TABLE 1
Model of Expert Performance

Win
If there is a row, column, or diagonal with two of my pieces and a blank space,
Then play the blank space (thus winning the game).

Block
If there is a row, column, or diagonal with two of my opponent's pieces and a blank space,
Then play the blank space (thus blocking a potential win for my opponent).

Fork
If there are two intersecting rows, columns, or diagonals with one of my pieces and two blanks, and
If the intersecting space is empty,
Then move to the intersecting space (thus creating two ways to win on my next turn).

Block Fork
If there are two intersecting rows, columns, or diagonals with one of my opponent's pieces and two blanks, and
If the intersecting space is empty,
Then
If there is an empty location that creates a two-in-a-row for me (thus forcing my opponent to block rather than fork),
Then move to the location.
Else move to the intersection space (thus occupying the location that my opponent could use to fork).

Play Center
If the center is blank,
Then play the center.

Play Opposite Corner
If my opponent is in a corner, and
If the opposite corner is empty,
Then play the opposite corner.

Play Empty Corner
If there is an empty corner,
Then move to an empty corner.

Play Empty Side
If there is an empty side,
Then move to an empty side.

goals, this depth-based hierarchy alternates between considering rules oriented towards offensive and defensive goals, thus integrating them.

We hypothesize that expert tic-tac-toe players use such a depth-based conflict resolution method to decide among applicable rules. It seems to be the only simple conflict resolution method that invariably leads to the optimal move. The Appendix indicates that a computer simulation that utilizes this conflict resolution method produces perfect performance, far better than simulations that use five alternative schemes for resolving conflicts among