higher quality friendships at 16 years of age reported lower levels of both initiating and suffering violence in subsequent romantic relationships at 21 years of age.

Not all research agrees with these findings however. Crockett and Randall (2006) found that peer relationships appeared to have little impact on adult romantic relationships and suggest early family relationships have a greater influence in this respect.

Critics suggest that research tends to focus on *either* family relationships *or* peer relationships,

ATTACHMENT, ADOLESCENCE AND ADULTHOOD

Simpson et al (2007) have recently conducted an interesting longitudinal study which brings together a number of factors which have been raised in this section. The researchers used 78 participants who had been studied from infancy until their mid-20s. They were investigating how early childhood attachment, relationships in school and those during adolescence might all affect our experience as adults.

- The participants were initially assessed at 12 months using the Strange Situation test.
- At age 6-8 the participants' social competence in their peer groups was measured (via ratings from the classroom teacher).
- At age 16 the quality of their behaviours with their close friends (trust, disclosure etc) was assessed, based on a detailed interview.
- Between the ages of 20 and 23 the participants' experience and expression of emotions in romantic relationships was measured (via a rating scale and an observation).

Simpson et al found that early attachment security at 12 months predicted the children's competence with peers at age 6. School competence at age 6 predicted the closeness of friends at age 16, and this measure in turn predicted emotional experiences in adult relationships. This appears to show that early attachment experiences with caregivers influence our relationship experiences in childhood, through to adolescence and adulthood.

making it difficult to gauge their relative importance in predicting the quality of romantic relationships later in life. Simpson et al (2007) attempted to address this issue. Their findings support the idea that there is a continuity of relationship representation. They suggest that individuals are not only influenced in their current relationships by immediate issues, but also by their developmental histories. Relationship experiences during critical developmental periods are therefore meaningfully related to the emotional nature of later adult romantic relationships.

THE NATURE OF RELATIONSHIPS IN DIFFERENT CULTURES

Culture is "the collective programming of the mind which distinguishes the members of one group from another" (Hofstede 1980). Researchers have categorised cultures according to whether they are *collectivist* or *individualist*. Moghaddam et al (1993) neatly summarised the difference in focus of these cultures: relationships in western cultures tend to be individualistic, voluntary and temporary while those in non-western cultures tend to be collectivist, involuntary and permanent. It has been suggested that these different types of cultures have an effect on the relationships of individuals within them. Cross-cultural studies have consistently found that beliefs about mate selection in collectivist and individualist cultures differ greatly. For example, the opinions of other people can have a significant influence on mate selection in collectivist cultures whilst in individualist cultures such decisions are more likely to be based on personal emotional issues.

From an evolutionary standpoint, the principal influence on our choice of partner, regardless of culture, is their reproductive fitness: males seek females with the greatest reproductive fitness whilst females seek males who are best able to support them and their offspring. There is a considerable body of evidence for this evolutionary view. For example, in a large-scale cross-cultural study that we have mentioned earlier in this chapter, involving nearly 10,000 participants from 37 countries, Buss (1989) found that females tended to rate industriousness, status and financial resources highly in potential male partners. Whilst both sexes indicated preferences for physically attractive partners, males tended to rate this partner trait more highly than females. It should be noted, however, that the data gathered by Buss could also be interpreted to show evidence of significant cross-cultural variations in mate preference, independent of evolutionary pressures.

There is material throughout this chapter relevant to the effects of culture on relationships. For example, there is frequent reference to culture in the human reproductive behaviour section. Feel free to use information from any part of this chapter which says something about the nature of relationships in different cultures!

LOVE AND MARRIAGE

Some concepts at first sight appear universal, such as the concept of love and marriage. Anthropologists found there was some evidence of romantic love in 147 of the 166 cultures they studied (Jankowiak 1995). However, the concept of romantic love is to some extent culturally specific, and not necessarily a prerequisite of marriage. In an interesting experiment, Kephart (1967) asked participants the following question "If someone had all the other qualities you desired in a marriage partner, would you marry this person if you were not in love?" In the original experiment, twice as many American men replied "no" to the question as did women. However, twenty years later in Simpson et al's (1986) replication, more than 80% of men and women replied "no" to this question. This same question was later asked in LeVine et al's (1993) cross cultural study of young people in 11 countries. It was found that in the collectivistic cultures there was a higher percentage of "yes" answers (e.g. India 49%) compared to the US (3.5%) and England (7.3%).

The romantic ideal of two independent loving individuals acting on their feelings certainly appears to be pervasive. Films, television programmes and songs are all dominated by the theme of romantic love. The idea that everyone should marry only when they are in love is, however, a fairly recent one when viewed historically. Indeed, for many cultures the two concepts are not necessarily related.

In collectivist cultures, marriage choices are often made by the families on the basis of alliances and economic considerations. These are known as *arranged marriages*. In Japan almost 25% of marriages are arranged (Iwao 1993) and although 90% of all Indian marriages are arranged (Gautam 2000) the practical arrangements vary. For example, families may often use similar criteria

to those that the individuals themselves might employ, such as matching them on attractiveness. In Sri Lanka, men and women who love one another may let their parents know their wishes for marriage indirectly, and although the marriage is then arranged by the families, it is on the basis of couple choice (de Munck 1998).

Patterns of arranged marriage	
Traditional pattern -	parents and elders choose the spouse
Modified traditional -	individual has the power to choose
Cooperative traditional pattern -	either the young person or the parents might make the selection.

Whilst it is often assumed that arranged marriages are less successful than marriages based on romantic love, there have been few comparative studies. Yelsma and Athappilly (1988) studied marriage satisfaction in 28 Indian couples in arranged marriages, 25 Indian couples in 'love' marriages and 31 American couples in companionate marriages. They found that husbands and wives in arranged marriages were more satisfied with their marital relationships than were the husbands and wives in the American sample. However, in comparison, Xiaohe and Whyte (1990) sampled married women in the People's Republic of China and found that women in arranged marriages were less satisfied than women in free-choice marriages.

More recently Myers et al (2005) compared marital satisfaction and wellness in arranged marriages in India and free choice marriages in America. Although characteristics for marital satisfaction were rated differently in the different cultures, overall marital satisfaction was similar in both groups. In the United States sample, love and loyalty were given a high priority. In the Indian sample, love was seen as less important as a necessary precursor to marriage but love was expected to grow as the spouses learn about each other as the years go by. This was previously suggested by Gupta and Singh (1982) who found that couples in Jaipur, India who married for love reported diminished feelings of love if they'd been married for more than five years. In contrast, those who'd undertaken arranged marriages reported more love if they weren't newlyweds. It seems that, contrary to common Western beliefs, both men and women in arranged marriages can be both happy and satisfied.

Madathil and Benshoff (2008) compared marital satisfaction in three sample groups – Asian Indians in arranged marriages in India, Asian Indians in arranged marriages living in the United States, and Americans in free-choice marriages. The researchers were interested in the importance of love, loyalty, shared values and finances in these different relationships. Love was given the highest rating of importance by the arranged marriage couples in America. Both Asian Indian groups rated finances and shared values more highly than the American free-choice group, presumably because financial security and lack of debt is a key cultural value for Indians. Overall, the Indian arranged marriages in America were rated more satisfactory than the marriages in the other two groups. This is possibly because the couples enjoy the stability of an arranged marriage together with a culture that imposes fewer restraints on them than their tradi-

CROSS-CULTURAL VARIATIONS IN COURTSHIP AND MARRIAGE

In the Bassa Komo tribe of Nigeria, should a man of one family wish to marry a girl of another, then tradition has it that he must have a sister to give in exchange to his future father-in-law to replace the girl he marries. Unfortunately, if a man does not have a sister then he must find a solitary distant relation of his own to marry. He can marry as many times as he likes (i.e. polygamy) as long as he has sufficient sisters to give in return.

The Zulu of South Africa have five distinct stages of courtship and marriage:

1. Initially 'senior girls' decide when younger girls should have a boyfriend. The younger girl then tells the chosen young man of her love. The couple is then allowed to spend evenings and nights together (but no sex is allowed).
2. The girl's father builds a hut for the young couple to meet in (as he has to officially forbid the couple from meeting in his home).
3. The girl's father acknowledges the suitor by asking his daughter to "fetch some cattle from her lover".
4. The young man pays 'ten plus one' cattle to the girl's mother to compensate her for her loss.
5. The wedding ceremony, which may last for several days, then takes place.

tional culture. They may also have less interference from other family members.

A further finding was that the more involvement the people living in India had in selecting their mate, the higher the scores on marital satisfaction – but interestingly this was not the case for the Indians living in America. It appears that the length of time the Indian couples had spent in America did not affect their total satisfaction scores. So perhaps Indian married couples living in America may not be significantly influenced by American cultural values. There is also the possibility that such families spend most of their time socialising with other Indian families and therefore maintaining their cultural identities.

It is clear that marital arrangements and marital satisfaction are complex issues. It could be that marriages in individualistic cultures are more pressured because marriage is expected to fulfil diverse psychological needs in such societies. DePaulo and Morris (2005) suggest that in America several social roles have merged into one relationship, so that the spouse is often also the best friend and primary social partner. The ideal 'perfect' spouse now has to perform so many functions that it is unrealistic to expect any one person to fulfil this role. This could be why divorce rates among those who marry according to parents' wishes are lower than among those who have love-based marriages and have been looking for the impossible 'perfect' partner.

Marriage is considered by Western cultures to be a permanent bond between a man and a woman which is supported by moral and legal codes. This institution of marriage also assigns rights, parental responsibilities, rules of dependency and divisions of labour. Moreover, there is a general assumption that marriage is universal and that marriage performs similar functions in all societies. However, there is evidence which clearly suggests that cultures have developed their own very different versions of marriage. The Nayar are a good example of this. The Nayar were an upper caste Hindu society of South-Western India who lived in large communal houses of up to eighty family members. The roles of men and women were very different, with men engaged in military training and the women collectively responsible for cooking and child care. The Nayar had a system of 'visiting husbands', whereby a couple did not live together, but the man would visit his partner at night in her family home (Gough, 1959).

Although the custom of marriage is thought to be universal, the Na people of the Himalayan region of China appear to be an exception. Marriage does not seem to figure in their society. Na brothers and sisters live together for their entire lives. Women tend the gardens and cook for their brothers while the men care for the herds and provide protection for their sisters and their sisters' children. However, since incest is prohibited, the men engage in night visits to the homes of other women. Although men may 'visit' women, they never form households with their lovers (Tapp, 2002).

DIVORCE

Although high divorce rates are often associated with marriages in Western cultures, in reality, divorce and failed relationships (not necessarily at a high rate) occur in all cultures. Statistics show that the divorce rate in India (which has a very high rate of arranged marriage) is approximately 1%, compared to divorce rates in the United States of 55%. Before drawing too many conclusions from this data however, it should be noted that there are many personal, social and cultural factors affecting divorce rates, beyond the happiness (or unhappiness) of the individuals involved. For example, research shows that 'arranged married' couples experience a great deal of pressure from families, friends and society as a whole, often making divorce not an option. It may be that arranged marriages endure because ending the marriage would bring shame upon the families, not because they are successful or rewarding. Also, the status of women in some non-Western societies is such that being a single independent woman is not possible. It may even be that the idea of what constitutes a 'successful' marriage differs considerably between cultures.

It has been suggested that one reason for significant increases in divorce rates in Western non-arranged marriages lies with the motivation to marry itself. The principal reasons for marriage – e.g. love, sex, beauty – are transient, things

Cause of divorce	% positive response						
	Africa	Circum-Mediterranean	East Eurasia	Insular Pacific	North America	South America	Total cases
Adultery	12	11	15	17	19	14	88
Sterility	18	16	13	9	12	7	75
Cruelty/maltreatment	11	8	4	7	13	11	54
Witchcraft or sorcery	10	1	1	1	0	0	13
Old age	2	3	1	0	0	2	8
Spouse favours kin	5	0	0	1	0	1	7
Absence of male children	0	2	2	0	0	0	4
Bad dream or omen	0	0	0	2	0	0	2

Some examples of regional causes of relationship dissolution. Adapted from Betzig (1989).

that will change over time, possibly leading to disenchantment and dissolution. Arranged marriages, however, place much greater emphasis on more practical and mundane factors, such as dependability, reliability, commitment to family etc. Love and affection, something presumed to be a consequence of marriage, therefore have a more solid foundation on which to develop. As a result, these marriages tend to last longer.

Fisher (1992) suggests that there are universal factors which are likely to end relationships. In an analysis of reasons for divorce in 186 societies, Betzig (1989) found that adultery was the most common cause for divorce across cultures, followed respectively by sterility and cruelty/maltreatment. As can be seen in the table above however, Betzig's study also shows that there are culturally specific reasons for divorce.

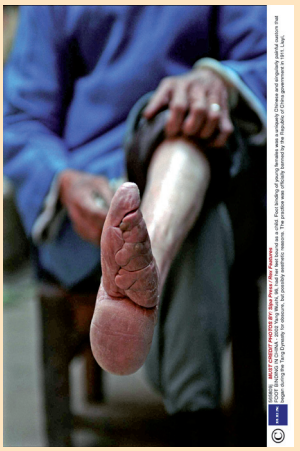
CULTURAL VARIATIONS IN PHYSICAL ATTRACTIVENESS

Physical attractiveness is regarded as an important determinant of attraction and subsequent relationship formation in many societies. Cunningham et al (1995) found a high degree of agreement between different races in their perception of facial attractiveness. They found that their Asian, Hispanic and white judges consistently rated highly such things as large neonate eyes, facial symmetry, small noses, dilated pupils, larger smiles and well-groomed hair. Research also suggests that there is broad cross-cultural agreement in attractiveness indicated by weight (as measured by body mass index, or BMI) and shape (assessed as waist-to-hip ratio, or WHR). Such features are usually associated with good physical health and fertility, and such findings fit in with evolutionary assumptions regarding mate preference. Humans should be sensitive to the visual cues that honestly indicate reproductive fitness, since wrong choices can have a significant effect on reproductive potential. Some features of physical attraction, however, appear harder to explain in terms of their association with good health. For example, Fessler et al (2005) investigated foot size preferences across nine distinct cultures and found a general preference for small foot size in females and average foot size in males.

According to Singh (1984), the WHR is thought to be important for males when selecting a female because a low WHR may be linked to increased fertility. Where there is cross-cultural support for this idea however it has largely come from studies carried out in industrial societies. Marlowe and Wetsman (2001) looked at WHR preferences of men from the United States and of the Hadza tribe (hunter-gatherers from Tanzania) and found that Hadza men did not share American men's preferences for the lower WHR. They tended to show a preference for women with higher weight, regardless of WHR. Further evidence for cultural differences can be seen in the WHR preferences of Matsigenka Indians of Peru. Yu and Shepard (1998) found that despite belonging to the same ethnic population, the more Westernised group of Matsigenka preferred low WHR women whilst a highly isolated group considered high WHR more attractive. In both populations non-child-bearing women had a lower WHR than childbearing women.

There is a growing body of cross cultural research, however, which suggests that BMI is the more important predictor of attraction, with WHR acting as a secondary cue. Swami et al (2006) looked at the relative contribution of BMI and WHR to female physical attractiveness in Britain and Japan. Males from both countries were asked to rate photographs of women with varying BMI and WHR. It was found that for both populations BMI

WHAT CONSTITUTES PHYSICAL ATTRACTIVENESS CAN VARY GREATLY BETWEEN SOCIETIES



In some African cultures the wearing of a lip plate is considered attractive. For example, Mursi women of Ethiopia can choose to have their lower lip pierced before they marry. The hole is gradually stretched by inserting increasingly bigger clay or wooden discs, with diameters of 15cm not being uncommon.

Scarification is widespread in African culture. In involves cutting the skin in such a way as to control the shape of the scar tissue. Sometimes the practice involves irritating the cuts to produce permanent blisters or staining them to produce darkened scarring. Women of the Nuba tribe in Sudan receive their first scars from navel to breasts at the first signs of maturity. More scars are cut on the torso at menses, and a final set cut on the arms, leg and neck after the first child is weaned. This final set of scars is so important to the woman's sense of beauty that she will end the marriage if the husband refuses to pay for them.

In Pa Dong women of Thailand and Burma, a long slender neck is traditionally considered a sign of beauty and wealth. They engage in a custom of 'neck stretching'. Metal rings are put around the necks of girls, starting at age six, with rings regularly added, perhaps reaching twenty rings or more. The weight of the rings pushes down the collar bones to give the illusion of a very long neck.

At one time, small dainty feet were so admired in China that foot binding was practised. Foot binding involved wrapping the foot extremely tightly in cloth for many years, starting in infancy. This restricted normal bone growth, resulting in extremely small and distorted feet. This had such crippling effects that some women had to be carried around because they were unable to walk properly.

Because the above examples refer to female attractiveness it does not mean that similar customs do not apply to men! Lip plates are also popular amongst men in some cultures, and there are many examples of body scarring, tattooing and genital modifications such as penis inserts, circumcision and subincision.

was the main determinant of physical attractiveness. There were important cultural differences however, with Japanese men preferring lower BMI than Britons and the Japanese being more reliant than the Britons on body shape as a sign of female attractiveness.

Stone et al (2008) argue that what determines cultural preference for a particular shape is level of socioeconomic development. People living in areas of low socioeconomic development face a range of living problems generally not experienced by most people from more developed areas – for example, poor health and extreme poverty. They argue that these conditions exert a significant influence on mate preference because finding a healthy partner is more difficult. They used questionnaire data gathered from a sample of 4,499 men and 5,310 women living in 36 cultures on six continents and five islands. They found that characteristics which indicate good health were more important to both sexes in less developed countries. People in more developed countries placed greater importance on "mutual attraction/love" than those in less well-developed countries. Stone et al suggest that this implies an economic transaction underlying marriage in some less developed countries where, for example, marriage involves trade in goods and livestock. This is less important in more developed countries, resulting in relationships based on companionship and emotional commitment.

Whilst culture no doubt has a strong effect on what is considered physically attractive, cross-cultural studies consistently indicate that there is general agreement about this issue. These studies suggest that ideas of attractiveness are to some extent at least inborn and part of human nature. This is further supported by research results which indicate that very young infants show some preferences for faces considered attractive by adults (Hoss and Langlois, 2003). For some psychologists this is strong evidence of an underlying evolutionary pressure on mate preference.