**Dr Money: David Reimer**

**Aim:**

Money wanted to see whether children are born gender neutral and explain that gender is a result of upbringing. He wanted to support his theory of gender neutrality.

**Case description:**

Bruce and Brian were identical twin boy who at the age of 7 months were taken for circumcision to correct a medical problem, Bruce was treated first. However, an accident during the procedure resulted in Bruce’s penis being completely burnt off so that it was unrecognisable.

After the accident the Reimer's happened to see a TV programme where transgender issues were being discussed and the theory of gender neutrality was explained by Dr John Money.

They contacted Dr Money and asked his advice. He believed that all children were ‘gender neutral’ until the age of about 2 years old, meaning that boys and girls were essentially the same until then. Because Bruce Reimer was less than a year old when the accident happened, and the decision to raise him as a girl was made before the age of 2, it would be possible, according to Money, to raise Bruce as a girl called Brenda and no one would ever know ‘she’ was actually a ‘he’.

Acting on this the Reimer's decided to raise Bruce as a girl. From before she was 2 Brenda was dressed in female clothing, encouraged to play with ‘girls’ toys and always told that she was a girl – she was not aware of the accident at all! Basic genital surgery was performed on Brenda at the age of 2. At the age of 12, Brenda was given Oestrogen to try to encourage female puberty and prevent male features developing such as a deepening voice or facial hair.

Money tracked Brenda’s development over her childhood by organising annual visits for her and Brian to the University. In these he would ask them questions about their preferences and behaviour.

**Analysis:**

Money reported that Brenda had adapted to the role of female and stated that this was consistent with his theory. He noted that Brenda liked wearing dresses and wanted to be a doctor or teacher when she grew up. He compared this to her brother who wanted to be a fireman. Money believed that comparisons about boys and girls showed that Brenda knew her gender was female and had helped her to adapt.

**Conclusion:**

Dr Money concluded that it is possible to raise a boy as a girl.

**Case update:**

However Brenda was considered by everyone who knew her to be a tomboy who liked to play with her brother’s toys and enjoyed aggressive play. She reported feeling ‘different’ and her teachers said she was generally more masculine than feminine. Brenda was even seen urinating standing up. Either Money did not know or he chose to ignore this evidence.

Brenda consistently refused to have further surgery and at the age of 15 was having severe emotional and behavioural problems, even threatening her parents that she would commit suicide if they made her see Dr. Money again. Her parents then decided that she should be told the truth about who she was and Brenda finally knew she had been born a boy. From this point onwards Brenda became known as David and lived as a male.

At the age of 16, David had plastic surgery to create a penis and at the age of 22, further surgery was conducted to make the penis more realistic. During his mid-20’s, David married a divorcee with 3 children to whom he became a step-father finally fulfilling his masculine identity.

After Dr. Money published his findings and reported that you could successfully raise a boy as a girl, David and his family appeared in a documentary where they put forward their views on what happened. David and his brother Brian reported that Money had used unethical practices to encourage the development of their different gender identities, including photographing them naked in different sexual positions.

This could never be proven as 2 years worth of the case notes on the twins were never released by Money. David’s brother, Brian, had mental health problems (he developed schizophrenia shortly after finding out the truth about his twin). In 2002 Brian was found dead in his apartment after an overdose of drugs. After losing his brother, David became depressed, his marriage broke down as a result of financial pressures, and then in 2004 he committed suicide.

**Mary Ainsworth’s Strange Situation**

The security of attachment in one- to two-year-olds were investigated using the strange situation paradigm, in order to determine the nature of attachment behaviours and styles of attachment.

Ainsworth developed an experimental procedure in order to observe the variety of attachment forms exhibited between mothers and infants. The experiment is set up in a small room with one way glass so the behaviour of the infant can be observed covertly. Infants were aged between 12 and 18 months. The sample comprised of 100 middle-class American families.

The procedure, known as the ‘Strange Situation,’ was conducted by observing the behaviour of the infant in a series of eight episodes lasting approximately 3 minutes each:

(1) Mother, baby, and experimenter (lasts less than one minute).

(2) Mother and baby alone.

(3) A stranger joins the mother and infant.

(4) Mother leaves baby and stranger alone.

(5) Mother returns and stranger leaves.

(6) Mother leaves; infant left completely alone.

(7) Stranger returns.

(8) Mother returns and stranger leaves.

Strange Situation classifications (i.e., attachment styles) are based primarily on four interaction behaviours directed toward the mother in the two reunion episodes:

* Proximity and contacting seeking
* Contact maintaining
* Avoidance of proximity and contact
* Resistance to contact and comforting

The observer notes down the behaviour displayed during 15-second intervals and scores the behaviour for intensity on a scale of 1 to 7.

Other behaviours observed included:

* Exploratory behaviours e.g., moving around the room, playing with toys, looking around the room.
* Search behaviours, e.g., following mother to the door, banging on the door, orienting to the door, looking at the door, going to mother’s empty chair, looking at mother’s empty chair.
* Affect displays negative, e.g., crying, smiling.

**Results:**

Ainsworth (1970) identified three main attachment styles, secure (type B), insecure avoidant (type A) and insecure ambivalent/resistant (type C). She concluded that these attachment styles were the result of early interactions with the mother. A fourth attachment style known as disorganized was later identified (Main, & Solomon, 1990).

**B: Secure Attachment**

Securely attached children comprised the majority of the sample in Ainsworth’s (1971, 1978) studies. Such children feel confident that the attachment figure will be available to meet their needs. They use the attachment figure as a safe base to explore the environment and seek the attachment figure in times of distress (Main, & Cassidy, 1988).

Securely attached infants are easily soothed by the attachment figure when upset. Infants develop a secure attachment when the caregiver is sensitive to their signals, and responds appropriately to their needs.

According to Bowlby (1980), an individual who has experienced a secure attachment 'is likely to possess a representational model of attachment figures(s) as being available, responsive, and helpful' (Bowlby, 1980, p. 242).

**A: Insecure Avoidant**

Insecure avoidant children do not orientate to their attachment figure while investigating the environment. They are very independent of the attachment figure both physically and emotionally (Behrens, Hesse, & Main, 2007).

They do not seek contact with the attachment figure when distressed. Such children are likely to have a caregiver who is insensitive and rejecting of their needs (Ainsworth, 1979). The attachment figure may withdraw from helping during difficult tasks (Stevenson-Hinde, & Verschueren, 2002) and is often unavailable during times of emotional distress.

**C: Insecure Ambivalent / Resistant**

The third attachment style identified by Ainsworth (1970) was insecure ambivalent (also called insecure resistant). Here children adopt an ambivalent behavioural style towards the attachment figure. The child will commonly exhibit clingy and dependent behaviour, but will be rejecting of the attachment figure when they engage in interaction.

The child fails to develop any feelings of security from the attachment figure. Accordingly, they exhibit difficulty moving away from the attachment figure to explore novel surroundings. When distressed they are difficult to soothe and are not comforted by interaction with the attachment figure. This behaviour results from an inconsistent level of response to their needs from the primary caregiver.

**Strange Situation Conclusion**

Ainsworth (1978) suggested the ‘caregiver sensitivity hypothesis’ as an explanation for different attachment types. Ainsworth's maternal sensitivity hypothesis argues that a child’s attachment style is dependent on the behaviour their mother shows towards them. ‘Sensitive’ mothers are responsive to the child's needs and respond to their moods and feelings correctly. Sensitive mothers are more likely to have securely attached children. In contrast, mothers who are less sensitive towards their child, for example, those who respond to the child’s needs incorrectly or who are impatient or ignore the child, are likely to have insecurely attached children. For example, securely attached infant are associated with sensitive & responsive primary care. Insecure ambivalent attached infants are associated with inconsistent primary care. Sometimes the child’s needs and met, and sometimes they are ignored by the mother / father. Insecure-avoidant infants are associated with unresponsive primary care. The child comes to believe that communication of needs has no influence on the mother/father.

**Zimbardo’s Stanford Prison Experiment**

Zimbardo and his colleagues (1973) were interested in finding out whether the brutality reported among guards in American prisons was due to the sadistic personalities of the guards (i.e., dispositional) or had more to do with the prison environment (i.e., situational). For example, prisoner and guards may have personalities which make conflict inevitable, with prisoners lacking respect for law and order and guards being domineering and aggressive. Alternatively, prisoners and guards may behave in a hostile manner due to the rigid power structure of the social environment in prisons. Zimbardo predicted the situation made people act the way they do rather than their disposition (personality).

To study the roles people play in prison situations, Zimbardo converted a basement of the Stanford University psychology building into a mock prison. He advertised asking for volunteers to participate in a study of the psychological effects of prison life. The 75 applicants who answered the ad were given diagnostic interviews and personality tests to eliminate candidates with psychological problems, medical disabilities, or a history of crime or drug abuse.

24 men judged to be the most physically & mentally stable, the most mature, & the least involved in antisocial behaviours were chosen to participate. The participants did not know each other prior to the study and were paid $15 per day to take part in the experiment.

Participants were randomly assigned to either the role of prisoner or guard in a simulated prison environment. There were two reserves, and one dropped out, finally leaving ten prisoners and 11 guards. Prisoners were treated like every other criminal, being arrested at their own homes, without warning, and taken to the local police station. They were fingerprinted, photographed and ‘booked.’

Then they were blindfolded and driven to the psychology department of Stanford University, where Zimbardo had had the basement set out as a prison, with barred doors and windows, bare walls and small cells. Here the deindividuation process began.

When the prisoners arrived at the prison they were stripped naked, deloused, had all their personal possessions removed and locked away, and were given prison clothes and bedding. They were issued a uniform, and referred to by their number only.

The use of ID numbers was a way to make prisoners feel anonymous. Each prisoner had to be called only by his ID number and could only refer to himself and the other prisoners by number. Their clothes comprised a smock with their number written on it, but no underclothes. They also had a tight nylon cap to cover their hair, and a locked chain around one ankle. All guards were dressed in identical uniforms of khaki, and they carried a whistle around their neck and a billy club borrowed from the police. Guards also wore special sunglasses, to make eye contact with prisoners impossible.

**Findings: (not all included)**

Within a very short time both guards and prisoners were settling into their new roles, with the guards adopting theirs quickly and easily.

**Asserting Authority**

Within hours of beginning the experiment some guards began to harass prisoners. At 2:30 A.M. prisoners were awakened from sleep by blasting whistles for the first of many "counts." The counts served as a way to familiarizing the prisoners with their numbers. More importantly, they provided a regular occasion for the guards to exercise control over the prisoners.

The prisoners soon adopted prisoner-like behaviour too. They talked about prison issues a great deal of the time. They ‘told tales’ on each other to the guards. They started taking the prison rules very seriously, as though they were there for the prisoners’ benefit and infringement would spell disaster for all of them. Some even began siding with the guards against prisoners who did not obey the rules.

**Physical Punishment**

The prisoners were taunted with insults and petty orders, they were given pointless and boring tasks to accomplish, and they were generally dehumanised. Push-ups were a common form of physical punishment imposed by the guards. One of the guards stepped on the prisoners' backs while they did push-ups, or made other prisoners sit on the backs of fellow prisoners doing their push-ups.

**Asserting Independence**

Because the first day passed without incident, the guards were surprised and totally unprepared for the rebellion which broke out on the morning of the second day. During the second day of the experiment, the prisoners removed their stocking caps, ripped off their numbers, and barricaded themselves inside the cells by putting their beds against the door. The guards called in reinforcements. The three guards who were waiting on stand-by duty came in and the night shift guards voluntarily remained on duty.

Less than 36 hours into the experiment, Prisoner #8612 began suffering from acute emotional disturbance, disorganized thinking, uncontrollable crying, and rage. After a meeting with the guards where they told him he was weak, but offered him “informant” status, #8612 returned to the other prisoners and said “You can't leave. You can't quit.” Soon #8612 “began to act ‘crazy,’ to scream, to curse, to go into a rage that seemed out of control.” It wasn’t until this point that the psychologists realised they had to let him out.

Zimbardo invited a Catholic priest who had been a prison chaplain to evaluate how realistic our prison situation was. Half of the prisoners introduced themselves by their number rather than name. The chaplain interviewed each prisoner individually. The priest told them the only way they would get out was with the help of a lawyer.

**Conclusions:**

People will readily conform to the social roles they are expected to play, especially if the roles are as strongly stereotyped as those of the prison guards. The “prison” environment was an important factor in creating the guards’ brutal behaviour (none of the participants who acted as guards showed sadistic tendencies before the study). Therefore, the findings support the situational explanation of behaviour rather than the dispositional one.

**Peterson and Peterson’s experiment into duration of short term memory (STM)**

Peterson & Peterson (1959) investigated the duration of short-term memory by conducting a laboratory experiment with a sample of 24 psychology students.

The students had to recall meaningless three-letter trigrams (for example, THG, XWV) at different intervals (3, 6, 9, 12, 15 or 18 seconds). To prevent rehearsal (practice) the students had to count backwards in threes or fours from a specific number, until they were asked to recall the letters.

Peterson & Peterson found that the longer the interval the less accurate the recall. At 3 seconds, around 80% of the trigrams were correctly recalled, whereas at 18 seconds only 10% were correctly recalled.

Peterson & Peterson concluded that short-term memory has a limited duration of approximately 18 seconds. Furthermore, the results show that if we are unable to rehearse information, it will not be passed to long-term memory, providing further support for the multi-store model and the idea of discrete components.