

Computer Modeling of Parent-Young Child Relationships

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Computer modeling has a proven place in predicting such things as weather and financial market performance. The development of powerful personal computing capacities has made the modeling of complex systems more accessible to individuals. The importance of the parent-child relationship in the early years of life has long been considered a powerful shaping force of developing humans and has been the subject of extensive research in psychology and psychiatry. Combining the two fields of computer modeling and child psychiatry has not been attempted in any published accounts. The potentially powerful applications for developing a computer model of the parent-young child relationship include the capacity to alter predictor variables to determine the ultimate impact on child outcome. Child outcomes of most interest to researchers and clinicians in child psychiatry and psychology include aggression, empathy, emotional regulation, disruptive behaviors, depression, and anxiety disorders. Once the model's predictive capacities appear sound, interesting results from model simulations could be used to generate new hypotheses for future research with real humans. More importantly, model building could ultimately improve our ability to predict which children need early intervention to prevent future disabling mental conditions. Computer models have not yet seen widespread use in academic psychiatry or psychology research. The aim of this project is to develop the first prototype software to model the parent-young child relationship system. This is an enormously complex system, and the preliminary goal is to model a simple and robust phenomenon that is observable and testable in a short span (interactions that occur over seconds or minutes) as opposed to human development over years. Work with actual human research subjects may be feasible depending on the pace of the project. Send inquiries to Michael Scheeringa, M.D.