

Appendix A

Behaviour Over Time

This appendix contains graphs for each sample run of each Case (for every character) in relation to the testing research sub-question 1a: does behaviour change over time? In other words, do the activities that the characters choose change over time? Each graph shows how a specific character’s behaviour changes over time during the simulation for each Case when using our model. In this instance, we are only considering ‘normal’ option runs, where the model is being used with both adaptation and context.

We take a sample run from each Case and plot each of the eight characters on a separate graph. For example, in Figure A.1 we see the graphs for Anna (Figure A.1(a)) and Bec (Figure A.1(b)) from Case 1. In these graphs, simulation time is on the x-axis. Each line represents a different activity (“Insult”, “Move” and “Wait”), and the y-axis shows how many times that particular plan was chosen over each data collection time interval. The graphs can be used to see how each character’s most chosen activity changes over time.

A. BEHAVIOUR OVER TIME

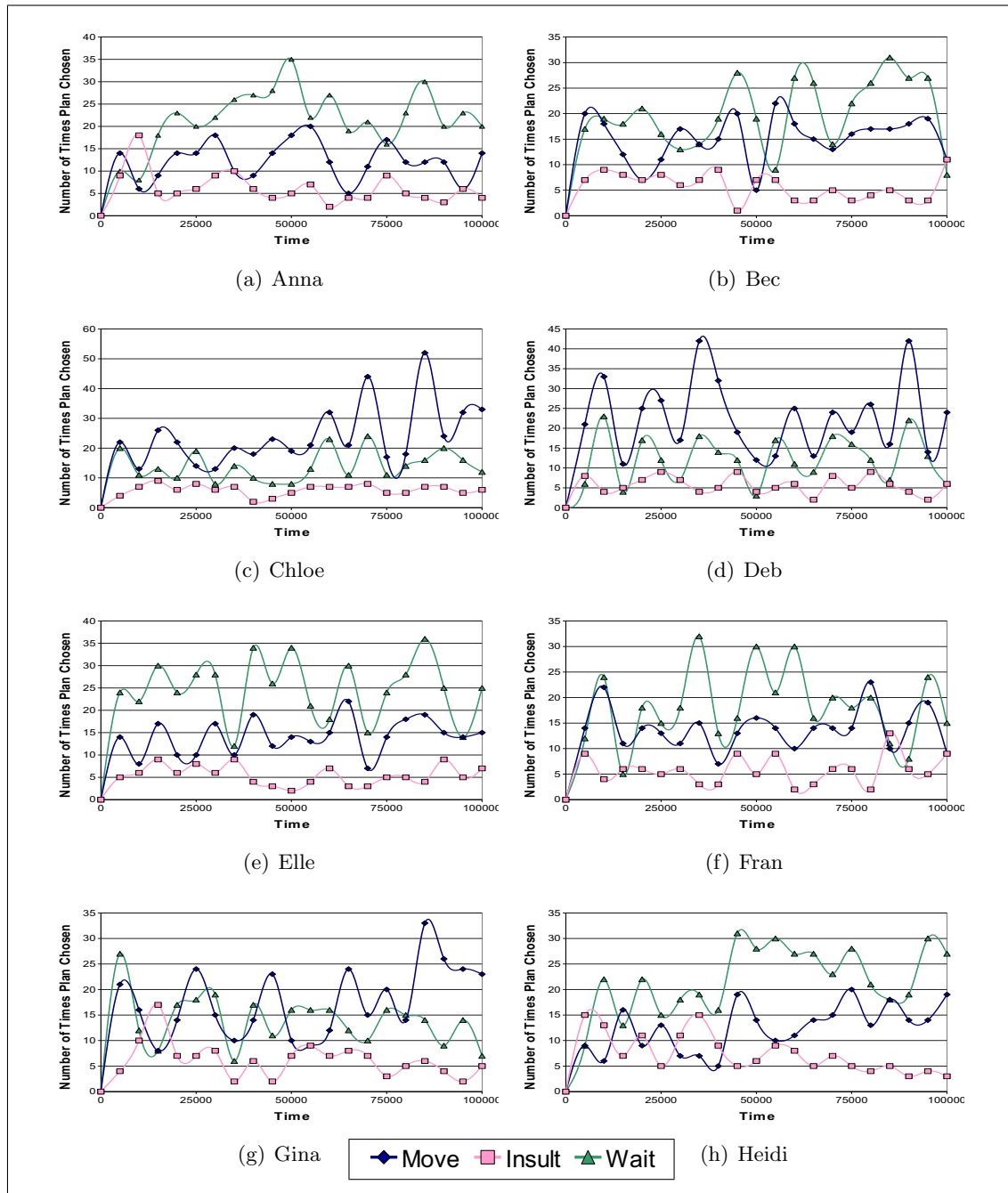


Figure A.1: Case 1 behaviour based on the individual: Action choices for each agent for a particular run of Case 1 (Clear Preference Against One Activity) option 'normal'. In each graph, the number of times the agent chose each of the three top level activities is shown on the y-axis. Each line represents a different activity.

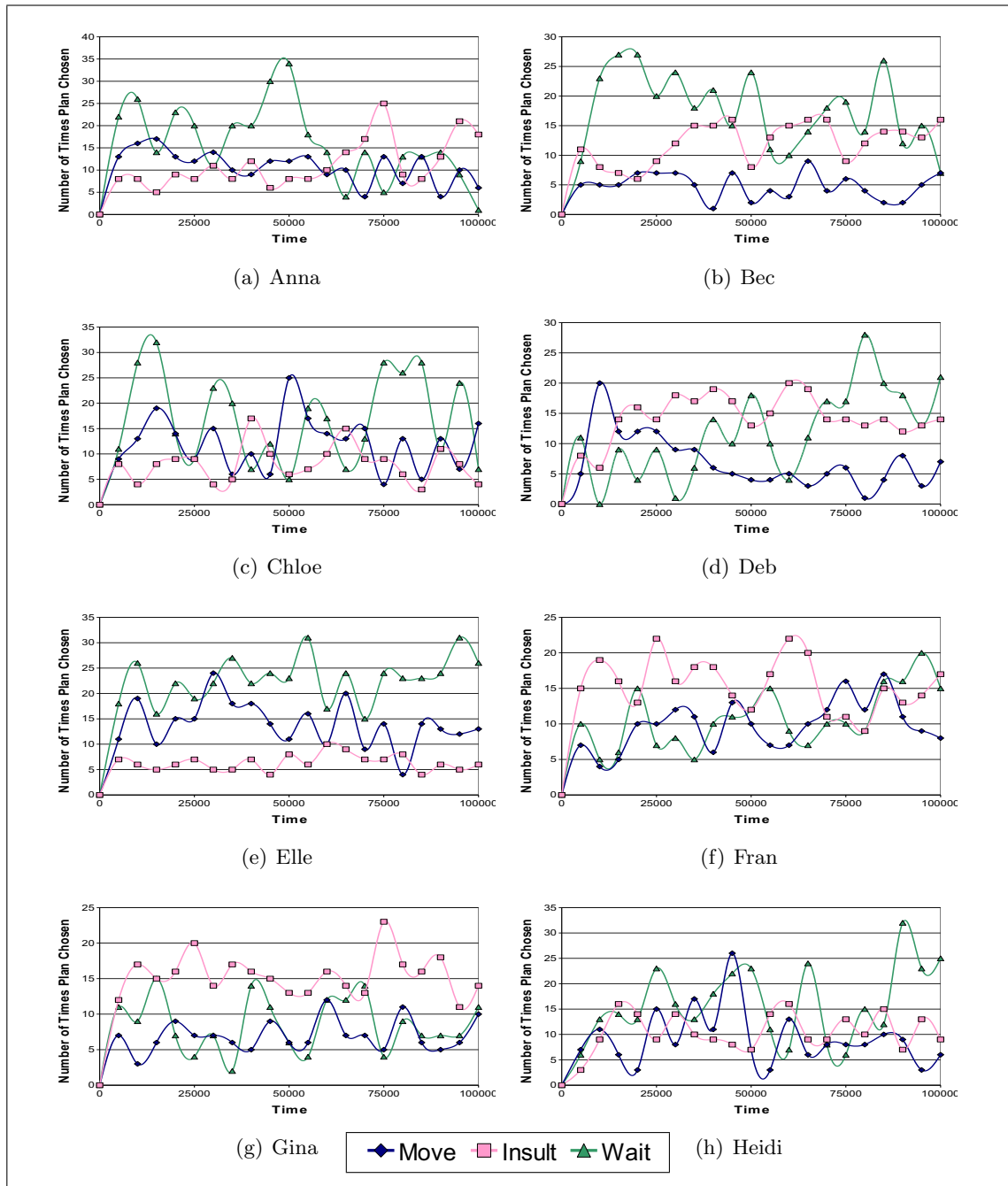


Figure A.2: Case 2 behaviour based on the individual: Action choices for each agent for a particular run of Case 2 (Multiple Ways to Achieve Goals) option ‘normal’. In each graph, the number of times the agent chose each of the three top level activities is shown on the y-axis. Each line represents a different activity.

A. BEHAVIOUR OVER TIME

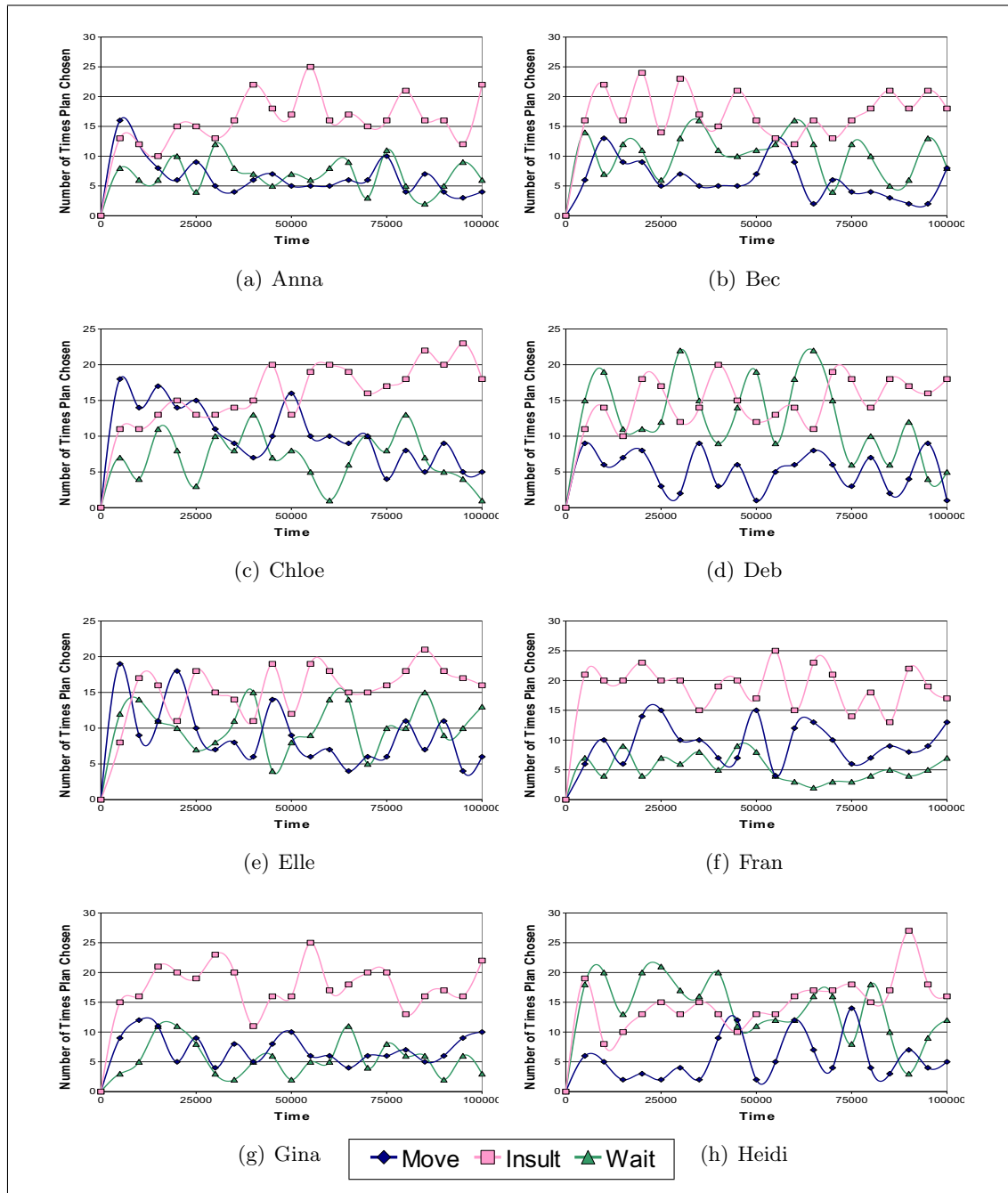


Figure A.3: Case 3 behaviour based on the individual: Action choices for each agent for a particular run of Case 3 (Conflicting Goals) option ‘normal’. In each graph, the number of times the agent chose each of the three top level activities is shown on the y-axis. Each line represents a different activity.

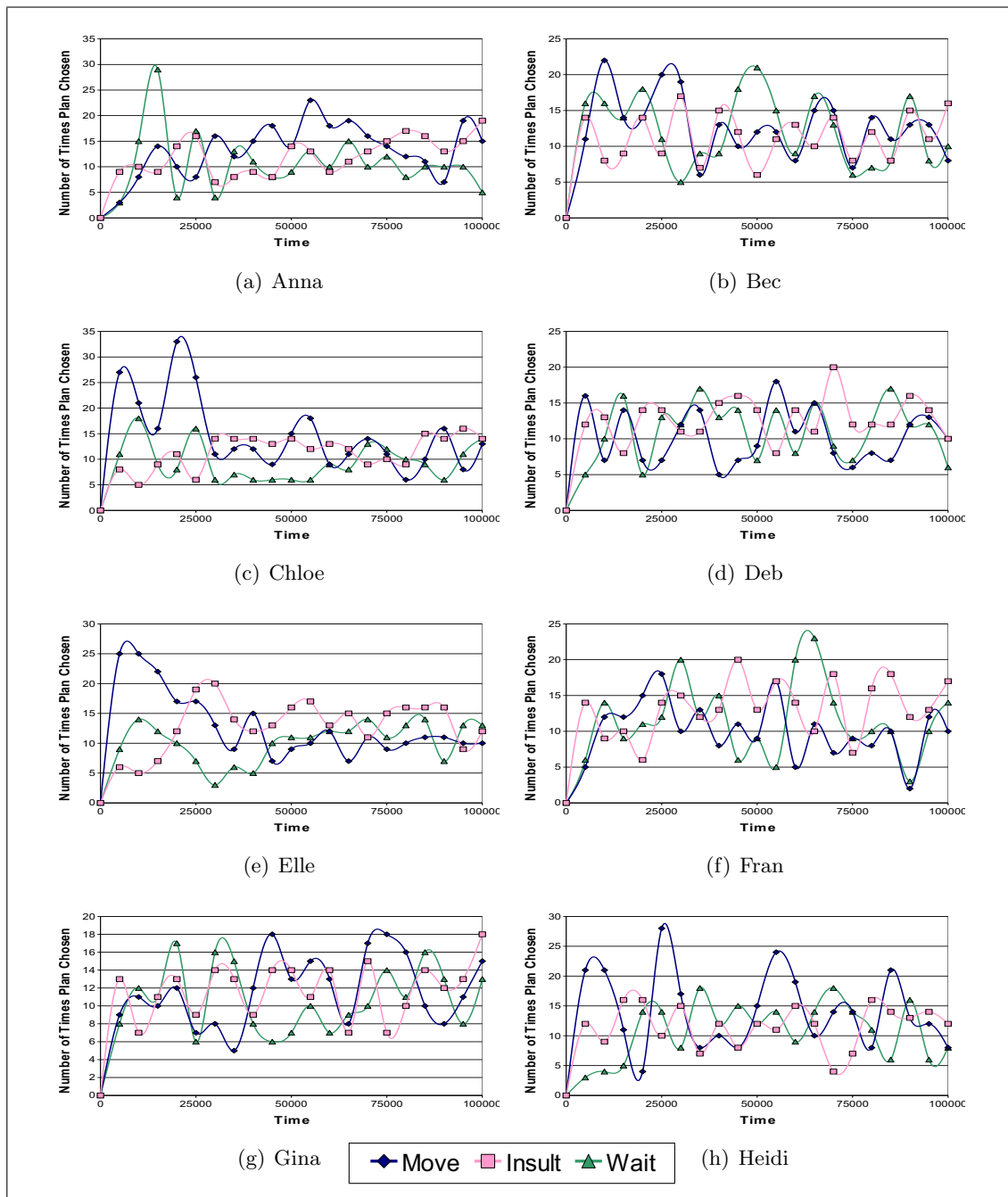


Figure A.4: Case 4 behaviour based on the individual: Action choices for each agent for a particular run of Case 4 (Complex Soft Goal Personality) option ‘normal’. In each graph, the number of times the agent chose each of the three top level activities is shown on the y-axis. Each line represents a different activity.

A. BEHAVIOUR OVER TIME

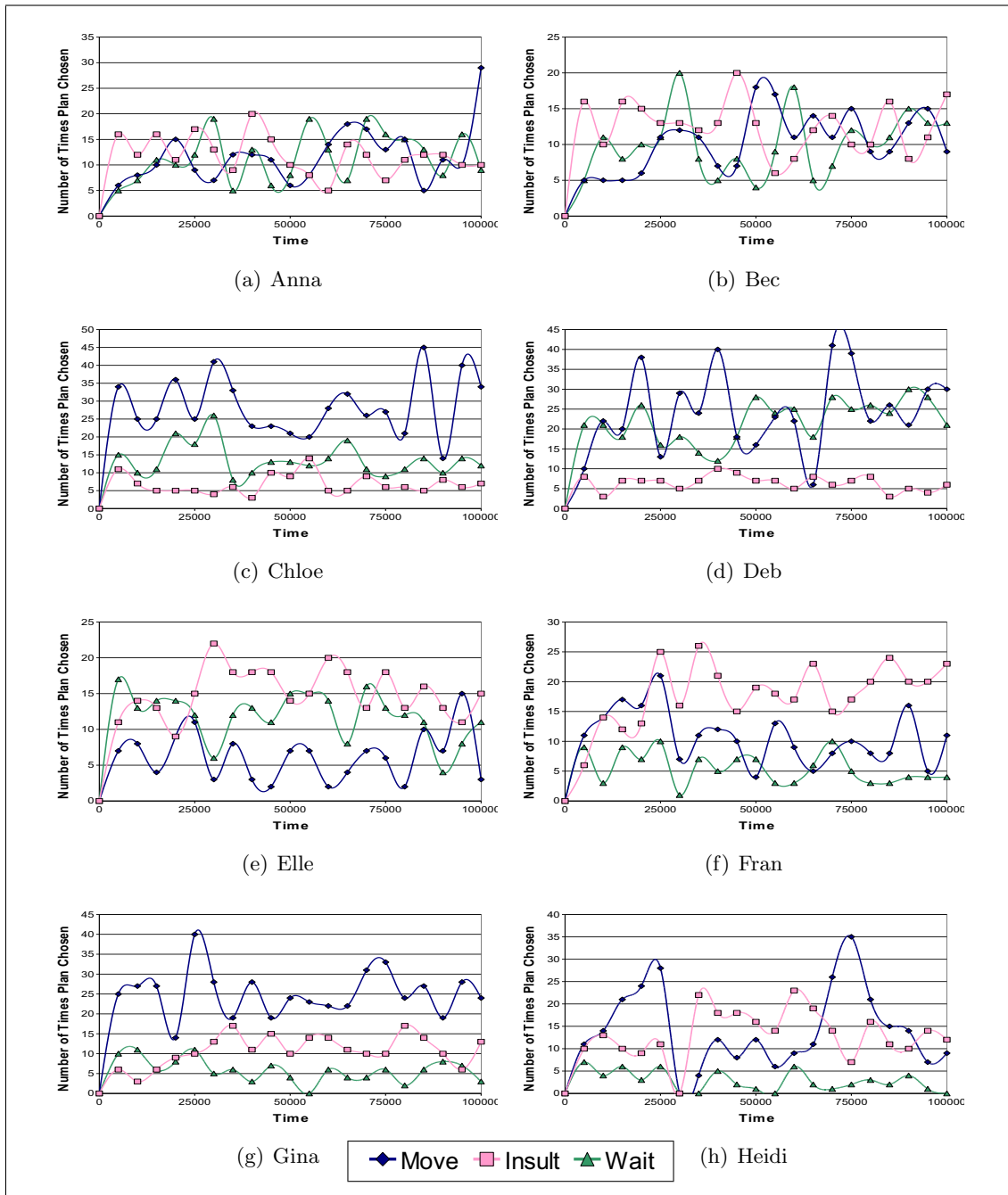


Figure A.5: Case 5 behaviour based on the individual: Action choices for each agent for a particular run of Case 5 (Different Soft Goal Personalities) option 'normal'. In each graph, the number of times the agent chose each of the three top level activities is shown on the y-axis. Each line represents a different activity.