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# Canine Psychiatry: How a Dog Can Lower Perceived Stress After a Stress Inducer.

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Abstract. Stressful situations are common in everyday life and there have been many studies that search to provide an outlet for that stress. One avenue of research that has not been thoroughly studied is the field of animal-assisted therapy, its use of dogs, and the dogs' effects on task-induced stress. This study sought to shed light on this relatively new area of therapy. In the study, it was predicted that induced stress levels would decrease more following the viewing of a video of a dog compared to after viewing a neutral documentary. The sample was made up of 60 undergraduate students of Minnesota State University Moorhead. The researcher administered the Stroop Color Effect Test to half of the participants as a stressor while the other half was given a simple word search. Then half of the participants viewed a video of a dog online while the other half viewed a neutral documentary. All participants completed a Perceived Stress Scale. Results of the study show no significant findings.

Think, for a moment, about all of the stress that occurs in an ordinary person's day-to-day life. Consider what might cause that stress and how it affects the person. Now determine what type of treatment this person may need in order to cope or to simply maintain their stress. This is the process that psychologists have to go through in order to treat a patient who admitted to feeling stressed. However, although this sounds straightforward, there are many complexities surrounding the term stress. As Zautra (2003) says in his book, stress is a term that is so widely used in today's society that people have a tendency to make their own definition of stress based on their own experiences. Stress can be seen on a larger level as a reaction that is created by unwanted events that disturb a person's life.

Stress can be caused by many things. In the anthology of reports he edited, Miller (2010) found that stress could be caused by various life events and transitional periods. These life transitions he mentioned were referring to points between significant life chapters such as early childhood, adolescence, and adulthood. Some of these stressors could include education and careers, marriage and family life, legal and financial issues, spiritual influences, and by simply maturing in health. All of these are factors that could contribute to stress in any given person's day-to-day life.

How does one lessen this stress? Some say that to defeat stress, one must be mentally resilient and healthy (Zautra, 2003). Others say that relaxing physical aerobic activities such as yoga or walking are able to lower perceived stress among adults (Gard et al., 2012). Finally, there are others who note that social support is a key factor in overcoming stress (Cohen & Syme, 1985). Each of these are valid methods in which stress or perceived stress can be reduced. In their anthology that they created, Cohen and Syme provide examples of different types of social support as well as how to measure it and view it

among different age groups. They state that even as a young child, family support is a huge contributing factor to maintaining health and development. As such, many people turn to their families and even friends when they need guidance or help in stressful situations.

Cohen and Syme (1985) also state various functions these social supports provide, of which there are six: esteem support, status support, informational support, instrumental support, social companionship, and motivational support. Esteem support, or emotional support, provides a person with a means to counteract threats to their self-esteem simply by having someone to talk to. Informational support allows a person to gain knowledge, advice, or guidance from others. In being instrumentally supportive, a person is helping another out with physical chores, activities, or practical tasks. Social companionship plays a major role in the mood of others as it is the enjoyable social activities one shares with others and the bond that forms from that. This is all proof that social supports are all encompassing and very important.

In a different study, Cohen and his colleague Wills (1985) introduced the new concept of the buffering effect and how it influences social support. They found that with a pure effect, certain supports act as a resource only at certain elevated induced stress levels. For example, under more serious conditions, a certain support is useful whereas if the stress is minimal or nonexistent, that support becomes useless. An example of this could be a terminally ill patient going to a support group and living longer due to it. If a person that was not terminally ill went to this support group, they would neither benefit nor suffer from the support.

Along with family and friends, there is a massive amount of literature that states that when one is stressed or ill, they may turn to animals as a healing resource. Animals have been seen to have both physical and mental benefits (Pichot & Coulter, 2006). For some, there is the possibility of owning an animal as a pet and this helps to reduce stress. In their study on humans and animals as pets, Zilcha-Mano, Mikulincer, and Shaver (2011) look deeper at John Bowlby's attachment theory. They found that there is indeed a strong human-pet bond and that it meets four criteria for an attachment bond as defined by Bowlby's theory. These are proximity seeking, safe haven, secure base, and separation distress. These four criteria show up in this bond that is created between human and animal, strengthening their relationship and thus the animal's use for lowering stress.

Shore, Douglass, and Riley (2005) found that pet owners tend to take good care of their pets, creating a form of, at minimum, essential care. According to them, the extent to which a human takes care of their animal is the extent the animal assists them due to the benefits. According to Friedmann, Heesock, and Tsai (2010), interacting with animals, especially if that animal is your pet, greatly influences the physiological responses exhibited. An individual's attitude or feelings towards the animal is extremely important in how the responses pan out.

Owning animals is not the only way to come in contact with them to witness their stress reducing effects. Animals have become immensely important in the field of psychology through the use of pet or animal-assisted therapy (PAT or AAT). AAT is a regular intervention in which an animal is present to assist in any specific physical, cognitive, or emotional needs the patient may have (Friedmann, Son, & Tsai, 2010; King, Watters, & Mungre, 2011). In a study done by Adamle, Riley, and Carlson (2009), it was shown that college students who have pets at home find that it would be beneficial to have a pet therapy program implemented on their campus. It was also shown in a study by Reed, Ferrer, and Villegas (2012) that there are possible benefits in the areas of social effects, physical effects, and the perspectives of treatment from caregivers in hospital settings due to the presence of an animal. Animals are seen to increase social behavior, self-efficacy, and coping abilities while simultaneously reducing pain and stress. If animal therapies were to be implemented on campuses,

students may have a healthy opportunity to affect the way they live their lives.

If there were pet therapy programs on college campuses, the college would surely have a wide array of animals to choose from. It has been shown that there are multiple different types of animals that have positive effects on humans both physically and emotionally. This wide range of animal types indicates that there are different maintenance levels required: some animals will be high needs animals, whereas others will be low needs. Parelli and Parelli (2012) focus in on one of those high needs animals: the horse. In their article, they focus on all of the needs that have to be met in order to connect with a horse, yet they state that horses and humans have an incredible bond. They are shown to lower the effects of emotional disorders and raise self-esteem, particularly in children (Chardonnens, 2009). Other animals, such as cats, do not require as much maintenance. Cats have been shown to have a positive effect for some, yet they have also been seen to have neither huge positive or negative psychological effects (Somerville, Kruglikova, Robertson, Hanson, & Maclin, 2008). It was also found in this study that when held by a child, cats and dogs do not differ greatly in effect. However, there has been a greater amount of literature published on the use of dogs in AAT than of cats.

Dogs have been shown to have a large influence in the realm of pet therapy in psychology. It is the animal that is focused on the most in studies of AAT and how it helps to reduce stress. In the study conducted by Barker, Knisely, McCaine, Shubert, and Pandurangi (2010), dogs have been shown to greatly decrease amounts of blood pressure, heart rate, anxiety, and stress in dog owners having interacted with both their own dog and an unfamiliar dog. Dogs have also been known to decrease stress amongst hospitalized children with chronic illnesses (Tsai, Friedmann, & Thomas, 2010) as well as decrease trauma symptoms in children who have experienced some form of sexual abuse (Dietz, Davis, & Pennings, 2011). It has also been shown that dogs help more people than just children. Zilcha et al. (2011) says that dogs help both the clients and the therapist in that the clients respond to the dog and that the therapist feels safer and has a closer connection to the dog. When all of these factors are taken into consideration, dogs have major influential powers when it comes to physical, emotional, and mental responses, which includes stress.

Although most research leads readers to believe that dogs are clearly a positive, healthy choice for an animal in AAT to help reduce fear, anxiety, stress, and other physiological responses, there is some literature that says otherwise. While Barker et al. (2010) argues that dogs lower measures such as blood pressure, heart rate, anxiety, stress, and cortisol below baseline which in turn creates a lasting relaxation effect from the dog to the handler, Sommerville et al. (2008) found that neither cats nor dogs have much effect on blood pressure or heart rate. Dogs are said to be highly beneficial for multiple reasons including that which is said by Barker et al (2010). However, when someone such as Sommerville et al. (2008) says that they do not have lasting positive effects, this brings up a controversy. Some research may have been inconclusive or researchers may have been hoping for the best and not received the results they anticipated. In the future, this will result in more research studies needing to be done in the field of animal assisted therapy and how it not only influences subjective stress, but also blood pressure, heart rate, and other physiological factors among a variety of participants with varying illnesses. With new findings from more research, this relatively new world of AAT could have so much more meaning and stance in psychology.

This study hoped to do just that. By having a between-subjects factorial design, participants were randomly assigned to four conditions. Two out of the four conditions were administered a stressor while the other two were administered a neutral stimulus. Likewise, two out of the four conditions interacted with a dog while the other two

interacted with a neutral stimulus. For the purposes of this study, to interact with a dog was to watch a YouTube video of dog and to interact with a neutral stimulus was to watch a clip from a documentary. A perceived stress scale was used to measure stress. It was predicted that interacting with a dog, or in this case watching a video of a dog, after the inducement of a stressful situation, would produce lower stress levels than after not interacting with the dog. Furthermore, it was predicted that stress scores would be lower when the participant had both the stressor and the animal interaction.

## Method

### Participants

Forty undergraduate students, 14 male and 26 female, of Minnesota State University Moorhead served as participants for the study. These participants signed up through the bulletin board with experiments posted in the psychology department of the university. The informal title of the study that the participants first saw when signing up was "Perception of Tasks." Participants ranged in age from 18 to 43 with the majority ranging between 18 to 22. Participants had the opportunity to earn extra credit for other classes from their participation in the study.

### Design

The study conducted here employed a 2 (level of stress – timed Stroop test vs. word search) x 2 (animal video presence – dog brushing vs. neutral documentary) between-subjects factorial design in which participants were randomly assigned to one of four conditions. The dependent variable was the perceived stress of the participants following the stressor and the assigned video.

### Materials

The stressor administered to the participants was a stressor by the name of the Stroop Color Effect Test (Stroop, 1935). This has been tested by many other researchers and has shown to be a valid method of experimentally inducing stress upon participants for a short duration of time upon adding a time restraint (Barker, Knisely, McCain, Schubert, & Pandurangi, 2010). The participants were asked to match colors and words presented in conflicting colors. The version of the Stroop Test this study used can be found online at cognitivefun.net (see Appendix A to view screenshots of the test). The test took up to two minutes. Due to website errors, a second Stroop test was needed for part of the study. In this test, participants were asked to click on the correct choice out of a list of colors what the conflicting filler color was (screenshots can be found in Appendix B).

For the control task, participants were given a simple word search to complete. The word search contained all of the months of the year as well as the days of the week. The font of the word search was Times New Roman, situated in a 20 x 20 letter cube (see Appendix B for full word search). Participants were allowed two minutes to work on the word search, having been told to take their time and find words at their own pace.

The dog video that the participants viewed was acquired online, accessed through YouTube. A 13-inch Macbook Pro was set up with the video displayed. The video's content was that of a Shetland sheepdog named Simba being pet by his handler (screenshots of the video can be found in Appendix C). The video's original length was 14 minutes and 31 seconds. For the purposes of this study, participants viewed the first three minutes of the video.

The control video that participants viewed was also online, found on YouTube. This video was a clip of a documentary about George Washington's life (refer to Appendix D for screenshots). The original documentary was 45 minutes and 57 seconds long. For this study, participants only viewed three minutes and ten seconds of the video. This was also shown on a 13-inch Macbook Pro.

Perceived stress was to be measured with the Perceived Stress Scale, a well-known scale consisting of 10 items rating feelings (Cohen, Kamarck, & Mermelstein, 1983). Participants were to indicate their level of how

they felt to specific inventory questions on a 5-point Likert scale that ranged from zero (Not at all) to four (Very much). Lower scores would indicate a lower perceived stress level. Similarly, higher scores would indicate a higher level of perceived stress. Examples of these questions would be, "As of right now, do you feel upset because of something that happened unexpectedly?" and "As of right now, do you feel angered because things happen that are outside of your control?" (the list of questions can be viewed in Appendix E). These questions were altered from their original format as Cohen, Kamarck, and Mermelstein intended them. For the purpose of this study, each question was worded to allow the participants to focus on their stress as they were answering. In Cohen's questions, the participants had to think in terms of two months prior to their answering to the questions. Based on the scores, perceived stress would be able to be averaged for each condition.

A demographic survey was issued to the participants. This was a means to collect the participants' age, gender, and whether they currently had a pet or if they grew up with pets (the survey can be seen in Appendix F). Collecting this data allowed researchers to know whether the use of an animal video had more effect on participants who were familiar with pets versus those who were not, as well as differences between genders.

**Procedure**

Upon entering the lab, participants were asked to read and sign an informed consent. The study was introduced as a study on the emotional responses of participants to various tasks. Participants were randomly assigned to one of four conditions. Half of the participants were administered the Stroop Color Test and informed that they must type in the correct letter 100 times within the span of two minutes and that they would be timed and that they could find a trial counter on their screen. For the second Stroop test needed, participants were informed that the researcher was keeping track of how many trials they had performed. In the stressed conditions, participants were told of their time at 20 second intervals. The other half was given a simple word search containing the months of the year and days of the week. Participants were given two minutes to work on the word search at their own pace. Half of the participants would then watch the video of Simba the sheepdog following either the color test or the word search for three minutes, whereas the other half would be watching a segment of the documentary of George Washington's life for three minutes. Following the assigned video, all participants were asked to complete the Perceived Stress Scale, being reminded to base it off of how they were feeling at that precise moment. Once they had completed the Perceived Stress Scale, participants would fill out the demographic survey. After participants completed the study, they were fully debriefed, compensated for their time in the study with extra credit if it was applicable, and thanked for their participation. Each session lasted approximately 20 minutes.

**Results**

The researcher calculated the individual perceived stress scores in each condition as well as the how many participants and their families currently have or have had a pet in the past and if so, what kind. A univariate ANOVA was conducted to compare how the stress scores were different across conditions when there was stress present, when there was the animal presence, and how the two variables interacted with $\alpha$ set at .05. Table 1 displays the means and standard deviations for each condition.

Results of the ANOVA indicate that in the conditions in which the stress inducer was absent ($M$=13.1, $SD$=6.48) as well as when the stress inducer was present ($M$=11.7, $SD$=6.91), there was no significant main effect of stress presence on the stress scores, $F(1,36)=.43$, $p>.05$. Results also show that in the condition where the animal was absent ($M$=13.45, $SD$=5.84) as well as the condition in which the animal was present ($M$=11.35,

*SD*=7.37), there was no significant main effect of the animal presence on the stress scores, $F(1, 36)=.96$, $p>.05$. In addition, the average stress scores across the two independent variables yield no significant interaction between animal presence and stress presence, $F(1, 36)=.18$, $p>.05$. The condition in which there was neither animal nor stress (*M*=14.6, *SD*=6.45) exhibited the highest stress scores in comparison to the condition with no animal and stress (*M*=12.3, *SD*=5.25), the condition where there was an animal presence yet no stress (*M*=11.6, *SD*=6.48), and the condition in which there were both an animal and stress presence (*M*=11.1, *SD*=8.52). Although the results were insignificant, the mean stress scores in each condition were consistent with what was predicted (see Figure 1).

Due to website errors, a second Stroop test was needed in the experiment. The researcher noted which participants used which test and ran an independent samples *t*-test to confirm whether or not the different Stroop test would change stress scores in any way. Results of the *t*-test show no significant difference between the old Stroop test (*M*=13.1, *SD*=6.88) and the new Stroop test (*M*=10.55, *SD*=5.9), $t(38)=1.09$, $p>.05$.

## Discussion

The current study originally hoped to shed light on the influence dogs have on stress levels, predicting that following an induced stressor and then a dog video, the level of perceived stress would be lower than if the dog was there. 40 participants volunteered to take part in the study, being randomly assigned to one of four conditions. Each condition either had the stress inducer present and/or the presence of the dog video. Participants reported their stress at that given moment through the use of a Perceived Stress Scale altered from its original content (Cohen, Kamarck, & Mermelstein, 1983).

Barker, Knisely, McCaine, Shubert, and Pandurangi (2010) showed in a past study that dogs do significantly lower various indicators of stress such as heart rate, blood pressure, and cortisol levels below baseline in pet owners after they interact with either their own dog or an unfamiliar dog. Perhaps the results of this study are more in line with what Somerville, Kruglikova, Robertson, Hanson, and Maclin tried to show in 2008. They concluded that neither dogs nor cats had any lasting effect on heart rate or blood pressure in participants. Although the current study shows no significant results, there is a pattern that is beginning to emerge, as stress score group means are consistent with the prediction. The conditions that were exposed to the animal video displayed overall lower scores than either of the conditions without the animal video. The condition with the lowest overall stress score was the condition with the stressor as well as the animal. One reason this could be possible would be that the animal calmed the participants to such a significant amount following the stressor. However, because the results were not significant, it cannot be said that dogs do in fact lower perceived stress.

Researchers believe that the results of the ANOVA were insignificant due to the individual differences between participants. For example, participants would fill out a Perceived Stress Scale and the researcher would calculate their stress. In one condition alone there happened to be both the highest and lowest stress scores reported at 30 and 0. The fact that each condition had such diverse results for their stress scores alone makes it impractical to achieve significant results. This did not stop the mean stress scores within each condition from being consistent with the original prediction of the study.

The fact that the means were consistent could imply that there could in fact be significance, something future research would have to consider. If this were true, it can be seen that by simply viewing a video of a dog, a person's stress can lower. The more people know about animal assisted therapy and the potential healing powers of dogs as well as animals in general, the more people might tend towards these methods of healing as opposed to medication or continuing on in their stressed state of mind. Since the current study took place on a college campus, results

could maybe imply that college students would in fact benefit from having a dog on campus for stress services. This is something a university could look into for their students.

There were some limitations to the current study. For example, the number of participants was low when considering the size of the general population. A greater number of participants would show more of a standard mean in each condition and could possibly lead to yielding significant results. Another limitation was the lack of dog in the study itself. Although this study allowed researchers to see if merely a video of a dog would relax stress in participants, the presence of a real dog would potentially yield much greater results. The method with which the stress was induced could be seen as not as stressful as was previously anticipated. Also, the way stress was measured could have been more accurate if blood pressure, heart rate, anxiety, and stress were measured to get a more general understanding of how the participant was feeling. The fact that researchers had to change the Stroop test halfway through the study could pose as a final limitation. Although the second newer Stroop test seemed to induce more stress, the independent samples *t*-test proved there was no significant difference between the stress the two tests produced.

Future research should attempt to use a real dog in the study as opposed to a video recording of one. Perhaps a variable could type of dog presence with there being a real dog interaction, a stuffed animal interaction, a video interaction, and no interaction. Future research should also look at the way stress is induced. During the study participants would mention that the neutral word search would be more stressful than the Stroop test and that when they filled out the Perceived Stress Scale, the more they had to think of how stressed they were, the more stressed they became. Perhaps another means of measuring stress would also be needed.

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Table 1
*Average Stress Scores across Four Conditions*

| | Animal Absent | Animal Present | Total |
|---|---|---|---|
| Stress Absent | *M* =14.6<br>*SD* = 6.45 | *M* = 11.6<br>*SD* = 6.48 | *M* = 13.1<br>*SD* = 6.48 |
| Stress Present | *M* = 12.3<br>*SD* = 25 | *M* = 11.1<br>*SD* = 8.52 | *M* = 11.7<br>*SD* = 6.91 |
| Total | *M* = 13.45<br>*SD* = 5.84 | *M* = 11.35<br>*SD* = 7.37 | |

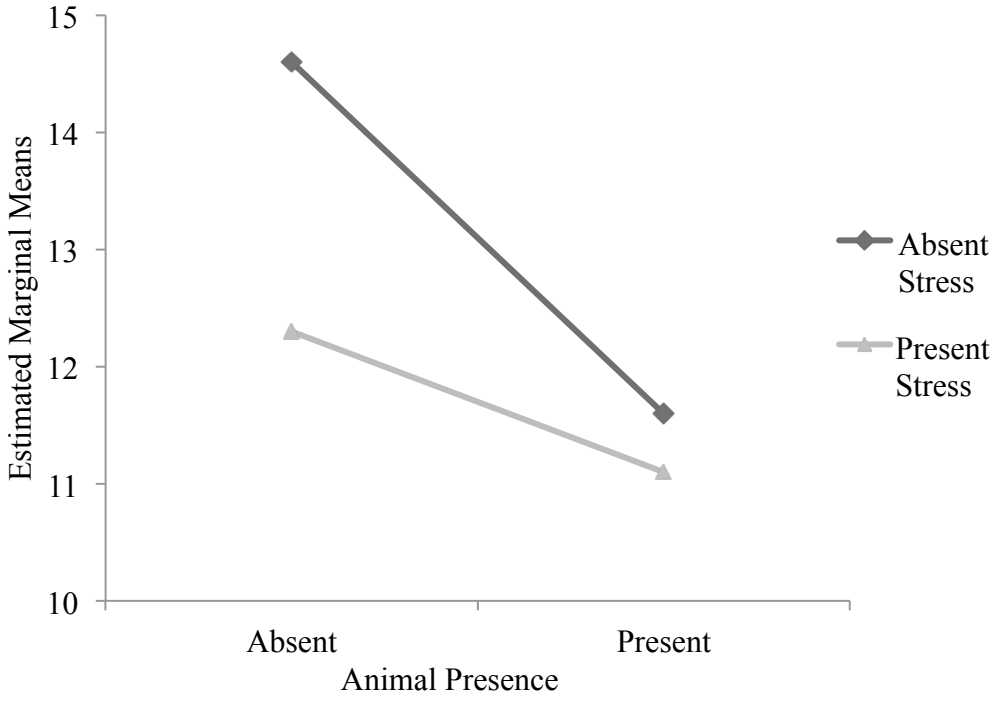


*Figure 1.* The graph above displays the mean stress scores and the potential interaction between animal presence and stress presence.

## Appendix A
## The First Stroop Color Test

All words displayed would be colored different colors. Electronically chosen at random, some of the words' internal color matched the written color while others were different. For example, in Figure A1, participants would see the word "ORANGE" but would see the color green. They were required to type in the letter "G" because the internal color was green. If the participant entered the wrong letter, an "X" would appear behind the word, as shown in Figure A2. Inversely, if the participant entered the correct letter, an "O" would appear behind the word. Note that there is a trial counter in the top right corner in which participants could keep track of how many they had completed. The test can be found online at http://cognitivefun.net/test/2.

Figure A1

The Difference of Colors


Figure A2

When Answered Incorrectly

## Appendix B
## The Second Stroop Color Test

Due to website errors, a second Stroop test was needed. Participants would read the instructions and were informed they had two minutes to correctly match the word with the appropriate filler color 100 times and that the researcher was keeping track. A color word would show up on the screen and would possibly be colored a different color. Participants had to click on the correct word from the list provided on screen what the color in which the word was written. Each color combination was electrically chosen at random. Figures B1 and B2 gives an example of what the participants would see. Note that there was not a trial counter available for this version of the Stroop Color Test, thus the experimenter kept track by hand. The test can be found online at http://www.onlinestrooptest.com/stroop_effect_test.php.

Figure B1
The Stroop Instructions

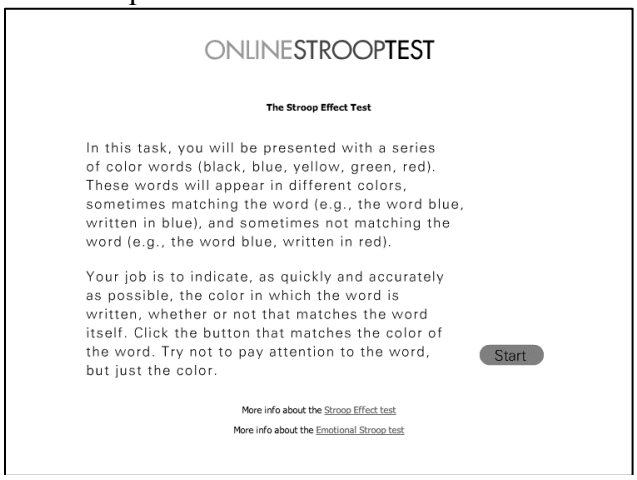


Figure B2
The Color Choices

Appendix C
Word Search

The control word search was created randomly with a word search maker on http://tools.atozteacherstuff.com/word-search-maker/wordsearch.php. Words could be found forward and backward, diagonally, and up and down. Words that could be found in the word search were months of the year and days of the week. Font was all uppercase Times New Roman letters in size 14. There were 20 rows and 20 columns of letters.

D O O F D T P Z Y R A U R B E F F L R H
J U L Y K R P M B T H C W A M H J I Y E
J I W E A F E Q M V U C P Q O C T B P O
S C B E R D N B S E S H O J N D U T M R
A M P P D R S P M Z N C W U D B N A C E
T Q Y Q E N E E Y E S J R N A D Y L M Q
U R O P N P E V U U T P W E Y V N W P V
R G L O X R U S N T N P M R B C D M O I
D H Q G A C B D D V S D E C E M B E R E
A U I A B U A M I A G N M S M X E O G I
Y K J P A Y G P Y E Y J J Q Y O S V H U
Y J Z R W N R U X F R M Z U T I S I O J
L A R I P F Z J S U X L X H W F X M M N
H J D L K B G A L T Y N U S K D Z V Y L
O C U I X V E N G J P R E Q U B S B O Y
H G R U R N S U C G S H M J R E G A G S
M E I A P F A A F D A Z V Z D O O F L Y
K W P O M K R R A H V T M N Z U G W W G
W T N C Z I H Y T W N O T L U V X E I H
Z U P S S O J H R E B O T C O V A U R K

JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
SUNDAY
MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY

## Appendix D
## Video of Brushing and Petting Simba the Sheepdog

The video that was used in the study as the manipulated independent variable can be found on YouTube, posted by YouTube user Orion's Owl ASMR. ASMR stands for autonomous sensory meridian response, in which people experience a tingling sensation in their head due to hearing sounds such as whispering, brushing an object, or seeing visual stimuli such as painting. Orion's Owl ASMR is a YouTube user who dedicates her channel to stimulating her audience with various sounds. Participants in this study were asked to watch a clip of her video "ASMR: Brushing and Petting a Beautiful Dog" which depicts a Shetland shepherd dog being stoked and brushed by his owner. For this study, only the first three minutes of the video were shown, in which she only strokes the dog, as can be seen in figure D1. The video can be viewed at http://www.youtube.com/watch?v=_JxUbOcQc7E.

Figure D1
Simba the Dog Being Pet

Appendix E
Video of George Washington Documentary

The documentary of George Washington was a biography that can be found on YouTube. The user that uploaded the video, McKenzie Sweet, focused on showing documentaries and videos of historical people, places, and events. A clip from her video "George Washington Documentary" was the control video for participants in the no animal exposure condition. The segment participants watched started at 23:54 and ended at 27:04, lasting just over three minutes in length. Figures E1 and E2 are both screenshots from the portion chosen. The video can be viewed on YouTube at https://www.youtube.com/watch?v=9swx2b236Wk.

Figure E1
George Washington Riding into Camp

Figure E2
Dr. Alexander Rose Speaking of the President

Appendix F
Perceived Stress Scale

Instructions: For each question, indicate by checking off the proper space to what extent you agree with the statement based on your feelings in this moment.

1. As of right now, how upset are you because of something that happened unexpectedly?
___0=Not at all ___1=A little ___2=Moderately ___3=A lot ___4=Very much

2. As of right now, to what extent do you feel you are unable to control the important things in your life?
___0=Not at all ___1=A little ___2=Moderately ___3=A lot ___4=Very much

3. As of right now, how nervous or "stressed" do you feel?
___0=Not at all ___1=A little ___2=Moderately ___3=A lot ___4=Very much

4. As of right now, how confident do you feel in your ability to handle your personal problems?
___0=Not at all ___1=A little ___2=Moderately ___3=A lot ___4=Very much

5. As of right now, to what extent do you feel things are going your way?
___0=Not at all ___1=A little ___2=Moderately ___3=A lot ___4=Very much

6. As of right now, to what extent do you feel that you cannot cope with all the things you have to do?
___0=Not at all ___1=A little ___2=Moderately ___3=A lot ___4=Very much

7. As of right now, to what extent do you feel you are able to control irritations in your life?
___0=Not at all ___1=A little ___2=Moderately ___3=A lot ___4=Very much

8. As of right now, to what extent do you feel you are on top of things?
___0=Not at all ___1=A little ___2=Moderately ___3=A lot ___4=Very much

9. As of right now, how angered do you feel because of things that are out of your control?
___0=Not at all ___1=A little ___2=Moderately ___3=A lot ___4=Very much

10. As of right now, to what extent do you feel difficulties are piling up so high that you cannot overcome them?
___0=Not at all ___1=A little ___2=Moderately ___3=A lot ___4=Very much

Appendix G
Demographic Information

**Gender:** Male Female

**Age: _____**

**Are you currently a pet owner?** Yes No

**If so, what kind?** Dog Cat Other

**Does your family currently own a pet?** Yes No

**If so, what kind?** Dog Cat Other

**Have you or your family been pet owners in the past?** Yes No

**If so, what kind?** Dog Cat Other