Counting transversals in group multiplication tables

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Hall and Paige conjectured in 1955 that the multiplication table of a finite group G has a transversal (a set of $|G|$ cells in distinct rows and columns and having different symbols) if and only if G satisfies a straightforward necessary condition. This was proved in 2009 by Wilcox, Evans, and Bray using the classification of finite simple groups and extensive computer algebra. I will discuss joint work with Sean Eberhard and Freddie Manners in which we approach the problem in a more analytic way that enables us to asymptotically count transversals.