Although my results were inconclusive, I still believe that affection does has some positive physical effects on animals. The following is a list of modifications I would make to my experiment if I were to repeat it as well as recommendations for others who might be interested in a similar project.

* Most importantly, a large sample size is vital to a successful experiment. My eight or ten mice left too much up to chance and coincidence and thus I don't think they provided a large enough sample size to create valid results. However, sample size in this case is limited by certain factors. For example, it cost over $75 just to supply eight mice--I don't have the capital to support any more. Furthermore, one must consider his or her environment; there isn't room in my house for any more mice. The bottom line is this: this experiment is too involved, I think, to be done on a part time basis. It must be very important to you: so important that you will spend hundreds of dollars to support the many mice you'll want to work with and so important that you'll have a whole room full of cages and your house will smell worse than a zoo.
* As I said, a person must be devoted to a project like this. To do it on a part time basis like I did was difficult: I often didn't have time to observe or play with my mice as often as I would have liked. I didn't have the time to control all the factors that I would have liked to. Perhaps, working as a team or research group would be a good idea because then the mice could be played with and observed in shifts.
* Other than sample size, the other major factors were the variables in the experiment like length of time the mice were played with and the amount of food they were fed. Looking back, I realize that I should have kept track of how much I fed the mice and should have fed all of them the same amount. I realize that I should also have played with the mice for a constant amount of time each night. I think that the maze wasn't the best idea because it left too much up to chance. Furthermore, there are many things about the mice themselves that I couldn't know or control: like their natural disposition, their natural energy level or normal expected weight gain. Perhaps a good way to control some of these things would be to eliminate the human element by fashioning some sort of machine that would pet the mice, much like the mechanical mother monkey used by Dr. Harry Harlow in his experiments dealing with affection and monkeys.
* I think that it is an excellent idea to obtain mice from the same litter. I was unable to do this for phase one of my experiment. I can't be certain it had any effect on the results, however, it would eliminate part of the variable of the natural dispositions of the mice in that they would have similar genetic information.
* In repeating this experiment I would use only female mice. There are advantages to having both sexes present: to more accurately represent the natural state of things and to count offspring and observe them as another method of comparing the petted to unpetted mice. However, it got to be a hassle when I had two mice pregnant and not enough cages for their offspring. Because of this, I lost a baby mouse because it was eaten by a male who was still in the cage. (Needless to say he was immediately removed from the vicinity.) Furthermore, male mice often fight when forced to share a cage and this can be dangerous. In fact, one mouse was killed by the others when I had to put five male mice in a large cage together.
* Another thing I would change would be to start with younger mice. All of my mice were about 4 weeks old when I started with them. At about three and a half weeks the mice can function without their mothers so they were completely weaned by the time I began petting them. I think that petting them earlier would have a greater effect in that one would be giving them affection while development was occurring and a great rate.
* I thought that using a permanent marker to put a dot on the tail of the mouse would be a satisfactory way to identify the mice. However, permanent marker is not so permanent when it is on a mouse's tail and usually needs to be refreshed once a week or so. A better form of identification would be a good idea because being able to distinguish one mouse from another is vital to this project.
* Lastly, if I were to repeat this project, I would find a number of other physical characteristics to test with which to compare the mice. The maze should be completely eliminated as I saw very little consistency from it. In addition to weight change, one could measure number of offspring, length of life, heart rate, brain waves or any number of other physical aspects.