

Introduction to Psychology

Module 10: Social Psychology

Attraction and Love

LEARNING OBJECTIVES

- Describe attraction and the triangular theory of love
- Explain the social exchange theory as it applies to relationships
- Examine the relationship between romantic ties and the experience of pain or pleasure

Forming Relationships

What do you think is the single most influential factor in determining with whom you become friends and whom you form romantic relationships? You might be surprised to learn that the answer is simple: the people with whom you have the most contact. This most important factor is *proximity*. You are more likely to be friends with people you have regular contact with. For example, there are decades of research that shows that you are more likely to become friends with people who live in your dorm, your apartment building, or your immediate neighborhood than with people who live farther away (Festinger, Schachler, & Back, 1950). It is simply easier to form relationships with people you see often because you have the opportunity to get to know them.

One of the reasons why proximity matters to attraction is that it breeds *familiarity*; people are more attracted to that which is familiar. Just being around someone or being repeatedly exposed to them increases the likelihood that we will be attracted to them. We also tend to feel safe with familiar people, as it is likely we know what to expect from them. Dr. Robert Zajonc (1968) labeled this phenomenon the **mere-exposure effect**. More specifically, he argued that the more often we are exposed to a stimulus (e.g., sound, person) the more likely we are to view that stimulus positively. Moreland and Beach (1992) demonstrated this by exposing a college class to four women (similar in appearance and age) who attended different numbers of classes, revealing that the more

classes a woman attended, the more familiar, similar, and attractive she was considered by the other students.

There is a certain comfort in knowing what to expect from others; consequently research suggests that we like what is familiar. While this is often on a subconscious level, research has found this to be one of the most basic principles of attraction (Zajonc, 1980). For example, a young man growing up with an overbearing mother may be attracted to other overbearing women *not* because he likes being dominated but rather because it is what he considers normal (i.e., familiar).

Similarity is another factor that influences who we form relationships with. We are more likely to become friends or lovers with someone who is similar to us in background, attitudes, and lifestyle. In fact, there is no evidence that opposites attract. Rather, we are attracted to people who are most like us (Figure 1) (McPherson, Smith-Lovin, & Cook, 2001). Why do you think we are attracted to people who are similar to us? Sharing things in common will certainly make it easy to get along with others and form connections. When you and another person share similar music taste, hobbies, food preferences, and so on, deciding what to do with your time together might be easy. **Homophily** is the tendency for people to form social networks, including friendships, marriage, business relationships, and many other types of relationships, with others who are similar (McPherson et al., 2001).

But, homophily limits our exposure to diversity (McPherson et al., 2001). By forming relationships only with people who are similar to us, we will have homogenous groups and will not be exposed to different points of view. In other words, because we are likely to spend time with those who are most like ourselves, we will have limited exposure to those who are different than ourselves, including people of different



Figure 1. People tend to be attracted to similar people. Many couples share a cultural background. This can be quite obvious in a ceremony such as a wedding, and more subtle (but no less significant) in the day-to-day workings of a relationship. (credit:

racess, ethnicities, social-economic status, and life situations.

modification of work by Shiraz Chanawala)

Once we form relationships with people, we desire reciprocity.

Reciprocity is the give and take in relationships. We contribute to relationships, but we expect to receive benefits as well. That is, we want our relationships to be a two way street. We are more likely to like and engage with people who like us back. Self-disclosure is part of the two way street. **Self-disclosure** is the sharing of personal information (Laurenceau, Barrett, & Pietromonaco, 1998). We form more intimate connections with people with whom we disclose important information about ourselves. Indeed, self-disclosure is a characteristic of healthy intimate relationships, as long as the information disclosed is consistent with our own views (Cozby, 1973).

TRY IT

After moving to a new apartment building, research suggests that Sam will be most likely to become friends with _____.

- his next door neighbor
- someone from across the street
- someone who lives three floors up in the apartment building
- his new postal delivery person

Check Answer

All other things being equal, with whom are you most likely to develop a friendship or close relationship: Susan or Joan?

- Susan, who you see nearly every day in the elevator at work
- Joan, who works in another building, but is at the same monthly staff meeting you attend

Check Answer

Attraction

We have discussed how proximity and similarity lead to the formation of relationships, and that reciprocity and self-disclosure are important for relationship maintenance. But, what features of a person do we find attractive? We don't form relationships with everyone that lives or works near us, so how is it that we decide which specific individuals we will select as friends and lovers?

Researchers have documented several characteristics in men and women that humans find attractive. First we look for friends and lovers who are physically attractive. People differ in what they consider attractive, and attractiveness is culturally influenced. Research, however, suggests that some universally attractive features in women include large eyes, high cheekbones, a narrow jaw line, a slender build (Buss, 1989), and a lower waist-to-hip ratio (Singh, 1993). For men, attractive traits include being tall, having broad shoulders, and a narrow waist (Buss, 1989). Both men and women with high levels of facial and body symmetry are generally considered more attractive than asymmetric individuals (Fink, Neave, Manning, & Grammer, 2006; Penton-Voak et al.,

2001; Rikowski & Grammer, 1999). Social traits that people find attractive in potential female mates include warmth, affection, and social skills; in males, the attractive traits include achievement, leadership qualities, and job skills (Regan & Berscheid, 1997). Although humans want mates who are physically attractive, this does not mean that we look for the most attractive person possible. In fact, this observation has led some to propose what is known as the matching hypothesis which asserts that people tend to pick someone they view as their equal in physical attractiveness and social desirability (Taylor, Fiore, Mendelsohn, & Cheshire, 2011). For example, you and most people you know likely would say that a very attractive movie star is out of your league. So, even if you had proximity to that person, you likely would not ask them out on a date because you believe you likely would be rejected. People weigh a potential partner's attractiveness against the likelihood of success with that person. If you think you are particularly unattractive (even if you are not), you likely will seek partners that are fairly unattractive (that is, unattractive in physical appearance or in behavior).

LINK TO LEARNING

Learn more about attraction and beauty at [The Noba Project](#) website.

TRY IT

What trait do both men and women tend to look for in a romantic partner?

- social skills
- sense of humor
- physical attractiveness
- leadership potential

Check Answer

Sternberg's Triangular Theory of Love

We typically love the people with whom we form relationships, but the type of love we have for our family, friends, and lovers differs. Robert Sternberg (1986) proposed that there are three components of love: intimacy, passion, and commitment. These three components form a triangle that defines multiple types of love: this is known as **Sternberg's triangular theory of love** (Figure 2). Intimacy is the sharing of details and intimate thoughts and emotions. Passion is the physical attraction—the flame in the fire. Commitment is standing by the person—the “in sickness and health” part of the relationship.

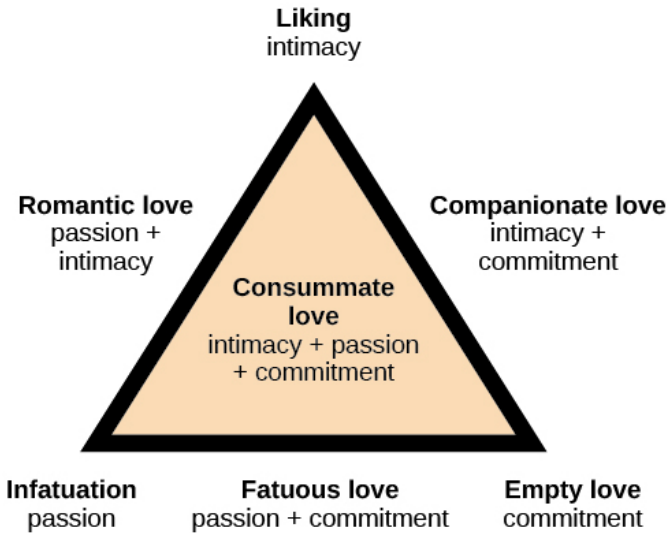


Figure 2. According to Sternberg's triangular theory of love, seven types of love can be described from combinations of three components: intimacy, passion, and commitment. (credit: modification of work by "Lnesa"/Wikimedia Commons)

Sternberg (1986) states that a healthy relationship will have all three components of love—intimacy, passion, and commitment—which is described as consummate love (Figure 3). However, different aspects of love might be more prevalent at different life stages. Other forms of love include liking, which is defined as having intimacy but no passion or commitment. Infatuation is the presence of passion without intimacy or commitment. Empty love is having commitment without intimacy or passion. Companionate love, which is characteristic of close friendships and family relationships, consists of intimacy and commitment but no passion. Romantic love is defined by having passion and intimacy, but no commitment. Finally, fatuous love is defined by having passion and commitment, but no intimacy, such as a long term sexual love affair. Can you describe other examples of relationships that fit these different types of love?

Taking this theory a step further, anthropologist Helen Fisher explained that she scanned the brains (using fMRI) of people who had just fallen in

love and observed that their brain chemistry was “going crazy,” similar to the brain of an addict on a drug high (Cohen, 2007). Specifically, serotonin production increased by as much as 40% in newly in-love individuals. Further, those newly in love tended to show obsessive-compulsive tendencies. Conversely, when a person experiences a breakup, the brain processes it in a similar way to quitting a heroin habit (Fisher, Brown, Aron, Strong, & Mashek, 2009). Thus, those who believe that breakups are physically painful are correct! Another interesting point is that long-term love and sexual desire activate different areas of the brain. More specifically, sexual needs activate the part of the brain that is particularly sensitive to innately pleasurable things such as food, sex, and drugs (i.e., the striatum—a rather simplistic reward system), whereas love requires conditioning—it is more like a habit. When sexual needs are rewarded consistently, then love can develop. In other words, love grows out of positive rewards, expectancies, and habit (Cacioppo, Bianchi-Demicheli, Hatfield & Rapson, 2012).

LINK TO LEARNING

Watch [this TED talk](#) by Helen Fisher to learn more about the brain in love.

TRY IT

According to the triangular theory of love, what type of love is defined by passion and intimacy but no commitment?

- empty love
- liking
- consummate love
- romantic love

Check Answer

Social Exchange Theory

We have discussed why we form relationships, what attracts us to others, and different types of love. But what determines whether we are satisfied with and stay in a relationship? One theory that provides an explanation is social exchange theory.

According to social exchange theory, we act as naïve economists in keeping a tally of the ratio of costs and benefits of forming and maintaining a relationship with others (Figure 4) (Rusbult & Van Lange, 2003).



Figure 3. According to Sternberg, consummate love describes a healthy relationship containing intimacy, passion, and commitment. (credit: Kerry Ceszyk)

People are motivated to maximize the benefits of social exchanges, or relationships, and minimize the costs. People prefer to have more

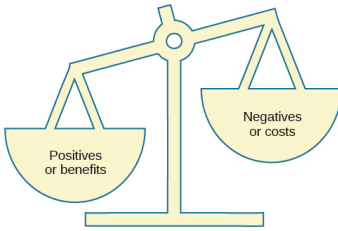


Figure 4. Acting like naïve economists, people may keep track of the costs and benefits of maintaining a relationship. Typically, only those relationships in which the benefits outweigh the costs will be maintained.

benefits than costs, or to have nearly equal costs and benefits, but most people are dissatisfied if their social exchanges create more costs than benefits. Let's discuss an example. If you have ever decided to commit to a romantic relationship, you probably considered the advantages and disadvantages of your decision. What are the benefits of being in a committed romantic relationship? You may have considered having companionship, intimacy, and passion, but also being comfortable with a person you know well. What are the costs of being in a committed romantic relationship? You may think that over time boredom from being with only one person may set in; moreover, it may be expensive to share activities such as attending movies and going to dinner. However, the benefits of dating your romantic partner presumably outweigh the costs, or you wouldn't continue the relationship.

TRY IT

According to social exchange theory, humans want to maximize the _____ and minimize the _____ in relationships.

passion; intimacy

costs; benefits

intimacy; commitment

benefits; costs

Check Answer

Describe what influences whether relationships will be formed.

Write your essay response here

Check Answer

The evolutionary theory argues that humans are motivated to perpetuate their genes and reproduce. Using an evolutionary perspective, describe traits in men and women that humans find attractive.

Write your essay response here

Check Answer

THINK IT OVER

- Think about your recent friendships and romantic relationship(s). What factors do you think influenced the development of these relationships? What attracted you to becoming friends or romantic partners?
- Have you ever used a social exchange theory approach to determine how satisfied you were in a relationship, either a friendship or romantic relationship? Have you ever had the costs outweigh the benefits of a relationship? If so, how did you address this imbalance?

Relationships and Health

One of the greatest medicines in the world doesn't come in pill form and it can't be injected with a syringe. No surgery is required. It is other people.

An impressive amount of research from psychology and medicine supports the claim that having a strong social support network—supportive friends and family—is associated with maintaining both physical and psychological health and recovering quickly and effectively from physical and psychological problems. Loneliness and isolation are risk-factors to leading a healthy, happy life.

The goal of scientific psychology is to understand the deep underlying causes of psychological and behavioral factors. Evidence that there is an association between health and social support is the beginning—not the end—of scientific investigation. We want to know *why* such a relationship exists. This curiosity is not simply an academic exercise. Treatments can only be improved and targeted to specific needs if we understand how they work.

Correlations can identify interesting relationships (e.g., there is a positive correlation between a person's amount of social support and success in recovering from physical and psychological problems), but they usually cannot provide strong evidence for why that relationship exists. That is the job of experiments.

When you design an experiment, you must often create a very specific situation to test and explore your ideas. We have been talking in grand terms about “social support networks” and “mental and physical health,” but individual experiments typically cannot work on such a broad scale. Instead, the experimenter tries to find a single simple type of social support that can be manipulated in the laboratory and a single simple element of health that can be measured and studied in the laboratory. One disadvantage of this sharp focus on a specific situation in experiments is that a single experiment—even a single set of related experiments—is unlikely to fully identify the causes we are looking for. Experimental evidence typically accumulates slowly, over long periods of time, filled with apparent contradictions that can take time and effort to sort out.

We are going to look at two experiments from different research teams that take a similar approach to trying to understand if social contact influences a health-related experience—in this case, pain—and how such

an influence might work (i.e., what might be the causal mechanisms?).

Experiment 1: Love And Pain

Sarah L. Master and her colleagues^[1] conducted a simple experiment that they published in 2009. Their subjects were healthy college students who volunteered to participate in an experiment that tested the idea that contact with a romantic partner can reduce our experience of pain.



Figure 1. Does holding a loved one's hand decrease your experience of pain?

PARTICIPANTS

Master and her colleagues recruited heterosexual couples to participate in their study.^[2] The women were the actual subjects in the study. Their male partners participated as part of the experimental manipulation. The participants were in stable, long-term (defined here as longer than 6 months) relationships.

PAIN INDUCTION

Before the experiment began, each woman was tested to find her personal pain experiences for thermal stimulation (i.e., heat), which was produced by a medical device called a thermode. Different people experience and report pain very differently, so calibration of the thermal stimulation to the individual's pain experience was essential. The thermal stimulation during the experiment was adjusted to the point at which the subject reported a "moderate" level of discomfort (10 on a 20-point discomfort scale) when the heat was applied. This means that different people experienced different objective amounts of heat, while the subjective "discomfort" should have been approximately the same. The heat stimulus was delivered to the soft inside of the right forearm^[3], and each one lasted for 6 seconds.

EXPERIMENTAL CONDITIONS

There were seven conditions in the experiment.

In three of the conditions, the woman held something in her hand as she experienced the painful thermal stimulation. She held either:

- The hand of her partner (who sat behind a curtain, and—except for his hand—was not visible).
- The hand of a male stranger (who was also behind a curtain).
- An object: a squeeze ball.

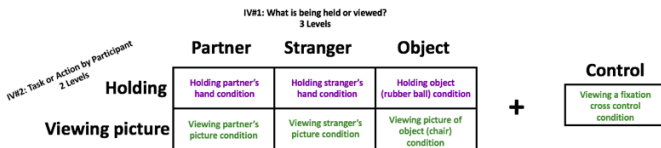
In three other conditions, the woman looked at a picture on a computer screen in front of her. She saw either:

- A picture of her partner taken while the woman was being prepared for the experiment.
- A picture of a male stranger (similar age and matched for ethnicity with the woman’s partner).
- An object: a picture of a chair.

One control (or baseline) condition:

- The woman looked at a fixation cross on the computer screen.

The figure below shows summarizes the organization (technically, the “design”) of the experiment.



PROCEDURE

The woman received twelve thermal stimulations in each condition. The order of presentation of conditions was randomized for each woman.^[4]

There was a 20-second break between stimulations. After each stimulation, the subject rated how “uncomfortable” the stimulus was on a 21-point scale.

TRY IT

Choose the best explanation of the choice blindness phenomenon you saw in the video:

- If the choices are too similar, then it is easy to get confused.
- People are easily tricked by someone they believe they can trust (like the experimenters).
- People in the experiment had to make quick decisions. They would not have been tricked if they had been allowed to take their time.
- People never pay attention to their decisions.
- People in the study knew that they had been presented with the wrong picture, but they played along just to be polite.
- People don't pay attention to their decision when the choice does not really matter in their lives.

Check Answer

A “condition” or “level” is a variation on something manipulated by the experimenter. An independent variable is made up of variations. For some procedure to be an

independent variable, it must have at least two conditions (otherwise it is a constant and not a variable).

In this experiment, how many conditions did the study have?

One condition

Four conditions

Seven conditions

Two conditions

Six conditions

Check Answer

RESULTS

The results in this study are not shown on the original 21-point scale. To take account of individual differences, the control condition (i.e., looking at a fixation cross on a computer screen) the experimenters found the difference between each person's average control condition unpleasantness rating and her rating for each condition. For example, imagine that one participant has the following average "unpleasantness" ratings (on the 21-point scale):^[5]

	Partner	Stranger	Object
Holding	9	14	12
Viewing picture	8	11	11
Control			
10			

The control rating (10) is then subtracted from each of the treatment ratings. This becomes the score that is analyzed (called a “difference score”). This method allows each woman to have a different general pain level (in the example, it is “10” but another person might have “6” or “12” as her average). The difference score looks at each person’s change from her personal baseline under the various conditions. Here are the difference scores for the example above:

	Partner	Stranger	Object
Holding	-1	+4	+2
Viewing picture	-2	-1	-1
Control			
0			

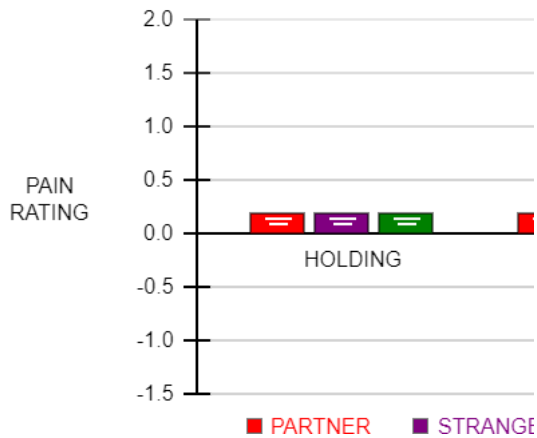
For the difference scores, a positive number means that the experience in that condition was *more* painful than it was in the control condition. A negative number means that the experience in that condition was *less* painful than it was in the control condition. The exact number used indicates how much more or less painful the experience was.

Before we show you the actual results of the experiment, we’d like you to predict what you think happened in this experiment. Use the figure below. The zero baseline is the control condition. Your predictions are about the six treatment conditions. You can click and drag on a bar to

move the bar up, if you think that condition was more painful for the subject than the baseline control. And you can move a bar down if you think that condition was less painful than the baseline control.

TRY IT

The initial screen below shows all six of the treatment conditions as a tiny bit more painful than the baseline control. Make your predictions based on your own theory about the possible positive or negative effects of holding the hands of a person you love or of a stranger, or looking at a picture of a person you love or a stranger while you are in pain. Remember that zero baseline control is still very painful, so zero does not mean that there is no pain.



[Click HERE to see the actual results from the experiment.](#)

TRY IT

Based on these results, was there anything special about holding the hand of someone you love, or was it just important to hold someone's hand when you are in pain?

- Holding a loved one's hand was special for relieving pain.
- Holding anything—a hand, a ball—was equally helpful in relieving pain.
- Holding a loved one's hand actually made the experience worse.
- Holding anyone's hand was about the same. It relieved some of the pain.

Check Answer

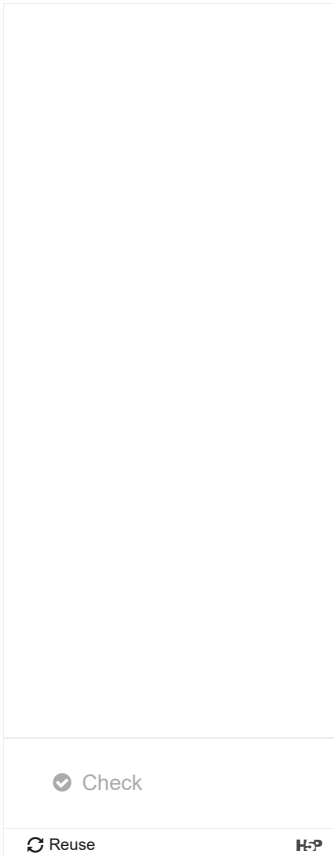
Based on these results, how does holding hands of someone you love compare to looking at that person's picture?

- As long as there was some reminder of the romantic partner, the benefit was about the same.
- Any reminder of a romantic partner, be it hand or picture, made the experience worse.
- Holding a romantic partner's hand was better than looking at his picture.
- Looking at a picture of a romantic partner was better than holding his hand.

Check Answer

Let's use these results to rank the order of the conditions in

terms of their effect on pain. Drag the condition name on the right into the appropriate box next to the rank order number on the left.



Check

Reuse H-P

CONCLUSIONS

These results suggest that there is something special about a person we love—or at least someone we like. Dr. Master noted that looking at a picture of a loved one may be slightly more beneficial than holding his hand, though this difference did not quite reach statistical significance. Holding a stranger's hand exaggerated the pain experience by a

considerable amount, so it is clear that (in the context of this experiment) human contact alone is not enough to relieve pain.

Dr. Master make a practical suggestion: If you are going to have a painful medical procedure, bringing a picture of someone you love may be helpful in reducing the pain. In fact, based on comparison of the hand holding and picture viewing conditions, you may actually be better off bringing a picture than bringing the actual person to the painful procedure.

Here is her final conclusion: “In sum, these findings challenge the notion that the beneficial effects of social support come solely from supportive social interactions and suggest that simple reminders of loved ones may be sufficient to engender feelings of support.” If you think back to the introduction to this activity, we said that our goal was to find out how and why social support leads to better health outcomes. As we cautioned you, this experiment doesn’t even come close to answering that question. However, it does take us one little step in the right direction, suggesting that “social support” may be more complicated than just having people near us or even a group of friends. “Social support” may involve triggering certain cognitive (mental) processes, such as memories and emotions, that are associated with strong positive relationships. That is for future research to clarify.

Experiment 2: Reducing Pain In The Brain

A completely different group of researchers, led by Jarred Younger^[6] at the Stanford University School of Medicine used fMRI (functional magnetic resonance imaging) to view the brains of people in an experiment very similar to the one you just studied. Just as in the previous study, they used heat to produce pain, though the location was at the base of the thumb on the palm of the left hand. They used two levels of heat, which they labeled as “moderate” and “high”. They only tested picture-viewing; there was no hand holding in this study.

DETAILS OF THE EXPERIMENT

Younger and his colleagues tested both females and males by scanning their brains as they looked at pictures of romantic partners or mere friends. There was also a control condition explained below.

Each person brought to the experiment several pictures of his or her romantic partner. Only participants who reported being “intensely in love” and who scored at a very high level on the Passionate Love Scale (a standardized measure of passionate love) were included in the study. The participants also brought some pictures of a friend or acquaintance of the same gender and attractiveness as the romantic partner. In the experiment, the participants used the same procedures that were used in the other study you read. When looking at the picture, they were asked to focus on the picture and think about the person in the picture (romantic partner or friend).

For a third control or baseline condition, the experimenters wanted to see if looking at the picture was merely a distraction from the pain. In this distraction control condition, the participant was given a category name (e.g., animals, fruits, actors, politicians) and was asked to say aloud as many examples of that category as possible (ANIMALS: dog, bear, salmon, eagle, etc.).

GOAL OF THE EXPERIMENT

The experimenters were interested in a very specific hypothesis. They wondered if thinking about someone we love intensely activates our brain’s reward system. This is a group of structures deep in the center of the brain surrounding some neural structures called the basal ganglia (see figure below). Among their reward-related activities is their production of the neurotransmitter dopamine, which they transport to regions throughout the brain. Dopamine is an important part of the pleasure and learning experiences associated with rewarding activities.

Basal Ganglia and Related Structures of the Brain

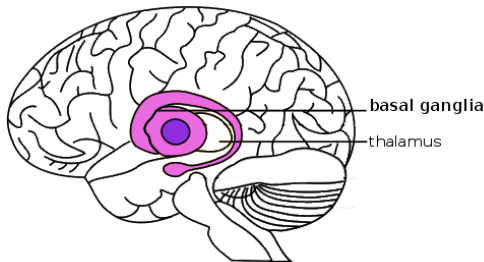


Figure 2. The basal ganglia play an important role in producing dopamine in the brain.

Because they were interested in testing the idea that the reward system might be activated by viewing someone we passionately love, the experimenters focused their brain scanning on the reward system areas shown above. However, they also looked at other brain areas, so they could determine if the reward system was more strongly associated with pain reduction than other areas.

RESULTS OF THE REWARD SYSTEM EXPERIMENT

By now, you should have the idea that things are seldom simple in the world of science. First, the basic results from the first study you read about were found here as well. Participants reported significantly less pain when they looked at a picture of their romantic partner than when they looked at a stranger. Unfortunately (if you wanted simple results), almost exactly the same reduction in pain was found in the distraction control condition.

The figure below shows the results. These researchers used an 11-point pain scale (0=no pain, 10=worst pain imaginable), so the numbers cannot be directly compared to those in the first study. However, higher numbers mean more pain, so the results can be understood easily.

	Partner	Acquaintance	Distraction
Moderate heat	2.4	3.7	2.4
Strong heat	6.2	7.2	6.2

TRY IT

Based on these results alone, what is the best interpretation of this study's finding?

- Looking at a loved one's picture was special for relieving pain.
- Looking at a loved one's picture is special, but only when pain is intense.
- Looking at anyone's picture helps relieve pain.
- Looking at a loved one's picture may simply be a distraction, nothing more.

Check Answer

These results alone suggest that looking at pictures of someone we love may be nothing more than a distraction from the pain. However, this experiment was different than the first one because it had another dimension: the brain scans. What did they indicate?

BRAIN IMAGING RESULTS

The brain images add an interesting dimension to our understanding of pain and pain relief. When participants were looking at pictures of their

romantic partner, the reward regions of the brain were very active. In fact, there was a strong correlation between the amount of activity in this region and the level of pain the person reported: more activity was associated with less pain.

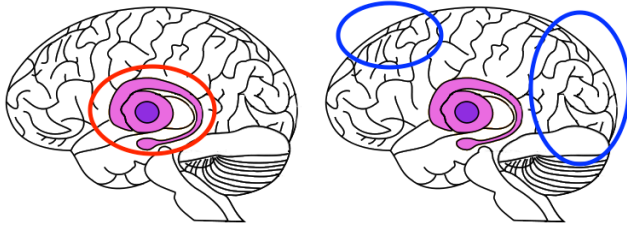


Figure 3. These cross-sections of the brain show the general areas where researchers were focused during the experiment. The figure on the left shows the brain region responding when the subject held her partner's hand. The figure on the right shows the regions of the brain activated when the subject was distracted.

If the reward systems (in the figure above, the red circle in the brain on the left) were also activated by the distraction task, then we are back to the idea that looking at our romantic partner is just a way of distracting ourselves. But that is NOT what they found. Activity in the reward regions of the brain were not strongly correlated with pain relief during the distraction task. However, other regions of the brain did have a strong relationship to pain relief in the distraction condition (see the blue circles on the brain to the right in the figure above). These are brain areas involved in memory, language, and making choices—exactly the systems that are active when we think about words that fit a particular category.

CONCLUSIONS

This study by Jarred Younger and his colleagues suggests that there may be multiple ways to reduce our experience of pain. The two approaches studied here (touching someone we love and generating words) may produce the similar analgesic effects: both result in less pain.

But in terms of underlying causal mechanisms, such as the brain systems involved in reducing pain, very different things may be taking place.

This is not the end of the story. Finding a brain region associated with some experience is not an explanation; it is simply a first step in finding how a brain system works. Finding two sets of brain regions which both produce the same effect suggests that our explanation of how pain reduction is accomplished by the brain is not going to be simple.

Finally, if you were hoping to find out if there were sex differences in the effects we discussed, unfortunately the experimenters felt they did not have enough subjects to reliably test to see if men and women differ in their response to pain or in the regions of the brain associated with pain reduction. Perhaps one of you will conduct the experiment that answers those questions!

General Conclusions

We started this exercise with a discussion of social support and health. People with stronger social support networks tend to have better health outcomes. When we asked how this works, we zoomed in on a very specific type of social support: a romantic relationship, which involve deep and complex connections between two people. It would be reasonable to suggest that this type of relationship might have the potential to produce the strongest possible form of social support.

Both experiments showed that social support in the form of touching someone we love (or seeing a picture of that person in the first experiment) can reduce pain, when compared to control conditions. The second experiment points to the brain's reward system as a possible source of pain relief. We still don't know the brain mechanism that produces the pain experience; it is possible that we fully feel the pain, but the positive feelings associated with the person we love balance out the negative experience of pain. Or perhaps the reward system can actually turn down the intensity of the pain experience, so we really feel less pain when we are with those we love. The scientists of your generation will have the opportunity to explore these mysteries.

GLOSSARY

altruism: humans' desire to help others even if the costs outweigh the benefits of helping

companionate love: type of love consisting of intimacy and commitment, but not passion; associated with close friendships and family relationships

consummate love: type of love occurring when intimacy, passion, and commitment are all present

empathy: capacity to understand another person's perspective—to feel what he or she feels

homophily: tendency for people to form social networks, including friendships, marriage, business relationships, and many other types of relationships, with others who are similar

mere-exposure effect: the more often we are exposed to a stimulus (e.g., sound, person) the more likely we are to view that stimulus positively

prosocial behavior: voluntary behavior with the intent to help other people

reciprocity: give and take in relationships

romantic love: type of love consisting of intimacy and passion, but no commitment

self-disclosure: sharing personal information in relationships

social exchange theory: humans act as naïve economists in keeping a tally of the ratio of costs and benefits of forming and maintain a relationship, with the goal to maximize benefits and minimize costs

triangular theory of love: model of love based on three components: intimacy, passion, and commitment; several types of love exist, depending on the presence or absence of each of these components

Check Your Understanding: Group Behavior

Perhaps the most surprising result from Milgram's study was that

- so many of the "learners" quit the study early.
- a vast majority of the "teachers" refused to provide shocks after they became obviously painful.
- so many of the "teachers" continued to provide shocks because they were told to do so.

How sure are you of your answer?

Just A Guess

Pretty Sure

Very Sure

-
1. Sarah Master was then a graduate student at UCLA and is now a research associate with a Ph.D. at UCLA. Several of her co-authors are major figures in the field of health psychology. For example, co-author Shelly Taylor is one of the founders of the field of health psychology. [↵](#)
 2. Researchers must often decide between restricting characteristics of their subjects to simplify factors influencing the results versus opening the experiment to a broader range of subjects to improve generalizability and representativeness. Restriction of the participants in this study to heterosexual couples does not imply that couples with other gender identities or sexual orientations are either unimportant or uninteresting. [↵](#)
 3. Alternating among three different locations on different trials. [↵](#)

4. The randomization procedure was a bit more complicated than this explanation suggests. See the original paper if you want to know exactly what they did. [↪](#)
5. As any doctor will tell you, getting a valid and reliable rating of pain is notoriously difficult. Master and her colleagues used a scale (the Gracely Box Scale) that is widely used in research and has been extensively validated. [↪](#)
6. Jarred Younger, Arthur Aron, Sara Parke, Neil Chatterjee, and Sean Mackey. (2010). Viewing pictures of a romantic partner reduces experimental pain: Involvement of neural reward systems. PLoS one, 5 (10), e13309. [↪](#)

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