

# The science of romance – can we predict a breakup?

May 19 2014, by Lisa A Williams And Rebecca T Pinkus

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Celebrity couple Gwyneth Paltrow and Chris Martin announced a split after 10 years of marriage. Credit: EPA/Britta Pedersen & Jose Coelho

Oscar winning actress Gwyneth Paltrow and Coldplay frontman Chris Martin seemed to have the perfect marriage until their "[conscious uncoupling](#)" earlier this year. Was the split destined to happen?

What of other couples – is it possible to see the [fate](#) of a [relationship](#) early on from the way they first react towards each other?

Turns out psychology can tell us quite a bit about the [trajectory](#) of these celebrity relationships, as well as our own less-famous pairings.

According to figures from the 2011 [census](#) nearly half of Australians are in a registered marriage. Acknowledging non-registered de-facto (including same-sex) and dating relationships, the proportion of the population in close romantic relationships is likely much higher.

But the same [census](#) tells us that not every relationship will last, with 11% of Australians reported being separated or divorced. Similar [divorce rates](#) are seen in New Zealand and the UK. Divorce rates in Russia are more than double those in Australia.

So, although many of us have partners, the frank truth is that some of us will "used to be with" rather than "continue to be with" those same partners in the future.

## **Beware the Four Horsemen**

Some 35 years ago, American psychologist [John Gottman](#) pioneered the science of predicting relationship dissolution and longevity based on observations of couples.

Over a series of studies, Gottman and colleagues recruited newlyweds to their laboratory under strict instructions – they were not allowed to talk to one another during the previous eight hours.

Once at the lab, couples were videorecorded during three 15-minute conversations about that day's events, a conflict within the marriage and a pleasant topic. These conversations were then coded for the presence of various behaviours and emotional expressions.

Couples were contacted several years later to determine whether they had remained married or had since separated or divorced.

On the basis of the patterns observed from these studies Gottman

identified a set of cues that portend early divorce. He charmingly coined them [The Four Horsemen of the Apocalypse](#):

- **criticism**: constantly finding fault in one's partner
- **contempt**: disrespectful behaviour or insults, hostile humour
- **defensiveness**: self-protection in the face of a perceived attack, cross-complaining, counter-attacking
- **stonewalling**: withdrawal from interaction (especially in the emotional sense), being unresponsive

Gottman and colleagues have been able to predict which couples divorced with between 83% and 94% accuracy just by observing the conflict conversations.

Intriguingly, these predictions are just as accurate when made from just the [first three minutes](#) of the conversations. Also, as it turns out, the presence of contempt in a conflict discussion foreshadows divorce most strongly.

## It's not all doom and gloom

One of the most important findings of Gottman's research is that there are also cues that predict relationship longevity and satisfaction.

For instance, if a couple reconciles quickly after a fight, they are more likely to stay together, and to stay together happier.

Also, the data suggest that a 5:1 ratio of positive to negative comments during conflicts makes for a lasting marriage.

Gottman is not alone in his efforts to study relationship dynamics. There is a burgeoning field of [relationship science](#) in which researchers are examining such topics as what keeps couples together through good

times and bad, and what can be done to improve relationship outcomes.

Recent evidence points to the following:

- [expressing gratitude](#) toward your partner and experiencing your partner's gratitude for you helps to maintain relationships
- sharing a [novel activity](#) with your partner helps to keep you satisfied in your relationship
- seeing your partner's [faults as virtues](#) (such as "he's not stubborn; he's confident in his opinions") and [idealising](#) your partner are associated with relationship stability.

Method matters

So was Chris and Gwyneth's separation ill-fated from the start? And what of George Clooney and his [plan to marry](#) Amal Alamuddin later this year. Will that relationship be a lasting one?

We can't say for sure given that [we know very little](#) about this couple, but one thing is certain – the field of relationship science is providing more and more clues to unpack the complexity of romantic relationships.

But studying romantic relationships in a scientific manner is no easy task. Indeed, Gottman's research has [come under fire](#) for its lack of cross-validation. That is, the predictive models have not frequently been tested on new, independent samples.

When such analysis is carried out, the prediction accuracy of divorce and non-divorce drop substantially.

Other research in this field is limited in its reliance on data from only one member of the couple or on data collected at a single point in time. Progress in relationship science will only be achieved when researchers

directly tackle the intricacies inherent in these relationships.

## **New research on relationships**

Clearly more research is needed. To this end our research team is looking to study romantic couples as they interact with each other and with other couples.

We aim to address some of the methodological limitations of past work by asking both members of a couple to provide data to us in real-time regarding relationship-relevant events (interacting with each other, interacting with other couples).

Our participants will also provide data via more traditional self-report questionnaires completed in our lab. We'll follow up with our participants over time as well.

So, if you live in the Sydney metropolitan area, are currently in a [romantic relationship](#), and would like to find out about participating in our research, please get in touch at [uws.edu.au/uwsrelationshipresearch](http://uws.edu.au/uwsrelationshipresearch).

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