

## Adolescence

Sex hormones at puberty trigger the enormous and crucial changes in the brain which continue throughout adolescence and only complete the job in the mid-twenties. The last part of the brain to reach full maturity is the connection between the frontal lobes (the seat of 'executive control') and the rest of the brain. It is this weak connection throughout the teenage years which results in teenagers' poor decisions, risky behaviour and inability to weigh up long-term consequences, or make accurate benefit and risk calculations. Hormones flood the immature amygdala (the seat of instincts and emotions in the primitive brain) resulting in heightened intense emotions (which are less manageable because of the weak connection to the pre-frontal cortex). The reward processing centre in the teenage brain is magnified so that teenagers experience a far greater 'buzz' than adults when their desires are gratified.

Teenagers are capable of learning more quickly and at a more retentive level than at any other time in life, but this also makes them vulnerable to addiction and influence. Teenagers typically passionately adopt social justice causes but their lack of life experience makes them vulnerable to cults and exploitation.

We don't yet know how puberty blockers and cross-sex hormones affect the development of the teenage brain.

Puberty and adolescence is a crucial period of identity development as a child moves from childhood to adulthood. This is a time of trying on and moving through different self-identities in the search for selfhood. No identity is 'fixed' at this stage of exploration, although teenagers fiercely defend their current identity and see it as fixed and unchanging.

The first step to self-identity is the adoption of group identity: in the teenage years we have the strongest drive to find our group or 'tribe' and become an accepted member of the gang. This need for integration is so great we will adopt the language, dress-code and beliefs of our group and defend them against people outside the group. Social isolation is the worst possible situation for teenagers, the fear of this makes them cautious of challenging the ideas of the group and being ostracised. In this sense, teenagers' thinking can be very rigid and fixed as the security and belonging the group gives them is the priority. It takes maturity and confidence to begin questioning.

Kids who feel they don't belong, who feel different and don't 'fit in' are especially vulnerable in the teenage years. For these adolescents, a trans identity may be especially attractive because it provides them with a tribe. There are over 260 funded trans support groups across the UK and it is hard to think of any other group that has such support.

## Teenage Girls

Teenage girls are especially vulnerable to social contagion and the influence of online social media groups, Tumblr and Reddit trans forums can provide the group identity they crave. To reject femininity and develop body-hatred at puberty is unfortunately not uncommon amongst teenage girls. The APA Taskforce on the Sexualisation of Girls documented the effects of the sexual objectification of women on girls from age 12: low self-esteem, depression, anxiety disorders, psychological problems, body hatred, disassociation and self-disgust. These symptoms of body dysmorphia can easily be redefined as gender dysphoria in the minds of teenage girls seeking an easy explanation (and solution) for their feelings. The idea "I am really a boy, born into the wrong body" has been provided as a new way to conceptualise common feelings.

The spread of porn culture can only have exacerbated these problems. Whereas other manifestations of this dis-ease, such as anorexia, bulimia and self-harm, are seen as disordered thinking, (ie. "I am fat" and "I am ugly" are understood as a faulty perception of reality, not accepted and treated with liposuction/plastic surgery) "I am a boy" is accepted as truth and treated with hormones/surgery.

The group most likely to internalise the idea that they are really boys is lesbians, who tend to be more gender non-conforming in their appearance and interests. Same-sex attraction is correlated with persistence of gender dysphoria between the ages of 10 - 13 when girls are beginning to discover their sexual orientation.

Over 70% of referrals to the Tavistock gender identity service in the adolescent years are girls. This new presentation in girls with no previous history of gender dysphoria has been termed Rapid Onset Gender Dysphoria and an initial study suggests that there is a correlation with internet and peer-group influence.