

Towards an Understanding of the Psychological Underpinnings of Animal Hoarding:
A Normative Community Sample

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Introduction

Human-Animal Interaction in Psychology

The interaction of human and non-human animals dates back to prehistoric times, yet it is only in the last two decades that this relationship has become of interest to psychologists. Historically, psychologists have disregarded anthrozoology (the study of relationships between humans and animals) as a legitimate research field (Beck & Katcher, 1996; Raupp, 2002). This dismissal was partly due to the Cartesian view that close relationships could only be formed and sustained by humans (Cazaux, 1999; Sanders, 2003), coupled with utilitarian ideology that animals were a means to a humans end (Schaefer, 2002). Such disinterest was contrary to the conventional definition of psychology: “the science or study of the activities of living organisms and their interaction with the environment” (Harris & Levey, 1975, p. 22, as cited in Melson, 2002). However, when the living organisms are humans, scant attention has been paid to their animal environments, precluding references to fetishes and phobias (Worth & Beck, 1981). Likewise, when the living organisms are nonhuman animals, their relationships with humans were nullified (Melson, 2002).

The assimilation of anthrozoology into psychology was prompted by Levinson’s 1962 account of the therapeutic utility of pets, which subsequently provided impetus for further empirical research (Serpell, 2003). Furthermore, the prevalence of pets in society and the recognition of their changing roles from consumption to domestication to bonding invoked psychological interest (Hines, 2003). Today, the majority of extant literature has focussed on the positive medical, psychological, and psychotherapeutic outcomes accrued to humans as a consequence of their interactions with companion animals (Gullone, Johnson & Volant, 2004). For example, researchers have found that interaction with animals have mitigated risk factors for cardiovascular disease (Friedmann & Thomas, 1995); reduced stress (Allen, Blascovitch, Tomaka, & Kelsey, 1991; Siegel, 1990); combated depression (Triebenbacher, 2000); increased social interaction among humans (Hart, Hart, & Bergen, 1987; Lockwood, 1983); and buffered the effects of loneliness due to lost social support (Adkins & Rajcecki, 1999; Garrity, Stallones, Marx, & Johnson, 1989).

As companion animals have increasingly been incorporated into human lives, they have increasingly assumed an important role within family systems and structures (Thompson & Gullone, 2003). Schaefer (2002) elaborated that human-animal relationships reflect those between humans, and as is applicable in interpersonal

relationships between family members, human-animal relationships are not always positive. More recently, psychologists have established that abusive relationships with animals in the family are indicative of an abusive atmosphere involving family members (Becker & French, 2004). Moreover, researchers have also linked a history of animal cruelty to serial killings and the recent rash of killings by school-age children (Ascione, 2001). These topics are now legitimate areas of investigation for psychologists and have paved the way for future research into other human-animal interaction areas.

Animal Hoarding

The present study investigates an under researched area of psychological inquiry, namely animal hoarding. Animal hoarding is a negative aspect of multiple pet ownership that occurs through no fault of the companion animals, but rather the problematic behaviour of the owner. In brief, animal hoarders are individuals who accumulate more animals than they can adequately care for (Arluke et al., 2000). Despite the prevalence of animal hoarding in communities (Berry, Patronek, & Lockwood, 2005), and the considerable suffering involved (Campbell & Robinson, 2001), virtually no empirical research exists on the issue.

Animal hoarding is a condition better known to animal welfare agencies and city councils than to community mental health clinics (Arluke et al., 2002; Worth & Beck, 1981). Patronek (1999) asserted that animal hoarding is a human problem as much as it is an animal problem, unfortunately to date it has been managed almost exclusively as an animal problem. A computerized literature search using the MEDLINE, PsycINFO, and PsycARTICLES databases revealed that only one case study has appeared in the medical or psychological literature. Partly due to this lack of scientific attention there has been no formal recognition of a syndrome and no systematic reporting of cases (Patronek).

The extant literature on animal hoarding has been written by the Hoarding of Animals Research Consortium (HARC) based in the United States. HARC was established in 1997 by an interdisciplinary group of professionals that comprise a veterinarian, a physician, two psychologists, social workers, and a humane society leader. The group formed to study the complex behaviour of animal hoarding, to increase awareness among mental health professionals, and to develop effective interventions (Arluke et al., 2002).

While the psychology underlying animal hoarding has not yet been established, there is evidence of a mental health component in animal hoarding behaviour (Arluke et al., 2002). Reports of case studies have

demonstrated that many hoarders are placed under guardianship or supervised living situations, suggesting the incapacity to make rational decisions and manage their affairs (Campbell & Robinson, 2001). Moreover, a growing number of hoarders have been referred for psychiatric evaluation as part of the court-ordered assessment of the situation (Berry et al., 2005). Lockwood (1994) noted that several psychiatric models have been suggested for animal hoarding including dementia, addiction, delusional disorder, attachment disorder, obsessive-compulsive disorder (OCD), and zoophilia, but no definitive conclusions have been formed. In addition to mental health implications, animal hoarding can create severe physical hazards to the health of the hoarder, family members, animals, and communities involved (Frost, Steketee, & Williams, 2000).

This study is a pioneer attempt to examine public attitudes about animal hoarding, specifically gauging the degree to which the public considers animal hoarding to be a legitimate social concern and violation of animal welfare laws. While past researchers have examined attitudes about animals using demographic characteristics such as gender (Herzog, Betchart, & Pittman, 1991; Hills, 1993), age (Kellert, 1980), and religion (Bowd & Bowd, 1989), no previous study has applied these variables in an animal hoarding context before. Additionally, this study employed the Five Factor Model of Personality (FFM) (Costa & McCrae, 1992), and the construct of empathy as a theoretical framework to investigate public attitudes towards animal hoarding. This study also explored the hypothesis that animal hoarding could be a possible subtype or variant of OCD compulsive hoarding (Frost et al., 2000; Patronek, 1999; Worth & Beck, 1981). Although research has yet to differentiate subtypes of hoarding, anecdotal accounts suggest that people who hoard animals may suffer more severe impairment than people who hoard only possessions (Arluke et al., 2002).

The aim of this study was to increase awareness of animal hoarding within the community generally and the psychological community in particular. Recognition of the problem is the first step in reducing its impact and getting much needed help for affected individuals. There is ample evidence suggesting that where animal health and welfare are severely compromised, the welfare of humans is also often poor (Lockwood & Hodge, 1986). Therefore it seems logical that the recognition of the potential for animal hoarding to act as a sentinel for hoarders could facilitate the detection of other unmet health or medical needs.

Definition of Animal Hoarding

Arluke et al. (2000) defined an animal hoarder as “an individual who: accumulates a large number of animals; fails to provide minimal standards of nutrition, sanitation, and veterinary care; fails to act on the deteriorating condition of the animals (including disease, starvation, and even death), or the environment (severely overcrowded and unsanitary conditions); and denies the impact this behaviour has on the animals, the household, and the human occupants of the dwelling”.

The term ‘animal hoarding’ has been used interchangeably with ‘animal collecting’, however the latter lends itself to erroneous interpretation by trivialising the seriousness of the problem and subsequently undermining efforts to gain recognition as a public health concern (Arluke et al., 2000). As Patronek (1999, p.82) phrased “the term collecting implies a benign hobby or past time akin to normal collecting behaviours, whereas animal hoarding denotes a pathological condition”. Animal hoarding is a poorly understood phenomenon that transcends simply owning more than the typical number of companion animals, it fulfils a human need to accumulate animals and this need surpasses the needs of the animals involved (Arluke et al., 2002). Patronek (2001) emphasized that it is not the quantity of animals but the quality of their care that constitutes animal hoarding.

Prevalence of Animal Hoarding

According to Arluke et al. (2002) animal hoarding is a problem that exists within all communities. In the United States alone it is estimated that there are 700-2000 new cases annually (Patronek, 1999) and, whilst studies are yet to be done in Australia, anecdotally it would appear that up to 40% of animal management officers have previously dealt with an animal hoarder (Lawrie, personal communication, July 2005). Population comparisons with the United States to Australia may mean that there are up to 200 new hoarders cases per year. Given that hoarders are highly recidivist it is not an exaggeration to predict that there may be thousands of active hoarders extant in Australia, contributing tens of thousands of unwanted animals to the population (Lawrie, personal communication, July 2005). As with all forms of abuse, the base rate is hard to detect as many incidents go unreported.

Profile of Animal Hoarders

Worth and Beck (1981) undertook the first official study concerning the demographic profiling of animal hoarders in the United States. The 31 cases were referred to Worth and Beck by the American Society for the Prevention of Cruelty to Animals (ASPCA) and the Bureau of Animal Affairs in New York City. While the demographic results provided some support for the pre-existing stereotype of 'lonely old cat ladies', there was considerable variation in the demographics of hoarders. The male to female ratios were as follows: 3:8 for owners of cats (two were unknowns and one couple); 4:7 for owners of dogs (with two couples); and 1:3 for mixed and other species. The mean age was higher for dog owners (60's) than for cat owners and mixed and other species owners (30's). Clearly, females predominated as multiple pet owners, with cats being their preferred species. The authors speculated that this was probably due to cats being more easily accommodated than dogs to urban conditions. Of the 36 hoarders profiled in the study, there were 24 Caucasians, two Blacks, two Hispanics, two Asians, and six persons were of undetermined racial background (Worth & Beck).

In a later study conducted by Patronek (1999), the researcher found 76% of hoarders were female, 46% were 60 years or older, and more than half lived alone. Once again, cats were the animal of choice in 65 % of cases, 60% of the hoarders also harboured dogs, 11 % collected farm animals, and 11 % collected birds. The number of animals hoarded varied, with between 30 and 200 being common. Patronek purported that animal hoarding behaviour knows no social or economic boundaries. Although, typically identified among the elderly, and socially isolated, anecdotal reports have indicated that animal hoarding also has been discovered among general health practitioners, veterinarians, nurses, psychiatrists, teachers, college professors, and aged care workers (Arluke et al., 2002).

According to Worth and Beck (1981) hoarders were secretive and socially isolated, albeit the authors reported that social isolation did not appear to be a prerequisite to the accumulation of animals but more an outcome of it. Animal hoarders were of average intelligence possessing good communication skills, combined with a shrewd ability to attract sympathy for themselves, and refused to part with the animals. Hoarders were labelled as cunning and deceptive, and often relocated to avoid help or prosecution and were notorious for 'starting up' again elsewhere. For example, in one case, after 82 live cats and 108 dead cats were seized from three women, they fled and were found two days later in a new home with seven cats and two dogs.

Consequences of Animal Hoarding: Public Health Risks

The majority of animal hoarding incidents are detected after a communal complaint is lodged with authorities regarding the noxious odours or insect/rodent infestations emanating from hoarding residences (Berry et al., 2005). In Worth and Beck's (1981) study, the researchers reported that upon inspection, hoarders' homes were heavily cluttered with trash (newspapers, cardboard boxes, milk crates), animal faeces and at times, rotting animal carcuses of former pets. Several homes were deemed unsanitary due to incontinence or blocked and overflowing toilets. Basic utilities such as plumbing and electricity were often inoperative, as fear of discovery prevented the hoarders' from seeking repairs. Such conditions inhibited daily functioning in terms of normal movement around the home. In some cases, the residences were condemned unfit for human habitation (Worth & Beck). Even so, hoarders lacked insight into the severity of their living conditions and denied the neglect and abuse inflicted on the hoarded animals.

Berry et al. (2005) cautioned that at the most basic level, accumulation of excrement in hoarders' homes may result in toxic levels of ammonia which is irritant to the respiratory tract. Non-acclimated persons would find the air intolerable, and task force teams are required to wear breathing apparatuses. The dwellings of hoarders also pose increased risks to their local community from fire hazards and zoonotic disease (see Appendix C for a veterinarian's account of an animal hoarding case study, courtesy of the RSPCA).

Abuse of Dependents

It is becoming increasingly recognized that companion animal abuse or neglect is a manifestation of a larger societal problem in which vulnerable family members become victims of violence or other forms of abuse (Ascione, 2001; Lockwood & Hodge, 1986). Hoarders are often negligent care takers of other family members such as minor children, dependent elders or disabled adults. There is also evidence of significant self-neglect. The following case studies extracted from: <http://www.pet-abuse.com/databse> exemplify this point:

Officials first found a tethered dog deprived of food and water outside the home. Upon entering the couple's residence, investigators found a three month-old boy lying near piles of faeces, trash, and rotten food, a half-clothed toddler, and two additional dogs. Officers searched the residence in biohazard protection gear and the couple were later charged with eight counts of animal cruelty and child neglect.

In another case, Illinois authorities found 40 parasite-ridden dogs languishing amid six inches of faeces on a property. According to news reports, officials responding to neighbours' concerns found the sick and

emaciated dogs confined to filthy animal carriers before confirming that three children, ages three, ten, and 15, lived in the horrific conditions as well. In yet another case, a Police officer went to a home in Kentucky to investigate the welfare of a 14-year old boy after he phoned for help. The police officer found faeces throughout the residence, the ceiling caving in, knives on the floor and animals resting on the beds. The mother was charged with child endangerment.

Abuse of Animals

Animal hoarding is also detrimental to the animals involved. Animals in hoarding cases present in a very poor physical condition (Patronek, 2001). They may be emaciated, have external and internal parasites, fly blown lesions, faecal matter around the anus and be generally matted and unkempt (Lawrie, 2005). In addition to general neglect caused by lack of food, potable water, sanitations, and veterinary care, Patronek (1999) posited that these animals may also suffer from behavioural problems caused by severe overcrowding and lack of socialisation. Ascione (2001) postulated that abused animals may show similar signs as abused children. These signs may be fearful behaviour in the presence of their owner, may cower in their presence, have anxiety disorders, present with panic attacks, show extremes in behaviour, such as being overly compliant or extremely demanding, and show extreme passivity (learned helplessness), or aggression. Unfortunately, even after the animals are seized by authorities, their health and behavioural problems may prevent them from being quickly adopted, placing them at higher risk of euthanasia (Arluke et al., 2002).

Etiology of Animal Hoarding

Lockwood (1994) commented that it is unlikely that animal hoarders manifest good intentions gone awry, their behaviour is certainly pathological. As such, several psychiatric models have been suggested for problematic animal hoarding. The assumption underlying the focal delusional model (Frost et al., 2000) is the tendency among animal hoarders to believe they have a special ability to communicate or empathize with animals and, despite clear and immediate information to the contrary, insist that their pets are healthy and well cared for.

Patronek (1999) proposed that animal hoarding might be a vulnerability marker for early stages of dementia, based on the frequency with which hoarders are placed in residential care facilities, and lack insight into the irrationality of their behaviour. The addictions model (Lockwood, 1994) emphasized that hoarding is similar to substance abuse, including a preoccupation with animals, denial of the problem, excuses for the behaviour, isolation, and neglect of personal and environmental conditions. The attachment model (Frost, 2000) contended that hoarders experience childhoods of absent, neglectful or abusive parents that may result in situations in which the individual suffers from early developmental deprivation of parental attachment and are unable to establish close human relationships in adulthood. Lockwood also postulated a power and control model, as some collectors beat and abuse their animals, enabling individuals who lack ability to exert power and control in an acceptable mode to exert power in a deviant model. Small numbers of animal hoarders may be explained by a zoophilia model, in which animals serve as sexual gratification (Lockwood).

Currently, the preferred diagnosis for animal hoarding is the obsessive-compulsive disorder model (Arluke et al., 2000; Arluke et al., 2002; Patronek, 1999). Substantial evidence supports this model as a major determinant of animal hoarding behaviour. Campbell and Robinson (2001) noted that animal hoarders experienced an inflated sense of responsibility for preventing imagined harm to animals, and engaged in unrealistic steps to fulfil this responsibility. Rasmussen and Eisen (1992) acknowledged that OCD sufferers experienced this same sense of excessive responsibility for preventing harm and engaged in unrealistic ritualizations to prevent recurring cognitions. Furthermore, Patronek (1999) indicated that over 80% of animal hoarders also hoarded inanimate objects. Similar data were derived from Worth and Beck who stated “animal hoarders lived amid debris piled to the ceiling. The objects accumulated were, like the animals, collected from the street, and ran the gamut from antique furniture to discarded containers and garbage” (1981, p. 291). The substantial overlap of possession hoarding and animal hoarding implies the most parsimonious fit for an OCD model and warrants further research.

Compulsive (Inanimate) Hoarding in OCD

There has been an ongoing debate among mental health professionals concerning whether or not compulsive hoarding is a symptom subtype of OCD or whether it should be seen as a separate problem (Coles, Frost, Heimberg, & Steketee, 2003; Samuels et al., 2002; Saxena et al., 2004). Compulsive hoarding is

typically defined as the acquisition of and failure to discard possessions of limited use or value (Frost et al., 2000). It is important to note that compulsive hoarding has been associated with a range of other clinical disorders including dementia, schizophrenia, depression, anorexia nervosa, and obsessive-compulsive personality disorder (OCPD) (Stein, Seedat, & Potocnik, 1999). However, several researchers have acceded that hoarding is most commonly linked to OCD.

Coles et al. (2003) examined hoarding and its relationship to OCD in a college sample of 563 students. The researchers found strong correlations between hoarding and OCD symptoms. More specifically, hoarding was associated with three out of the four sub-scales on the Maudsley Obsessive Compulsive Inventory (MOCI), a self-report measure of OCD. Frost and Gross (1993) expanded Coles et al.'s study to incorporate both college students and community volunteers. Frost and Gross found that hoarding was associated with indecisiveness, perfectionism, and OCD symptoms. Greenberg (1987) presented four case studies of hoarders and viewed their behaviour as a psychiatric symptom related to OCD. In yet another study, Rasmussen and Eisen (1992) stated that one fifth of their OCD in-patients had hoarding tendencies, but it rarely dominated the clinical presentation. Frost, Krause, & Steketee (1996) reported up to one-third of OCD individuals were known to engage in hoarding behaviours (as cited in Coles et al.).

Finally, several researchers have conducted large-scale Factor Analyses to identify OCD symptom subtypes. Such studies have yielded few but consistent OCD subtypes. For example, Baer (1994) identified three factors: symmetry and hoarding, contamination and checking, and pure obsessionals. Leckman et al. (1997) employed a Principal Component Analysis of the Yale Brown Obsessive Compulsive Scale (Y-BOCS), which unveiled four factors: obsessions, symmetry and ordering, cleanliness, and hoarding (as cited in Coles et al. In 2004, Calamari et al. utilised a Hierarchical Cluster Analysis which produced a five cluster solution. These were: a harming subgroup, hoarding cluster, contamination cluster, certainty cluster, and obsessional cluster.

Despite substantial evidence supporting a relationship between hoarding and OCD, hoarding it is not currently delineated in the *DSM-IV* as a recognised symptom. Although, Frost et al. (2000) referred to hoarding as “a symptom of obsessive compulsive disorder” (p. 230), and Stein et al. (1999) referred to hoarding as “currently classified as a symptom of obsessive compulsive disorder and of obsessive compulsive personality

disorder” (p. 36). Such references are misleading as hoarding is not included as a *DSM-IV* diagnostic criterion of OCD, but rather appears as one of the eight criteria for OCPD (APA, 1994). While a comprehensive account of OCPD is beyond the scope of this study, a brief definition of OCPD is provided, “OCPD is a condition characterised by pervasive pattern of preoccupation with orderliness, perfectionism, and mental and interpersonal control, at the expense of flexibility, openness, and efficiency” (APA, p. 669). While its title is similar to OCD, it is a different disorder in that OCPD sufferers are not compelled to repeatedly perform ritualistic actions (such as excessive hand-washing). Instead, OCPD sufferers tend to stress perfectionism above all else, and feel anxious when they perceive that things ‘aren't right’ (APA, 1994). Historically, early psychoanalysts such as Freud (1906), considered the presence of hoarding and miserliness to be important features of the anal character, which is the equivalent to the contemporary OCPD diagnosis (as cited in Greenberg, 1987).

Similarities between Compulsive Hoarding and Animal Hoarding

Frost and Hartl (1996, p. 341) extended their hoarding definition to provide a clearer understanding of the problem: “living spaces sufficiently cluttered so as to preclude activities for which those spaces were designed; and significant distress or impairment in functioning caused by the hoarding”.

Frost and Hartl (1996) further proposed a cognitive behavioural model of hoarding that delineated four types of problematic behaviour: information processing deficits; problems with emotional attachments to possessions; behavioural avoidance; and erroneous beliefs regarding the nature of possessions. The first behaviour encompasses acquisition, which has been examined previously in compulsive buying and is categorised as an impulse control disorder (Steketee & Frost, 2003). Frost and Hartl found that individuals who hoarded possessions had elevated scores on compulsive buying measures and the compulsive acquisition of free objects. Central to this phenomenon is the inability to resist the urge to acquire an object, even though the acquisition will prove problematic. Arluke et al. (2002) likened this phenomenon to animal hoarders who experience similar deficits in impulse control by their failure to bypass the opportunity to accommodate animals. Information processing deficits may also pertain to the hoarder’s difficulty in decision making such as the organizing and weighing of relevant information. Patronek’s (1999) study reported that animal hoarders are unable to maintain a functioning home, which may reflect an inability to organize information, time and

resources to complete basic chores. Likewise, after the hoarder's have acquired their pets, they fail to provide the pets with basic needs.

The second behaviour is concerned with the failure to discard objects. Frost and Gross (1993) purported that objects may be saved by hoarders and non-hoarders for several different reasons. These include their sentimental value (emotional reasons or reminders of important life events), instrumental value (potential usefulness), or intrinsic value (beauty or attractiveness). The major difference between hoarders and non-hoarders is that hoarders afforded their possessions unrealistic importance, exceeding their true values. Arluke et al. (2002) asserted that animal hoarders' attachments are similar. However, according to Patronek (1999), the interaction between an animal and a person adds a level of intensity that just doesn't exist with a pile of newspapers. Animal hoarders have threatened to kill themselves or others if their animals are removed. Clearly, animal hoarders rely on animals to fulfil their emotional needs, comparable to hoarders who use inanimate objects to fulfil their emotional needs. The fundamental difference is that due to their dysfunctional lifestyle, animal hoarders are denying the needs of living creatures (Berry et al., 2005). Greenberg (1987) added that hoarders can suffer from depression and experience considerable anxiety, when faced with the demands to remove their possessions.

Related to abnormal emotional attachment is the tendency for hoarders to view their possessions as extensions of themselves (Frost, Hartl, Christian, & Williams, 1995). Greenberg (1987) described this behaviour as a difficulty in separating oneself from one's possessions. Part of this occurrence is the sense of security which is associated with the collection of possessions (Frost et al.,). Both OCD compulsive hoarders, and animal hoarders reported feeling safe and comfortable only when surrounded by their 'collections' (Frost et al.; Worth & Beck, 1981). Worth and Beck (1981) reported that some of the female hoarders claimed that their animals were surrogate children, which provided a source of unconditional love. Hence, it is possible that the removal of animals could be perceived by the hoarder as losing part of themselves, inducing an overwhelming feeling and maladaptive behavioural response.

Another parallel is that compared with non-hoarding individuals, OCD hoarders were less likely to have married, and had higher levels of general psychopathology (Frost & Gross, 1993). Patronek (1999) found the demographics of animal hoarders to be older, female, and the majority lived alone. Frost (2000) suggested the

implication of a developmental and gender-role link that may also be connected with feelings of vulnerability. Arluke et al. (2000) reported that most animal hoarders are relatively isolated and socially anxious, perhaps causing interactions with animals to be preferable over interactions with people. This would suggest a disturbance in the way human attachments are formed. Alternatively, as OCD sufferers exhibit patterns of emotional oversensitivity to external stimuli (Rasmussen and Eisen, 1992), maybe continual exposure to bad interpersonal relationships prompts the animal hoarder to turn to animals instead of humans as a source of comfort?

Frost et al. (1995) addressed the possibility that OCD hoarding was associated with an exaggerated sense of control or desire over one's possessions. If this theory is accurate, it would be subsumed under a power/control model and involve particular patterns of control and sharing. Thus, hoarding would be associated with less willingness to share, more negative reactions to unauthorized touching, and elevated concern regarding external parties using or removing the possessions (Frost et al.). This behaviour would result in increased isolation and suspiciousness of others, which is indicative of animal hoarder's reclusive behaviour. Arluke (2000) hypothesized a similar need for control in some animal hoarding cases.

Harm avoidance appeared to be a feature of both OCD compulsive hoarding and animal hoarding. Frost et al. (1995) contended that hoarders cope with their behavioural deficits by avoiding them as much as possible. By hoarding objects and animals, the uncomfortable process of decision-making is avoided, along with the distress that accompanies discarding a valued possession (Frost et al.). Hoarder's thoughts about responsibility and control and feelings of loss are never challenged by discarding and in affect, become increasingly stringent. In similar vein, Arluke et al. (2000) suggested that animal hoarders may avoid decisions about turning away strays or treating sick animals by ignoring the problem or convincing themselves that the animal is healthy. As Berry et al. (2005) recalled, decaying animal carcasses were often found in hoarding residences, perhaps this is done intentionally so as to avoid feeling upset, guilt or responsible for the death. Both Arluke et al, (2000) and Frost et al. (1995) summarized that harm avoidance may be a key feature in the symptoms of pathological animal hoarding.

Personality traits are variables known to influence individual differences in attitudes towards animals (Furnham, McManus, & Scott, 2003). For the purposes of this study, personality traits are defined as “enduring dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings and actions” (McCrae & Costa, 1997, p. 510). Broida, Tingley, Kimball, and Meile (1993) used the Myers-Briggs Type Inventory to assess personality types in animal experimentation. The authors found that those in favour of experimentation tended to be extraverted, thinking types who were also male, masculine, conservative, and less empathic. Conversely, animal rights advocates tended to be intuitive and feeling types, vegetarians, and more ecologically concerned. More recently, Matthews and Herzog (1997) used the 16 Personality Factor Inventory to explore personality and attitudes towards the treatment of animals. The researchers found weak associations with two of the 16 factors related to attitudes: tender-minded, imaginative types rather than tough-minded, practical students tended to be more sympathetic to animals.

Five Factor Model of Personality

In recent years, there has been emerging consensus among personality psychologists that the best representation of a trait structure is provided by the Five-Factor Model (FFM) (Costa & McCrae, 1992; Digman, 1990; Goldberg, 1992). The claim that the five factors represent the most basic dimensions of personality are supported by several lines of evidence. The factors are shown to be stable over time and valid across observers (Trull, 1992), they are pervasive across both studies of natural languages and in instruments designed to maximise classic theories of personality (Bagby, Marshall, & Georgiades, 2005), they show universality across race, culture, sex, and age (Costa & McCrae, 1997), and the factors have some biological basis (Carey & DiLalla, 1994).

The FFM is a hierarchical dimensional model of personality comprised of five higher order personality domains: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Ashton & Lee, 2005). Each domain consists of six lower order facets that relate to different aspects of the domain (Costa & Widiger, 2002). The following descriptions are taken verbatim from Costa and Widiger’s book. The domain of Neuroticism assesses an individual’s tendency to experience psychological distress or some form of maladjustment such as anxiety, depression and hostility. Extraversion is the domain that assesses interpersonal sociability, energy, and dominance, and includes characteristics such as enthusiasm, high activity levels, and

the experience of positive emotions. The domain Openness broadly measures openness to experience. More specifically, it reflects one's level of intellectual curiosity, appreciation for aesthetics, and willingness to engage in new experiences. The Agreeableness domain is primarily one of interpersonal relatedness and behaviour, and reflects characteristics such as cooperation, trust, cynicism, and antagonism. The Conscientiousness domain encompasses characteristics such as organization, dutifulness, and diligence.

The original NEO was developed in 1978 to operationalize the FFM by using both rational and factor-analytic methods of test construction (Ashton & Lee, 2005). It included assessment of three of the five factors: Neuroticism, Extraversion, and Openness to experience (Costa & Widiger, 2002). Since then, other versions of the instrument have evolved to reflect the incorporation of new items measuring the domains of Agreeableness and Conscientiousness, and their respective facets (the NEO-PI and the NEO-PI-R) (McCrae, Costa, & Dolliver, 1991). Costa and McCrae also developed a condensed version of the NEO-PI, namely the NEO Five Factor Inventory (NEO-FFI). According to Manga, Ramos, and Moran (2004), the NEO-FFI is comprised of 60 items derived from a factor analysis on scores of the NEO-PI. The present study utilised the NEO-FFI, due to its shorter administration time and the fact that it still retains good psychometric properties associated with the full, 240 item NEO-PI-R (Costa & McCrae, 1992). A major advantage of single-item measures is that they eliminate item redundancy and thus reduce the fatigue, frustration, and boredom associated with answering similarly worded items repeatedly (Gosling, Rentfrow, & Swann, 2003).

Originally, the FFM examined personality dimensions within a non-clinical population. However, given the continuity of the FFM dimensions, many theorists have argued that extreme variants on these dimensions can differentiate normal personality from personal pathology (Watson, Clark, & Harkness, 1994). Therefore, it was a logical progression to utilise the FFM in a clinical capacity. Many studies have found support for the comprehensiveness of the FFM within normal samples (Digman, 1990) and clinical samples (Trull, 1992). Furthermore, Carey and DiLalla (1994) purported that there is a movement for the FFM to be extended to anxiety disorders. Such transition could be instrumental in obtaining a complete understanding of the etiology, prognosis, appropriate treatment, and prevention of anxiety disorders (Watson et al.,).

FFM Profile of OCD

Previous research has implicated the personality domain of neuroticism in anxiety disorders, including OCD (Carey & DiLalla, 1994; Rector, Richter, & Bagby, 2005). Freud (1908) proposed that individuals who are prone to developing anxiety disorder (neuroses) were described as being over sensitive, excessively concerned with cleanliness and order, pedantic, uncertain, indecisive, rigid, and fond of hoarding (as cited in Greenberg, 1987). Eysenck (1967) and Gray (1970) both postulated that people who are high on neuroticism, or high on neuroticism and introversion are prone to developing OCD (as cited in Scarrabelotti, Duck, & Dickerson, 1995). Moreover, Watson, Clark, and Carey (1988) found that patients with OCD were on average, higher in negative affectivity, an analogue of neuroticism (as cited in Bienvenu & Stein, 2003).

Scarrabelotti et al. (1995) used Eysenck's personality model as a framework and found that neuroticism was the best predictor of severity of discomfort from obsessions and compulsions in a normal sample of college students over and above gender, age, and depression. In the same study, a significant positive correlation between neuroticism and severity of discomfort from obsessions and compulsions was found in a small ($N = 20$) clinical sample of OCD patients. Likewise, Samuels et al. (2000) used the NEO-PI-R to compare personality disorders in OCD patients and community participants. As predicted, the researchers found that patients with OCD and their relatives scored higher on neuroticism, compared to matched controls. Furthermore, when all personality dimensions were entered into a Logistic Regression model, only neuroticism emerged as a significant predictor. The researchers also discovered that anxiety sensitivity (a lower-order facet) was found to contribute significant variance to OCD behaviours.

In a later epidemiological study conducted by Rector, Hood, Richter, and Bagby (2000) subjects with a lifetime history of OCD were compared with community controls without a lifetime history of OCD and were matched on gender, race, and age. Rector et al. found patients with OCD to be very high on neuroticism, very low on extraversion and surprisingly low on conscientiousness (a trait analogous to OCPD). The neuroticism and extraversion domain scores were approximately two standard deviations (higher for neuroticism and lower for extraversion) from the normative means. These collective findings have consistently shown that a tenable correlation between neuroticism and OCD exists. Predicated on the above assumptions, the present study forecasted that neuroticism would be the most important predictor for attitudes towards animal hoarding, and the potential propensity to animal hoard. It was further predicted that given the hypothesized overlap between

OCD and OCPD, that the FFM conscientiousness dimension would have the second greatest predictive capacity to account for the variance in attitudes towards animal hoarding, and the potential propensity to animal hoard.

Empathy and Animal Abuse

There is mounting evidence that animal abuse is a sign of compromised empathy in humans (Ascione, Weber, & Wood, 1997; Lockwood & Hodge, 1986; Thompson & Gullone, 2003). Recent psychological studies have consistently shown a link between cruelty to animals and violent behaviour toward humans as well as criminal behaviour generally (Ascione, 2001; Becker & French, 2004). Furthermore, empathy has been proposed as a mediating factor in aggression to both humans and animals with a number of authors suggesting links between deficits in empathy and antisocial behaviours (Cohen & Strayer, 1996). For example, research has shown that empathy mitigates the likelihood of aggressive behaviour (Eisenberg, 2000). Likewise, Loudin, Loukas, and Robinson (2003), reported that among college students, the emotional component of empathy was inversely related to aggression and violence.

The present study posited that whilst animal hoarding does not meet the conventional definition of animal abuse, “the socially unacceptable behaviour that intentionally causes unnecessary pain, suffering, or distress to and/or death of an animal” (Ascione, 2001, p. 2), it certainly constitutes animal abuse. The definition excludes practices that may cause harm to animals, yet are socially condoned or unrecognised. Arluke et al. (2002) described animal hoarding as a type of passive cruelty, as the perpetrator is oblivious to the harm inflicted on animals. In fact, the study anticipated that because animal hoarders profess such a love for their animals, and are compelled to accommodate animals, they would exhibit elevated scores on empathy.

While the association between animal abuse and interpersonal violence has only received attention over the last two decades, the association between animal cruelty and interpersonal violence is neither new or profound. Locke noted in 1705, “they who delight in the suffering and destruction of inferior creatures, will not be very compassionate or benign to those of their own kind” (cited in Ascione & Arkow, 1999, p.197.)

Ascione (2001) postulated that animal abuse and interpersonal violence share common characteristics irrespective of the differences in species. For example, both types of victims are living, have a capacity for experiencing pain or distress, can display

physical signs of their pain and distress (with which humans could empathise) and may die as a result of inflicted injuries (Ascione). Unfortunately, victims also share their abusers' misuse of power and control.

Past Research on the Links between Human and Animal Violence

In 1980, a pilot study conducted in England found evidence suggesting that children are at risk of abuse and neglect in household that abuse their family pet. The results indicated that of the 23 families that had a history of animal abuse, 83% had been identified by human social service agencies as having children at risk of abuse or neglect. Based on these findings, the researcher concluded that the evaluation of companion animals in the family might be a useful diagnostic tool for social workers during their investigations of alleged child abuse (Lockwood & Hodge, 1986).

The hypothesis that the presence of an abused pet may indicate other forms of violence within the family was corroborated by a subsequent empirical study. In 1983, Deviney, Dickert, and Lockwood reported on the care of pets within 57 families being treated by New Jersey's Division of Youth and Family Services because of incidents of child abuse. At least one person had abused pets in 88 % of the families in which children had been physically abused. According to Lockwood and Hodge (1986), these and other studies confirm that cruelty to animals can be one of many signs of a family in need of professional help.

Researchers have suggested that the involvement in animal cruelty behaviours, either as bystander or participant, may be associated with the development of attitudes that reflect a callousness toward the well-being of others (Ascione et al., 1997). Previous research has also demonstrated that the presence of a companion animal during childhood may lead to an increased sensitivity to the feelings and attitudes of others (Fawcett & Gullone, 2001). Serpell's (1993) study replicated similar findings, establishing an association between childhood companion animal keeping and increased concern about animal and human welfare. The present study applied these theories to the animal hoarding context, postulating that past or current pet owners would score higher on the four IRI subscales and the AAS than those individuals who never owned a pet.

Rationale and Aims

The purpose of the current study was threefold. The first purpose was to advance the theoretical understanding of animal hoarding in the general community and the psychological community in particular. As

the literature review suggested, animal hoarding is a poorly understood phenomenon which has received scant attention in scientific inquiry (Arluke et al., 2002). Partly due to this lack of scientific attention, there has been no recognition of a syndrome and no systematic reporting of cases (Patronek, 1999). Furthermore, although extant research is yet to differentiate different types of hoarding, anecdotal accounts have indicated that people who hoard animals may suffer more severe impairment than people who only hoard possessions (Patronek). Recognition of the problem is the first step in reducing its impact and obtaining much needed help for affected individuals. This study was a world-first in its attempt to gauge the public's awareness of, and subsequent attitudes towards animal hoarding. It was envisaged that the findings from this study would publicise the issue of animal hoarding, instill a desire to effectively deal with the problem (Lawrie, 2005), and stimulate further research among mental health professionals. Increased clinical attention to this behavioural abnormality could facilitate the resolution of animal hoarding cases, and reduce the unnecessary suffering incurred to the animals, hoarders, and communities involved.

The second purpose of this study was to examine potential links between the FFM dimensions of neuroticism and conscientiousness and attitudes towards the treatment of animals, specifically focussing on animal hoarding. Past research has shown that personality traits have influenced individual differences in attitudes towards the treatment of animals (Furnham et al., 2003). However, no previous study has employed the NEO-FFI in this context. Neuroticism and conscientiousness were selected, as these two FFM dimensions have been theoretically associated with OCD hoarding in previous research (Frost & Gross, 1993; Greenberg, 1990; Samuels, 2002). Furthermore, Arluke et al. (2002) has alluded that there are more similarities than differences between compulsive hoarding (inanimate) and animal hoarding. Thus the study followed the view that animal hoarding is a possible subtype or variant of OCD hoarding, suggesting a parsimonious fit between animal hoarding and OCD. As animal hoarders are an elusive population to locate, this study investigated the general public's perceptions of animal hoarding as an indirect route to identify responses which indicated the propensity to animal hoard, as well as obtaining rough prevalence rates of hoarding within the Central Queensland region.

The third purpose of the study was to examine links between human-directed empathy and attitudes towards the treatment of animals, specifically animal hoarding. Psychologists now concur that the potential to

engage in abuse is related to deficits in empathy, which subsequently affects pro-social behaviour (Ascione, 2001; Becker & French, 2004). As animal hoarding qualifies as a form of animal abuse, it stands to reason that many cases of animal hoarding have been associated with dependent abuse and self-neglect. Therefore it seems logical that the recognition of the potential for animal hoarding to act as a sentinel for hoarders could facilitate identification of other unmet human health needs.

Research Hypotheses

Based on the literature review, the following hypotheses are proposed:

Hypothesis 1. There is a positive significant relationship between scores on the FFM neuroticism dimension (as measured by the NEO-FFI) and scores on attitudes towards animal hoarding (as measured by the AH scale).

This association would indicate an individual's lesser concern for animal hoarding.

Hypothesis 2. The magnitude of the FFM neuroticism and conscientiousness dimensions and the animal hoarding relationship will be greater than that between the other FFM dimensions (extraversion, openness, agreeableness) and the animal hoarding relationship.

Hypothesis 3. There is a negative significant relationship between scores on the FFM neuroticism dimension (as measured by the NEO-FFI) and the need for order and cleanliness (as measured by the OCI subscale).

Hypothesis 4. There is a positive significant relationship between scores on the FFM neuroticism dimension (as measured by the NEO-FFI) and perfectionism and intrusive thoughts (as measured by the OCI subscale).

Hypothesis 5. There is a negative significant relationship between the need for order and cleanliness (as measured by the OCI subscale) and attitudes towards animal hoarding (as measured by the AH scale).

Hypothesis 6. There is a positive significant relationship between perfectionism and intrusive thoughts (as measured by the OCI subscale) and attitudes towards animal hoarding (as measured by the AH scale).

Hypothesis 7. There is a positive significant relationship between scores on the empathic concern subscale (as measured by the IRI) and scores on attitudes towards animal hoarding (as measured by the AH scale).

Hypothesis 8. There is a positive significant relationship between scores on empathy (as measured by the four IRI subscales) and scores on attitudes towards the treatment of animals (as measured by the AAS scale).

Hypothesis 9. Males will have lower scores on the IRI subscales and attitudes towards animal hoarding scale than females.

Hypothesis 10. Past and present pet owners will have higher scores on IRI subscales (consisting of perspective taking, empathic concern, fantasy and personal distress) and attitudes towards the treatment of animals scale (as measured by the AAS) than individuals who have never owned pets.

Hypothesis 11. Participants who encountered animal hoarding and took remedial action will have higher scores on empathic concern (as measured by the IRI subscale) than those participants who encountered animal hoarding and did not employ any action. Scores on the other three empathy subscales are expected to be unrelated to these variables.

Hypothesis 12. There will be significant age, religion, and education level differences in participants' attitudes towards the general treatment of animals and attitudes towards animal hoarding.

Chapter 2

Method

Participants

As can be seen from table one, respondents consisted of both university students and community members recruited from various locations throughout Central Queensland. The total sample consisted of 300 respondents (74 males, 226 females), with a mean age range of 41-50 years. In terms of income and education, 9% of participants' household income was less than \$20,000, while 43.7% exceeded \$65,001 in the past year, 26.2% had not completed a high school education, and 17% had completed postgraduate studies. With respect to marital status, 52% of participants were married, 30.4% were divorced or single, and 3% were widowed.

Table 1

Sample Characteristics

Characteristic	%	Characteristic	%
Gender		Employment Status	
Female	75.3	Full-time	42.7
Male	24.7	Part-time	15
Age group		Employment Status	15
Between 18-25 years	14	Student	24.3
Between 26-30 years	13.4	Unemployed	3.3
Between 31-40 years	22.1	Home duties	6.7
Between 41-50 years	26.1	Retired	7.7
Between 51-60 years	15.7	Annual Household Income	

Over 61 years of age	8.7	Less than \$20,000	9
Residential Location		Between \$20,001 and \$35,000	11.9
Biloela	11	Between \$35,001 and \$50,000	15.7
Blackwater	6	Between \$50,001 and \$65,000	17.4
Bundaberg	2	More than \$65,001	44.7
Gladstone	5	Highest Education Level Obtained	
Gracemere	3.3	Primary School	3
Mackay	2.3	Up to year 10	11.4
Mount Morgan	4.3	Between Years 11 and 12	11.7
Rockhampton	37.7	Year 12 certificate	12.1
Yeppoon	9.7	Incomplete undergraduate degree	27.5
Other	18.3	Completed undergraduate degree	14.1
Property Type		Completed post-graduate degree	17.1
House	70	Religious Affiliation	
Caravan	2	Anglican	23.6
Unit/Flat	9.7	Baptist	4.4
Acreage	16.7	Catholic	22.3
Other	1.7	Church of Christ	1
Marital Status		Jehova's Witness	.3
Single	19.7	Lutheran	1.3
Married	52	Orthodox	.3
Defacto	12	No religion	23.7
Divorced	10.7	Presbyterian	4.7
Widowed	3	Salvation Army	.3
Other	2.7	Uniting Church	7
		Other	9.7

Measures

The questionnaire comprised six sections including demographic and animal hoarding oriented questions, as well as questions incorporated from a number of previously validated scales. These included the NEO Five Factor Inventory (NEO-FFI), two scales from the Obsessive Compulsive Inventory (OCI), the Animal Attitude Scale (AAS), and the Interpersonal Reactivity Index (IRI). While two of these scales were freely available to the public domain (accessed from: <http://ipip.ori.org/>), the latter two were not. As such, permission was sought from the authors to use these scales for the purpose of this study.

Procedure

Upon receiving ethical approval from Central Queensland University, volunteers were recruited for the study. The community members were solicited from Australia Post's PO BOX distribution lists of the Central Queensland region. Two thousand research packets were then inserted into respective PO Boxes. The community members were provided with a pre-addressed postage paid envelope that was to be returned to the researcher with completed questionnaires enclosed. The response rate was 11.3% resulting in 226 completed questionnaires.

University students were recruited by a voluntary internet-based sign-up system and received course credit for their participation. Students completed the questionnaire online and were asked to return the questionnaires via email to the researcher, resulting in 74 completed questionnaires. All participants were instructed to read the information sheet carefully prior to deciding whether to participate. Subjects were advised that their participation was voluntary and strictly confidential and were given the option to withdraw from the study at any given time. Participants were given the opportunity to request a results summary from the final report.

Experimental Design

To analyse the hypotheses drawn from the literature review, the statistics package SPSS 12 was utilised. Descriptive statistics, including means and standard deviations were identified to ascertain the directions of variable level. The independent variables used for this study were demographic variables such as age, gender, marital status, geographical location, religion, education, and income levels. The dependent variables were obtained from the four IRI subscales, the two OCI scales, the AAS scale, and the AH scale. The alpha level was set at $p < .05$ for each hypothesis.

Chapter 3

Results

Raw data from 300 participants was entered into the SPSS system with negatively worded items in the NEO-FFI, AAS, and IRI recoded as required. Missing data resulted in 278 valid entries for the NEO-FFI; 285 valid entries for the AAS; 286 valid entries for the IRI; 284 valid entries for the two OCI subscales; and 291 valid entries for the AH scale.

A total of 267 (89%) participants indicated that they had at least one pet during their childhood, and 230 (76.7%) indicated that they currently owned a pet. One hundred and sixty-eight (56%) participants indicated that they had heard of the term animal hoarding previously; 202 (67.3%) indicated they had exposure to animal hoarding via media; 226 (75.3%) indicated that they were concerned about animal hoarding; and 251 (83.7%) participants regarded animal hoarding to be a public health concern. One hundred and thirty-three (44.3%) participants had a preconceived profile of an animal hoarder, and 85 (28.3%) participants defined animal hoarding as having ten pets or more. In terms of animal hoarding prevalence within the Central Queensland region, 52 (17.3%) respondents indicated that they knew of or had personally encountered an animal hoarding situation, and of those 52 respondents, 16 (5.3%) took remedial action (12 women, 4 men). The 52 participants indicated that the animal hoarder/s in the previous incidents had the following associations to them: 28.6% were acquaintances, 21.4% were strangers, 21.4% were marked as 'other', 12.5% were family members, 8.9% were friends, and 7.1% were relatives not living with the participants. With regard to current hoarding behaviour among participants, 67 (22.3%) participants claimed to hoard inanimate objects, 17 (5.7%) indicated that they had hoarded animals in the past, and 12 (4%) indicated the current hoarding of animals. When posed with the question 'Whose responsibility do you think animal hoarding is', 119 (39.7%) participants indicated cross agency, with 40 of the 119 ticking both the RSPCA and city council options. Fifty-eight (19.3%) participants indicated the RSPCA, 52 (17.3%) city council, 29 (9.7%) community, 7 (2.3%) mental health, 6 (2%) police, 4 (1.3%) veterinarians and 19 (6.3%) selected 'other' with most comments indicating that it is the responsibility of the individual.

Hypothesis One

An examination of the data used to test the first hypothesis failed to show a positive significant relationship between the FFM neuroticism dimension and attitudes towards animal hoarding $r = -0.89$, $p = .175$, ns.

Hypothesis Two

Congruent to the second hypotheses, two models were developed as predictors of a propensity to animal hoard. The first model included neuroticism and conscientiousness predictors and hence were afforded priority of entry in the hierarchical regression analysis (see Appendix E for SPSS output). The second model considered the fore mentioned predictors plus agreeableness, extraversion, and openness. The entries of neuroticism and conscientious into the predictive equation did not yield a significant equation $F(2, 233) = 0.883, p = .415, ns$. The addition of the extraversion, agreeableness, and openness variables did not yield a significant F change, $F(3, 230) = 0.927, p = .428, ns$; and thus a non significant overall equation, $F(5, 230) = 0.909, p = .476, ns$. The lack of predictive capacity in the models suggests that it is unnecessary to examine the strength of the relationships between predictors of the models.

Hypothesis Three

Data compiled to test the third hypothesis demonstrated a significant negative relationship between the FFM neuroticism subscale and OCD need for order and cleanliness subscale $r = -.199, p = .002$. The portion of variance accounted for by this linear relationship was $r^2 = .039$, approaching 4%.

Hypothesis Four

A significant positive relationship was also found between the FFM neuroticism subscale and OCD perfectionism and intrusive thoughts subscale, $r = .854, p < .001$. The portion of variance accounted for by this linear relationship was $r^2 = .729$, approaching 73%.

Hypothesis Five

The fifth hypothesis probed for a negative significant relationship between the need for order and cleanliness and attitudes towards animal hoarding. There was no significant correlation $r = 0.28, p = .662, ns$.

Hypothesis Six

The sixth hypothesis tested for a positive significant relationship between perfectionism and intrusive thoughts and attitudes towards animal hoarding, and again there was no significant correlation $r = -.125, p = .054, ns$.

Hypothesis Seven

Analysis of the data relevant to the seventh hypothesis revealed a significant positive correlation between scores on empathic concern and attitudes towards animal hoarding $r = .138, p = .022$. The portion of variance accounted for by this linear relationship was $r^2 = .019$, approaching 1.9%.

Hypothesis Eight

Data pertinent to the eighth hypothesis revealed a positive significant relationship between the three IRI subscales and pro-animal attitude: empathic concern $r = .281, p = .000$; personal distress: $r = .171, p = .004$; and fantasy: $r = .158, p = .008$. The proportion of variance accounted for by the linear relationships were: $r^2 = .078$; $r^2 = .029$; and $r^2 = .024$ respectively.

Hypothesis Nine

The analysis of the ninth hypothesis revealed significant differences between the genders found on the personal distress, empathic concern, and fantasy IRI subscales, and attitudes towards animals scale (see table 2). The table demonstrates that males scored significantly lower than females across the dependent variables. Significant differences between males and females were found for the three IRI subscales, and attitudes towards animal scale, with women displaying higher scores than men in each case. The largest difference was found for the attitudes towards animals scale; the mean score on this scale was 69.49 for women, and 59.56 for men, $F(1,267) = 42.49, p = .000$. Mean scores for the remaining IRI subscales, for women and men, were as follows: fantasy scale, 3.025 vs 2.765, $F(1,267) = 8.250, p = .004$; personal distress scale, 2.591 vs 2.352, $F(1,267) = 6.965, p = .009$; and empathic concern scale, 3.302 vs 3.085, $F(1,267) = 12.783, p = .000$.

Table 2

Means of Significant Differences in Empathy and Attitudes Towards Animal Scores Between Males and Females

	Perspective Taking		Personal Distress		Empathic Concern		Fantasy		Attitudes towards Animals	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Mean	3.576	3.649	2.352	2.591	3.085	3.302	2.765	3.025	59.56	69.49
SD	.5125	.4743	.5753	.6405	.4707	.3810	.5536	.6890	11.26	10.38
N	201	62	201	62	201	62	201	62	201	62

Note: Higher scores indicate higher empathy and pro-animal welfare attitude scores.

Hypothesis Ten

In regards to the tenth hypothesis, no significant differences were found between past or present pet owners and those who have never owned a pet in relation to scores on the IRI subscales (perspective taking, empathic concern, personal distress) and the attitudes towards animal scale (see table 3).

Table 3

Summary of General Linear Multivariate Analysis for Gender and Pet ownership (past and current) as a Function of Empathy and Attitudes Towards Animals

Measure and Variable	SS	Df	MS	F	Sig of F
Personal Distress					
Gender	2.625	1	2.625	6.965	.009*
Pet Ownership	.175	1	.175	.464	.496
2-way Interaction Gender x Pet Ownership	.079	1	.079	.210	.647
Residual	100.638	267	.377		
Empathic Concern					
Gender	2.092	1	2.092	12.783	.000*
Pet Ownership	.021	1	.021	.131	.717
2-way Interaction Gender x Pet Ownership	.160	1	.160		
Residual	43.695	267	.164		
Fantasy					
Gender	3.343	1	3.343	8.250	.004*
Pet Ownership	.871	1	.871	2.149	.144
2-way Interaction Gender x Pet Ownership	.000	1	.000	.001	.982
Residual	108.194	267	.405		
AAS					
Gender	4835.4	1	4835.447	42.492	.000*
Pet Ownership	47	1	7.063	.062	.803
2-way Interaction Gender x Pet Ownership	7.063	1	7.063		
Residual	1.670	267	113.796		
Residual	30838.491	491			

Note: All significant correlations are shown, *p<.05.

Hypothesis Eleven

An examination of the data relevant to hypothesis eleven showed no significant difference in empathy between those that encountered an animal hoarding incident and took action ($M=3.192$), compared to those who encountered animal hoarding and took no action ($M=3.136$), and those that didn't encounter animal hoarding at all ($M=3.081$); $F(3,281)=1.076, p = .360$.

Hypothesis Twelve

The analysis of the twelfth hypothesis revealed no significant differences between the respective levels of the participants' age, religion, and education on their attitudes towards the treatment of animals in general. Respective age, religion, and education results were as follows: $F(5,256) = 2.016, p = .077, ns$; $F(13,245) = 1.694, p = .063, ns$; and $F(9,250) = 1.27, p = .253, ns$. Furthermore, no significant differences were found between the respective levels of participants' age, religion, and education on their attitudes towards animal hoarding. Respective results were as follows: $F(5,245) = 1.157, p = .331, ns$; $F(13,237) = 1.518, p = .112, ns$, and $F(9,242) = .252, p = .986, ns$.

A non-hypothesized finding was found and is of interest. A Pearson Product correlation revealed that neuroticism is positively correlated with attitudes towards the treatment of animals indicating a pro-animal welfare attitude $r = .250, p = .000$.

Chapter 4

Discussion

The aim of this study was to investigate potential links between personality, empathy, and demography and attitudes towards the treatment of animals, particularly animal hoarding. Investigation of the analysis exhibited that hypotheses three, four, seven, and nine were supported. As predicted, the FFM neuroticism dimension was inversely correlated, albeit weakly, to the OCD characteristic of the need for order and cleanliness. This finding lends some support to the literature that those who hoard (a behaviour synonymous with emotional instability) may lack organisational ability and are unable to complete necessary household functions such as cooking, cleaning, and paying the bills (Frost & Hartl, 1996; Frost et al., 2000). As

previously discussed, some animal hoarders lived in such squalor and disrepair that their behaviour impaired normal movement around the home, with some homes deemed unfit for human habitation (Berry et al., 2005; Patronek, 1999; Worth & Beck, 1981).

There was even stronger support for the hypothesis that neuroticism and the OCD characteristic of perfectionism and intrusive thoughts were positively correlated. Scarrabelotti et al. (1995) theorised that individuals who are highly neurotic reacted strongly to stimuli and showed resistance to stimuli extinction. Hence, these individuals were inclined to give intrusive thoughts excessive attention and felt compelled to do so. In similar vein, Samuels et al. (2000) found that patients with OCD had high scores on both impulsiveness, (a facet of neuroticism), and openness to fantasy, which may have reflected their difficulty in resisting intrusive thoughts. These findings may explain why animal hoarders have the inability to resist the urge to acquire animals when they see or hear of an animal in need of a home. Lockwood (1994) noted that animal hoarders were adverse to the idea of abandoned animals or euthanasia, and considered themselves 'saviours' doing their best to keep the animals alive. Resultant of these incessant thoughts, hoarders may feel compelled to 'rescue' animals, which in turn alleviates their anxiety regarding impending harm to animals. This inflated sense of responsibility and harm avoidance is commonly found in OCD sufferers (DSM-IV; APA, 1994). Perhaps in the case of animal hoarding, the hoarder strives for certainty that no harm will come to the animals due to his or her perceived negligence? However, in animal hoarding cases, the hoarders protect themselves from harm, showing great signs of distress and discomfort when authorities attempted to handle the animals or remove the animals from the premises (Arluke et al., 2002). While animal hoarders view their acts as altruistic, in reality they are selfish as the focus shifts from the needs of the animals to the needs of the hoarder.

A weak but significant correlation was found between EC and individual attitudes towards animal hoarding. This finding indicated that those with higher EC scores had more concern for animal hoarding behaviour. This research question was extrapolated from Furnham et al.'s (2003) study, whom found EC to be the only IRI subscale with a significant relation to scores on the AAS. Dissimilar to Furnham et al.'s findings, this study revealed that three of the IRI subscales (empathic concern, fantasy, and personal distress) were positively correlated with scores on the AAS. However, EC proved the strongest predictor (based on variance

weight) for attitudes towards the treatment of animals. Whilst these scales were devised to measure human-directed empathy, it is tenable that they are equally relevant to the plight of animals (Furnham et al.).

As anticipated, females scored significantly higher on the IRI subscales and the AAS than males, corroborating past research that women are more empathic than men and possess more favourable attitudes towards animal welfare (Herzog et al., 1991). Evidently, this finding has implications for the demographic characteristics of animal hoarders which have already demonstrated that women have more of a propensity to hoard animals than men (Patronek, 1999; Worth & Beck, 1981).

The remainder of the hypotheses were not supported. The FFM dimensions of neuroticism, conscientiousness, and attitudes towards animal hoarding were not significantly correlated. Although both neuroticism and conscientiousness have been linked with OCD hoarding in the psychological literature (Frost & Gross, 1993; Greenberg, 1990; Rector et al., 2000), theorists have not yet tested whether animal hoarding is a sub-type of compulsive hoarding. Furthermore, as the study of animal hoarding is still in its infancy, theorists are yet to investigate the personality profile of animal hoarders in empirical research. Thus the author concedes that this hypothesis was an ambitious 'theoretical leap'. Another plausible explanation for the non-significant outcome is that pursuant to Lockwood et al.'s (1994) projections, animal hoarding might be better classified as a focal delusional or attachment disorder, or one of the other models discussed. However, Carey and DiLalla (1994) purported that neuroticism is a predominant personality trait in most psychiatric disorders. Hence, it is more likely that the animal hoarding scale was not effective in measuring the propensity to animal hoard. The fact that the non-hypothesized finding yielded a significant correlation between neuroticism and attitudes towards the treatment of animals vindicated the latter possibility.

The present study also found no significant relationship between empathic disposition (primarily EC) and subsequent behaviour (remedial animal hoarding action). These findings are contrary to Davis's (1983) muscular dystrophy telethon study, which revealed that higher scores on EC resulted in prolonged viewing and donations. However, this outcome replicated findings from Braithwaite's (1982) work, who found that attitudes towards animal suffering were not translated into corresponding behaviour. This finding also demonstrated that self-report measures often do not predict behaviour (Patronek, 1999). Perhaps this potential link should be investigated by using experimental methods rather than relying on self-report measures, like

interview conducted psychometric tests. For example, Thompson and Gullone (2003) developed a Children's Treatment of Animals Questionnaire (CTAQ) that assesses children's humane behaviour toward animals, and is administered by the interviewer.

Despite the fact that past research has consistently found significant differences in demographic characteristics and respective attitudes towards the treatment of animals (Herzog et al., 1991; Hills, 1993; Kellert & Berry, 1987), the present study produced nil differences. It is theorised that the weak psychometric properties of the AH scale confounded the study's results.

It is important to note that this study was a preliminary investigation designed to determine whether personality, empathy, and demography were associated with concerns of animal hoarding. As such, freely available, condensed versions of the NEO-PI-R and OCI were used as a first step toward determining whether such relationships were tenable. It is possible that if the full NEO-PI-R and OCI measures had been implemented, it may have increased the power to detect significance among the findings approaching significance. Several researchers have admitted that condensed scales are usually psychometrically inferior to their full-scale counterparts (Gosling, Rentfrow, & Swann, 2003).

Limitations

The major limitation involves the deliberate omission of a comprehensive definition of animal hoarding in the information sheet. Whilst the omission was deemed necessary to mitigate the risk of social bias due to the derogatory implications of animal hoarding, it is believed that this may have confounded study results. Conversely, this ambiguity served to further demonstrate the lack of public awareness concerning what behaviour constituted animal hoarding. For example, one participant responded affirmatively to the current hoarding of animals but proceeded to explain that the fish were bred for retail purposes, were kept in optimal conditions, and were well provided for.

While every effort was made to keep the present study's questionnaire as concise as possible, the six sections would have proved time-consuming for participants, requiring approximately 30 to 45 minutes to complete. Hence, this may have dissuaded some participants and impeded the likelihood of participant's really thinking through each item's response (Woods & Hampson, 2005), resulting in 25 incomplete questionnaires from the community cohort. In addition, as Wenzlaff and Wegner (2000) suggested, there is also a possibility

that exposure to questionnaires can create cognitions, instead of tapping into pre-existing cognitions. This is particularly pertinent to this study, as animal hoarding is a relatively unknown topic, with only 18% of respondents accurately describing animal hoarding, yet respondents were asked to provide details regarding their attitudes about the issue. Furthermore, it is envisaged that the number of persons who indicated their concern for animal hoarding (75%) was inflated and may have resulted from the participants' desires to present favourably to the researcher.

A final issue regarding the study's limitations, is that the sample is a disproportionate representation of certain demographic groups. Clearly females, middle-aged persons and those with higher household incomes and higher levels of education are over represented.

Although this disproportionate sample presents a potential methodological weakness, it may also make the findings more salient as a result. In effect, it has resulted in an over sampling of the portion of population who have more propensity to animal hoard, based on the profiling of animal hoarders conducted to date (Patronek, 1999).

Future research

A valid and reliable measure to assess attitudes towards animal hoarding is clearly needed. The development of such an instrument could provide researchers with an improved understanding of the psychological complexities underlying human-animal interaction in animal hoarding. More critically, it could act as a sentinel for potential animal hoarding behaviour and allow researchers to develop new theories in this limited area. In light of evidence supporting correlations between the maltreatment of animals and interpersonal violence (Ascione, 2001), it is logical that improving the detection of animal hoarding is likely to enhance society's detection of violence or neglect towards other family members (Arluke et al., 2002; Berry et al., 2005). However, qualitative methods need to be employed such as focus groups, or non-directive interviewing techniques to encourage participants to introduce factors they consider important and relevant. This would allow new constructs to emerge that are not constrained by the researcher (Knight, Nunkoosing, Vrij, & Cherryman, 2003).

It would also be useful to include an item investigating social responsibility, specifically asking why individuals' chose not to report animal hoarding incidents to authorities. Past research has shown that many

people view pet ownership as a private matter, and tend not to report acts of animal cruelty for this very reason (Murray & Penridge, 1997). Moreover, it could be that neighbours and the like are reluctant to report acts of animal cruelty for fear of identity disclosure and subsequent retribution. Community education is required to allay these inhibitions in order to reduce the unnecessary suffering of the humans and animals involved and to obtain a higher accuracy of prevalence rates.

Furthermore, studies need to be conducted concerning the children of animal hoarders and their likelihood of replicating the same neglectful behaviour. Ample evidence suggests that abuse is a cyclic phenomena (Fawcett & Gullone, 2001), whereby children who grew up in homes in which pets were neglected and abused were found more likely to perceive such treatment as acceptable and exhibit patterns of abuse similar to that of adults (Raupp, 1999).

In addition, the physical, psychological, and emotional abuse that animals endure as a direct result of animal hoarding needs to be considered a study in its own right by psychologists. While the affects of overcrowding and vying for scant food resources have been given marginal attention in veterinarian literature (Serpell, 2003), it remains largely ignored by psychologists. This observation reiterates an earlier point which suggested that animals enter psychological discourse primarily because they are involved in some aspect of human relationships and are not considered worthy of psychological attention in their own right (Melson, 2002).

Finally, it would also be fruitful to examine the attitudes among animal hoarders and reformed animal hoarders. Additional data from a clinical population would allow for the comparison between attitudes in a clinical and non-clinical population. To this end, the present research has provided an important starting point and platform from which subsequent research might proceed.

References

- Adkins, S.L., & Rajecki, D.W. (1999). Pet's roles in parent's bereavement. *Anthrozoös, 12* (1), 33-41.
- Allen, K.M., Blascovitch, J., Tomaka, J., & Kelsey, R.M. (1991). Presence of human friends and pet dogs as moderators of autonomic responses to stress in women. *Journal of Personality and Social Psychology, 61* (4), 582-589.
- Alterman, A. I., McDermott, P. A., Cacciola, J. S. & Rutherford, M. J. (2003). Latent structure of the Davis Interpersonal Reactivity Index in methadone maintenance patients [Electronic version]. *Journal of Psychopathology and Behavioural Assessment 25*, 257-265.
- American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders 4th ed. (DSM-IV)*. Washington, DC: Author.
- Arluke, A., Frost, R., Steketee, G., Patronek, G., Luke, C., Messner, E., Nathanson, J., & Papazianm, M. (2000). People who hoard animals [Electronic version]. *Psychiatric Times, 17* (4), 25-29.
- Arluke, A., Frost, R., Steketee, G., Patronek, G., Luke, C., Messner, E., Nathanson, J., & Papazianm, M. (2002). Health implications of animal hoarding [Electronic version]. *Health and Social Work, 27* (2), 125-131.
- Ascione, F.R. (2001). Animal abuse and youth violence [Electronic version]. *OJJDP: Juvenile Justice Bulletin, 1-15*.
- Ascione, F.R., & Arkow, P. (Eds). (1999). *Child Abuse, domestic violence, and animal abuse: linking the circles of compassion for prevention and intervention*. West Lafayette, In: Purdue University Press.
- Ascione, F.R., Weber, C.V., & Wood, D. S. (1997). The abuse of animals and domestic violence: A national survey of shelters for women who are battered [Electronic version]. *Society and Animals, 5* (3).
- Ashton, M. C., & Lee, K. (2005). Honesty-humility, the big five, and the Five-Factor Model [Electronic version]. *Journal of Personality, 73*, 1321-1353.
- Baer, L. (1994). Factor analysis of symptom subtypes of obsessive-compulsive disorder and their relation to personality and tic disorders [Electronic version]. *Journal of Clinical Psychiatry, 55* (3), 18-23.

- Bagby, R., Marshall, M., Georgiades, S. (2005). Dimensional personality traits and the prediction of DSM-IV personality disorder symptom counts in a non-clinical sample [Electronic version]. *Journal of Personality Disorders, 19* (1), 53-67.
- Ball, S., Baer, L., & Otto, M. (1996). Symptom subtypes of obsessive-compulsive disorder in behavioural treatment studies: A quantitative review [Electronic version]. *Behavioural Research and Therapy, 34* (1), 47-51.
- Beck, A., & Katcher, A.H. (2003). Future directions in human-animal bond research [Electronic version]. *The American Behavioural Scientist, 47* (1), 79-93.
- Becker, F., & French, L. (2004). Making the links: Child abuse, animal cruelty and domestic violence [Electronic version]. *Child Abuse Review, 13*, 399-414.
- Berry, C., Patronek, G., & Lockwood, R. (2005). Long-term outcomes in animal hoarding cases [Electronic version]. *Animal Law, 11*, 168-194.
- Bienvenu, O.J., & Stein, M.B. (2003). Personality and anxiety disorders: A review [Electronic version]. *Journal of Personality Disorders, 17* (2), 90-108.
- Bowd, A.D., & Bowd, A.C. (1989). Attitudes toward the treatments of animals: A study of Christian groups in Australia. *Anthrozoös, 3* (1), 20-24.
- Braithwaite, J., & Braithwaite, V. (1982). Attitudes toward animal suffering: An exploratory study. *International Journal for the Study of Animal Problems, 3* (1), 42-49.
- Broida, J., Tingley, L., Kimball, R., & Meile, J. (1993). Personality differences between pro- and anti-vivisectionists [Electronic version]. *Society and Animals, 1* (2), 129-144.
- Brothers, L. (1989). A biological perspective on empathy [Electronic version]. *The American Journal of Psychiatry, 146* (1), 10-19.
- Calamari, J.E., Wiegartz, P.S., Riemann, B.C., Jones, R.M., Greer, A., Jacobi, D.M., Jahn, S.C., & Carmin, C.N. (2004). Obsessive-compulsive disorder subtypes: An attempted replication and an extension of symptom-based taxonomy [Electronic version]. *Behaviour Research and Therapy, 42*, 647-670.
- Campbell, C., & Robinson, J. (2001). Animal hoarding. In C. Bryant (Ed.), *Encyclopedia of criminology and deviant behaviour, volume II* (pp. 11-15). Philadelphia: Brummer Routledge.

- Carey, G., & DiLalla, D. (1994). Personality and psychopathology: genetic perspectives [Electronic version]. *Journal of Abnormal Psychology, 103* (1), 32-43.
- Carey, J.C., Fox, E.A., & Spraggins, E.F. (1988). Replication of structure findings regarding the Interpersonal Reactivity Index. *Measurement and Evaluation in Counselling and Development, 21*, 102-105.
- Cazaux, G. (1999). Beauty and the beast: Animal abuse from a non-speciesist criminological perspective [Electronic version]. *Crime, Law and Social Change, 31*, (2), 105-126.
- Cohen, D., & Strayer, J. (1996). Empathy in conduct-disordered and comparison youth [Electronic version]. *Developmental Psychology, 32*, (6), 988-998.
- Coles, M., Frost, R., Heimberg, R., & Steketee, G. (2003). Hoarding behaviours in a large college sample [Electronic version]. *Behaviour Research and Therapy 41*, 179-194.
- Costa, P.T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO personality inventory [Electronic version]. *Psychological Assessment, 4* (1), 5-13.
- Costa, P.T., & Widiger, T.A. (2002). (2nd ed). *Personality disorders and the five-factor model of personality*, USA: American Psychological Association.
- Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalogue of Selected Documents in Psychology 10*, 85-106.
- Davis, M. H. (1983). Empathic concern and the muscular dystrophy telethon. Empathy as a multidimensional construct [Electronic version]. *Personality and Social Psychology Bulletin, 9* (2), 223-229.
- Digman, J.M. (1990). Personality structure: Emergence of the Five Factor Model. *Annual Review of Psychology, 41*, 417- 440.
- Duan, C., & Hill, C. (1996). The current state of empathy research [Electronic version]. *Journal of Counselling Psychology, 43*, (3), 261-274.
- Eisenberg, N. (2000). Emotion, regulation, and moral development [Electronic version]. *Annual Review of Psychology, 51*, 665-696.
- Fawcett, N.R., & Gullone, E. (2001). Cute and cuddly and a whole lot more? A call for empirical investigation into the therapeutic benefits of human-animal interaction for children [Electronic version]. *Behaviour Change, 18* (2), 124-133.

- Foa, E.B., (2001). Obsessive Compulsive Disorder. In D.H. Barlow (Ed). *Clinical handbook of psychological disorders: A step-by-step treatment manual* (pp. 209-263). New York: The Guilford Press.
- Foa, E.B., & Kozak, M., Salkovskis, P.M., Coles, M.E., & Amir, N. (1998). The validation of a new obsessive-compulsive disorder scale: The obsessive compulsive inventory [Electronic version]. *Psychological Assessment, 10* (3), 206-214.
- Friedmann, E., Katcher, A.H., Lynch, J.J., & Thomas, S.A. (1980). Animal companions and one-year survival of patients after discharge from a coronary care unit. *Public Health Report, 95* (4), 307-312.
- Frost, R.O., & Gross, R.C. (1993). The hoarding of possessions. *Behaviour Research Therapy, 31* (4), 367-381.
- Frost, R., & Hartl, T. (1996). A cognitive-behavioural model of compulsive hoarding [Electronic version]. *Behaviour Research Therapy, 34* (4), 341-350.
- Frost, R., Hartl, T., Christian, R., & Williams, N. (1995). The value of possessions in compulsive hoarding: Patterns of use and attachment [Electronic version]. *Behaviour Research and Therapy, 33* (8), 897-902.
- Frost, R.O., Steketee, G. & Williams, L. (2000). Hoarding: a community health problem [Electronic version]. *Health and Social Care in the Community, 8* (4), 229-234.
- Furnham, A., McManus, C., & Scott, D. (2003). Personality, empathy and attitudes to animal welfare. *Anthrozoös, 16* (2), 135-144.
- Garrity, T., Stallones, L., Marx, M., & Johnson, T. (1989). Pet ownership and attachment as supportive factors in the health of the elderly. *Anthrozoös, 3*, 35-44.
- Goldberg, L.R. (1992). The development of markers for the big-five factor structure [Electronic version]. *Psychological Assessment, 4* (1), 26-42.
- Gosling S., Rentfrow, P., & Swann, W. (2003). A very brief measure of the big-five personality domains [Electronic version]. *Journal of Research in Personality, 37*, 504-528.
- Greenberg, D. (1987). Compulsive hoarding. *American Journal of Psychotherapy, 41* (3), 409-416.
- Gullone, E., Johnson, J., & Volant, A. (2004). Animal cruelty, human abuse – What can Australian vets do? *Australian Veterinarians for Animal Welfare and Ethics (AVAWE)*, Annual Conference proceedings.

- Hart, L.A., Hart, B.L., & Bergin, B. (1987). Socializing effects of service dogs for people with disabilities. *Anthrozoös, 1*, 41- 44.
- Herzog, H.A., Betchart, N.S., & Pittman, R.B. (1991). Gender, sex role orientation, and attitudes toward animals [Electronic version]. *Anthrozoös, 4* (3), 184-192.
- Hills, A.M. (1993). The motivational bases of attitudes toward animals [Electronic version]. *Society and Animals, 1* (2), 111-128.
- Hines, L.M. (2003). Historical perspectives on the human-animal bond [Electronic version]. *The American Behavioral Scientist, 47* (1), 7-15.
- Ho, R. (2000). *Handbook of univariate and multivariate data analysis & interpretation: SPSS approach*. Central Queensland University Publishing Unit.
- Kellert, S.R. (1980). American attitudes toward and knowledge of animals: An update. *International Journal for the Study of Animal Problems, 1* (2), 87-119.
- Knight, S., Nunkoosing, K., Vrij, A., & Cherryman, J. (2003). Using grounded theory to examine people's attitudes toward how animals are used [Electronic version]. *Society and Animals, 11* (4), 307-327.
- Lockwood, R. (1994). The psychology of animal collectors [Electronic version]. *American Animal Hospital Association Trends Magazine, 9* (6), 18-21.
- Lockwood, R., & Hodge, G. (1986). The tangled web of animal abuse: The links between cruelty to animals and human violence. In R. Lockwood & F. Ascione (Ed). *Cruelty to animals and interpersonal violence: Readings in research and applications* (pp.77-82). USA: Purdue University Press.
- Loudin, J.L., Loukas, A., & Robinson, S. (2003). Relational aggression in college students: Examining the roles of social anxiety and empathy. *Aggressive Behaviour, 29*, 430-439.
- Manga, D., Ramos, F., & Moran, C. (2004). The Spanish norms of the NEO Five-Factor Inventory: New data and analyses for its improvement [Electronic version]. *International Journal of Psychology and Psychological Therapy, 4* (3), 639-648.
- Mataix-Cols, D., Conceicao, M., Rosario-Campos, & Leckman, J, F. (2005). A multidimensional model of obsessive-compulsive disorder [Electronic version]. *American Journal of Psychiatry, 162*, 228-238.

- Mathews, S., & Herzog, H.A. (1997). Personality and attitudes towards the treatment of animals [Electronic version]. *Society and Animals*, 5 (2), 169-176.
- McCrae, R.R., Costa, P.T., & Dolliver, R. H. (1991). The NEO Personality Inventory: Using the five-factor model in counselling [Electronic version]. *Journal Counselling and Development*, 69 (4), 367- 373.
- McCrae, R.R., & Costa, P.T. (1997). Personality trait structure as a human universal [Electronic version]. *American Psychologist*, 52 (5), 509-516.
- Mcleod, D.R. (1997). Psychosocial treatment of obsessive-compulsive disorder. *International Review of Psychiatry*, 9 (1), 1-17. Retrieved May 20, 2005, from EBSCO database.
- Mehrabian, A., & O Reilly, E. (1980). Analysis of personality measures in terms of basic dimensions of temperament. *Journal of Personality and Social Psychology*, 38, 492-503.
- Mehrabian, A., Young, A. L., & Sato, S. (1988). Emotional empathy and associated individual differences. *Current Psychology: Research & Reviews*, 7 (3), 221-240
- Melson, G.F. (2002). Psychology and the study of human-animal relationships [Electronic version]. *Society and Animals*, 10 (4), 347-352.
- Murray, R.W., & Penridge, H.E. (1997). (2nd ed). *Dogs and cats in the Urban Environment: A Handbook of Municipal Pet Management*, Mooloolah: Chiron Media.
- Patronek, G. (1999). Hoarding of animals: An under-recognized public health problem in a difficult to study population [Electronic version]. *Public Health Reports*, 114, 82-87.
- Patronek, G. (2001). The problem of animal hoarding [Electronic version]. *Municipal Lawyer*, 42, (3), 6-19.
- Rasmussen, S. A., & Eisen, J. L. (1992). The epidemiology and clinical features of obsessive-compulsive disorder. *Obsessional Disorders*, 15 (4), 743-758.
- Raupp, C., D. (2002). The 'furry ceiling'. Clinical psychology and human-animal studies [Electronic version]. *Society and Animals*, 10 (4), 353-360.
- Rector, N., Hood, K., Richter, M., & Bagby, R. (2002). Obsessive-compulsive disorder and the five-factor model of personality: Distinction and overlap with major depressive disorder [Electronic version]. *Behaviour Research and Therapy*, 40, 1205-1219.

- Rector, N., Richter, M., & Bagby, M. (2005). The impact of personality on symptom expression in obsessive-compulsive disorder [Electronic version]. *The Journal of Nervous and Mental Disease*, 193 (4), 231-236.
- Reynaldo, J., & Santos, A. (1999). Cronbach's alpha: A tool for assessing the reliability of scales [Electronic version]. *Journal of Extension*, 37 (2).
- Samuels, J., & Nestadt, G. (1998). Incidence of obsessive-compulsive disorder in adults [Electronic version]. *The Journal of Nervous and Mental Disease*, 186 (7), 401- 406.
- Samuels, J., Nestadt, G., Bienvenue, J., Costa, P., Riddle, M., Liang, K., Hoehn-Saric, R., Grados, M., & Cullen, B. (2000). Personality disorders and normal personality dimensions in obsessive-compulsive disorder [Electronic version]. *British Journal of Psychiatry*, 177, 457- 462.
- Sanders, C.R. (2003). Actions speak louder than words: Close relationships between humans and nonhuman animals [Electronic version]. *Symbolic Interaction*, 26 (3), 405-408.
- Saxena, S., Brody, A.L., Maidment, K.M., Smith, E.C., Nohrabi, N., Katz, E., Baker, S.K., & Baxter, L.R. (2004). Cerebral glucose metabolism in obsessive-compulsive hoarding [Electronic version]. *The American Journal of Psychiatry* 161 (6), 1038-1048.
- Scarrabelotti, M., Duck, J., & Dickerson, M. (1995). Individual differences in obsessive-compulsive disorder: The role of the eysenckian dimensions and appraisals of responsibility [Electronic version]. *Personality and Individual Differences*, 18 (3), 413-421.
- Schaefer, K. (2002). Human animal interactions as a therapeutic intervention [Electronic version]. *Counselling and Human Development*, 34 (5), 1-18.
- Seedat, S., & Stein, D.J. (2002). Hoarding in obsessive-compulsive disorder and related disorders: A preliminary report of 15 cases [Electronic version]. *Psychiatry and Clinical Neurosciences*, 56, 17-23.
- Serpell, J. A. (2003). *In the company of animals: A study of human-animal relationships*, USA: Cambridge University Press.
- Siegel, J.M. (1990). Stressful life events and use of physician services among the elderly: The moderating role of pet ownership. *Journal of Personality and Social Psychology*, 58, (6), 1081-1086.
- Stein, D.J., Seedat, S. and Potocnik, F. 1999. Hoarding: A review [Electronic version]. *The Israel Journal of Psychiatry and Related Sciences* 36 (1), 35-46.

- Steketee, G., & Frost, R. (2003). Compulsive hoarding: Current status of the research [Electronic version]. *Clinical Psychology Review, 23* (7), 905-927.
- Summerfeldt, L.J., Hood, K., Antony, M., Richter, M.A., & Swinson, R.P. (2004). Impulsivity in obsessive-compulsive disorder: comparisons with other anxiety disorders and within tic-related subgroups [Electronic version]. *Personality and Individual Differences, 36* (3), 539-553.
- Thompson, K.L., & Gullone, E. (2003). The children's treatment of animal's questionnaire (CTAQ): A psychometric investigation [Electronic version]. *Society and Animals, 11* (1), 1-15.
- Triebenbacher, S., L. (2000). The companion animal within the family system: The manner in which animals enhance life within the home. In A.H. Fine (Ed). *Handbook on animal assisted therapy: theoretical foundations and guidelines for practice* (pp.357-374). San Diego: Academic Press, Inc.
- Trull, T. J. (1992). DSM-III-R personality disorders and the five-factor model of personality: an empirical comparison [Electronic version]. *Journal of Abnormal Psychology, 101* (3), 553-560.
- Watson, D., Clark L., & Harkness, A. (1994). Structures of personality and their relevance to psychopathology [Electronic version]. *Journal of Abnormal Psychology, 103* (1), 18-31.
- Wenzlaff, R.M., & Wegner, D.M. (2000). Thought suppression [Electronic version]. *Annual Review of Psychology, 51*, 59-91.
- Woods, S.A., & Hampson, S.E. (2005). Measuring the big five with single items using a bipolar response scale [Electronic version]. *European Journal of Personality, 19*, 373-390.
- Worth, C., & Beck, A. (1981). Multiple ownership of animals in New York city. *Transactions and Studies of the College of Physicians of Philadelphia, 3*, 280-300.

APPENDIX A

Information sheet, consent form and questionnaire issued to voluntary participants

INFORMATION SHEET FOR PERSONALITY VARIABLES AND ATTITUDES TOWARDS ANIMALS

Dear Householder,

My name is Shuron Billman and I am a Psychology Honours student at Central Queensland University. The present study is being undertaken as part of this degree.

Please find following a questionnaire, which takes about 40 minutes to complete, along with information about the study and a consent form. You should note that your participation is anonymous, confidential and completely voluntary. Please take your time looking through this information prior to deciding if you would like to participate.

Your participation in this research will contribute towards an improved understanding of pet ownership. For many of us, pets are an important part of our daily lives. For people living on their own, especially, they can take on even greater significance, serving as a constant source of companionship and unconditional love. Some individuals within our society collect animals, and sometimes the number of animals overwhelms their ability to care for them. This study examines various factors such as personality variables, empathy levels and attitudes towards pet ownership which may influence how many companion animals an individual has.

Your participation in the study would be greatly appreciated. By participating in the study you will automatically go into the draw to win a book of 5 Birch Carroll & Coyle movie tickets. Winners will be announced in the Morning Bulletin on Saturday 24th September, 2005 in the Public notices section. Should you have further questions at any time about this study or your role in it, please feel free to contact the principle researcher:

Shuron Billman
School of Psychology and Sociology
Central Queensland University
Phone: 4930 9115
Email: s.billman@cqu.edu.au

By signing this consent form you agree to allow your anonymous information, along with that of the other participants, to be used in both written and oral communications about this study.

There are no risks and/or deception associated with participation in this study beyond those that would be experienced in normal day-to-day activities. If you are willing to participate in this study, please read the following statement and sign your name.

CONSENT FORM

I have read the information sheet or the information sheet has been read to me which provides details about the nature and purpose of the questionnaire. I understand that my rights of confidentiality and anonymity will be protected and that I have the right to withdraw from the questionnaire at any time. I understand that when the questionnaire data is being analysed and reported any information that could reveal participants' or other people's identities will be removed. I consent to participate in this research project as a legal adult, being more than eighteen years of age.

Name:

Date:

Signature of Participant:

Contact details if you wish to have the results summary from the final report sent to you:

Yes No

Postal or Email Address:

.....

Researcher's Statement: I have explained this study and the implications to the volunteer and believe that the consent is informed.

Signature of Researcher:

Date:

PERSONALITY VARIABLES AND ATTITUDES TOWARDS ANIMALS

Part A consists of 10 questions related to demographic details such as your age group, geographic location and gender. Please complete all questions. Please tick the box that applies to you (select only one box for each question):

1. What is your age?

18-25 years of age

41-50 years of age

26-30 years of age

51-60 years of age

31-40 years of age

over 61 years of age

2. What is your gender?

Female

Male

3. What is your town of residence?

Rockhampton

Gracemere

Gladstone

Biloela

Mount Morgan

Blackwater

Other (please specify) _____

Yeppoon

4. What is your residential property?

House

Unit/Flat

Caravan

Acreage

Other (please specify) _____

5. What is your marital status?

Single

Defacto

Married

Divorced

Other (please specify) _____

Widowed

6. What is your current working status?

Working part-time

Working full-time

Unemployed

Home Duties

Working homemaker

Retired

Student

7. Including yourself, how many persons are in your household?

- | | |
|--------------------------------|--------------------------------------|
| <input type="checkbox"/> One | <input type="checkbox"/> Four |
| <input type="checkbox"/> Two | <input type="checkbox"/> Five |
| <input type="checkbox"/> Three | <input type="checkbox"/> Six or more |

8. What is your household's total annual income for 2004?

- | | |
|---|---|
| <input type="checkbox"/> Less than \$20,000 per year | <input type="checkbox"/> Between 50,001 and \$65,000 per year |
| <input type="checkbox"/> Between \$20,001 and \$35,000 per year | <input type="checkbox"/> More than \$65,000 per year |
| <input type="checkbox"/> Between \$35,001 and \$50,000 per year | |

9. What is the highest level of education you have completed?

- | | |
|---|---|
| <input type="checkbox"/> Primary School | <input type="checkbox"/> Incomplete tertiary undergraduate degree |
| <input type="checkbox"/> Up to Year 10 | <input type="checkbox"/> Completed tertiary undergraduate degree |
| <input type="checkbox"/> Between years 11 and 12 – Secondary School | |
| <input type="checkbox"/> Completed Senior High School Certificate | |
| <input type="checkbox"/> Completed postgraduate studies or equivalent | |

10. What is your religious affiliation?

- | | |
|--|---|
| <input type="checkbox"/> Anglican | <input type="checkbox"/> Presbyterian |
| <input type="checkbox"/> Baptist | <input type="checkbox"/> Salvation Army |
| <input type="checkbox"/> Catholic | <input type="checkbox"/> Uniting Church |
| <input type="checkbox"/> Church of Christ | <input type="checkbox"/> Other Christian |
| <input type="checkbox"/> Jehovah's Witness | <input type="checkbox"/> Buddhism |
| <input type="checkbox"/> Lutheran | <input type="checkbox"/> Hinduism |
| <input type="checkbox"/> Orthodox | <input type="checkbox"/> Judaism |
| <input type="checkbox"/> No religion | <input type="checkbox"/> Other (please specify) _____ |

Part B consists of 15 questions related to pet ownership and keeping animals. Please tick the box that applies to you.

- 11 Do you currently own any pets? Yes No

If yes to Q.11 what kind and how many of each kind (e.g. 5 dogs) _____

- 12 As a child were you raised with family pets: Yes No

If yes to Q.12 what kind and how many (e.g. 3 cats) _____

13. Have you heard of the term 'animal hoarding' or 'animal collectors' prior to this questionnaire?

Yes No

14. Have you been exposed to animal hoarding reports in the media (incl. newspaper, radio, TV, internet)?

Yes No

15. Are you concerned about animal hoarding? Yes No

16. Do you think that animal hoarding can be a public health problem? Yes No

17. Do you have a profile of an animal hoarder in your mind? Yes No

If yes to Q.17, please describe:

18. What constitutes your definition of animal hoarding?

3 pets or less

7-10 pets

5 pets

10 pets or more

5-7 pets

Other _____

- 19 Have you (either in the past or present) hoarded non-living objects? Yes No

If yes to Q.19, please specify the type and quantity of objects:

20. Do you collect animals? Yes No

If yes to Q.20, please specify how many and what type:

21. Have you collected animals in the past? Yes No

If yes to Q.21, please specify how many and what type:

22. If yes to Q.20 or Q.21, for what purposes do/did you collect animals (please describe):

23. Do you know an animal collector or encountered an animal hoarding situation? Yes No

If yes to Q. 23, did you take any action? Yes (please specify action taken) No

24. Please indicate if the collector was a:

family member

room mate

stranger

friend

acquaintance

relative not living here

Other _____

25. Whose responsibility do you think animal hoarding is?

RSPCA

Veterinarians

City Council

Mental health

Cross Agency

Community's

Police

Other _____

The following statements inquire about your thoughts and feelings towards animal hoarding. For each item, indicate how well it describes you by **circling** the appropriate number on the scale.

STATEMENTS

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Animal hoarding is an animal problem not a human problem.	1	2	3	4	5
Animal hoarders are a threat to themselves.	1	2	3	4	5
Animal hoarders pose a threat to individuals living with them.	1	2	3	4	5
Animal hoarders breach animal protection laws which specify that companion animals must be kept in sanitary environments and receive proper nutrition, potable water, and necessary veterinary care.	1	2	3	4	5
Animal hoarders breach RSPCA policies relating to responsible pet ownership, population control, breeding and keeping wild animal as pets.	1	2	3	4	5
The hoarding of animals due to loneliness is more acceptable than the hoarding of animals due to deliberate over breeding.	1	2	3	4	5
Animal hoarding is kindness gone awry.	1	2	3	4	5
Animal hoarding is a mental health issue.	1	2	3	4	5
Animal hoarders love their animals and are rescuers.	1	2	3	4	5
Animal hoarding is associated with self-neglect, elder and child abuse.	1	2	3	4	5
Humans have enough human problems to deal with rather than worrying about animal problems.	1	2	3	4	5

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate number on the scale at the top of the page. When you have decided on your answer please **circle** the appropriate number. **READ EACH ITEM CAREFULLY BEFORE RESPONDING.** Please answer as honestly as you can.

STATEMENTS**This statement describes me well...**

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
I daydream and fantasize, with some regularity, about things that might happen to me.	1	2	3	4	5
I often have tender, concerned feelings for people less fortunate than me.	1	2	3	4	5
I sometimes find it difficult to see things from the "other guy's" point of view.	1	2	3	4	5
Sometimes I don't feel very sorry for other people when they are having problems.	1	2	3	4	5
I really get involved with the feelings of the characters in a novel.	1	2	3	4	5
In emergency situations, I feel apprehensive and ill-at-ease.	1	2	3	4	5
I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.	1	2	3	4	5
I try to look at everybody's side of a disagreement before I make a decision.	1	2	3	4	5
When I see someone being taken advantage of, I feel kind of protective towards them.	1	2	3	4	5
I sometimes feel helpless when I am in the middle of a very emotional situation.	1	2	3	4	5
I sometimes try to understand my friends better by imagining how things look from their perspective.	1	2	3	4	5

STATEMENTS

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Becoming extremely involved in a good book or movie is somewhat rare for me.	1	2	3	4	5
When I see someone get hurt, I tend to remain calm.	1	2	3	4	5
Other people's misfortunes do not usually disturb me a great deal.	1	2	3	4	5
If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.	1	2	3	4	5
After seeing a play or movie, I have felt as though I were one of the characters.	1	2	3	4	5
Being in a tense emotional situation scares me.	1	2	3	4	5
When I see someone being treated unfairly, I sometimes don't feel very much pity for them.	1	2	3	4	5
I am usually pretty effective in dealing with emergencies.	1	2	3	4	5
I am often quite touched by things that I see happen.	1	2	3	4	5
I believe that there are two sides to every question and try to look at them both.	1	2	3	4	5
I would describe myself as a pretty soft-hearted person.	1	2	3	4	5
When I watch a good movie, I can very easily put myself in the place of a leading character.	1	2	3	4	5
I tend to lose control during emergencies.	1	2	3	4	5
When I'm upset at someone, I usually try to "put myself in his shoes" for a while.	1	2	3	4	5
When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.	1	2	3	4	5
When I see someone who badly needs help in an emergency, I go to pieces.	1	2	3	4	5
Before criticizing somebody, I try to imagine how I would feel if I were in their place.	1	2	3	4	5

Listed below are statements regarding animals. As before please **circle** the appropriate number that indicates the extent to which you agree with the statement.

STATEMENTS

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
It is morally wrong to hunt wild animals for sport.	1	2	3	4	5
I do not think that there is anything wrong with using animals in medical research.	1	2	3	4	5
There should be extremely stiff penalties including jail sentences for people who participate in dog-fighting.	1	2	3	4	5
Wild animals should not be trapped and their skins made into fur coats.	1	2	3	4	5
There is nothing morally wrong with hunting wild animals for food.	1	2	3	4	5
I think people who object to raising animals for meat are too sentimental.	1	2	3	4	5
Much of the scientific research done with animals is unnecessary and cruel.	1	2	3	4	5
I think it is perfectly acceptable for cattle to be raised for human consumption.	1	2	3	4	5
Basically, humans have the right to use animals as they see fit.	1	2	3	4	5
The slaughter of whales and dolphins should be immediately stopped even if it means some people will be put out of work.	1	2	3	4	5
I sometimes get upset when I see wild animals in cages at zoos.	1	2	3	4	5
In general, I think that human economic gain is more important than setting aside more land for wildlife.	1	2	3	4	5

STATEMENTS

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Too much fuss is made over the welfare of animals these days when there are many human problems that need to be solved.	1	2	3	4	5
Breeding animals for their skins is a legitimate use of animals.	1	2	3	4	5
Some aspects of biology can only be learned through dissecting preserved animals such as cats.	1	2	3	4	5
Continued research with animals will be necessary if we are ever to conquer diseases such as cancer, heart disease and AIDS.	1	2	3	4	5
It is unethical to breed purebred dogs for pets when millions of dogs are killed in animal shelters yearly.	1	2	3	4	5
The production of inexpensive meat, eggs and dairy products justifies the maintaining of animals under crowded conditions.	1	2	3	4	5
The use of animals such as rabbits for testing the safety of cosmetics and household products is unnecessary and should be stopped.	1	2	3	4	5
The use of animals in rodeos and circuses is cruel.	1	2	3	4	5

Listed below are statements describing people's behaviours. Please use the rating scale below to describe how accurately each statement describes *you*. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age.

Please **circle** the appropriate number that indicates the extent to which you agree with the statement.

STATEMENTS	Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
Am the life of the party.	1	2	3	4	5
Feel little concern for others.	1	2	3	4	5
Am always prepared.	1	2	3	4	5
Get stressed out easily	1	2	3	4	5
Have a rich vocabulary.	1	2	3	4	5
Don't talk a lot.	1	2	3	4	5
Am interested in people.	1	2	3	4	5
Leave my belongings around.	1	2	3	4	5
Am relaxed most of the time.	1	2	3	4	5
Have difficulty understanding abstract ideas.	1	2	3	4	5
Feel comfortable around people.	1	2	3	4	5
Insult people.	1	2	3	4	5
Pay attention to details.	1	2	3	4	5
Worry about things.	1	2	3	4	5
Have a vivid imagination.	1	2	3	4	5
Keep in the background.	1	2	3	4	5
Sympathize with others' feelings.	1	2	3	4	5
Make a mess of things.	1	2	3	4	5
Seldom feel blue.	1	2	3	4	5
Am not interested in abstract ideas.	1	2	3	4	5
Start conversations.	1	2	3	4	5
Am not interested in other people's problems.	1	2	3	4	5
Get chores done right away.	1	2	3	4	5
Am easily disturbed.	1	2	3	4	5
Have excellent ideas.	1	2	3	4	5
Have little to say.	1	2	3	4	5
Have a soft heart.	1	2	3	4	5
Often forget to put things back in their proper place.	1	2	3	4	5
Get upset easily.	1	2	3	4	5
Do not have a good imagination.	1	2	3	4	5
Talk to a lot of different people	1	2	3	4	5

STATEMENTS	Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
at parties.					
Am not really interested in others.	1	2	3	4	5
Like order.	1	2	3	4	5
Change my mood a lot.	1	2	3	4	5
Am quick to understand things.	1	2	3	4	5
Don't like to draw attention to myself.	1	2	3	4	5
Take time out for others.	1	2	3	4	5
Shirk my duties.	1	2	3	4	5
Have frequent mood swings.	1	2	3	4	5
Use difficult words.	1	2	3	4	5
Don't mind being the centre of attention.	1	2	3	4	5
Feel other's emotions.	1	2	3	4	5
Follow a schedule.	1	2	3	4	5
Get irritated easily.	1	2	3	4	5
Spend time reflecting on things.	1	2	3	4	5
Am quiet around strangers.	1	2	3	4	5
Make people feel at ease.	1	2	3	4	5
Am exacting in my work.	1	2	3	4	5
Often feel blue.	1	2	3	4	5
Am full of ideas.	1	2	3	4	5
Like to tidy up.	1	2	3	4	5
Want everything to add up perfectly	1	2	3	4	5
Continue until everything is perfect	1	2	3	4	5
Am not bothered by messy people.	1	2	3	4	5
Am not bothered by disorder.	1	2	3	4	5
Leave a mess in my room.	1	2	3	4	5
Am filled with doubt about things.	1	2	3	4	5
Am afraid that I will do the wrong thing.	1	2	3	4	5
Dislike myself.	1	2	3	4	5
Mess things up.	1	2	3	4	5
Excel in nothing at all.	1	2	3	4	5
Feel comfortable with myself.	1	2	3	4	5
Remain calm under pressure.	1	2	3	4	5
Complete tasks successfully.	1	2	3	4	5

Thankyou for taking the time to complete this survey.

