# Game Theoretic Model of Genetic Discrimination

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The objectives of this project were (1) to utilize game theory to analyze the prevalence and effects of genetic discrimination and its implications for the future of genetic testing and technologies; (2) to determine the correlation between the subject's age and knowledge of genetics and the likelihood of genetic discrimination; and (3) to determine the best course of action in reducing genetic discrimination in order to promote genetic testing and research in society. The hypotheses tested were: (1) if a subject is younger in age, he or she will be less likely to partake in genetic discrimination; (2) if a subject is more educated in genetics, he or she will be less likely to partake in genetic discrimination; (3) if a subject is acting from the perspective of the potential discriminator, he or she will be more likely to partake in genetic discrimination; and (4) if a subject is acting as an unaffected third party, he or she will be less likely to partake in genetic discrimination. A survey was created with six modified versions of the Prisoner's Dilemma and ten genetics-oriented questions and completed by 129 human subjects. This data was then run through a computer program written by the researcher to simulate the Prisoner's Dilemma from both subjective and objective perspectives, which generated payoff values and ∑Payoff values. The data collected supported all hypotheses and was able to create a suggested plan to reduce genetic discrimination in society, and therefore promote the advancement of genetics research.