The Role of Self-Compassion as a Moderator between Attachment to Companion Animal and Perceived Stress

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ABSTRACT
Perceived stress is a subjective perception that individuals have towards stressors in life. Due to the occurring pandemic, individuals' perceived stress are at risk as various stressors resulting from social and physical distancing have emerged. For certain individuals, the lack of social interaction could also act as a stressor in their lives. To fulfill this lack of social interaction, some individuals would start to accept or further perceived their companion animal as a source of social support. Moreover, staying at home enables individuals to spend more time with their companion animal, which in turn could strengthen the attachment towards their companion animal. The attachment style that appears would then affect an individual's level of perceived stress. To further substantiate the relationship between these variables, another variable is added into the equation, namely self-compassion. As results of past research papers had found that self-compassion has a profound effect towards perceived stress, the key point of this research is to measure the role of self-compassion as a moderator between attachment to companion animal towards perceived stress. In this quantitative research, there were 323 pet owners/animal caregivers, aged 15-55 years old, that took part in answering the following psychological instruments; Perceived Stress Scale-10 (PSS-10), Pet Attachment Questionnaire (PAQ), and Self-Compassion Scale (SCS)/Skala Welas Diri (SWD). Results of this study indicate that self-compassion has no significant role as a moderator ($p = 0.285 > 0.05$), yet it has a prominent role as the second independent variable.
Keywords: *Attachment to Pets / Companion Animals, Perceived Stress, Self-compassion*

1. INTRODUCTION

Since the emergence of the novel Corona Virus (COVID-19) on late 2019, sudden tremendous changes have led to the increase of individuals' uncertainties. To be exact, COVID-19 has created uncertainties due to orders of staying at home, fear of loved ones contracting the virus, and the financial insecurities faced due to unemployment [1], which could trigger an increases in stress. It has been found that the prevalence of stress in Asia had reached 32.9% and in Europe had reached 23.8% due to COVID-19 [2]. Also evident in Indonesia, a survey done by Perhimpunan Dokter Spesialis Kedokteran Jiwa Indonesia (PDSKJI) had found that 64.3% of 1,522 respondents experienced anxiety and depression that have emerged due to the stress of the COVID-19 pandemic [3]. This sudden surge of stress could then lead to an increase in individuals' level of perceived stress [4].

Perceived stress is the feelings or thoughts that an individual has about how much stress they are under at a given point in time or over a given time period [5]. Though both stress and perceived stress are similar to one another, stress is more of individuals' reaction towards the present changes that they are facing, be it physically, mentally, or emotionally, while perceived stress is more of a feeling of lacking control and inability to predict the future, than actually facing real stressors [6]. If this high level of perceived stress continues to persist, it could lead to some mental health problems, as it could bring out depression symptoms [4] sleep disorders, eating disorders [6], and also anxiety disorders [7]. Hence, it is of utmost importance for individuals to minimize their level of perceived stress through social support, as it had been found to be of help in buffering mental health threats that arises from perceived stress [8]. Consequently, individuals with lacking social support had been found to face heavier consequences from stress [9].

Even though social support is known to be of help in times of need, some individuals would still face difficulties in fulfilling it, as the current social and physical distancing rule have limited the availability and acquirement of social support [10]. Therefore, in order to overcome this puzzle, individuals have started to seek for a substitute figure that is able to accompany and fulfill their lack of social support, namely companion animal or pet. This statement is evident in the phenomenon of an increase of pet adoption by 70% as reported by the American Society for Prevention of Cruelty to Animals (ASPCA) in America,

and also more than 50% increase reported by Battersea Dogs and Cats Home in the United Kingdom [11]. Aside from pet adoption, pet sales also did increase in Japan as Japan Pet Communications Co. had reported a 30%-40% increase in sales of dogs & cats, a 50% increase in killifish, and a 1.5% increase in small reptiles such as turtles and lizards [12]. Similarly in Indonesia, a platform that focuses on providing services and pets' needs had also reported a 71% increase in their income [13].

This phenomenon could occur as individuals have found that companion animals could act as their social supporters, especially during this pandemic. According to a survey by Bowen et al. [14], as much as 74.3% of 1297 respondents had felt an increased support from their companion animals during lockdown. As companion animals are able to provide unconditional emotional support without any judgments [15-16], individuals would feel comfortable in sharing their stories to companion animals during stressful times or when facing great changes in life [15], and by doing so would help staved off their loneliness [17]. These feelings of being accepted and loved unconditionally by their companion animals could give individuals comfort as well as reassurance, which could then lead to a formation of attachment [18].

Since previous researches had found that companion animals could act as attachment figures (AF) [15, 18-21], a more specific attachment variable was then formed, namely attachment to companion animal / pet attachment. However, as the word "pets" is considered to be demeaning (as it implies that animals are objects of ownership) [22], henceforth, the researchers would like to utilize "companion animals" as a more befitting term. By definition, attachment to companion animal refers to the level of intimacy and bonding between a caregiver and their companion animal [23]. Though it had been found that a higher level of attachment towards companion animal could lower perceived stress [23], yet the effectiveness of reducing perceived stress relies more on the attachment style that an individual has towards their companion animal [18]. Individuals with insecure attachment towards their companion animal tend to perceive their companion animal as unreliable in giving them support as they have deemed their companion animals to not be sensitive or responsive enough to fulfill their needs [18]. As per usual there are two subtypes of insecure attachment; (a) anxiety, in which an individual feels intense and intrusive worries that something bad might happen to their companion animal (with the fear that they would be left alone). They tends to also seek reassurance from their companion animal in order to maintain self-worth, and might feel frustrated when the relationship with their companion animal isn't as close as desired; (b) avoidant, in which an individual avoids intimacy and feels uncomfortable in being close albeit physically or emotionally with their companion animal, which then would make it difficult for them to depend on their companion animal when feeling distressed [18]. On the contrary, individuals with secure attachment would be able to receive the social support given by their companion animal [24], which in turn would help in reducing their perceived stress.

Aside from reducing perceived stress, attachment had also been found to be affective in increasing self-compassion, as there is a sense of worth and connection felt by individuals toward their attachment figure [25]. Self-compassion could be defined as an act of being open and accepting towards one's own suffering, inadequacies, and failures, whilst taking an understanding and nonjudgmental attitude toward oneself and recognizing that the trials they are facing are all part of a common experience as a human being [26]. There are three basic components in self-compassion, mainly; (a) self-kindness = extending kindness and understanding towards oneself rather than self-criticizing (self-judgement); (b) common humanity = perceiving one's experience as part of a part of a larger human experience, rather than perceiving it separately (isolation); (c) mindfulness = dealing with one's painful thoughts and feelings in awareness rather than being too immersed in it (over-identifying) [27]. As self-compassionate individuals deal with less self-criticism, isolation, and over-identification when facing problems [28], their perceived stress level would be reduced [27,29]. The relationship of these three variables is best explained through the findings of Bergen-Cico et al. [30], in which attachment toward companion animal, especially dogs, could increase self-compassion, as dogs tend to provide emotional support to their caregivers, which could help lower individuals' tendency to self-judge, thus resulting in lower perceived stress levels. Hence, this research is done in an attempt to further delve into these variables' relation.

There are a few gaps that have encouraged the formulation of this research. First of all, very limited studies have brought up the importance of human-animal relationship in Indonesia. Second, there had been contradictory findings in previous researches between attachment to companion animal towards perceived stress, in which Wu et al. [23] had found that higher attachment to companion animal contributes to reducing the level of perceived stress, whereas Le Roux and Wright [9] had found no correlation between these two variables. Third, numerous previous researches on attachment to companion animal had applied the "Lexington Attachment to Pets Scale" (LAPS), yet this psychological instrument perceived attachment as more of a subjective affection that caregivers have towards their companion animal, without associating with the formal theory of attachment [31]. Aside from LAPS, other psychological instruments had also measured only certain aspects of attachment such as emotional bond [32]. Hence, the researchers had decided to apply the Pet Attachment Questionnaire, as it is based off the formal theory of attachment. Lastly, the lack of research towards other type of companion animals (aside from dogs & cats) had made the research field less representative for other companion animals' caregivers.

2. RESEARCH METHODS

This research is a quantitative research with explanatory correlational research method. As this research was done online, the questionnaires were shared in the form of Google Form links. Hence, the sampling techniques applied were purposive and snowball sampling. In an attempt to achieve eligible data, the researchers had set a participant criterion as the following; Individuals aged 15-55 years old with a minimum education of Junior High School, whom have taken care of a companion animal for a minimum period of six months. The types of animals that could be included as companion animals are dogs, cats, horses, rabbits, ferrets, birds, guinea pigs, other small mammals, small reptiles and fishes, as approved by the ASPCA [33].

After gathering all the data, the total amount of participants had amounted to 323 animal caregivers, with 77 men and 246 women. As many as 52.9% of the individuals are aged 21-40 years old, 34.7% are aged 15-20 years old, and 12.4% are aged 41-55 years old. Moreover, the percentages of a certain type of animal caregivers are listed as the following; 61.6% dog, 21.7% cats, 3.4% rabbits, 3.1 hamster, 3.1% small fish, 2.5% tortoises, 2.2% birds, 1.2% sugar glider, 0.3% tutles, 0.3% porcupine, 0.3% leopard gecko, 0.3% guinea pig. A total of 58.8% participants have taken care of their companion animals for more than three years.

Psychological Instruments

Perceived stress was measured through the adapted Indonesian version of Perceived Stress Scale-10 (PSS-10) [4] by Lim and Kartasasmita [34]. This psychological instrument is one-dimensional and consists of 10 statement items with 6 positive items (1,2,3,6,9,10) and 4 negative items (4,5,7,8). Each item has five possible responses (0=never, 1=almost never, 2=sometimes, 3=quite frequent, 4= very frequent), and the. A higher total score reflects a higher level of perceived stress and vice versa.

Attachment to companion animal was measured through the Pet Attachment Questionnaire (PAQ) [18] and was adapted to the Indonesian version by the researchers. This psychological instrument consists of 26 statement items which are divided into two dimensions, namely anxiety (2,4,6,8,10,12,14,16,18,20,22,24,26) and avoidant (1,3,5,7,9,11,13,15,17,19,21,23,25). Only the first item acts as a negative item. The possible responses on each item is in the form of a scale with a range of 1=strongly disagree,…, 4=neutral/mixed,…., 7=strongly agree. As this instrument focuses more on insecure attachment, a higher total score reflects an insecure attachment and a lower total score reflects a secure attachment.

Self-compassion was measured through the adapted Indonesian version of Self-Compassion Scale (SCS) [26] by Sugianto et al. [35], and is also referred as Skala Welas Diri (SWD). This psychological instrument consists of 26 statement items which were divided into six dimensions, namely self-kindness (5,12,19,23,26), self-judgement (1,8,11,16,21), common humanity (3,7,10,15), isolation (4,13,18,25), mindfulness (9,14,17,22), and over-identification (2,6,20,24). The items on self-judgement, isolation, and over-identification dimensions are all negative items. This psychological instrument has 5 possible responses with 1=almost never, up to 5=almost always. A higher total score in this instrument reflects a higher self-compassion and vice versa.

3. RESULTS AND DISCUSSION

In order to test this research's hypothesis, correlational tests between the three variables were carried out first and the results had shown significant correlations. As the attachment to companion animal variable was found to not be distributed normally, the spearman correlation test was done between attachment and perceived stress. The result showed a value of $r(323)=0.350$, $p=0.000<0.01$, in which it is shown that both of these variables have a positive correlation. From this result, it can be concluded that an individual with insecure attachment towards their companion animal tend to have a higher level of perceived stress, while an individual with secure attachment towards their companion animal tend to have a lower level of perceived stress.

After finding out the correlation between attachment and perceived stress, the researchers then conducted a correlational test between self-compassion and perceived stress through Pearson correlation, as both of these variables had been found to be distributed normally. The result showed a value of $r(323)=-0.679$, $p=0.000<0.01$, in which it shows an inverse correlation between these variables. From this result, it can be concluded that individuals with a higher level of self-compassion would have a lower level of perceived stress, and individuals with a lower level of self-compassion would trigger a higher level of perceived stress.

Lastly, a correlation test between attachment to companion animal and self-compassion was also done through Spearman correlation test. Result showed that $r(323)= -0.243$, $p=0.000<0.01$, in which it indicates a negative correlation between these variables. Hence, it can be concluded that an individual with insecure attachment towards their companion animal would have a lower level of self-compassion and an individual with secure attachment towards their companion animal would have a higher level of self-compassion.

Table 1 Correlational results between Attachment to companion animal, Perceived stress, dan Self-compassion

Relationship	Correlational Test	Coefficient Correlation (r)	Sig. (2-tailed)
Attachment to companion animal <=>Perceived stress	Spearman	0.350**	0.000
Perceived stress <=> Self-compassion	Pearson	-0.679**	0.000
Self-compassion <=> Attachment to companion animal	Spearman	-0.243**	0.000

As the findings have shown that all three of these variables correlates with one another, the researchers then proceeded to conduct regression linear tests between attachment and perceived stress, as well as between self-compassion and perceived stress. The first regression linear test between attachment and perceived stress had shown coefficient correlation of 0.108 and a result of F=38.734>3.84, p=0.000 (<0.05), in which it can be concluded that attachment to companion animal could predict the outcome of perceived stress by 10.8% and that attachment had a significant role towards perceived stress. The second regression linear test between self-compassion and perceived stress had shown a coefficient correlation of 0.462 and a result of F=275.611>3.84, p=0.000 (<0.05), in which it can be concluded that self-compassion could predict the outcome of perceived stress by 46.2% and that self-compassion has a significant role towards perceived stress. As the results have shown that both attachment and self-compassion have significant roles toward perceived stress, the researchers could then proceed to conduct a multiple regression linear test. The results showed a correlation coefficient of 0.487 and a result of F=152.149 >3.00, p=0.000(<0.05). It can be concluded that both attachment and self-compassion have significant roles toward perceived stress and could simultaneously predict perceived stress by 48.7%. However, after further conducting an interaction test on the moderating variable (a combination between attachment to companion animal with self-compassion), it was found that self-compassion does not have a significant role as a moderator between attachment and perceived stress as the result was t(3,319)=1.071, p=0.285 (>0.05).

Table 2 Results of Linear Regression Tests

Independent Variable	Dependent Variable	Coefficient Correlation (R^2)	Sig.
Attachment to companion animal	Perceived Stress	0.108	0.000
Self-compassion	Perceived Stress	0.462	0.000
Attachment to companion animal and Self-compassion	Perceived Stress	0.487	0.000
Moderating	Perceived Stress	0.489	0.285

Aside from conducting correlational and linear regression tests, comparison tests were also conducted between this research's variables and participants' data. Results have shown that attachment to companion animal has a significant difference when compared to companion animal types (H=21.073, p=0.049), interaction duration / daily care time (H=25.848, p=0.000), participants' view of their companion animals (H=28.236, p=0.000), and monthly expenditure to fulfill companion animals' needs (H=20.657, p=0.000). However, significant differences were not found when compared to age, sex, household type, and the duration of keeping their companion animals.

Whereas, the perceived stress variable was found to have significant differences when compared to sex (t=-2.581, p=0.010), age (F=16.342, p=0.000), marriage status (F=21.301, p=0.000), and participants' household type (F=2.988, p=0.031). However significant differences were not found when compared to interaction duration / daily care time and participants' view of their companion animals.

Lastly, self-compassion variable was found to have significant differences when compared to age (F=9.128, p=0.000), sex (t=1.987, p=0.048) and marriage status (F=14.961, p=0.000).

Discussion

Self-compassion's lack of role as a moderator could possibly have happened due to two of these reasons. The first reason is due to the abnormal data distribution of the attachment variable, which most likely happened because there was a lack of data variance between dog caregivers (199 samples) than other types of companion animals' caregiver (some only had one sample). The second reason is due to the fact that attachment as an independent variable (10.8%) has a less significant role than self-compassion as a moderator (46.2%), hence the inability to examine self-compassion as just a moderator but more of a second independent variable.

The correlations found between each of these variables are in accordance to some of these previous researches. Firstly, in accordance to the study of Wu et al. [23], it has been found that attachment to companion animal

correlates with perceived stress. This correlation could happen as securely attached individuals are able to receive the social support given by their companion animal [24], which then would help buffer against stress [23]. Secondly, in accordance to the studies by Homan and Sirois [36] and Li et al. [37], it has been found that self-compassion has an inverse correlation with perceived stress. This correlation could happen as individuals with a lower level of self-compassion tend to self-judge, over-identify problems, and isolate oneselves, which would then increase perceived stress [27]. Lastly, in accordance with Neff and McGehee [25], securely attached individuals had been found to have a higher level of self-compassion as there is a sense of worth and connection felt with their attachment figure.

Aside from discussing the role of each variable in this research, the researchers would also like to discuss the results of the comparison tests between each variable and participants' additional data. First of all, when compared to participants' age, significant differences had been found towards self-compassion and perceived stress. On self-compassion, it could be described that individuals aged 41-55 years old have the highest level of self-compassion, while individuals aged 15-20 years old have the lowest level of self-compassion. On the contrary, when compared to perceived stress, it has been found that individuals aged 15-20 years old have the highest level of perceived stress, while individuals aged 41-55 years old have the lowest level of perceived stress. This finding is in accordance with the findings of the American Psychological Association [38] that due to the ongoing pandemic, as well as the lockdown that have been happening, teenagers (13-17 years old) and young adults (18-23 years old) are facing heavy level of perceived stress as they felt so uncertain about their future. Also in accordance to the findings of Vallejo et al [39], stress tends to lower as individuals increase in age.

Second, it has also been found that sex difference has a significant role towards self-compassion and perceived stress. On self-compassion, it has been found that men tend to have a higher level of self-compassion than women, as women tend to criticize themselves and also do more negative self-talk than men, as stated by Devore; Leadbeater in Yarnell [40]. Similarly, on perceived stress, women have been found to have higher levels of perceived stress as they tend to express more feelings of anxiety, fear, depression, and also would cry and self-judge as a reaction toward stressors, while in comparison, men tend to express more feelings of anger, and would show smoking behavior as a reaction, whilst spending more time to contemplate on how to solve a problem rather than being dragged by the problem [41]. Third, it has been found that participants' household type has a significant difference toward perceived stress. The result indicates that individuals who lived with their friends or relatives tend to have higher levels of perceived stress in compared to individuals living alone or with their families. This result could happen as individuals may not be able to feel as free or comfortable when living with relatives or friends as there are some restrictions that could fuel stress.

Fourth, particularly in this research, significant differences towards attachment to companion animal have been found when compared to specific type of companion animal. The accumulated data has indications that individuals whom have taken care of sugar gliders, tortoises, hamsters, fishes, turtles, and cats tend to show an insecure attachment. Meanwhile, individuals whom have taken care of porcupine, rabbits, dogs, birds, guinea pigs, and leopard gecko tend to show a secure attachment towards their companion animals. Fifth, also when compared to interaction duration / daily care time, a significant difference in attachment to companion animal variable could also be seen. As individuals whom have spent more time interacting with their companion animals tend to have a secure attachment, while individuals with less interaction time with their companion animals tend to have an insecure attachment. This outcome is in accordance with the studies of Wu et al. [23] and Meehan et al. [15] that had found that individuals who spend more time with their companion animal would have a higher attachment or a more secure attachment towards their companion animals.

Sixth, when compared to participants' monthly expenditure to fulfill their companion animals' needs, it is found that individuals with secure attachment would usually spend more. Seventh, significant difference has also been found towards attachment to companion animal when compared to participants' views of their companion animals. As Individuals who perceived their companion animal as a friend or part of their family would have a heightened attachment [23]. Eight, it has been found that both self-compassion and perceived stress were significantly affected by marriage status. As on perceived stress, it has been found that individuals that were unmarried tend to have a higher level of perceived stress than those who have gotten married [39]. This could happen as Staats in Le Roux and Wright [9] have mentioned that individuals who are married or are in a relationship with a partner would get more social support (which could lessen perceived stress). While on self-compassion, results showed that single parents have the highest level of self-compassion while individuals who have yet to be married have the lowest level of self-compassion.

Aside from discussing the findings of this research, the researchers would also like to mention a few limitations in this study. First of all, because attachment to companion animal is quite a novel variable, basic references are still very limited. Moreover, as previous researches on attachment to companion variable had focused mostly on dogs and cats, the references for other type of companion animal were still lacking. Second, as this research had to be done online due to the pandemic, the distribution scope of the questionnaires had also been very limited. Third, as the data regarding the numbers of companion animals in Indonesia does not exist, it was difficult to describe the

current phenomenon in an elaborate manner. Fourth, the lack of adequate samples for some type of animal caregivers and the imbalance on the amount between men and female samples could lower the representative value of this research. Fifth, until now, there hasn't been a clear limit or boundaries to set whether certain individuals' characteristics showed a secure or insecure attachment toward their companion animals, or even none at all. Lastly, the lack of information in discerning whether participants act as a primary or secondary caregiver toward their companion animal had made it difficult to analyze the effects of caregiving roles towards attachment style.

4. CONCLUSION AND SUGGESTIONS FOR FUTURE RESEARCH

Based on the results of this study, it was found that self-compassion is unable to act as a moderator between attachment to companion animal towards perceived stress, but rather more as the second independent variable.

For future research purposes, there are a few suggestions that could help in improving the research on attachment to companion animal variable. Firstly, it is important for future researchers to further differentiate individuals with secure, insecure, or no attachment at all, based on individuals' characteristics or behaviors in treating their companion animal. Secondly, to gather more supporting data, it is advised for future researches to include observation and interviews, aside from giving out questionnaires. Thirdly, it is also important to build a psychological instruments which focuses on all three types of attachment (secure and insecure with subtypes of anxious & avoidant), as the instrument which measures attachment in this study focuses mainly on both the subtypes of insecure attachment. Lastly, in order to achieve more data variance, it is recommended for future researchers to conduct a research that focuses more on another type of companion animals' caregivers aside from dog and cat caregivers. As in this research, the numbers of dog caregivers' were way more abundant than other types of companion animals' caregivers. Furthermore, in regards to the self-compassion variable, it is advised for future research to explore the reason why there were significant differences based on participants' age and marital status.

Hopefully, through this research, the importance of companion animals can be conveyed enough to further familiarize Animal-Assisted Therapy (AAT) in Indonesia, as AAT has been found to be beneficial in assisting clients with traumatic childhood experiences and also clients with difficulty in trusting others or difficulty in conveying & expressing their feelings & thoughts in words [42].

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