

# The Formation of Love

By [Carlos Greg Diuk](#) on Friday, February 14, 2014 at 11:59am

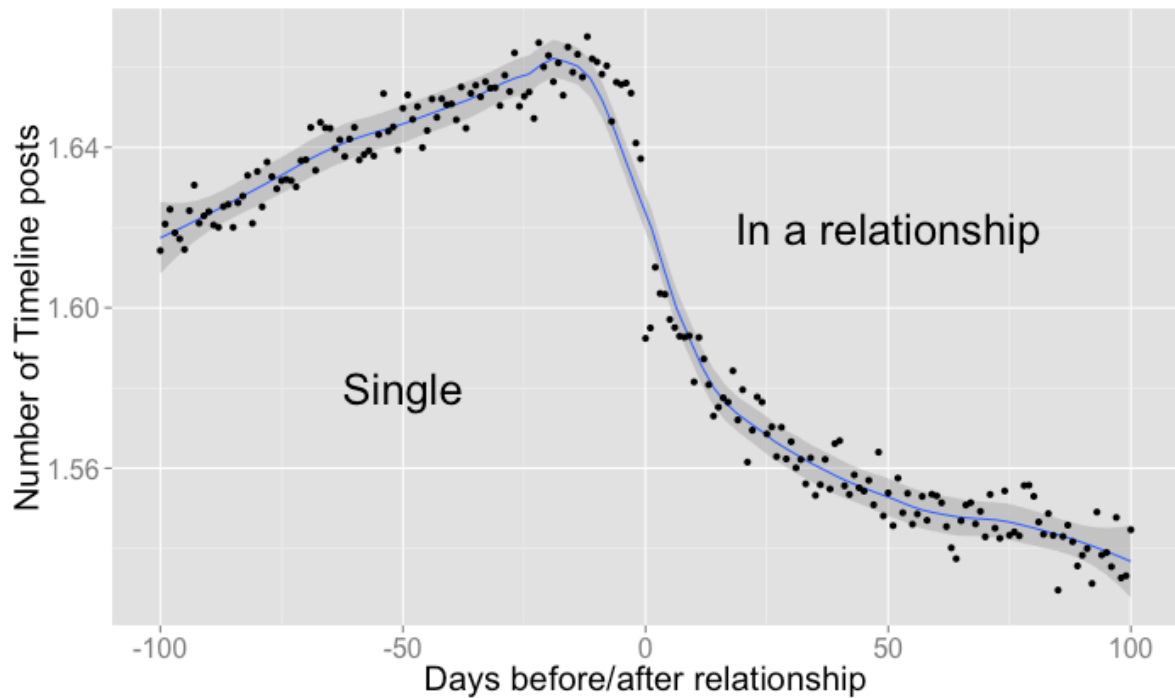
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<https://www.facebook.com/notes/facebook-data-science/the-formation-of-love/10152064609253859>

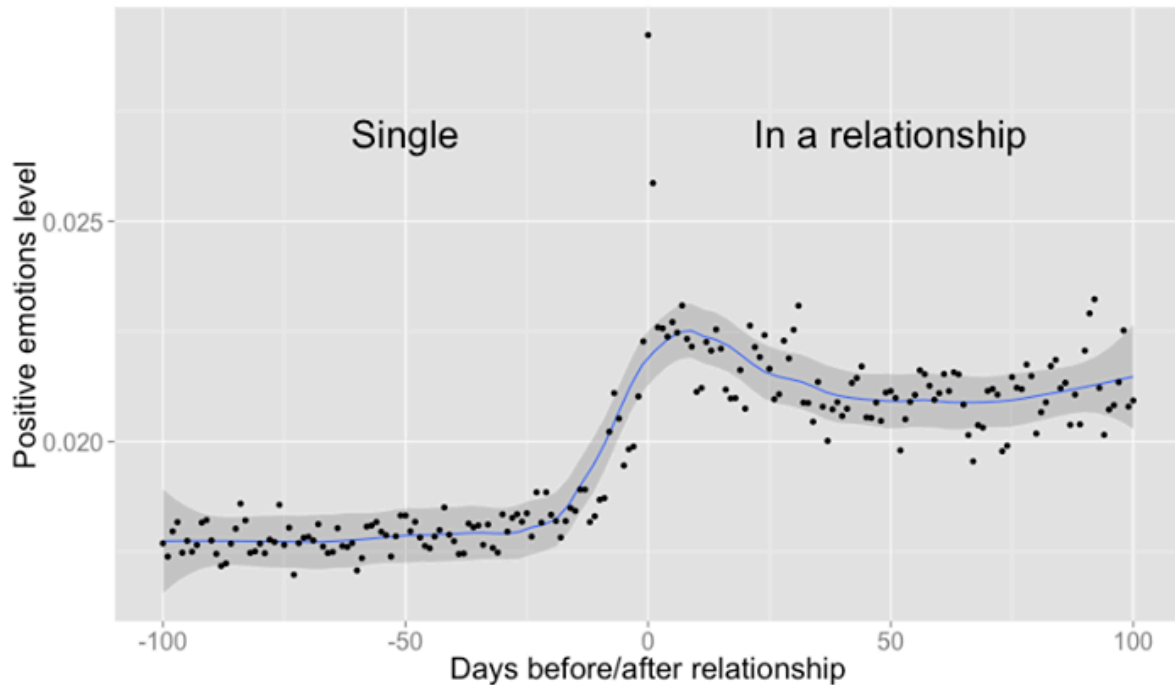
*This week, [Facebook Data Science](#) is shipping love in the form of a series of blog posts. This is installment 5 of 6; see the entire series [here](#)! This research has been conducted on anonymized, aggregated data.*

Love is in the air! Or rather, it's written on your Facebook timeline. Couples are formed, and the news is shared with the world on Facebook by changing statuses from "Single" to "In a relationship". We explored interactions between couples before and after the relationship begins.

Relationships start with a period of courtship: on Facebook, messages are exchanged, profiles are visited, posts are shared on each other's timelines. The following graph shows the average number of timeline posts exchanged between two people who are about to become a couple. We studied the group of people who changed their status from "Single" to "In a relationship" and also stated an anniversary date as the start of their relationship. During the 100 days before the relationship starts, we observe a slow but steady increase in the number of timeline posts shared between the future couple. When the relationship starts ("day 0"), posts begin to decrease. We observe a peak of 1.67 posts per day 12 days before the relationship begins, and a lowest point of 1.53 posts per day 85 days into the relationship. Presumably, couples decide to spend more time together, courtship is off, and online interactions give way to more interactions in the physical world.



However, don't be discouraged by the decrease in online interactions, as the content of the interactions gets sweeter and more positive. We used statistical methods to automatically analyze a set of aggregated, anonymized timeline interactions. For each timeline interaction, we counted the proportion of words expressing positive emotions (like "love", "nice", "happy", etc.) minus the proportion of words expressing negative ones (like "hate", "hurt", "bad", etc.). The following graph shows the proportion of positive over negative feelings being expressed in timeline posts before and after the beginning of a relationship. We observe a general increase after the relationship's "day 0", with a dramatic increase in days 0 and 1!



*This study was performed on a sample of anonymized, aggregated Timeline posts exchanged by couples worldwide, although the positive versus negative emotions focuses on posts written in English. We only considered couples who declared an anniversary date (as opposed to just changing their relationship status) between 04/11/2010 and 10/21/2013, and remained "Single" 100 days before and "In a Relationship" 100 days after their anniversary date.*

Tune in tomorrow for our final installment, where we will address the question of breakups.