Social Infatuation or Living Situation? A Biological Perspective of Love

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Abstract

Love is considered a fairytale way of showing affection in the stereotypical Western society. Love is actually a biological process backed by evidence that proves social perceptions wrong. Falling in love is primarily biological because of evolution, reinforcements in a relationship, and hormones. Evolution shaped the need for love in humans as demonstrated by Darwin's theory of natural selection and reproductive influences. Reinforcements in a romantic relationship, specifically positive ones, create bonds between couples. These reinforcements are often influenced by one's childhood. The release of specific hormones, such as serotonin, oxytocin, vasopressin, and dopamine, increase the amount of love one feels for another because of their addictive properties. Social aspects and cultural norms can change how a specific person defines love. Childhood experiences have the same effect in some cases. Hormone release and chemical processes, however, do not vary in each person and consequently provide concrete evidence for biological love. Biology's role in the act of falling in love is backed by evolutionary processes, positive reinforcements, and hormones. It should be considered alongside social and cultural norms to provide people with a more unified view of love.

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World renowned playwright Shakespeare (1895) once speculated that love could be obtained with a simple glance when he raised the question "Who ever loved that loved not at first sight?" (p. 72). This is a common notion amongst many today as the age-old debate of love at first sight has been around for centuries. A variety of opinions have been formed over this question and many are based on the idea that social factors are the driving influence on love. The topic has encompassed many movies, plays, and fairytales and continues to do so today. As convincing as the productions and hypotheses about true love or love at first sight are, they are not entirely truthful, contrary to popular assumption. Further research into the topic displays evidence that there are more biological factors involved with love than there are social ones. The common social display of what love should look like can be misleading for anyone who hopes to find love, which may be almost the whole population. Members of society should be aware that love does not always resemble the pop culture perception of a Western society because there are a variety of scientific aspects involved in love. While social circumstances impact relationships, falling in love is primarily physical because evolution plays a role in devotion, positive reinforcements amidst a relationship create attachment, and the release of hormones with addictive effects occurs when a person finds a partner.

Evolutionary processes affect why humans love other humans because genes and survival instincts in humans have changed since the beginning of existence to accommodate present needs. Darwin, a highly recognized biologist, first proposed the idea "that species evolve and develop over generations through a process called natural selection" (Darwin as cited in Sternberg, 2013, p. 1). Natural selection encompasses the idea that in order to survive humans, and other living organisms, must adapt according to their environment, food needs, and

reproduction obligations. Darwin's studies on natural selection and evolution paved the way for deeper analysis of why genes change from generation to generation and led to the eventual discovery of a process now called evolutionary synthesis (Tattersall, 2001, p. 658). Paleoanthropologist and museum curator Tattersall (2001) described evolutionary synthesis as "little more than gradual shift in population gene frequencies under the guiding hand of natural selection" (p. 658). This definition leads to the conclusion that natural selection plays the initial role in why humans look for love, and evolutionary synthesis backs it up by providing a narrower, detailed view on the actual role genetics have in love as demonstrated by gene shifts over time. This chain of events begins to uncover the reason love impacts reproduction in humans because it compares genetics to behavioral attributes, which are more commonly associated with love than genes are (p. 659).

Sternberg (2013) stated that "humans, just like animals, plants, and other organisms, need to reproduce so that they can pass on their genes to the next generation" (p. 1). As time has passed, love has become an important factor in reproduction because humans, and some species of animals, look for a partner and get to know him or her well enough to love them. Initial things one may look for in a person when they are searching for love are attractiveness and personality traits. The amount that a person is attracted to another plays a large part in love because it is one of the first characteristics an individual evaluates when considering a love interest (p. 1). Males are more inclined to judge physical attractiveness when they first meet someone than a female is, as they look for physical and social traits (p. 1). This phenomenon is often shown in a variety of entertainment forms where a main character will obsess over the good looks of a love interest out of their league. This is a sizeable part of falling in love because if an individual perceives someone as attractive, they will consider that person more highly in the running for a significant

other based on their physical traits that have potential to lead to "many viable offspring" (p. 1), the ultimate goal of natural selection. Sheshadri (2016), a professor in the Department of Endocrinology at Sri Ramchandra University, described this phenomenon as the idea that "love is not primarily an emotion, but a motivation system designed to enable suitors to build and maintain an intimate relationship with a specific mating partner" (p. 3). Attraction, or the "motivation system", leads to physical intimacy (p. 3). These factors are important for maintaining a long-term relationship with a romantic love interest because certain hormones are released during intercourse or physical touch that strengthen one's attachment to their partner in a biological way. Natural selection and physical attraction have played an important role in the development of romantic relationships where the individuals consider themselves to be in love by giving couples the opportunity to have physical connection with one another to ensure their offspring will be healthy and lively (Sternberg, 2013, p.2).

A person's attachment level to their partner they believe they are in love with is increased by positive reinforcement, an important part of every healthy relationship that includes the feeling of love. Reinforcements include touch, verbal affirmation, gifts, and other demonstrative methods that initiate chemical processes in the body and brain to strengthen the bond between a couple. Lemay (2014), a professor at the University of Maryland, studied the idea that couples "often adopt a variety of cognitive and behavioral strategies" to "achieve a sense that [the] valued [partner reciprocates] their positive sentiments" because of how beneficial reinforcements are in a relationship (p. 638). Lemay's research led him to discover that couples who are aware they are reciprocating affirming behaviors their partner desires, even in early stages of a relationship, are more likely to commit to each other long-term (p. 651). Lemay's study showed evidence of this "security" within as little as two weeks of people meeting each other (p. 651).

"Reciprocation facilitates goals to maintain [a] relationship and [satisfy] evolved needs to forge stable and caring bonds", said Lemay (p. 638). Sternberg (2013) noticed similar patterns of reciprocation while researching love as well (p. 6). She notes in her work that couples who are "securely attached", or in love, actively work to positively affirm their loved one to show they care for one another (p. 6). Positive reinforcements in a loving relationship strengthen the bond between couples and lead to more joy in the relationship, as well as stability over time.

Hormones provide what is perhaps the most convincing argument for classifying love as a biological process. Seshadri (2016) defined love as "an emergent property of an ancient cocktail of neuropeptides and neurotransmitters" (p. 2). Some researchers believe love is affected by one's genetic predisposition for the rate they fall in love at depending on baseline hormone levels. This phenomenon is backed up by specific evidence that "baseline levels of dopamine and serotonin are determined by specific genes" (Sternberg, 2013, p. 9).

Focusing on serotonin's effect on love, Langeslang, van der Veen, and Fekkes (2012) noticed that those with OCD and those who considered themselves to be in love display similar obsessive patterns in their daily life (p. 1). This led them to research the idea more in depth, and they eventually concluded that individuals with low serotonin levels are likely to fall in love faster than those with high levels of serotonin (p. 2). Contradicting that, women who think about a love interest obsessively have higher serotonin levels (p. 7). The connection between serotonin levels and love can easily be compared to the psychological disorder OCD, a disorder with side effects that often physically affect patients, strengthening the argument that love is biological.

Dopamine is another hormone released in those who are in love. Dopamine is most commonly released during sexual intercourse because levels of it are elevated when "testosterone and oestrogen promote [its] release" (Seshadri, 2016, p. 7). A study conducted with prairie voles,

the animals that have the closest mating and love tendencies to humans, showed that "dopamine in [a vole's] nucleus accumbens increases by a staggering 50%" when they are mating with another vole (Sternberg, 2013, p. 9). As mentioned earlier, sexual intercourse with a romantic interest supports natural selection's purpose of passing genes onto the next generation. The hormones released during sexual intercourse connect love to natural selection functions.

The prairie vole is a common character in the field of love due to its monogamous habits when it comes to mating, and the research conducted with them has led to many hormonal discoveries around love (Seshadri, 2016, p. 4). Oxytocin is a hormone commonly associated with cuddling and touch because this physical contact induces a release of the hormone. A relationship with a significant love interest who provides touch and intimacy will increase oxytocin levels and solidify attachment to another because it "increases trust behavior" (p. 8). Oxytocin goes hand-in-hand with vasopressin, a hormone known to decrease aggression in those it is released in (p. 5). Vasopressin and oxytocin are both released after physical contact and their connection leads to pair bonding in couples, an important part of a relationship that comes from both hormones and reinforcements to create a stable foundation for a loving relationship (p. 6). These main hormones are important in the act of falling in love because they solidify the chemical effect love has on the body, leading to monogamy and long-term trust between mates.

While love is heavily biological, one cannot overlook the prominent cultural influences on love. Adults are prone to focus on "current beliefs [they] hold about love" rather than giving attention to "developmental" processes that impact love (Galinha, Oishi, Pereira, Wirtz, & Esteves, 2014, p. 826). Literature and other poetic works provide readers with an ideal view of love through the romantic genre, and readers often hope they will find this kind of love and they begin to believe that fictional definition of love (p. 826). This can be true in films, shows, and

plays as well because entertainment is a large part of society and greatly influences views on social matters. Past experiences in one's life that relate to love or how it has been portrayed to them are also relevant (pp. 826-827). Having difficulty in a previous relationship can discourage an individual in their search for love and happiness (p. 827). A divorce or an unhappy marriage one witnessed during their childhood years may skew current views on love or what one desires in a relationship because that is all they have been exposed to when it comes to romance (p. 826). Norms surrounding marriage in a specific family or culture can influence love too. An example of one of these norms would be arranged marriage, where some families consider it normal to set up a marriage they see fitting for their child without love in mind. While this is completely normal is some countries or social groups, it may be looked down upon in other cultures where the social norm among citizens or families is to fall in love first and then get married because of those romantic feelings. Arranged marriage poses an interesting disagreement within society because they are rarely portrayed in films or literature but are present in real life and skew the basic pop culture view of love. Past difficulties with romance and cultural influences like arranged marriages can impact how, where, when, or why one falls in love, but it is not to be forgotten that love is still possible after slight mental corruption from unrealistic social biases about love. The biological processes that come during and after one falls in love remain constant in any social situation, and this solidifies the notion that love is mainly a biological process. Considering love as a biological process also unifies cultures with differing views on love by showing that everyone who experiences love experiences the same physical phenomenon.

Although love is considered a social and cultural topic, it is primarily biological because evolutionary processes have influenced its purpose, positive reinforcements within a relationship create a bond between two individuals, and the release of certain hormones through touch,

obsessive behaviors, affirmations, and other relational aspects strengthen feelings of love for a romantic interest. Western pop culture provides convincing portrayals of the picturesque love story everyone dreams about, and commonalities in a specific society often convince individuals to believe whatever view on love that society has, but love should be considered a chemical process to lower unrealistic expectations people have about love. The way a body's biological functions adjust when one is in a relationship with one they view in a romantic way is evidence that love has great physical power over people, along with the obsessive mental aspects of it and overall increased feelings of happiness in the relationship. Shakespeare (1901) may have wrongly worded the actuality of love with his "love at first sight" quote initially, but he also corrected his words with "this is the very ecstasy of love; Whose violent property fordoes itself" (p. 73). This line compares love to a drug and it very well may be an accurate analogy because love's biological force is as strong as an addiction when biological and mental conditions that surround the romantic feelings are compiled together.

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