

Pet Ownership and the Effect on General Self-efficacy (GSE)  
After Being Exposed to a Flooding Scenario With Positive Ending

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### Abstract

In our society, humans are often not the only family members. About 1,5 million dogs and 2,6 million cats who live in the Netherlands (Dibevo, 2017) are often considered as part of the family (Cohen, 2002). Cats and dogs have positive physiological as well as psychological effects on their owners. Little is known about the relation between socio-cognitive factors emerging from the social cognitive theory of Bandura. The factor self-efficacy plays a central role in the theory. Some studies indicate a significant link between self-efficacy and pets (Leonardi, Buchanan-Smith, McIvor, & Vick, 2017; Richards, Ogata, & Cheng, 2016). The purpose of this embedded experimental design study is to examine the influence of pets, namely cats and dogs after participants have been exposed to a positive scenario on the general self-efficacy of humans. Therefore, the research question is: Do pets have a significant influence on the general self-efficacy (GSE) of their humans? In order to answer the question, an online survey with two groups was designed. Participants were either in the control group or received a positive scenario at the beginning of the questionnaire. Those two groups were respectively further differentiated into pet owners (PO) and non-pet owners (NPOs). It was hypothesized that there is a significant difference in GSE between pet owners and non-pet owners when exposed to a positive scenario. The remaining two hypotheses focused on a difference in dog and cat owners, and on the relationship between the level of pet attachment and GSE. Analysis shows that POs experience the same level of GSE as NPOs. As a consequence, the research question: Do pets have a significant influence on the GSE of their humans? reveals a negative answer. Possible reasons for this outcome include the perception of the scenario and the mean age of the sample. It is recommended to replicate this study with a different scenario, which is more relevant for the sample. Indirect influences such as mediator variables and other constructs which are closely related or overlap with GSE should be researched in the future.

*Keywords:* General Self-efficacy, Pet Ownership, Pets, Dogs, Cats, Scenarios

Pet Ownership and the Effect on General Self-efficacy (GSE)  
After Being Exposed to Positive Scenarios With Positive Ending

In our society, humans are often not the only family members. There are over four million domestic animals in the Netherlands (Dibevo, 2017). About 1,5 million dogs and 2,6 million cats who live in the Netherlands (Dibevo, 2017) are often considered as part of the family (Cohen, 2002). Moreover, owning a dog is associated with many health benefits (Heady & Grabka, 2007). Cats and dogs have positive physiological as well as psychological effects on their owners. For instance, the presence of a dog is even more effective in reducing blood pressure than therapy with an ace inhibitor when people are exposed to mild mental stress (Allen, Shykoff, & Izzo, 2001). Further benefits include increased self-esteem (Podberscek, 2006) and a prophylactic and therapeutic value for humans (Wells, 2007). Apart from research on general physical and psychological factors, less is known about the relation between socio-cognitive factors and pets (Krumrey, 2018, unpublished). A socio-cognitive factor is based on the social-cognitive theory of Bandura (1997). A recent study about the socio-cognitive relationship between cats and their owners show that humans have developed good socio-cognitive skills towards their pets (Pongrácz & Szapu, 2018). An example of such a socio-cognitive factor is *self-efficacy*.

It is well known that the concept self-efficacy predicts a lot of relevant life factors such as academic success (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996), physical activity and better health (Roman, Knight, Chalfin, & Popkin, 2009). Self-efficacy is defined as the belief in one's own capabilities (Bandura, 2009). Little is known yet about pet ownership and GSE. However, some studies have shown a significant relationship between self-efficacy and contact with dogs (Leonardi, Buchanan-Smith, McIvor, & Vick, 2017; Richards, Ogata, & Cheng, 2016). The purpose of this study is to examine the influence of pets, namely cats and dogs after the participants had been exposed to scenarios on the general self-efficacy of humans. Resulting in the research question: *Do pets have a significant influence on the GSE of their owners?*

### **Theory and Hypotheses**

**Self-efficacy.** A concept that is associated with positive influences on health is self-efficacy. Self-efficacy is defined as the belief in one's own capabilities (Bandura, 2009) and was firstly introduced by Bandura in 1977. It affects how a person deals with tasks, goals, and challenges (Bandura, 1977). As part of the social cognitive theory (SCT), there are reciprocal actions between three aspects that influence behavior (Bandura, 1997). These are personal factors, environmental influences, and behavioral attributes. Self-efficacy is the leading

personal factor in this construct. Self-efficacy can be measured in three dimensions: magnitude (also called level), strength and generality (Bandura, 1977). The first dimension, magnitude describes the level of difficulty a person experiences to implement a specific behavior. Strength refers to the certainty of a person to carry out the specific behavior. Lastly, generality explains the extent to which the previous dimensions generalize to the tasks and situations. Most research so far has focused on the first two aspects (Lee & Bobko, 1994). The third dimension, also known as general self-efficacy (GSE) is more regarded as a trait dimension (Chen, Gully, & Eden, 2001). Self-efficacy predicts many relevant outcomes in a broad context. People who show high GSE are likely to succeed in various tasks (Chen et al., 2001). Also, it is closely related to other constructs, especially self-esteem (Judge, Bono, & Locke, 2000). Chen and colleagues (2001) state that GSE is also suspected to moderate the impact of external events such as performance feedback on other variables, such as state self-efficacy (SSE). In comparison to SSE, GSE is more resistant to fading influences (Eden, 1988). Some researchers criticize the concept of GSE, especially the distinction from the concept of self-esteem itself (Stanley & Murphy, 1997, as cited in Chen et al., 2001).

The current study focuses on possible positive effects that cats and dogs have on the GSE of their owners after being exposed to scenarios. GSE is defined as ‘one’s belief in one’s overall competence to effect requisite performances across a wide variety of achievement situations’ (Eden, 2001, as cited in Chen et al., 2001, p. 63). GSE can be measured using the 8-item New General Self-Efficacy Scale invented by Chen et al (2001). The scale has excellent psychometric qualities and is considered as being the most suitable tool for measuring GSE (Scherbaum, Cohen-Charash, & Kern, 2006).

As stated above, some studies have shown a significant relationship between self-efficacy and contact with dogs. However, it remains unclear how contact with dogs may have an influence on one’s self-efficacy. In a Scottish self-reported interview study, offenders had a higher self-efficacy after participating in a dog training program (Leonardi et al., 2017). Further benefits of the dog training program with the prisoners included improved well-being, motivation, and emotional management. Additionally, in a randomized controlled trial study about dogs and physical activity, self-efficacy partially functioned as a mediator of social support variables (Richards et al., 2016).

The current study aims to explore the relationship between self-efficacy and PO by using a scenario-based approach. Due to the results of Leonardi et al. (2017), Richards et al. (2016) and the positive health effects of pets shown by research, the following hypotheses are drawn:

*Hypothesis 1:* There is a significant difference in GSE between pet owners (POs) and non-pet owners (NPOs) when exposed to a positive scenario.

The second purpose of this study is to compare the two groups of cat and dog owners with each other.

*Hypothesis 2:* There is no significant difference in GSE between cat and dog owners after being exposed to a positive scenario.

Thirdly, it is checked which relationship exists between pet attachment and GSE.

*Hypothesis 3:* There is a linear relationship between the level of pet attachment and GSE.

## **Method**

### **Design**

In order to answer the research question, an online survey with an embedded experimental design was used. In the current study, participants get randomly divided either into the positive, negative or the control group. The control group receives no scenario. Demographic questions, including questions about pet-ownership, are asked at the end of the questionnaire, in order to prevent reactivity. The scenarios are used because a similar exposure to real-life situations is not possible, also due to ethical reasons. Participants filled in an online questionnaire, which took about 10 to 15 minutes. This questionnaire is composed in collaboration with two other Psychology Bachelor students from the University of Twente. For the first hypothesis, there was one independent variable 'pet ownership' (PO) with two levels (Nonpet owners and pet owners). The dependent variable is the participants' score on general self-efficacy. For this study, the negative group is not relevant, and thus not considered in the analysis.

### **Participants**

Before analyzing the data, a few participants had to be removed, because they did not finish the questionnaire. No participant withdrew from the informed consent after the debriefing. The sample results in three different groups. There were 62 participants exposed to a positive scenario, 67 to a negative and 83 in the control group. The mean age of the sample was 21.1 years. The collected sample (without negative scenario) included 145 participants ( $SD = .59$ , range = 18 to 57 years) with 32 male and 113 female participants. The majority, 59.3% lives in Germany, 37.9% in the Netherlands, and the other 2.8% indicated to

live 'Elsewhere'. POs had a standard deviation of .66 ( $N = 69$ ), and NPOs standard deviation was .53 ( $N = 76$ ) on the variable NGSE.

Responses were recorded from 27.03.2019 till 01.05.2019. Participants were asked to fill in the English questionnaire either on a mobile device or on a Computer. In order to be in line for participation, the subject had to have a sufficient level of English and the age was restricted to 18 and older.

## Materials

**New general self-efficacy scale.** In order to measure the GSE of the participants after they were exposed to the scenarios, the 8-item New General Self-Efficacy Scale of Chen et al. (2001) was used. The response format is a 5-point Likert Scale ranging from 1 = strongly disagree to 5 = strongly agree. Items include 'I will be able to achieve most of the goals that I set for myself' and 'Compared to other people, I can do most tasks very well'. The scale had been used in multiple studies and countries with different target groups. Among others, also with students and professionals in the United States (Chen et al., 2001). The choice of using this particular scale emerges also from its length and its good psychometric qualities. Currently, it is more reliable and valid than comparable measures (Scherbaum et al., 2006). Scores were calculated by summing up the score of each item and dividing it by the number of total items. In studies with university students, the scale had a Cronbach's Alpha of .86 (Chen et al., 2001). Also when applied to a different sample, reliability remained high. In this study, a similar result was achieved. Reliability analysis with all 145 participants revealed a Cronbach's Alpha of .84 The scale has good psychometric properties.

**Additional scale.** Pet owners filled in the following tools only. An additional 4-item Pet Attachment scale was used, it deals with the perception of pets within the family. The scale is answered using a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree. Previous to this study it was used by Zorc (2018, unpublished) (Appendix A). However, the scale was not included in the results section. Therefore, no information about psychometric qualities can be given. Specifically, the items deal with happiness, missing, spending time and considering the animal as part of the family.

All items seem to have moderate Item-Total Correlations (Appendix D), except for the first item. Validity was tested using factor analysis. Applying the elbow criterion showed that the scale is measuring one factor and thus unidimensional (Appendix E). The Pet Attachment Scale showed good psychometric qualities when the first item 'I miss my pet(s) when it's not around me' is removed. Cronbach's Alpha if item deleted is at .74, which is a meaningful increase compared to  $\alpha = .61$ , when all items are included. Psychometric qualities of the scale

are sufficient, however, the first item should be deleted or improved in further analyses and studies.

Further, participants indicate how much time they spend on average with their pet per week. They can indicate a specific amount of time on a slider from zero to 40 hours. This tool was used before in a study of Krumrey (2018, unpublished) on a descriptive research survey study in combination with pets and self-regulation. It is not possible to determine the psychometric qualities in further analyses.

### **Procedure**

The survey was available via the link on the business card, it was accessible with a QR code or using the SONA-system of the University of Twente, which is only accessible to BMS students from the University of Twente. Participants who used SONA-systems received 0.25 credits for their participation. The other participants did not get compensation. The software Qualtrics allowed to interrupt the questionnaire at any point in time and continue the survey at a later point. Respondents were recruited via Snowball sampling/convenience sampling using 500 business cards including the link to the survey, a QR code, contact details and social media (WhatsApp, Facebook). The survey started with short informed consent. In the following, the participants had to agree to the terms and conditions in order to start the survey. After that, either one of the scenarios was visible in combination with a question about how they perceived the scenario.

Participants in the control group went directly to the next section, which is the perceived stress scale. As this study is a collaboration with two other Psychology students, the scale is not relevant in this paper. Next, they had to fill in the NGSE Scale followed by basic demographic questions. This also included a question about whether the participant owns a pet. If 'Yes' was selected, there were more follow up questions including contact hours and newly developed Pet Attachment Scale. If the participant does not own a pet, the participants received a debriefing about the purpose of the study. They had the chance to withdraw from the informed consent at that moment by closing the webpage or to end the survey. In the case of the latter, their response was recorded.

**Scenarios.** Two scenarios were used in this study (Appendix B). Both of them deal with the possible consequence of a flood and moving. Both only differentiate at the end and were developed in cooperation with the other two Psychology Bachelor students from the University of Twente. In this study, only the positive scenario is relevant. Due to ethical and practical reasons, it is not possible to measure the possible influences in real-life. Therefore, the scenarios are used to measure the attitudes of the participants after they had been exposed

to a scenario. The positive scenario takes the reader into a situation where the house of the participant is threatened by the high water levels in the Netherlands. The dikes are at risk to get submerged. As a consequence, the participant needs to move into a different region if the government cannot find a solution to the problem and built higher dikes. Shortly before the situation gets too risky for the inhabitants, they receive a positive letter from the government. Here it is stated that a solution was found and the dikes could be increased. As a consequence, the inhabitants can stay in their region.

The positive scenario was perceived as neither positive nor negative. The mean score on a 5-point Likert Scale ranging from 1 = extremely positive to 5 = extremely negative was 2.92. Next, an analysis of normality with the Shapiro-Wilk test was applied on NPO and NO group. It revealed that the NPO had a normal distribution, in contrast, the NO group had no normal distribution. Due to the small sample size, no action was taken.

## Results

### Descriptive analysis

Participants achieved a mean score of 3.73 on the NGSE scale. There was no large difference in means between the control group and the positive group (control =  $\mu$  3.71, positive =  $\mu$  3.77). The items of the NGSE scale had a mean score between 3.32 and 4.04. The lowest score displayed in the item ‘Compared to other people, I can do most tasks very well’, whereas the highest mean was achieved on item ‘In general, I think that I can obtain outcomes that are important to me’.

Pet Ownership and Age show a small positive association, while Pet Ownership and Gender display a small negative association. No associations were found related to the variable NSGE. However, the PAS has a small negative association with the variable Age and a small positive association with the variable Gender.

Table 1

### *Descriptive Statistics and Pearson Correlations among Variables*

	Mean	SD	1.	2.	3.	4.	5.
1. Age	21.11	5.02					
2. Gender	1.78	.42	-.04				
3. Do you own pet(s)?	1.52	.5	.12	-.11			
4. NGSE	3.73	.59	-.06	-.07	.05		



5. PAS	4.61	.47	-.24*	.27*	-.03	-.01
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*Note.*  $N = 145$  (1,2,3,4).  $N = 72$  (5). \* $p$  is significant at  $p < .05$ . NGSE = New General Self-Efficacy Scale, PAS = Pet Attachment Scale

**Additional analyses.**

***Pet attachment scale.*** Participants achieved a high mean score of 4.61 in the Pet Attachment Scale (Appendix A). The majority of the participants are highly attached (Appendix C). The highest score was given in item 4 ‘I consider my pet(s) as part of the family’, which had a mean of 4.81. The high mean scores suggest that the participants are closely attached to their pets. All items seem to have moderate Item-Total Correlations (Appendix D), except for the first item. Validity was tested using factor analysis. Applying the elbow criterion showed that the scale is measuring one factor and thus unidimensional (Appendix E). The Pet Attachment Scale showed good psychometric qualities when the first item ‘I miss my pet(s) when it's not around me’ is removed. Cronbach’s Alpha if item deleted is at .74, which is a meaningful increase compared to  $\alpha = .61$ , when all items are included.

***Amount of time spent with pet(s).*** In addition to the previous scales, pet owners could indicate the amount of time they spend with their pet(s) on average per week. In order to determine the level of time they spend with their pets, their average score was computed. Results reveal that in an average week, participants actively spend a little bit more than 14 hours with their pet(s). This amount of time is classified as moderate interaction (Appendix F).

**Testing hypotheses**

In order to test the first hypothesis, an independent samples t-test was administered with the positive sample group. Hypothesis 1: There is a significant difference in GSE between pet owners (POs) and non-pet owners (NPOs) when exposed to a positive scenario. The results reveal that there was no significant relationship between PO’s and NPO’s in their GSE scores [ $t = -1.1$ , d.f. = 60;  $p > 0.05$ ] (Table 2). The hypothesis is rejected, PO’s and NPO’s have no different GSE scores.

The same test was applied to test the second hypothesis. Hypothesis 2: There is no significant difference in GSE between cat and dog owners after being exposed to a positive scenario. The independent samples t-test with cat and dog owners showed that there is no significant difference between cat and dog owners in their level of GSE [ $t = .5$ , d.f. = 49;  $p > 0.05$ ] (Table 3). Thus, the hypothesis is accepted. There is no significant difference in GSE between cat and dog owners after exposed to a positive scenario.

Table 2

*Results of the T-test and Descriptive Statistics for New General Self-Efficacy Scale by Pet Ownership – Positive Scenario Group*

	Pet owner	N	Mean	Std. Deviation	T-test
New General Self- Efficacy	Yes	25	3.67	.75	.3*
	No	39	3.84	.54	ns

Note. *N* = Number of participants. \* $p < .05$

Table 3

*Independent Samples T-test for New General Self-Efficacy Scale by Cat and Dog Owners*

	Pet owner	N	Mean	Std. Deviation	T-test
New General Self- Efficacy	Cats	14	3.77	.55	.82*
	Dogs	39	3.65	.65	ns

Note. *N* = Number of participants. \* $p < .05$

To test the third hypothesis, a linear regression was applied to predict GSE based on Pet Attachment. Hypothesis 3: There is a linear relationship between the level of pet attachment and GSE. For this analysis, participants in both groups were taken into account. Item 1 of the Pet Attachment Scale was removed from the analysis, because it lacks quality, as shown in the section additional analyses in the descriptives. No significant regression equation was found [ $F(1, 70) = .326, p > .01$ , with an  $R^2$  of .01]. As a consequence, the hypothesis is rejected, there is no linear relationship between the level of pet attachment and GSE.

### Discussion

The purpose of this study was to investigate whether pet ownership has an effect on the GSE of their owners when exposed to a positive scenario. In addition, it was tested if there is a difference in scores between cat and dog owners. Further, the Pet Attachment Scale was developed and it was tested if there is a linear relationship between GSE and the level of attachment. It was found that pet ownership has no direct effect on GSE when a positive

scenario is used. However, the second hypothesis confirmed that cat and dog owners do not differ in their scores. Also, no linear relationship between the level of pet attachment and GSE was found.

Previous research dealing with self-efficacy and pet ownership suggests that the relationship is rather complex and not linear. The dog walking study of Richards et al. (2016) found a significant increase in a subscale of self-efficacy for dog owners and a significant decrease for nondog owners after 6 months. However, these changes were not seen after the full 12 months intervention. This supports the idea that the relationship between self-efficacy and pet ownership is not linear. Recently, non-significant results were found in a survey of Koning (2018, unpublished), which examined perceived self-efficacy in pet and non-pet owners. This also supports the results of this study. In contrast to the non-significant measures found in this study, the self-report study with offenders found an increase in self-efficacy after a dog training program (Leonardi et al., 2017). However, this study used self-report as a method, and a special target group prisoners, which might explain the different findings compared to this study. The research of Wisdom, Saedi, and Green (2009) supports this. It seems that self-efficacy can be supported or enhanced within special target groups. Patients with mental illness benefit from service dogs in various ways and support the patient's self-efficacy. In addition to that, the self-report study confirmed that pets serve as family members (Wisdom et al., 2009). Pongrácz and Szapu (2018) researched the socio-cognitive relationship between humans and cats. Findings agree with Wisdom et al (2009). This is in line with the findings of this study and the Pet Attachment Scale. In conclusion, the field is inconclusive, some research is in line with the findings of this study, while others are not. A lot of questions remain unexplained at this point in time.

Another explanation for the findings can be confounding variables. As mentioned above, the concept of GSE is a rather stable measure compared to SSE (Eden, 1988), which might explain why new pet owners have no increased GSE. This should be taken into account in future studies, with a larger sample size, which enables to compare long-time POs with short time or NPOs and also a different type of self-efficacy. Also, the concept of GSE is criticized, because of its similarity to self-esteem (Stanley & Murphy, 1997, as cited in Chen et al., 2001). Further, there is an imbalance in men and women in the sample. Less than 1/3 of the participants is male. However, the PO and NPOs were comparable in terms of age. In contrast, a Swedish study found that people between the ages 16 and 24 do not show the same positive health effects of pet-ownership as compared to older people (Mullersdorf, Granstrom,

& Tillgren, 2012). The mean age of this study was in this range, so this might be also an explanation for the non-significant result.

Most importantly, the positive scenario was not perceived as positive, the score was rather neutral. This might be due to various reasons. Firstly, most participants were German, so the scenario is probably not realistic enough and affecting their future. Also, Dutch participants who live in the east of the Netherlands (where the University is located) probably did not feel directly endangered of flooding. Even though a different part of the Netherlands got affected by a real flood shortly before data collection started. Another reason might be the design of the scenario. In the positive version of the scenario, participants receive a letter from the government stating that a solution has been found, however, this might seem very abstract. Also, it remains unclear which solution has been found and if it is effective in the long term or only for a few months. Future research dealing with scenarios should take this into account and do pretests to ensure that the scenario(s) is/are valid.

Positive points of this study include good psychometric qualities of the NGSE-Scale, which are comparable to results achieved in previous studies. The Pet Attachment Scale confirmed that attachment to domestic animals is high and animals are considered as part of the family. Additionally, interaction with pets was found to be moderate. The scale had sufficient psychometric qualities and should be expanded by some more items in future research.

Besides, future research should focus on a different mean age of the sample and thus take the findings of previous research into account. Also, a different target group should be considered. Especially in settings with a special target group such as offenders or people with mental illness (Leonardi et al., 2017; Wisdom, Saedi, & Green, 2009), self-efficacy seems to change when intervention with dogs was implemented. It is recommended to replicate this study with a different scenario, which is more relevant for the sample. When conducting a study with a pre- and posttest design, researchers should not use GSE to determine self-efficacy, because this type is rather a stable measure (Eden, 1988). Instead, SSE or a different measure should be used. Another point of consideration is the direct relationship between the variables assumed in this study. As the concept of self-efficacy is closely related or overlaps with self-esteem and other constructs, such as self-regulation (Schwarzer, 1999), it might be that there are other factors with a direct or indirect influence as found in the study of Richards et al. in 2016. Here self-efficacy acted as a mediator variable. The role of self-efficacy within the context of pet-ownership is not properly understood yet.

In conclusion, this study found no direct influence on the GSE on humans. However, it is important to continue research in this controversial field. Domestic animals, especially dogs have positive psychological and physiological effects on humans. Continuing research could have a positive effect on the lives of various types of people, mainly with regard to health benefits, but also academic success and wellbeing. Further, it is relevant to look closer on the negative side. For instance, research should cover effects on humans with pets in a crisis situation.

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## Appendix

## Appendix A

## Pet Attachment Scale

Table A1

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Item
1. I miss my pet(s) when it's not around me
2. I am happy when I am with my pet(s)
3. I like to spend time with my pet(s)
4. I consider my pet(s) as part of the family

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## Appendix B

### Positive and Negative Scenario

#### A Negative Scenario

In the following, you will read a short scenario. Read it carefully and imagine yourself being in that situation. After that, you are asked to answer some questions.

You live in a small city close to one of the major rivers (Rhine, Meuse or Waal). The area you live in will be flooded due to heavy rain and snow in Switzerland, Southern Germany, and France a week from now if the government does not come up with a solution to build higher dikes. You are scared that you have to leave your house and move away. You grew up in that area and have a lot of memories there. Now you have to leave these behind even though you do not want to.

A few days before you have to leave, you receive a letter from the government. This letter announces that they have to inform all the citizens that they did not manage to find a solution for building up the dikes. Therefore, you have to leave your house behind because the water level in the river is likely to reach a level that it will flood the whole area and your city.

#### B Positive Scenario

In the following, you will read a short scenario. Read it carefully and imagine yourself being in that situation. After that, you are asked to answer some questions.

You live in a small city close to one of the major rivers (Rhine, Meuse or Waal). The area you live in will be flooded due to heavy rain and snow in Switzerland, Southern Germany, and France a week from now if the government does not come up with a solution to build higher dikes. You are scared that you have to leave your house and move away. You grew up in that area and have a lot of memories there. Now you have to leave these behind even though you do not want to.

A few days before you have to leave, you receive a letter from the government. This letter announces that they have come up with a solution and that they can make the dikes higher. Therefore, the village cannot be flooded anymore and you and all the citizens do not have to leave their house anymore.

## Appendix C

## Attachment Scores for the Pet Attachment Scale

Table C1

Value	Level of attachment
0-1.5	Not attached
>1.5-2.5	Slightly not attached
>2.5-3.5	Moderately attached
>3.5-4.5	Slightly attached
>4.5-5	Highly attached

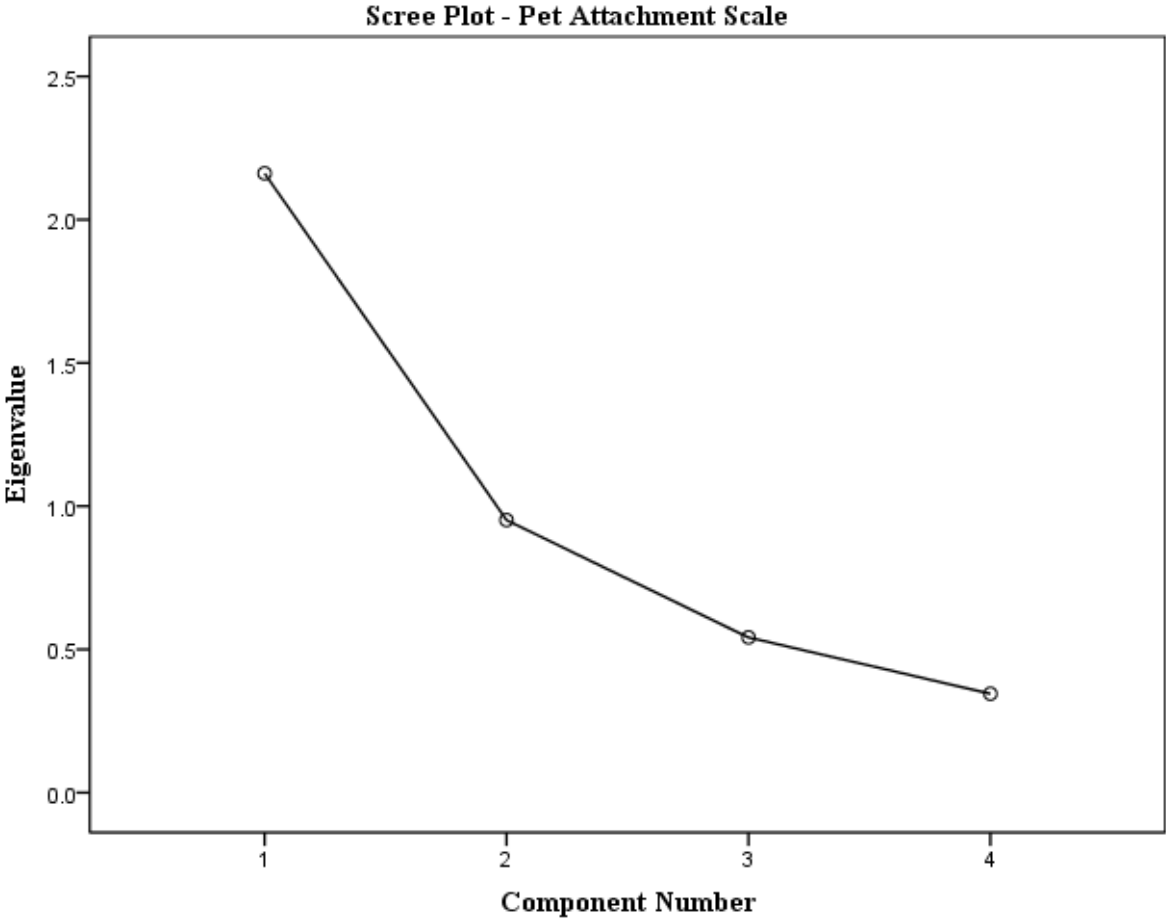
## Appendix D

## Item-Total Statistics and Mean Score of the Pet Attachment Scale

Table D1

Item	Mean	Corrected Item-Total Correlation	Cronbach's Alpha if item deleted
Item 1- I miss my pet(s) when it is not around me	4.22	.31	.74
Item 2 – I am happy when I am with my pet(s)	4.72	.54	.48
Item 3 – I like to spend time with my pet(s)	4.71	.40	.54
Item 4 – I consider my pet(s) as part of the family	4.81	.57	.48

Appendix E  
Scree Plot of the Pet Attachment Scale



## Appendix F

## Active Interaction Scores – hours per week

Table F1

Hours per week	Level of interaction
0-10	Low interaction
10-20	Moderate interaction
20-30	High interaction
30-40	Very high interaction