

For Modern-Day Cupids, Data Replaces Dating

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Late in the fall of 1998 I received a call from an old friend, J. Galen Buckwalter: “Hey Carter,” he asked. “Would you be interested in doing some data analysis?” At the time, I was halfheartedly pursuing a career as a research consultant for a variety of advertising and technology firms, while avoiding defending my dissertation. Galen is a research-oriented clinical psychologist who has focused much of his effort on investigating the effects of hormones on cognition, and was soon to be the head of research at Kaiser Permanente. I found myself strongly inclined to be involved in whatever Galen was working on.

The project I was asked to join was working to determine construct validity for a set of factors derived from a 1,000+ item survey that had been administered to about 3,000 married couples. The ultimate goal would be to test whether it was possible to statistically model what made two people compatible for long-term success in their marriage. This effort was being spearheaded by psychologist Neil Clark Warren, who had implemented a research program based on his findings from 35 years studying marital problems. The work went quickly. A secondary sample was collected and the initial factor structure was replicated. Significant relations between marital functioning and a multitude of factors were revealed using a variety of linear and non-linear analytic methods.

It wasn't until I made a formal presentation of my findings – and heard the surprising questions that followed – that I realized how unusual this research was. Questions about our factors and their relevance in a population of singles were raised and considered. Did I think it was possible to create a model based on the findings that could be used to match *singles*? Were we using the correct unit of measurement in looking at individual marrieds, or should we be looking at differences between and within married couples? Gradually, it began to sink in that I was no longer working simply on a research project. I was now developing a product that would use the results of our research in a way that might directly impact the lives of thousands of people.

eHarmony was created based on the belief that a vast majority of marriages can be considered unhappy and unsatisfactory to the married couple. National statistics show that over 50 percent of marriages end in divorce, and normative data using the Dyadic Adjustment Scale indicates that less than 50 percent of existing marriages are truly “high functioning.” When you think of the fact that over 95 percent of people in America eventually get married, the failure of your marriage or the marriage of a close friend or family member can be seen as one of the most commonly faced disasters in modern life. Sociologists and public policy makers have argued about what can be done to lower the divorce rate, but in 1998, no one was disagreeing with the central point that something needed to be done to improve the state of marriage in America.

Not surprisingly, few public agencies or social scientists suggested that the best way to lower the high rate of divorce was to test people before they got married, to see if they were truly compatible. A few brave souls, such as Fowers and Olson (PREPARE and ENRICH) or Markman (Prevention and

Relationship Enhancement Program) developed premarital tests and programs in the late 1980s and early 1990s that were geared towards identifying potential problem areas and teaching skills and concepts beneficial to marital functioning. However, no one was really suggesting that compatibility before marriage was key.

It's easy to see why. Arguably, no cultural myth is as cherished in our society as the concept that "love conquers all." We are all comfortable telling ourselves "Well, they'll never last." However, most of us wouldn't dream of telling our best friend "I don't think you and your fiancée should get married." Needless to say, when and if we do dial up the courage to make such an extraordinary announcement, it will likely fall on deaf, if not highly angered, ears.

While doing research and compiling his notes from 35 years of working clinically with married couples, Warren concluded that many of the most severe marital problems he had witnessed were based on deeply incompatible traits. Moreover, it appeared that many of these core incompatibilities were present at the onset of relationships that started off with high hopes and great expectations, only to end in bitter disappointment and unhappiness. Traveling to promote his book, *Finding the Love of Your Life*, Warren noticed a recurring theme among members of his audience. "This is great advice for what to look for after you've found someone," they said. "But how do I *find* someone?" The confluence of these requests and Warren's desire to test compatibility hypotheses he had formed during his many years working with troubled marriages had a strong effect. He began to wonder if the opportunity existed to help people find not just someone, but the right person with whom they could begin a successful relationship. He envisioned a service – based on research into the factors underlying marital success – that would steer people away from bad marriages by only introducing them to people with whom they were truly compatible.

The realization of that vision was eHarmony.com, an online "relationship matching" service that consists of three primary components: First, each user must complete an extensive (400+) item Relationship Questionnaire, which measures over 29 Key Factors of compatibility. Next, users' factor scores are compared to various benchmarks to determine which compatibility models are statistically valid for them, and then these models are used to compute compatibility coefficients for each logically possible pairing in the user pool. Finally, eHarmony users decide which of their matches they want to communicate with, either using a supportive and anonymous system within eHarmony, or via direct e-mail. To date, we estimate that over 9,000 eHarmony couples have married, and follow up studies comparing eHarmony marriages to married couples that met in other ways have confirmed the benefit of eHarmony's compatibility models in regards to marital satisfaction and adjustment.

Working at eHarmony has, in many ways, been a dream job. Early on, I was tasked with a pure research goal: Is it possible to create a set of reliable scales with a satisfactory degree of construct validity that are significantly related to marital functioning? I then was asked to create statistical models that could denote a predictive relationship between these key dimensions and marital success. Only after these goals were addressed, and it became clear that a set of models could be clearly inferred to exist, did the issue of implementing a product come to the fore.

Many large companies invest in pure research with the knowledge that many projects, if not most, will fail to produce a marketable outcome. However, never in my experience has a group of entrepreneurs hinged the very existence of their enterprise on whether the null hypothesis can be rejected. Perhaps we

would have reformulated our relationship questionnaire and started anew if we had not found the strong relations between factors of individual differences, intra-partner differences, and marital quality factors. However, one fact remains clear: An explicit cornerstone of eHarmony has been that empirical findings and a clear foundation in best methods of research must precede the construction of any product.

Although other online services have found such a service profitable, users cannot “browse” for a date at eHarmony.com. No eHarmony user will ever be permitted to review the profile of another user unless they are matched by a research-tested compatibility model. Users are only matched if their profiles are similar to those of married couples who report a high (top quartile) level of marriage satisfaction. As a research psychologist, I am constantly working to extend the breadth and depth of our understanding of the factors underlying long-term compatibility, as well as to monitor the performance and make improvements to our compatibility models. eHarmony’s ongoing research projects range from longitudinally following the progress of eHarmony couples to investigating how human values relate to attraction and long-term compatibility. The commitment to incorporate ongoing research findings and goals into the operation, maintenance, and improvement of products is at the heart of eHarmony, and is the essence of my job.