Movement of horses between owners in Great Britain

Investigating the movement of leisure horses, by focusing on equine trading and flexibility of equine ownership throughout Great Britain.

Supporting 'A four -year PhD studentship investigating the welfare of equids throughout England and Wales'
-Profiling the equine industry-

By

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Abstract

Humans and horses have lived side by side for thousands of years (Jones and McGreevy, 2010). Nowadays, horses are still an important part of everyday life, not only as production or working animals, but as our companions as well (McLean, 2003; McGreevy, 2004). This last group of equines has emerged in the 20th century (Lawrence, 1985) and there is only little information available about their lives. Therefore, the research project 'A four-year PhD studentship investigating the welfare of equids throughout England and Wales' was set up, which focuses on making a profile of the UK's equine sector. The research project 'Movement of leisure horses between owners in Great Britain' was set up to support this profile with a baseline assessment of why and how often leisure horses are traded and / or moved between owners. During a period of 9 weeks, 635 leisure horse owners filled in an online survey in order to answer to this question.

Often, horse owners own more than one horse, which has stayed with them on average 6 years until now. Staying with one owner for a long period of time is rare. Horses which were bred by the owner or obtained as a present stayed the longest. Owners which were professionally involved with the equine sector were owning horses themselves for the longest period of time, leisure horse owners the shortest.

Owners keep to a certain 'wish list' during buying a horse and find their horses via their social network, Internet and horse magazines. They mainly use them for sport and leisure riding. Professionals buy horses which are located further away than leisure horse owners do. When buying via a breeder, horse market, horse magazine or the Internet, horse owners tend to find their preferred horse further away from home than when they search for it via a local newspaper. Most owners have detailed background information of their horse, but this is not related to the method of acquisition.

Horses, sold in the past by the participant, have stayed with this owner on average for 3 years and were sold because of behaviour problems, unsuitability, physical and mental outgrowing of the owner, financial reasons and because the owner felt no 'click' with the horse. Both professionals and leisure horse owners bought their horses close to home, through their social network, Internet and horse magazines. Horses which were sold via veterinarians or horse magazine ended up further away from their previous location than horses which were sold via the owner's social network.

Professionals tend to buy and sell more horses in total than leisure horse owners and when they have not used a certain media type during e.g. the buying process, they will not try it in the selling process either (and vice versa): horse owners stick to what they know.

These results will provide valuable insight in the vulnerable group of leisure horses and their owners; no matching scientific evidence was available about this topic until now. It will add valuable information to the equine industry profile of Great Britain, in order to solve the obscurities around our horses' lives.

Abstract (Dutch)

Mensen en paarden leven al millennia lang zij aan zij (Jones and McGreevy, 2010). Tegenwoordig zijn paarden nog steeds een belangrijk deel van het alledaagse leven, niet alleen als productie- of lastdier, maar ook als gezelschaps (McLean, 2003; McGreevy, 2004). Deze laatste groep recreatiepaarden kende in de 20e eeuw zijn opmars en er is weinig informatie beschikbaar over hun levens. Daarom is er een vierjarig PhD project opgezet, dat het welzijn van paardachtigen in Engeland en Wales onderzoekt. Dit project focust op een profiel maken van de paardensector in het Verenigd Koninkrijk. Om dit profiel te ondersteunen is het onderzoek “Beweging van recreatiepaarden tussen eigenaren in Groot Brittannië” gestart, wat een nulmeting maakt over waarom en hoe vaak recreatiepaarden verhandeld en of verhuizen tussen paardeneigenaren, Gedurende 9 weken vulden 635 paardeneigenaren een online vragenlijst in, om deze vraag te beantwoorden.

Vaak hebben eigenaren meer dan één paard, dat tot nu toe gemiddeld 6 jaar bij hen is. Vele jaren bij één eigenaar blijven komt zelden voor. Paarden die gefokt waren door de eigenaar zelf, of die als gift verkregen waren, bleven het langst. Eigenaren die professioneel betrokken waren bij de paardensector, bleken het langst zelf paardeneigenaar te zijn, recreatie eigenaars het kortst.

Eigenaren houden zich tijdens het kopen van een paard aan hun eigen ‘verlanglijstje’ en vinden hun paarden via hun eigen sociale netwerk, Internet en paarden-tijdschrijften. De paarden worden grotendeels voor sport en recreatie rijden gebruikt. Professionals kopen hun paarden van verder weg dan recreatie ruiters. Wanneer een eigenaar een paard zoekt via een fokker, paardenmarkt, paardentijdschrift of het Internet, staat het paard dat ze aanschaffen verder weg van huis dan wanneer zij de lokale krant gebruiken. De meeste eigenaren hebben gedetailleerde achtergrond-informatie over hun paard, dit is echter niet gelinkt aan de wijze hoe het paard is verkregen.

Paarden, in het verleden verkocht door de participant, bleven gemiddeld 3 jaar bij hun eigenaar en werden verkocht om gedragsproblemen, onbruikbaarheid, het fysieke en mentale ontgroeien van de eigenaar, financiële redenen of omdat de eigenaar geen ‘klik’ had met het paard. Professionals en recreatie eigenaren verkochten beiden hun paarden dicht bij huis, via hun sociale netwerk, Internet en paardentijdschriften. Paarden, verkocht via dierenartsen en paardentijdschriften vonden verder weg een nieuw thuis, dan paarden verkocht via het sociale netwerk van de eigenaar.

Professionals (ver-)kopen meer paarden dan recreatie ruiters, en wanneer zij een bepaald type media niet gebruikt hebben tijdens het aankoopproces, zijn zij niet geneigd dit uit te proberen tijdens de verkoop en vice versa: paardeneigenaren blijven bij wat ze kennen.

Deze resultaten geven een waardevolle inkijk in de kwetsbare groep recreatie-paarden en hun eigenaren; tot nu toe is er geen vergelijkbaar wetenschappelijk bewijs beschikbaar in het huidige kennisaanbod. Dit onderzoek voegt waardevolle informatie toe aan het profiel betreffende de paardensector in Groot Brittannië, om zo stukje bij beetje de vraagtekens rond het leven van onze paarden op te lossen.

Chapter 1
Background information

1.1 Introduction

The start of the human - horse relationship goes back more than 5000 years in history (Jones and McGreevy, 2010). Although horses are one of the last domesticated species (Anthony, 1991; Clutton-Brock, 1992), they are one of the most successful ones (Budiansky, 1997). Human society has benefited from the long and varied interaction with horses (Van Dierendonck and Goodwin, 2005; Hausberger, 2008) and some would even say that human and horse 'co-evoluted' (Budiansky, 1997). In fact, it could be said that this species stood at the very beginning of our agriculture and civilization (Barclay, 1981; Budiansky, 1997) and their impact on the spreading of culture and language was unprecedented (Barclay, 1981; Anthony, 1991; Clutton-Brock, 1992).

1.2 Domestication

The first indication of horse domestication comes from Ukraine, Western Europe and Asia, around 4000 B.C. (Bibikova, 1967; Van Dierendonck and Goodwin, 2005). Before humans came to play a role in the domestication process, semi domesticated horses were free-living animals, which regularly roamed around human settlements in order to find food. They deflected aggression with submissiveness, which brought out the natural care-giving instincts of the humans (Budiansky, 1997). As a result, the horses' presence was tolerated.
The adult horses were migratory, curious and adaptable, which made it possible for them to survive and reproduce near humans. Juveniles were playful, submissive and dependent, which proved to be valuable traits during the domestication by humans (Budiansky, 1997).

The full domestication process started with tamed individuals, originally captured from diverse wild populations (Vila et al, 2001), because husbandry and breeding in captivity proved to be difficult (Levine, 2002). This theory is backed up by mitochondrial DNA evidence, which indicates that founders of the current species were recruited by humans over a long period of time (Vila et al, 2001).
When food became scarce, horses formed migrating harems to increase the chance of finding food and to establish a stable reproductive unit (Budiansky, 1997). These harems were easier for humans to hunt than individual animals and were driven into stone enclosures. As a result, the number of captured animals often exceeded the immediate consumption demand (McGreevy, 2004). Adult horses and orphaned foals were kept alive and might later found to be capable of functions other than food or pets (Van Dierendonck

and Goodwin, 2005). Gradually, humans started to select the horses which were curious and dependent, but less territorial and aggressive than their congeners (Budiansky, 1997). Consequently, true domestication established itself as the process whereby humans take responsibility for the selection and care of animals (Odendaal, 2005). When wild populations began to disappear, humans started to raise and breed animals in captivity to support them in maintaining their lifestyle when game grew scarce, forests were cut down and soils were exhausted (Budiansky, 1997; McGreevy, 2004).

With deliberately selecting traits which matched the needs and fancy of certain time periods, the horse became a very diverse and influencing species in human history (Van Dierendonck and Goodwin, 2005)

1.3 The horse's function

After the initial domestication, the horse-human relationship has evolved closely. Horses were used in a broad variety of functions; from food to transportation to agriculture and warfare (Minero and Canali, 2009). Although meat consumption seemed to be the first reason of interaction (Digard, 1999; McGreevy, 2004), the horse would get strongly entangled in human society and considerably changed or adjusted function through time.

The earliest records of humans' use of horses were hunting cave paintings in Southern France and Spain, made around 15000 years ago (Clutton-Brock, 1992; Goodwin, 1999). Horses were originally used as food, as their glycogen -rich flesh was favoured over meat of other large herbivores (Levine, 1993; McLean, 2003). Piles of bones dated from around 6000 years ago, found north of the Black Sea, indicated that nearly fifty percent of the hunter-gatherer inhabitant's meat was horse flesh (Budiansky, 1997).

However, the prevailing impact of horses was established by their use in carrying loads and riders and pulling ploughs and chariots (Clutton-Brock, 1992; McGreevy, 2004). Remains of the Dereivka cult stallion, dated 4300 B.C. are regarded to be the first evidence of horse riding and around 2000 B.C. in the Middle East, horses displaced asses and onager-hybrids as draft animals for battle carts (McGreevy, 2004). These chariots provided mobility to archers, which could flank the infantrymen (McMiken, 1990).

When the horse's speed and manoeuvrability started to be fully employed, chariotry was replaced by cavalry (Budiansky, 1997; McGreevy, 2004). Here, the function and position of the horse in society changed. Because the financial costs of the nutrition, medical care and training of the chariot horses were staggeringly high, horses could only be afforded by the

richest members of society. Private horse owning established itself among monarchs and aristocrats, which used horses as a symbol of luxury and status for cavalry and hunting. With this, the horse obtained its reverence as Noble Animal (Budiansky, 1997).

Humans have depended on horses for transport for thousands of years (Tarr and McShane, 2008; Pritchard, 2010) and they have been important in city life as well in agricultural settings. In fact Robert Bakewell, the eighteenth-century English pioneer of modern breeding, would go as far as searching for the horse which was suited best for "turning food into money" (Tarr and McShane, 2008).

Through time, horseback riding became less important for pure transportation and labour means and was more used for leisure and sports (Endenburg, 1999). Although horseback riding had been a symbol of social status throughout history, it is now no longer restricted to the upper classes (Robinson, 1999). People from a wide variety of backgrounds ride horses, according to a survey conducted by Anon (1997), which shows that only 44% of all interviewees belonged to the top three socio-economic classes. The current availability of riding establishments and an increase in leisure time may have been a great influence on rider numbers (Robinson, 1999).

Since the 1980's, the key role of horses in human society has changed from a production- to a companion animal (Digard, 1999; McLean, 2003; McGreevy, 2004). In developed countries, sports and leisure activities with horses increased, while military, agriculture and transportation greatly reduced in equine numbers. (Cunningham, 1991; Mellor et al, 1997; Robinson, 1999). Leisure horses are now the majority of the equine population in the UK, (Kiley-Worthington, 1997; Leckie, 2001) and possibly represent a larger group of equines than ever before (Robinson 1999). Owning horses for fun purposes emphasises a relationship which signifies more to the owner than just a tool or status symbol: an emotional value (Hirschman, 1994; Endenburg, 1999).

1.4 The human – horse relationship

The relations between humans and equids have varied strongly through time, depending on the need of human society (Robinson, 1999). However, recently Mills and Mc Nicholas (2005) found that the majority of horse owners consider their horse as part of the family, although they do not tend to keep them for a lifetime. The horses may be sold when they are not 'suitable' or 'useful' anymore (Hausberger, 2008) or when they are physically or aspirationally outgrown (Van Dierendonck and Goodwin, 2005). Nevertheless, many private

owners report a feeling of close relationship and bond with their animal, which may result in distress and grief when an animal passes away (Lawrence, 1993, Brackenridge and Shoemaker 1996 a, b & c)

The horse itself is a social animal, capable of instinctively forming attachments to their human owners or caretakers, although this might feel foreign; humans are not a part of the herd (Budiansky, 1997; McLean, 2003; Keaveney, 2008). Horses deprived or removed from their familiar equine companionship will readily form attachments to any surrogate available (Budiansky, 1997). Nevertheless, humans can be seen as a form of social support and companionship; their presence has a calming effect on horses which are kept alone in a box (Visser, 2002).

Leisure horse owners typically love to spend time with their animals and can develop remarkable emotional bonds (Keaveney, 2008). Robinson (1999) reports that women might be more affectionate than males. This might explain why 72% of the current riders are female (Anon-BETA, 1996).
Emotional bonding has its influence on what kind of relationship exists between horse and owner. This range might be greater than for any other species; there are owners who do ride their horse, but are not responsible for the day-to-day care; others do the care, but never actually own the horse and other owners ride, own ánd care for the animal (Robinson, 1999).

1.5 Ethics and ethology

Unfortunately, the emotional focus and status symbol of the horse have not guaranteed its well-being (McGreevy, 2004). As humans, we emphasize with them, but because of anthropomorphism, symbolisation and even deification, we ignore the evolutionary ecology and natural behaviour needs that come with the animal (Budiansky, 1997; McLean, 2003). We focus more on how the horse is used, than on what it really is and needs (McLean, 2003). At the extreme of this is the view held by René Descartes (1596-1650) that animals are living machines or ‘automata’ (Odendaal, 2005; Tarr and McShane, 2008).

However, the way humans view animals does not have to be consistent and might even change during an individual’s own lifetime (Antonites and Odendaal, 2004). In the past 30 years, scientists started to focus on applied ethology, the study of animal behaviour, freedom of movement and mental experiences (Gonyou, 1994). Nowadays, good welfare includes physical ánd mental health, indicating positive emotions rather than negative ones (Dawkins, 2006; Dawkins, 2004). These subjective experiences are increasingly seen as important

(Duncan, 1970; Griffin, 1976; Cabanac, 1979; Dawkins, 1980); similarities in neural anatomy and behavioural and physiological responses between horses and humans indicate a large capacity for 'feelings' (Dawkins, 1980; Toates, 1987), possibly not totally unlike those we, as humans, experience (Dawkins, 1990). Although feelings are hard to observe objectively and directly, they can be assessed by preference and motivation tests (Kirkden and Pajor, 2006). It is believed that when an animal feels well, it's faring well (Hewson, 2003)

Many agree that when an animal 'suffers', they actually experience something unpleasant and they matter to it (Dawkins, 1990). This might be an indicator that nonhuman animals can suffer as well. Marian Stamp Dawkins stated: "The very possibility that, in addition to damaged physical health, animals might experience terrifying or painful emotions is what gives animal suffering its moral and ethical importance" (2005). Therefore, 'personal' attention is given to the animal, searching answers to not only "Why is he *afraid*", but also "Why is *he* afraid" (Gray, 1987).

The more we learn about our animals and the more experience we gain in decoding their behaviour, the better we will understand their basic needs in the ongoing domestication process (Russell, 2003; Odendaal, 2005). If we keep animals for fun, we have a moral obligation to maintain and protect their mental and physical welfare (Jones and McGreevy, 2010), because companion animal welfare depends on the human's attitude towards it (Ellis, 1990).

1.6 Animal welfare

Animal welfare is a much discussed topic nowadays. In 2009, Minero and Canali point out that in the five years before their publication, 280 studies about horse welfare have been published. This shows an increasing interest in this field.

The term "welfare" refers to the state of an individual in relation to its environment and elements of this can be measured (Broom, 1991). This is often done according to the guidelines of the Five Freedoms, initially alluded in the Brambell Report of 1965, which include the following:

1. Freedom from hunger and thirst—by ready access to fresh water and a diet to maintain full health and vigour.

2. Freedom from discomfort—by providing an appropriate environment including shelter and a comfortable resting area.
3. Freedom from pain, injury or disease—by prevention or rapid diagnosis and treatment.
4. Freedom to express normal behaviour—by providing sufficient space, proper facilities and company of the animal's own kind.
5. Freedom from fear and distress—by ensuring conditions and treatment that avoid mental suffering.

(Farm Animal Welfare Council, 2003)

When the animal's environment fails to guarantee these freedoms, the animal may be 'suffering' (Dawkins, 1990) and is experiencing 'poor welfare' (Broom, 1988).

The first three Freedoms focus on animal production traits, whereas Freedom 4 and 5 are more ethological issues (Webster, 1993). This division emphasizes that welfare assessment focuses on two issues: what improves the animal's health and what does the animal want itself (Dawkins, 2006). Therefore, to see whether the animal's needs are fulfilled, one must evaluate its behaviour in relation to their specific environments (Gonyou, 1994; Odendaal, 2005).

The organisation of the horse's innate behaviour remained quite unchanged during domestication (Budiansky, 1997; Christensen et al, 2002). This suggests that current husbandry practices may conflict with their naturally evolved behaviour, which might have welfare consequences. Although domestication has brought safety, food security and care, it also cost the horse the freedom of movement, interaction, behaviour and reproduction (Goodwin 2002; McGreevy, 2004).

Horses are very sensitive to their environmental situation (Altinsaat, 2008) and their welfare depends on how they cope with the restrictions resulted from domestication (Broom, 1986; Broom, 1991). When an animal fails to cope and there is an actual reduction in fitness, the animal is said to be 'stressed' (Broom, 1991). Strong stressors can be sudden novelty (Stephens and Toner, 1975; Moberg and Wood, 1982; Dantzer and Mormede, 1983), too little social contact or the animal's place in hierarchy (Tizard, 2009), behaviour restriction (Rushen et al., 1993; Mills & Clarke, 2002), weaning, diet (McGreevy et al, 1995; Waters, Nicol and French, 2002; Mills, 2005), transport (Stull et al, 2004), cold or heat (Kelley, 1980).

Behavioural and physiological coping responses enable the animal to maintain mental and bodily stability (Broom, 1991). However, if these are needed too frequently or for too long, chronic stress may arise (McLean, 2003; Hughes et al, 2010). Chronic stress affects bodily growth, metabolism, sexual and reproductive behaviour. It can even lead to a massive shutdown of those bodily activities which are directed to immunity (Gray, 1987; Broom, 1988).

The frustration and restriction which leads to chronic stress may express itself by the captive animal performing stereotypical behaviour (Broom, 1991; Van Dierendonck, 2006), aggression (McLean, 2003; Fureix et al, 2010) and even self-mutilation (McLean, 2003).These animals are often considered undesirable by horse owners, because they are seen to have lower economic value, health and performance problems (Kiley-Worthington, 1982).

Although hormones and genetic predisposition can be the cause (McLean, 2003) or intensifying factor (Grandin, 1997) of unwanted behaviour, horses are fundamentally flexible when it comes to behaviour (McGreevy, 2004) and adapt easily to new circumstances (Budiansky, 1997). Unfortunately, Ödberg and Bouissou (1999) found that in France 66.4% of 3,000 non-racing horses in the age of 2-7 years old were sent to slaughter, because of ‘inappropriate behaviour’. France is a country with well-established equestrian traditions, so expected is that in the other developed countries, numbers might not be very different (McGreevy, 2004).

According to McLean and McGreevy (2010), horses which are mistrusted or troublesome because of abnormal behaviour have a reputation of being a ‘dangerous’ horse preceding them. Their photographic memory (McLean, 2003) is more likely to store bad experiences (McGreevy, 2004) which has a strong influence on how they respond to stressors later in life (Grandin, 1997; Burman et al, 2009). Owners often ‘treat’ these responses by isolating the animal and physically preventing the unwanted behaviour (McGreevy, 2004), which increases stress and therefore might enhance the anomalies even further. These ‘difficult horses’ are traded from one home to the next: once stereotypies are established, they may never disappear, even though the environment has changed (Minero and Canali, 2009). In these circumstances, the ever-changing environment and multiple ownership might unsettle the horse leading to negative welfare consequences (Jones and McGreevy, 2010), which possibly worsens physical and mental problems.

1.7 Trading and owners

Horses are not often kept on a life long scale and are sold on when ‘unusable’, ‘not suitable anymore’ (Hausberger, 2008) or ‘dangerous’ (McLean and McGreevy, 2010). The owners decide why, how, by whom or via which type of media a horse is bought or sold, e.g. a horse market (Egbert, 2007) trader or the Internet. Therefore, they are also the ones to decide whether a horse has to endure long transport or not, while moving to a new home.
In the 1970’s, the Tripartite Agreement was set up by the chief veterinary officers in Ireland, France and the UK, allowing horse owners to trade Thoroughbreds between the three countries without a formal vet inspection or Intra-Trade Animal Health Certificate (Butcher, 2009). Consequently, the threshold of trading between these countries might be lowered and transport over large distances might be encouraged.

That being said, previous experience and genetic factors affecting temperament will determine the mental and bodily reactions of a horse during transport (Grandin, 1997). Consequently, (long) transport can be a stressor on the equine body: Stull *et al* showed in 2004 an increased number in neutrophil, leukocyte and cortisol concentration in the equine body after 24 hours of transport. This means that the immune system is reacting on and defending against a possible stressor or pathogen (Tizard, 2009). Therefore, the way in which horses are traded and transported gives concern (Hartung, 2005); repeated or long-distance transport can negatively influence the mental state of the animal (Waran and Cuddeford, 1995; Jones and McGreevy, 2010).

Horse owners are not only a source of information about the past, present and future life of these animals, they also, for the greater part, determine the way their animals live. Therefore it is important to look at why they make certain decisions and what influence their experience and position the equine sector might have on these.

1.8 Research value

In the United Kingdom, many welfare organisations, as well as the Government, pay attention to the current state of animal welfare. In 2004 and 2005 the Department of Environment, Food and Rural Affairs presented two welfare reports, focusing on the British equine industry (Henley Centre, 2004; British Horse Industry Confederation, 2005). In 2010, World Horse Welfare and the University of Bristol began a collaborative project to systematically review the welfare of equines in England and Wales in order to influence future approaches to equine management and inform future legislative and policy decisions (Whay and Mullan, 2010). The project was designed as a four-year PhD research project, with Ms Rachel Leather being awarded the studentship.

After the start of the PhD studentship, Ms. Leather and her supervisors found that there was missing information about the trading and living circumstances of leisure horses in the UK. Leisure horses are a group of vulnerable equines, because little is known about their movements and activities in comparison to sport or breeding horses. The research project 'Movement of leisure horses between owners in Great Britain' was set up in order to support the PhD, by investigating how and why leisure horse owners traded their horses.

Trading of leisure horses in Great Britain is largely un-regulated and is often done on an informal basis. Therefore, it will be of value to find out how often leisure horses are traded, passed on and moved around within Great Britain's equine sector. There is currently no baseline data available on the trading and movements of leisure horses in the UK. Consequently, the primary objective of this project was to quantify this aspect of the UK equine sector, providing information to support and add value to the wider PhD research project.

Therefore, the aim of this research is to add further depth to the profile of the equine industry by investigating why and how leisure horses are traded, passed on and moved around throughout Great Britain, in order to find out what happens to these equines during their lives. When this is known, it will be easier to inform equine owners, charity organisations, policy makers and welfare organisations about movements of leisure horses as a group and to consider what implications leisure horse movement patterns may have for their welfare.

Chapter 2
Research objectives and questions

2.1 Research objective

To investigate the movement of leisure horses in Great Britain by researching why and how often they are traded and / or moved between owners. Gathering information about the activities that take place during a leisure horse's life, will provide the equine sector with an insight in this group of vulnerable equines.
There will be a particular focus on the Bristol area, because this is geographically convenient with regard to advertising.

2.2 Research questions

2.2.1 Main question

How often are leisure horses, mainly located in the Bristol area, traded or moved between owners throughout Great Britain and why?

2.2.2 Sub questions

Descriptive

1. Are horse owners more likely to own a single horse or more than one at a time?
2. What are the three most common reasons of acquiring a particular horse?
3. What are the three most common reasons why a horse changes ownership?
4. How far away from their hometown did leisure horse owners buy their horse?
5. How far away from their hometown did leisure horse owners sell on their horse?

Explanatory

6. How long do leisure horses on average stay with one owner and is this related to the method of acquisition?
7. What type of media is mostly used for buying or selling leisure horses and do the owners use the same media in the buying and selling process? Consequently, does the used media influence the geographical buying or selling distance?
8. Do leisure horse owners have detailed information about their horses' backgrounds and is there an association with the method of acquisition?

9. Is there a difference in the total buying and selling behaviour with regard to the owner's position in the equine sector? Consequently, does the owner's position influence the geographical buying or selling distance?
10. Is there an association between the time the horse owners have owned horses themselves and whether they have sold a horse or not?

2.2.3 Hypotheses

Several expectations arise when looking at the sub questions.

Most leisure horse owners keep horses for pleasure, instead of focusing on production or accomplishments. Expected is, that this might be a reason for owners to keep their horses for quite a long period of time; their goals are more easily accomplished than goals set in a sports or breeding setting.

Also, leisure horse owners might buy their horse on more emotional grounds than a professional rider or breeder, who might think more rationally about a purchase. For a leisure horse owner the quality of time spent together with the horse is more important than what a horse will accomplish or produce. The bond they have with their animal might be the most important. However, the horse's behaviour and physical health, the owner's feelings and possibly even society can give a horse owner many reasons to sell a horse on, which for example can be linked on the money involved with keeping a horse or the purpose of usage.

It is likely that the Internet plays an important role nowadays in trading horses; one can buy a horse located anywhere in the country for any price, without even seeing it. However magazines, the veterinarian or social network of the horse owner can be a powerful tool to advertise or search as well.

The way a horse is acquired can possibly lead to more or less knowledge about its background information. For example, the detailed history of a horse that is rescued might be less clear than that of a horse which is purchased following a proper buying process.

When focusing on total transaction behaviour of horse owners, we might state that the more the owner is involved and experienced in the equine sector, the higher the accessibility to selling or buying horses. This may mean, that selling or buying would happen often, because of the easy access to the sector. However, it could also be the other way around; because the owner has more experience and access, he or she might easier find a horse with which they are perfectly content and will not trade for a long time.

Chapter 3
Methodology

3.1 Research design

3.1.1 Desk research

First, background information and supporting literature was searched in scientific articles and journals, related research proposals and books. The topic's corresponding research area was searched for similar and contributing projects and missing information was labelled.
Second, knowledge of the specialists participating in the research project "A four -year PhD studentship investigating the welfare of equids throughout England and Wales', was used in order to support this research. These specialists are Prof. Buller, Dr. Hockenhull, Ms. Leather, Dr. Mullan and Dr. Whay.
Third, the researcher has used (local) newspapers, magazines, websites and forums to get familiar with living in the Bristol area and to find out what the horse owners living here were interested in.
Fourth, a dissemination plan and research proposal were made in order to clarify goals and to streamline the planning and execution of the project.

3.1.2 Field research

A questionnaire was designed, supervised by Dr. Whay (University of Bristol), Prof. Buller (University of Exeter) and Ir. van Oijen (Van Hall Larenstein). This questionnaire was launched as an online survey, to be filled in by a minimum of 500 leisure horse owners throughout Great Britain, with the main focus on the Bristol area. Detailed information about the survey and advertisements can be found in section 3.2 (p. 27): 'Data collecting', Appendix 1 (p. 82) and Appendix 2 (p. 92).

'Leisure horse owners' were defined as persons who do not only own horses for intensive breeding, trading, sports or production (with profitability as the main goal), but privately own horses to spend time with in their spare time as well.

The researcher was able to keep track of the number of filled in surveys, for which the Bristol Online Survey-system (hereafter referred to as BOS-system) was used. In this way, the researcher could make sure that the program was working correctly and could determine whether more advertisement was needed at certain points during the data collection.

3.2 Data collecting

The data was collected among leisure horse owners located in England, Ireland, Scotland, Wales and Isle of Man. The survey was online from the 5th of May 2011 until the 3rd of July 2011 (9 weeks) and was filled in by a total of 646 horse owners. After correcting for duplicate entries, the information of 635 individual horse owners remained for descriptive and / or statistical analyses.

Because the study consisted only of questionnaires, filled in by leisure horse owners about their buying, keeping and selling practices, no humans or animals were physically harmed by taking part in this study. This project was approved and granted ethical by the Committee for Ethics of the University of Bristol.

3.2.1 Survey methodology

The study population was leisure horse owners, their currently owned horses and the horses they have owned in the past. The required sample size was estimated to be a minimum of 500 leisure horse owners. It was decided that the best way of targeting large numbers of leisure horse owners was through running an online survey, because in this project it was more valuable to have many participants choosing from many pre-set answers and few open questions, than having personal conversations with a much smaller group of horse owners.

An online survey was conducted to generate data regarding the different buying, keeping and selling practices employed by leisure horse owners located in Great Britain. The 53 questions were divided among 14 pages and were derived from current horse related topics or issues, of which available information appeared to be incomplete or about which questions were raised during the research project “A four -year PhD studentship investigating the welfare of equids throughout England and Wales’. Horse owners were asked to fill in the survey about their past and current horse owner situation and actions.

Four horse owning researchers working at the Animal Welfare and Behaviour Group at the University of Bristol completed a pilot version of the online survey. Their and Prof. Buller’s feedback with regard to writing style, wording, lay out and intelligibility was processed to a last survey version.

The complete survey can be found in Appendix 1 (p. 82). It consisted of six parts, encompassing:

1. Horse ownership; how many horses are / were owned and where are the horses generally kept.
2. Horse owning experiences; how long are horses owned by the same owner and what position does the owner have in the equine sector.
3. Horse biographies; specific information about currently owned horses.
4. Selling horses; specific information about sold horses owned in the past.
5. Buying and selling practices; what types of media are being used while selling or acquiring a horse.
6. Owner's personal information; general information about the participant and how they heard about the online survey.

On the last page, participants were thanked for their participation and were able to enter a draw for a £100 tack shop voucher- draw. They could also tick a box which asked them whether they would like to be contacted again in case of further / other research in the future.

The style of the questions asked varied to keep the interest of the participant, to reduce the total questionnaire time and to make sure that the participant answered appropriately to the essence of the question. The following answering-styles were used:

- Multiple choice. When the participant was allowed to give one answer, according to a few options of pre-set possibilities (e.g. Method of acquisition of their horse).
- Multiple answer. When the participant was allowed to give one or more answers, according to pre-set possibilities (e.g. Why did you sell this horse on?)
- Selection list. When the participant was allowed to choose one answer, according to a long list of possibilities (e.g. How many horses do you own at the moment?)
- Single line. When the participant was able to give a short answer of explanation to a previous answer (e.g. Horse's name or Other, please specify)
- Multiple lines. When the participant was allowed to answer the question more in detail. (e.g. Why did you acquire this particular horse?)
- Grid. When the participant was allowed to give one or more answers to a combination of questions (e.g. Where is your horse/ are your horses being kept?)

Although not all questions of the survey seem to be relevant for this particular research project, it was decided that these would be included in order to provide additional information

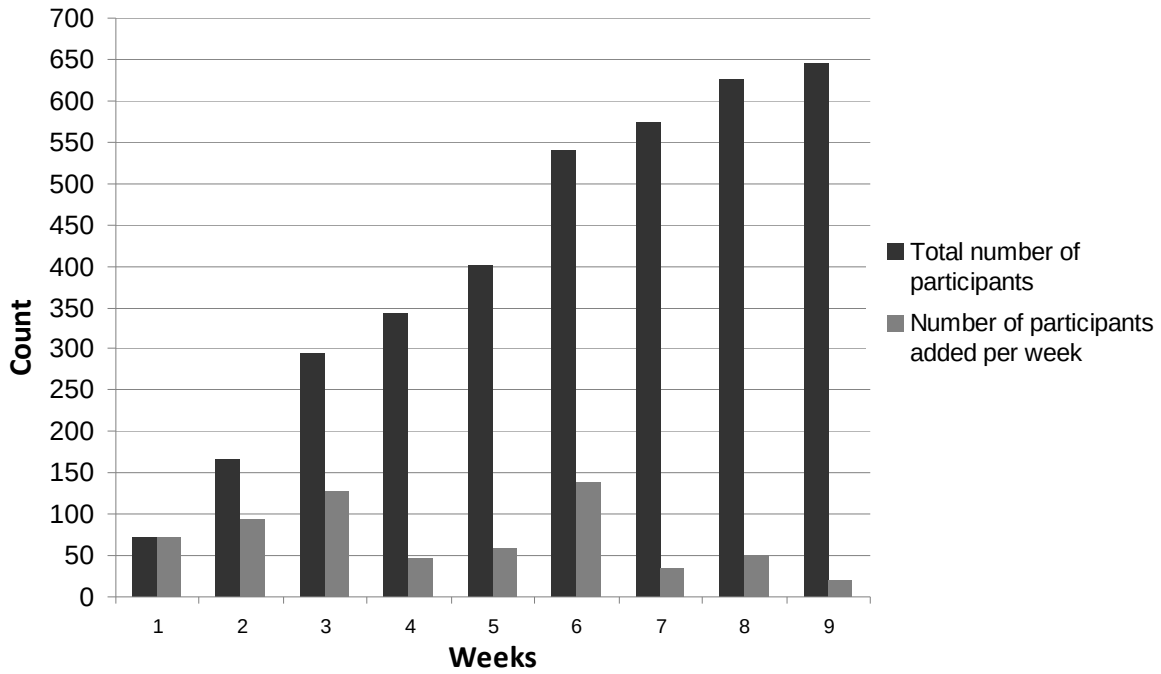
for the research project “A four -year PhD studentship investigating the welfare of equids throughout England and Wales’ , conducted by Ms. Rachel Leather.

3.2.2 Sampling

The data was collected among leisure horse owners located in England, Ireland, Scotland, Wales and Isle of Man. In the introduction section of Chapter 4, “Results” (p. 36), an overview of the percentage of participants in the different countries can be seen.

The survey was online for 9 weeks and was filled in by a total of 646 horse owners. The information of 635 individual horse owners remained for descriptive and / or statistical analyses. Eleven questionnaires were accidentally filled in twice by the same person, because of a technical error in the BOS-system. Therefore, their answers to both questionnaires were used to create one complete set of data. In fig. 3.1 the progress of respondents can be seen.

Fig. 3.1 Distribution of online survey participants responding per week (N= 646)



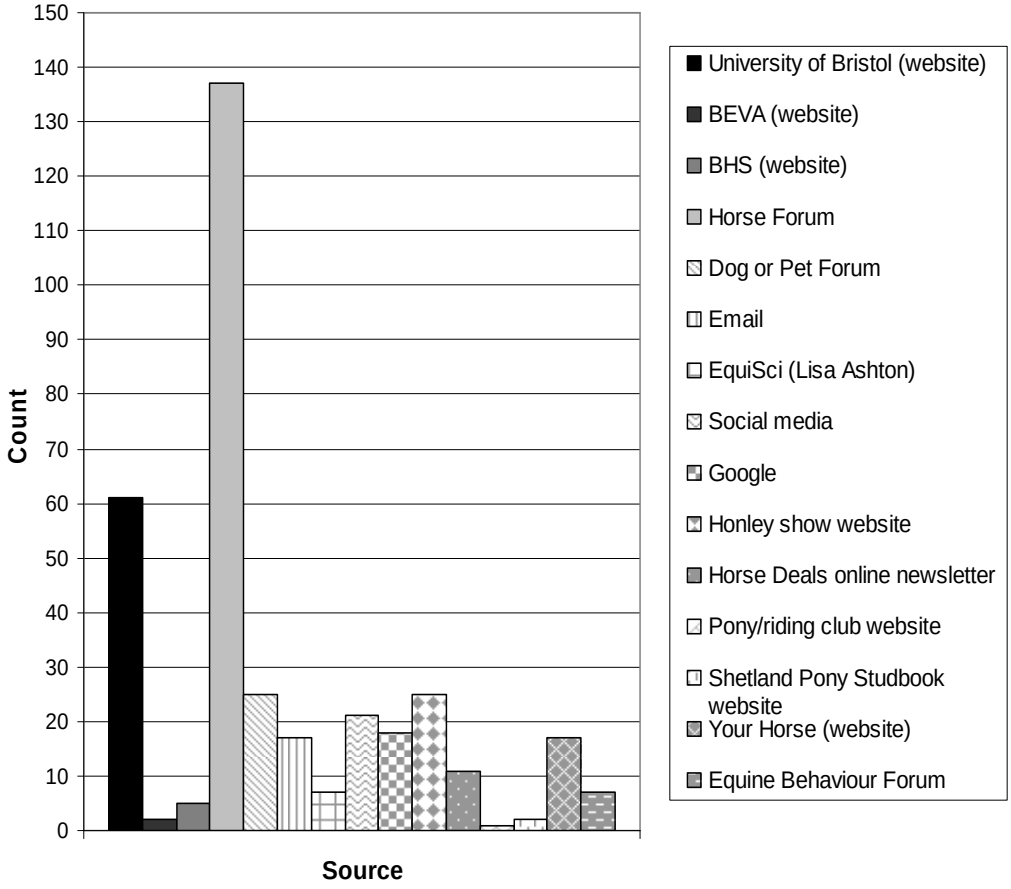
The participants were recruited via a strategy set up in the dissemination plan. For detailed information about the advertisement periods and strategy, see Appendix 2 (p.92).

The advertisement sources can be divided in two groups: Internet based sources and non Internet based sources.

3.2.2.1 Internet based sources

Participants were (in)directly contacted to fill in the online survey with the help of horse topic -related websites, online magazines or newsletters, horse-, dog- or pet related online forums, social media and search engines. In total, 356 participants responded to the survey as a result of Internet based advertisement.
In fig. 3.2, the number of responses per source can be seen.

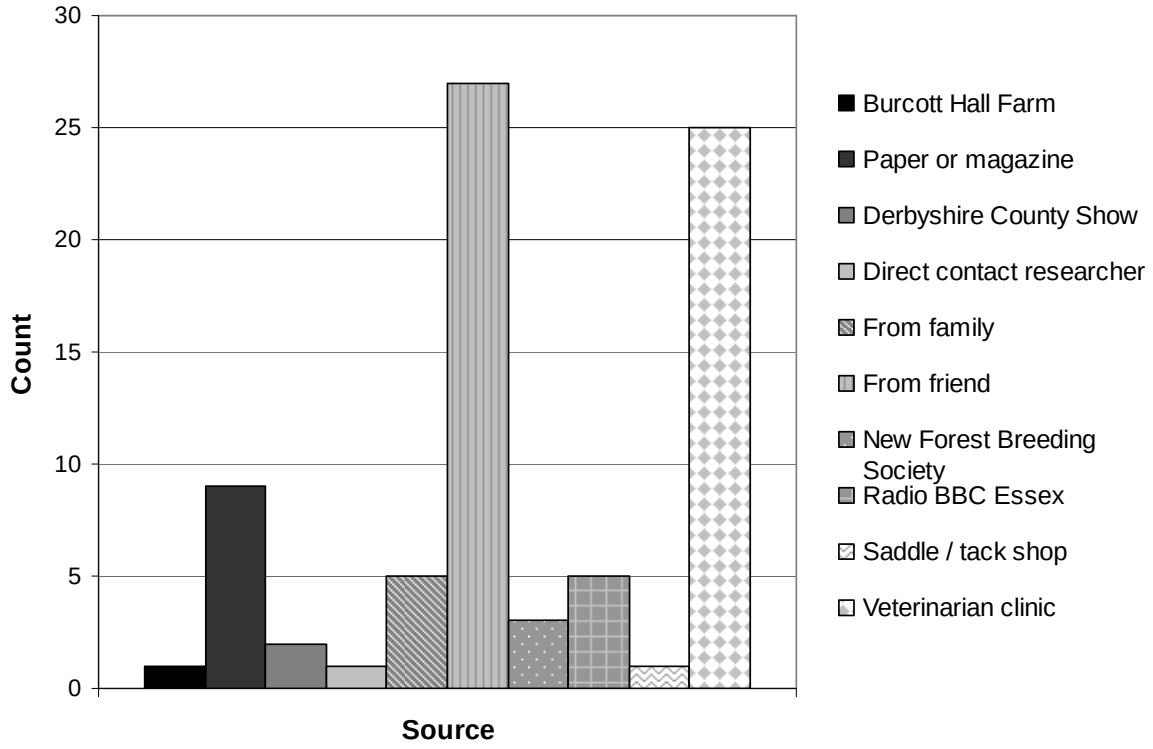
Fig. 3.2 Effectiveness advertisement strategy, distribution of online survey participants obtained through Internet based sources (N=356)



3.2.2.2 Non Internet based sources

As non Internet based sources to recruit participants horse related magazines, talks, lectures, gatherings, riding clubs and arena's, events and veterinary clinics were advertising for the online survey. In total, 79 of the participants responded to the online survey as a result of this. In fig. 3.3, the number of responses per source can be seen.

Fig. 3.3 Effectiveness of the advertisement strategy, distribution of online survey participants obtained through non Internet based sources (N=79).



Unfortunately, 214 participants did not provide information about how they found the survey.

3.2.2.3 Bias and validity

The online survey provided free access for every possible participant with Internet access. Therefore, the total sample was self-selected and this may be a source of potential bias. However, this self-selection is not unique to Internet survey-respondents (Marcell and Falls, 2001), therefore the potential bias threat is not larger in this project than it is in any other study.

To ensure statistical independence and valuable data, the participants were asked to give information about a maximum of three currently owned horses and a maximum of three sold

horses. They were free to choose for which of their horses they would fill in the survey. In this way the chance of recall bias was decreased: the owners were able to provide good quality information about a few horses, instead of choosing quantity (many horses), which may lead to very incomplete, and therefore not useful, information.

In statistics software SPSS 18.0 and Microsoft Access the information about the owned and sold horses were linked to their accompanying owner.

3.3 Data processing

Data from the online surveys were exported to Microsoft Excel databases (Microsoft Corporation) where they were scanned for mistakes and corrected. For example, one question focused on how many horses the participant *owned* at the moment of filling in the questionnaire. When, in the section of horse biographies, the owner mentioned any *loaned* horses, these were subtracted from the number of earlier mentioned owned horses. This, because the research focused explicitly on the participant's actually owned horses.
After correction, the data were copied to several different files of the statistical software SPSS version 18.0 for Windows (SPSS Inc.), in which statistical analyses were performed.
Additionally, when the horses' information had to be linked to the corresponding owner's information, Microsoft Access (Microsoft Corporation) was used to put the different variables into one matching table.

For each variable, the SPSS option 'Explore' was used to see whether the data was normally distributed. Often this was not the case, therefore mainly non-parametric tests were used for analysis of the sub questions.

3.3.1 Descriptive sub questions

For the five descriptive questions, the main findings could be presented as percentages and number of cases. Outcomes for nominal data were shown in pie-charts (percentages) and bar charts (frequencies). Concentric circles were used to show nominal data percentages, linked to geographical distances. For each question, loaned horse were filtered out, as well as answers similar to 'Unknown', "Not filled in' or "Not applicable". Also, four horse owners and their provided information were filtered out, because these persons did not own horses, but solely loaned them from someone else or a charity.

3.3.2 Explanatory sub questions

3.3.2.1 Filters

For the five explanatory questions, loaned horses, their owners and answers such as "Unknown", "Not filled in" and "Not applicable" were filtered out. Also the horse which was "Won as a prize" (N=1) was filtered out, because it was labelled as 'not representative'.
For the value 'total transactions' in sub question 9, the owners who answered to have bought or sold 'More than 20' horses were filtered out, because this value needed scale numbers instead of ordinal.

Before any statistical tests were conducted, cross-tabulations were made for corresponding variables to see if the number of cases was higher than five. If this was not the case, groups of cases were merged when appropriate. When this was not possible, the N<5 variables were filtered out.

3.3.2.2 Statistical analyses

The Q-Q plots showed that all categorical variables were not normally distributed and therefore mainly non-parametric tests were used. By every test performed, the *P* value was considered statistically significant when $P \leq 0.05$.

Comparisons between more than two independent groups, with one ordinal (dependent) and one nominal (independent) variables were done by Kruskal-Wallis tests. This was, for example, the case with comparing the 'time a horse stayed with its owner' and the 'method of acquisition' in sub question 6.
Then, a box plot was produced to see which group made a difference in statistical significance compared to the rest of the groups. A Chi-square test was used to confirm this group's influence on the test outcome.

In contrast to that, sub question 6 and 7 first have a descriptive part, followed by an explanatory one. The descriptive information was shown in frequency tables, accompanied by the mean.

Associations between nominal variables were assessed using a Chi-square test for Independence. This was, for example, the case when the association between the 'method of acquisition' of a horse and whether their owner had 'detailed background information' about them was being assessed in sub question 8.

Frequencies where shown in a frequency table and a bar chart.

Comparisons to see the difference in statistical significance between only two groups, one ordinal (dependent) and one nominal (independent) variable, were done by Mann-Whitney U tests. This was, for example, the case with comparing the time an owner had owned horses and whether they had ever sold a horse or not.
Then, a box plot was used to show the difference in median and spreading between the groups.

3.3.2.3 Data transformation and calculation

For sub question 6, the value 'time a horse stayed with its owner' was calculated by determining the difference in years between year of acquisition or selling and the year of data collection (2011) or sale. When a participant answered 'Less than a year' the scale value 0.5 (equal to 6 months) was used in calculating the group mean.

For sub question 7, the data were transformed to see whether the owners behaved the same or differently in the acquisition and selling processes (3= used trader in buying and used trader in selling, 4= did not use trader in buying, but only in selling, 5= used trader in buying, but not in selling and 6= did not use trader in buying nor in selling). This behaviour matching was done to each matching media type combination. The outcomes were shown in frequency tables.
A second transformation took place in this sub question. Because one single owner was able to give information about more than one horse, the data of 962 owned horses, 564 sold horses and their accompanying 631 owners was saved in three different SPSS files. In order to compare the right horse information to their accompanying owner information, the program Access was used, to copy the data into one matching table. The same was done for the last part of sub question 9.

For sub question 8, it was decided that when owners answered 'Yes' to three or more of the five background related question (which means more than half of the questions), they possessed detailed background of their horse. Next, 'Detailed information' was turned into a nominal value (1=Yes, 2=No).

For sub question 9, the variables "How many horses have you owned" and "How many horses have you sold" were first transformed in "Total transactions" before conducting the Kruskal-Wallis test and producing a box plot.

Also, the number of cases for the owners' different positions possible turned out to be N<5, therefore it was decided to make two new groups: professional horse owners (those who are involved with the sector professionally) and leisure horse owners (those who are only involved with the sector for leisure purposes).

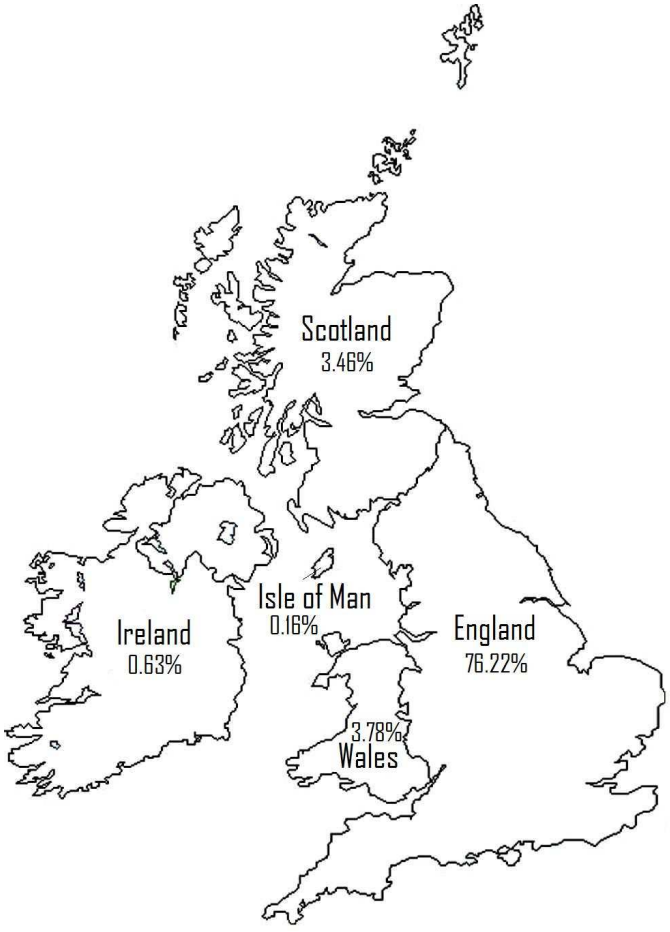
Chapter 4
Results

4.1 Demographics of respondents

After a 9 week period of data collection, 635 leisure horse owners provided usable data to the research project. A gender analysis revealed that 75.6% of the participants were female (N=480) and 1.9% were male (N=12). Unfortunately, 22.5% was not willing to share information about their gender (N=143). Of all participants, 79.8% solely kept horses for leisure purposes (N=507). Additionally, 1.3 % of the respondents did own horses for leisure purposes, but mainly loaned these to other persons (N=8).The remaining respondents (N=120) were also owning horses for leisure, but named professional riding, breeding, showing, stable owning or managing, saddle fitting, instructing, nursing, studying or chiropracting techniques as their main equine related activity.

In figure 4.1 a Great Britain country overview is given, in which the percentage of research participants from each area can be found. This image and the accompanying table will clarify the geographical origin of the obtained data.

Fig. 4.1 Percentage of research participants divided over Great Britain's countries (N=635)



As can be seen from table 4.4 in Appendix 4 (p. 100) 23.8 % of the participants are located in South West England, namely Bristol, Somerset, Dorset, Devon, Cornwall, Wiltshire, Gloucestershire (N=151). The advertisement activities have been focusing on this area, because Bristol (Somerset) and its surrounding counties were geographically convenient for the research team. However, because 76.2% of the participants were located outside this area, the results will not mainly focus on Bristol, but on Great Britain as a whole.

In the above information, the four horse owners which reported to have filled in the questionnaire about horses they loaned from an other person or a charity are included. This, because these people have showed a reaction to the advertisement strategy and are therefore treated equally to the responses of the actual horse *owners*.
However, these four persons are excluded from the statistical analyses and results done in the next sections. Therefore, the total number of analysed respondents will be 631 hereafter.

4.2 Sub questions

In the next to sections, the results of descriptive and statistical analyses will be shown. The outcomes will be presented as the answers to the sub questions given in section 2.2 (p. 24).

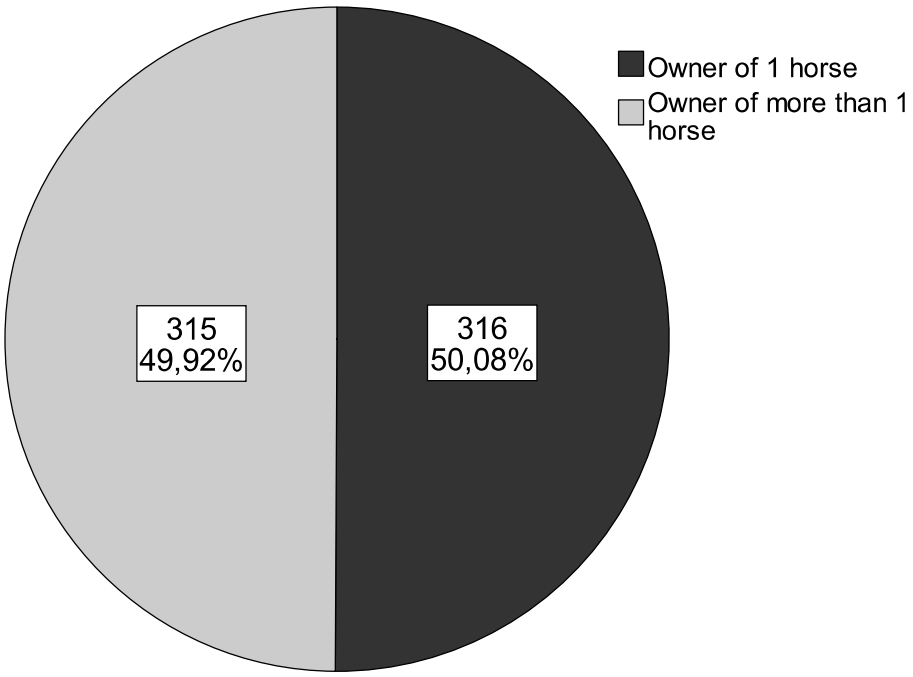
4.2.1 Descriptive sub questions

In the next section, the results of the descriptive sub questions will be shown.

4.2.1.1 Sub question 1: Are horse owners more likely to own a single horse or more than one at a time?

All horse owners (N=631) responded to the question regarding how many horses they owned at the moment of filling in the survey. The number of loaned horses was subtracted from the given answer, so a reliable figure of *owned* horses was created. The pie chart in figure 4.2 shows whether the participant currently owns one horse (N=316) or more than one horse (N=315). The division between these two options is almost equal.

Fig. 4.2 Distribution to the question *Are you the owner of one horse or more than one horse* (N=631).



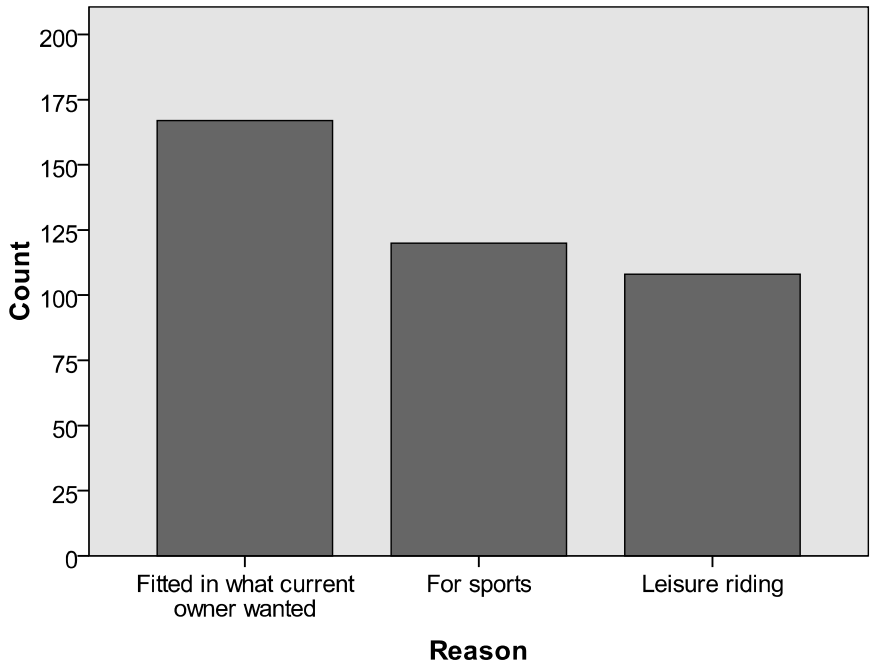
4.2.1.2 Sub question 2: What are the three most common reasons of acquiring a particular horse?

The question 'Why did you acquire this particular horse' was answered for 962 individual horses. With 17.4% the reason 'Fitted in what current owner wanted' (N= 167) was most commonly given. This answer is thought to mean, that the owner had a certain 'wish list' in mind about what the horse should look like, be capable of etc. The acquired horse suited their individual wishes the best.

In 12.5% of the cases the reason 'For sports' (N= 120) was given. Attention has to be paid to this, as 'For sports' means participating in competitions or practicing a certain discipline for *leisure* purposes.

The third most commonly given reason is 'Leisure riding' (N=108) with 11.2 %. The frequencies of the top three answers given can be seen in figure 4.3, for a complete table of given reasons (N=962) see Appendix 4, table 4.5 (p. 102).

Fig. 4.3 Distribution to the top three answers to the question *Why did you acquire this particular horse* (N=395).



4.2.1.3 Sub question 3: What are the three most common reasons why a horse changes ownership?

The question "Why did you sell this horse on" was answered for 564 sold horses in total. For 454 horses, only a single reason of selling was mentioned. For 110 horses, a combination of reasons was given. Therefore, these two groups will be discussed separately.

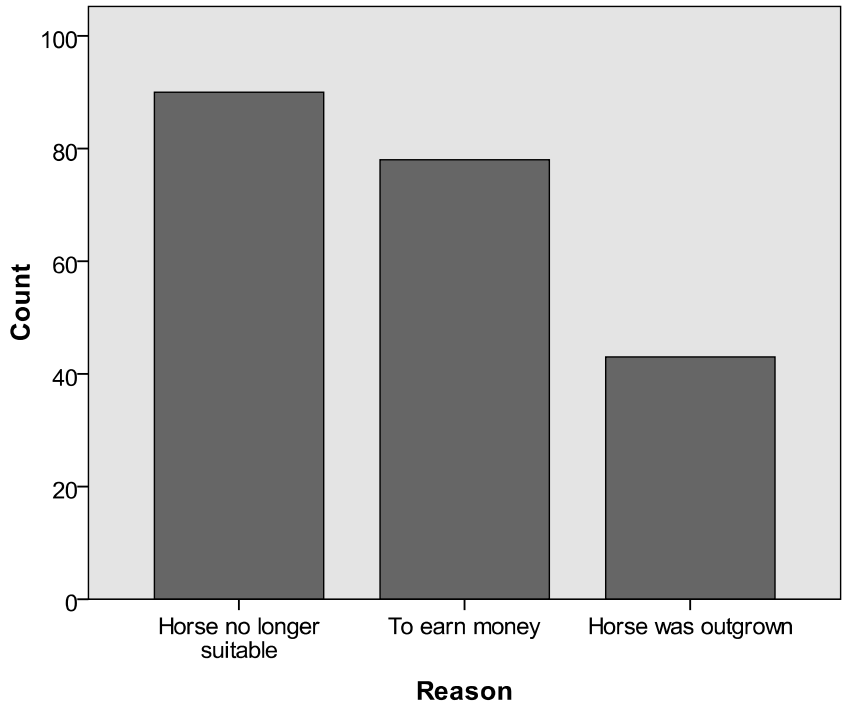
With 19.8%, 'Horse no longer suitable' (N=90) was the most common single reason mentioned. The term 'Not suitable' means that the owner cannot use the horse for a preferred purpose anymore, however with the exception of 'Outgrown', 'Illness', 'Age' etc which are mentioned as separate reasons, as can be seen in table 4.6, Appendix 4 (p. 103). 'Horse no longer suitable' was also given as part of the selling reason 61.6% of the cases of combined reasons.

'To earn money' (N=78) was with 17.2% the second most given reason. This can be because of financial constraints, but also because the horse might be bought to eventually sell on again. This reason was a part of the selling reason in 11.7% of the combination reasons given.

In 9.5% of the single reasons given, the horse was sold because it was outgrown (N=43). This reason was given as part of the combined reasons in 3.6% of the cases.

In figure 4.4 a bar chart can be seen, about the frequencies of the top three reasons. An overview of given reasons (N_{total}=454) can be seen in table 4.6 in Appendix 4 (p. 103)

Fig. 4.4 Distribution of single reasons given to the question *Why did you sell your horse on* (N=211).



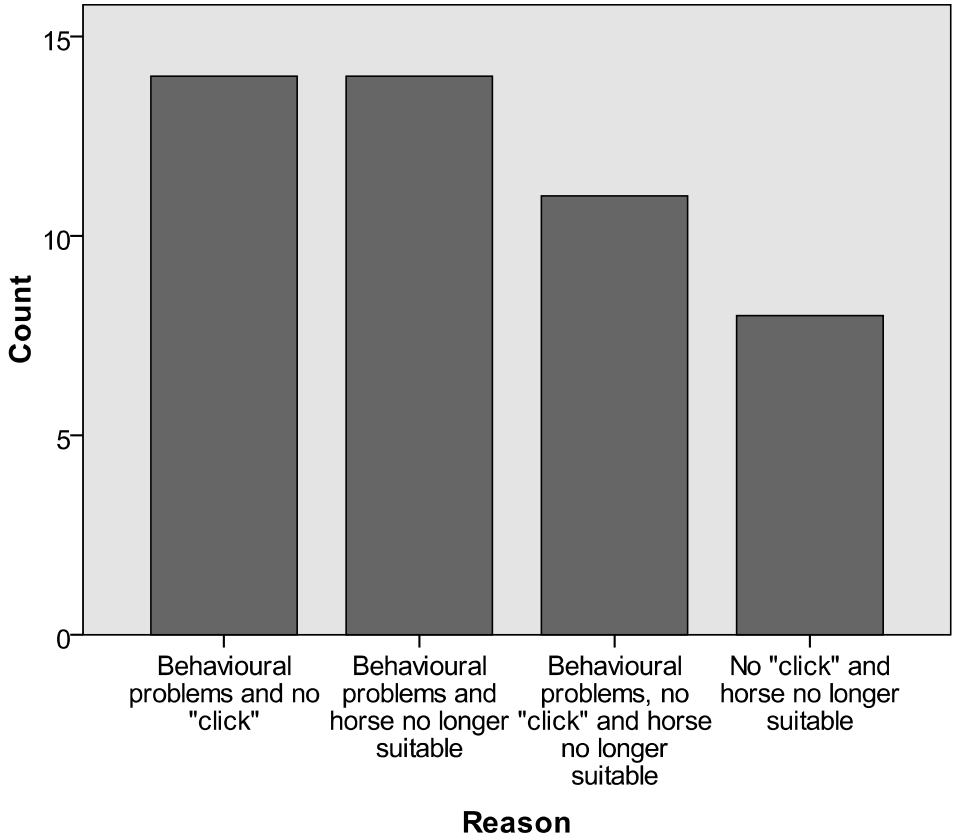
Proceeding with the combined reasons (N_{total}=110), ‘Behavioural problems and ‘no click’’ and ‘Behavioural problems and horse no longer suitable’ are both (N=14) given as main selling reason in 12.7% of the cases. ‘No click’ means that the horse owner experienced a lack of connection with their horse in such a way, that their social interaction was being hindered.

The combined reason ‘Behaviour problems, ‘no click’ and horse no longer suitable’ (N=11) was the second most given reason with a score of 10%.

The third most commonly combination of reasons given was ‘‘No click’ and horse no longer suitable’ (N=8) in 7.3% of the answers.

In figure 4.5 the frequencies of the top three combined reasons are shown. An overview of all combinations of reasons given can be seen in Table 4.7 in Appendix 4 (p. 104)

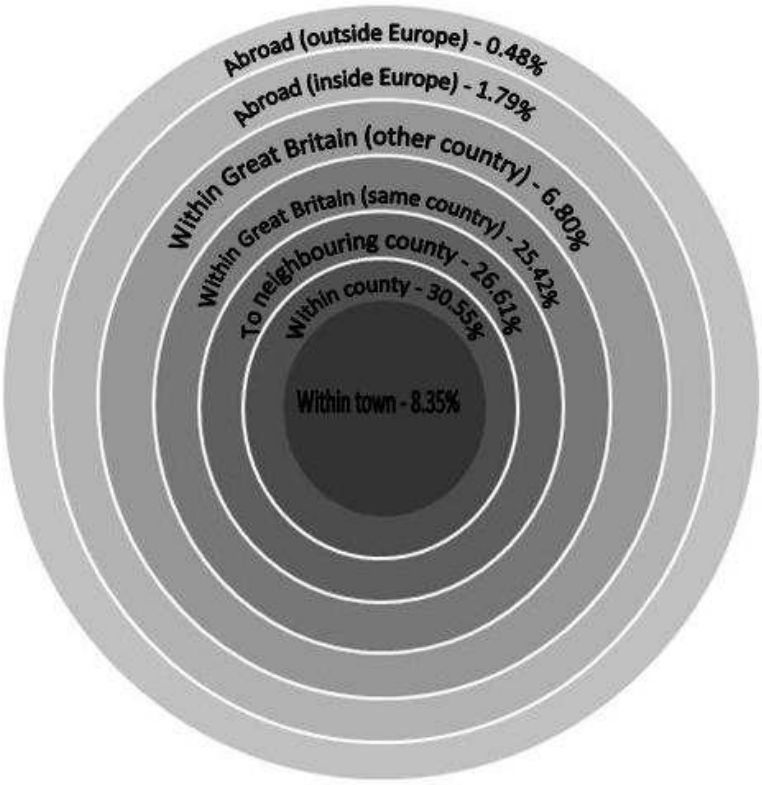
Fig. 4.5 Distribution of combined reasons given to the question *why did you sell your horse on* (N=47).



4.2.1.4 Sub question 4: How far away from their hometown did leisure horse owners buy their horse?

For this sub question, the town and county a horse was bought in and the town and county the owner was living in were compared. From the geographical distances between these locations, a concentric circle was made (figure 4.6), to give an indication about how far away current owners buy their horses. From a total of 962 horses, 838 were available for analyses.

Fig. 4.6 Distribution (%) of answers to the question *How far away from their hometown did horse owners buy their horse* (N=838).

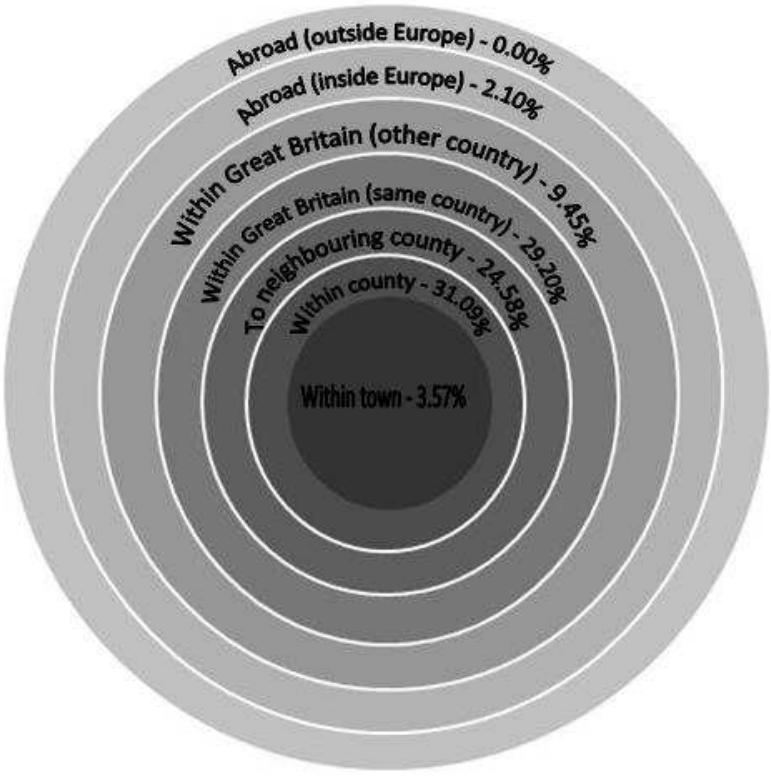


As can be seen in the figure above, horses are mostly bought within the same county of their owner's hometown (30.55%, N=256). Neighbouring county (26.61%, N=223) and same country (25.42%, N=213) follow respectively. The figure shows that hardly any horses are bought from abroad (2.27%, N=19).

4.2.1.5 Sub question 5: How far away from their hometown did leisure horse owners sell on their horse?

For this sub question, the town and county a horse went to after selling and the town and county the owner was living in were compared. From the geographical distances between these locations, a concentric circle was made (figure 4.7), to give an indication about to how far away horses were sold from their previous location. From a total of 564 horses, 476 were available for analyses.

Fig. 4.7 Distribution (%) of answers to the question *How far away from their hometown did leisure horse owners sell on their horse* (N=476).



In the above figure can be seen that, similar to sub question 4, 'Within county' (31.09%, N=148) occurs most often. However, the two following events are swapped around in comparison with the results of the previous sub question: now 'Same country' (29.2%, N=139) is followed by 'To neighbouring county' (24.58%, N=117).
Again, transactions to other countries than those in Great Britain rarely occur (2.1%, N=10).

4.2.2 Explanatory sub questions

In the next section, the results of the explanatory sub questions will be presented.

4.2.2.1 Sub question 6: How long do leisure horses on average stay with one owner and is this related to the method of acquisition?

For answering this sub question, we looked at both bought and sold horses' information.

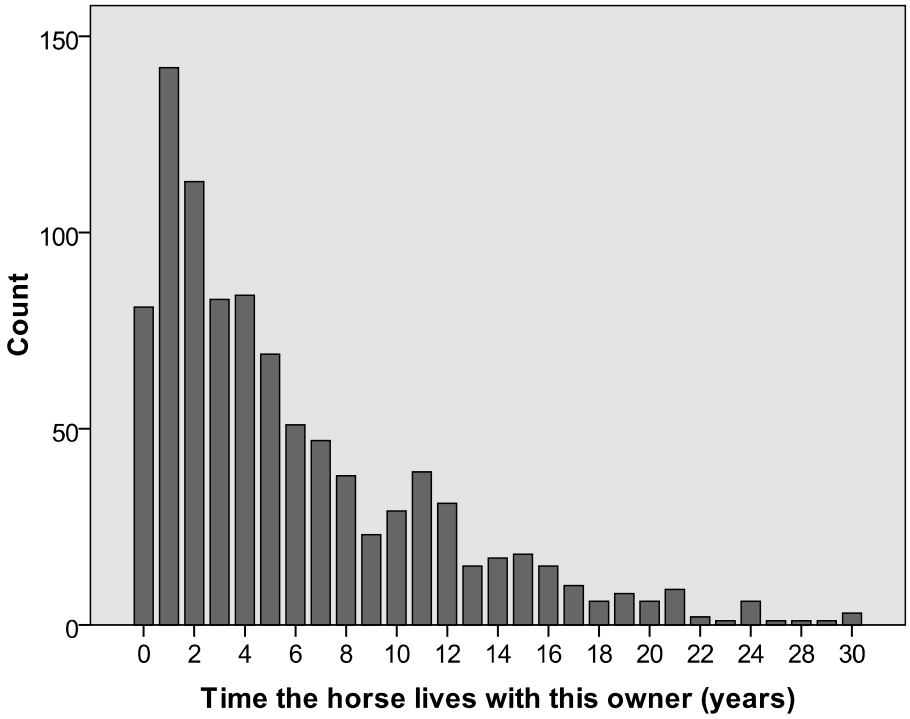
For bought horses, the question 'Year of acquisition' was asked at the Horse biographies page. The requested information was provided 949 times out of a total of 962 horses.

Exploration of the 950 individual horses in figure 4.8 showed that until now the highest percent (16.3%, N=142) of them stayed with their owner for only 1 year. Second, 13% stayed with his current owner for 2 years (N=113), until now. The group average (μ) was 5.95 years.

The higher the number of years, the lower the percentage of horses which stayed with the same owner for this period of time.

A complete overview of years can be seen in table 4.8, Appendix 4 (p. 106).

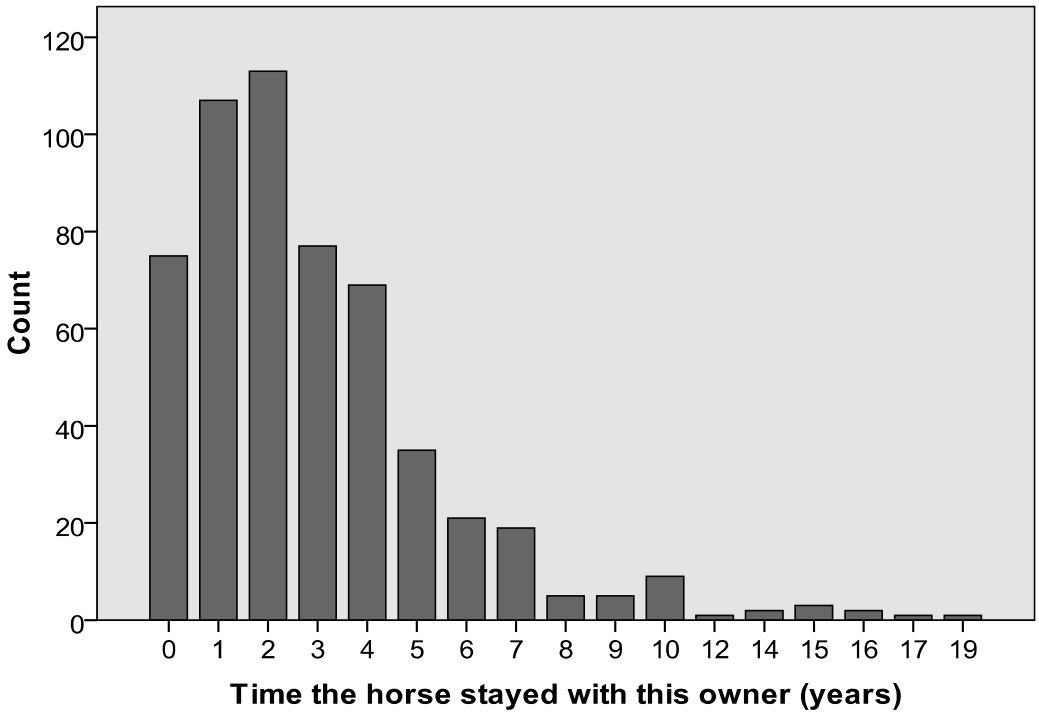
Fig. 4.8 Distribution of responses to the question *How long did a currently owned horse stay with its owner until now* (N=950).



For sold horses, the questions “Year of acquisition” and “Year of sale” were asked at the page “Selling horses”. From a total of 564 horses, 545 provided useful information.

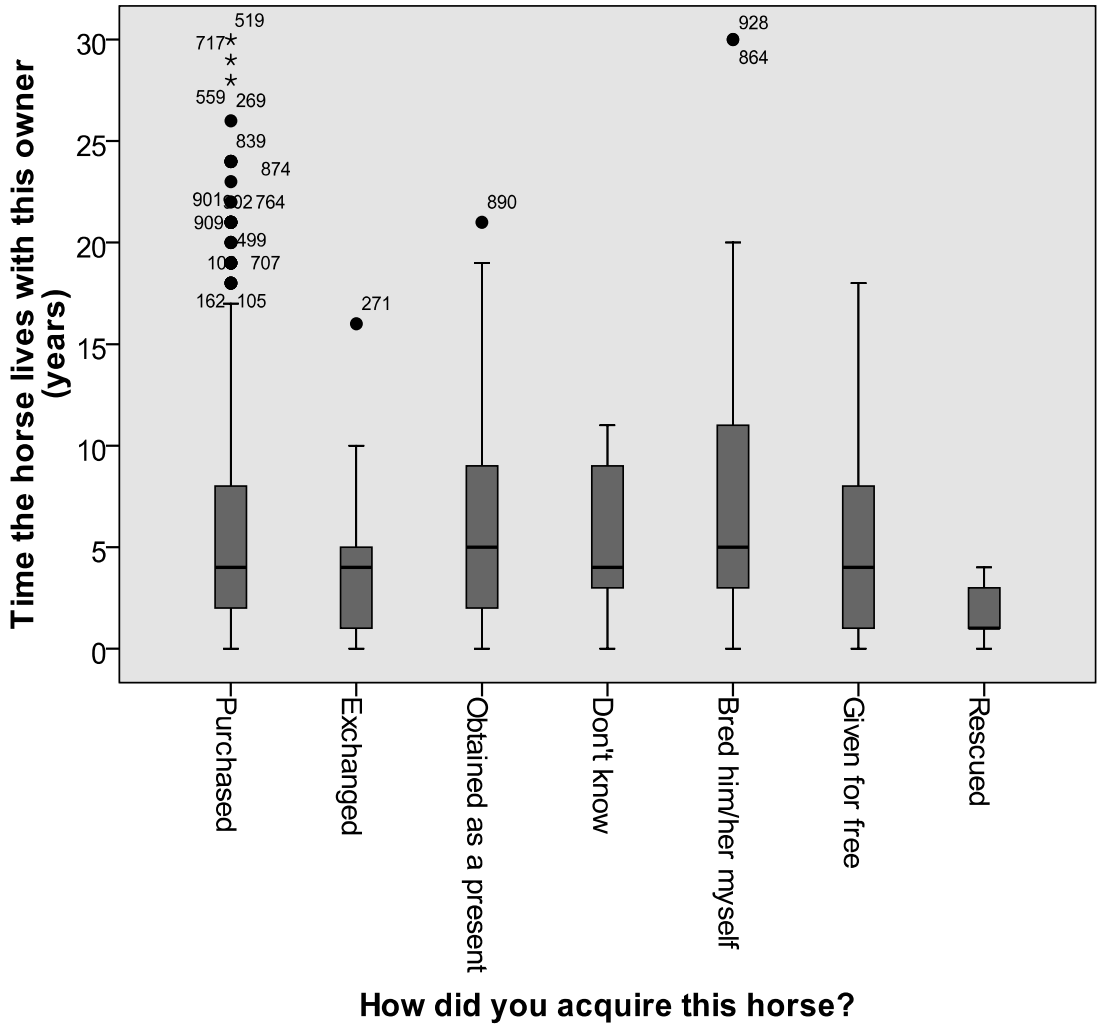
Figure 4.9 shows that 20.7% of the horses stayed with the same owner for 2 years (N=113), followed by 19.6% which stayed only for one year (N=107). The group average (μ) was 3.00 years. Again it can be seen, that the higher the number of years, the lower the percentage of horses which stayed with the same owner for this period of time.
The complete overview of years can be seen in table 4.9, Appendix 4 (p. 107).

Fig. 4.9 Distribution of responses to the question *How long did a sold horse stay with its owner* (N=545).



From these numbers, the question arose whether the time a bought horse stayed with its owner had an association with the method of how this horse was acquired.
A Kruskal-Wallis test (α=0.05) revealed statistical significant difference in the time the horse stays with his owner across the seven different methods of acquisition; χ^2 (6, N=949) = 12,718, p= 0,048. The test outcome and significance level can be seen in figure 4.14, Appendix 4 (p. 107). A box plot (figure 4.10, p. 46) shows that horses which were bred by the owner or obtained as a present tend to have the highest median value.

Fig. 4.10 Box plot on *Influence of the method acquisition on the time a currently owned horse stays with its owner* (N=949).



4.2.2.2 Sub question 7: What type of media is mostly used for buying or selling leisure horses and do the owners use the same media in the buying and selling process? Consequently, does the used media influence the geographical buying or selling distance?

In the fifth section of the online survey, horse owners were asked which type of media they used during the buying and selling process of their horses. A combination of answers could be given, but every media type was analysed separately. The buying- and selling related answers were explored separately as well.

A total of 631 participants pointed out 535 times that they bought their horses themselves and mentioned 305 times that they have sold them themselves. Next to that, 36.3% (N=229) had never sold a horse in their life.

The top three of highest scoring media types was the same for both groups, only the percentages and number of cases differed as can be seen in table 4.1.

Table 4.1 Distribution of responses to the questions *Which type of media did you use to buy* (N=535) *or sell* (N=305) *a horse.*

Top three	*Buying media type*	*Selling media type*
1. Social network	55.5% (N=297)	54.1% (N=165)
2. Internet	50.1% (N=268)	42.0% (N=128)
3. Horse magazine	40.0% (N=214)	35.4% (N=108)

* Note that the total percentages of each group are not valuable in this case. For every single option was measured how often they occurred, whether given solely or in a combination. The percentages count for the number of people who have said to buy or sell their horses themselves.

A complete overview of media types used in buying (table 4.10 a & b) and selling (table 4.11 a & b) can be seen in Appendix 4 (pp. 108-109).

Then, the question whether owners behaved the same in both the buying and selling process came up. Did the owners tend to use the same media type they used for buying their horse, for selling as well? Details about the data transformation can be found in section 3.3.2.3 ‘Data transformation and calculation’ on page 34.

In table 4.2 the comparison of the owners' buying and selling behaviour can be seen. In 12 from a total of 13 media type choices, the highest percent of owners did not use a certain media type during buying and did not use it during selling either. That being said, it can be seen that in 13 out of 13 media type related choices, the highest percentage of owners tend to behave the same in buying as they did in selling.

Table 4.2 Distribution of responses to the question *Did the owners tend to use the same media type they used for buying their horse, for selling as well* (N=631).

Media type	*Highest behaviour percentages (%)*	*Behaviour 'used in buying'*	*Behaviour 'used in selling'*
Television	98.7	No	No
Radio	99.3	No	No
Veterinarian	90.5	No	No
Relatives	83.9	No	No
Other newspaper	90.2	No	No
Farrier	84.3	No	No
Horse market	76.1	No	No
Breeder	62.0	No	No
Trader	59.0	No	No
Local newspaper	50.8	No	No
Horse magazine	45.2	No	No
Social network	37.4	Yes	Yes
Internet	35.1	No	No

After this, the question arose whether the type of media used in buying or selling influenced the geographical distance of where a horse was acquired or sold to.

Kruskal Wallis tests (α=0.05) revealed that the following media types had a significant influence on the geographical buying distance:

- Breeder; χ^2 (6, N=836) = 21.491, p= 0.001
- Horse market; χ^2 (6, N=836) = 20.214, p= 0.003
- Horse magazine; χ^2 (6, N=836) = 21.344, p= 0.002
- Local newspaper ; χ^2 (6, N=836) = 16.647, p= 0.011
- Internet; χ^2 (6, N=836) = 18.587, p= 0.005

The output of the tests, with accompanying test statistics and significance levels can be found in figure 4.15 until figure 4.19 in Appendix 4 (pp.110-112)

The horse owners who used one of the above named media types mainly bought their horses within Great Britain, in the same country as they are located themselves, with the exception of those who used the local newspaper; they tend to buy a horse which is located in the same county as themselves.
A complete frequency overview of the significant media types used can be see in table 4.12 in Appendix 4 (p. 112).

Kruskal Wallis tests (α=0.05) revealed that the following media types had a significant influence on the geographical selling distance:

- Social network; χ^2 (5, N=471) = 13.167, p= 0.022
- Veterinarian; ; χ^2 (5, N=471) = 15.127, p= 0.010
- Horse magazine; χ^2 (5, N=471) = 11.068, p= 0.050

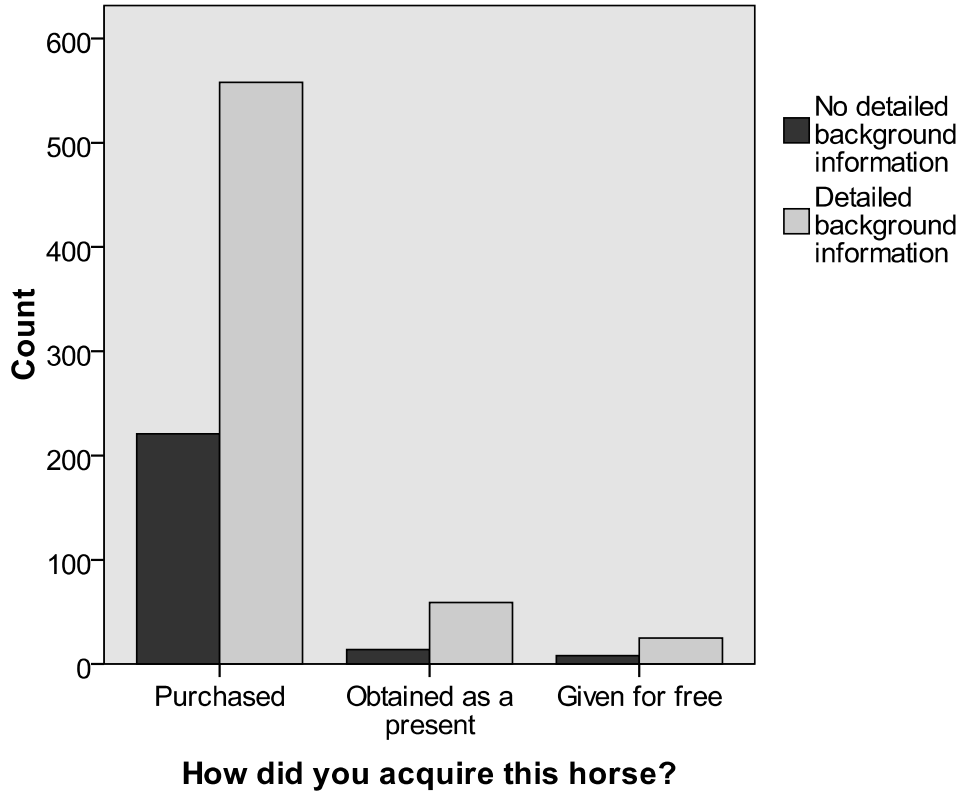
The output of the tests, with accompanying test statistics and significance levels can be found in figure 4.20 until figure 4.22 in Appendix 4, (pp. 113-114).

The horse owners who obtained support of a veterinarian or used a horse magazine during the selling process mainly sold their horses within Great Britain, in the same country as they are located themselves. Those who used their social network tend to sell their horse to a location situated in the same county. A complete frequency overview of the significant media types used can be seen in table 4.13 in Appendix 4 (p. 114)

4.2.2.3 Sub question 8: Do leisure horse owners have detailed information about their horses' backgrounds and is there an association with the method of acquisition?

Horse owners were asked whether they have detailed information about five different aspects of their horse's background. Their answers were linked to the method of acquisition and an overview of frequencies can be seen in the bar chart in figure 4.11.
A complete table of frequencies can be found in table 4.14, Appendix 4 (p. 115).

Fig. 4.11 Distribution of responses to the question *Which method of acquisition has the most detailed background information* (N= 885).



Although the image may raise the expectancy for significance, the Chi-square test for Independence (α= 0.05) indicated no significant association between detailed background information and the method of acquisition of a horse; χ^2 (2, N=885) = 3,01, ρ= 0.22. The test outcome and significance level can be seen in fig. 4.23 in Appendix 4 (p. 115)

4.2.2.4 Sub question 9: Is there a difference in the total buying and selling behaviour with regard to the owner's position in the equine sector? Consequently, does the owner's position influence the geographical buying or selling distance?

In this sub question we looked at the total buying- and selling transactions, which were given through the questions 'How many horses have you owned during your lifetime' and How many horses have you sold during your lifetime'?
Owners described themselves regarding their position in the equine sector (where they purely leisure horse owners, or was their main horse activity something else, e.g. breeding?).

Table 4.3 shows an overview of transaction frequencies among the different positions in the equine sector. It can be seen that the description 'Professional rider/trainer, breeder, trader or stable owner/manager and leisure/recreational use' scores the highest total transaction value (μ=31.5), followed by 'Professional rider/trainer and breeder, trader or stable owner/manager (μ=24).

Table 4.3 Distribution of responses to the question *Is there a difference in the total buying and selling behaviour with regards to the owner's position in the equine sector* (N=626).

How would you describe yourself?	*Description Frequency (N)*	*Total transactions mean (μ)*
Professional rider/trainer, breeder, trader or stable owner/manager and leisure/recreational use	2	31,5
Professional rider/trainer and breeder, trader or stable owner/manager	7	24
Breeder, trader or stable owner/manager and leisure/recreational use	8	20
Leisure, but work in breeding / at yard as well	6	18.7
Professional rider/trainer	29	17.7
Breeder, trader or stable owner/manager, leisure/recreational use and owner of horses, that are on loan	4	15.2
Breeder, trader or stable owner/manager	9	13.4
Showing horses (leisure)	12	12.8
Professional rider/trainer and leisure/recreational use only	11	9.6
Leisure/recreational use and owner of horses, that are on loan	13	7.1
Leisure/recreational use only	498	5.8
Owner of horses, that are on loan	7	3.4

A Kruskal-Wallis test revealed a statistically significant difference in transaction levels across the different positions in the equine sector; χ^2 (9, N=626)=67.890, ρ≤ 0.001 The test outcome and significance level can be seen in figure 4.24, Appendix 4, (p. 116).

After this, the question arose whether the position of the owner in the equine sector influenced the geographical distance of where a horse was acquired or sold to.

Kruskal Wallis tests (α=0.05) revealed that the position of the owner had a significant influence on the geographical buying distance; χ^2 (6, N=837) = 26.862, p= 0.001.
The outcome of the test statistic and significance level can be seen in figure 4.25 in Appendix 4 (p. 116).
In table 4.15 in Appendix 4 (p. 117) can be seen that professionals mainly bought their horses in the same country as where they where located themselves (27.8%, N= 40). Leisure horses tended to travel less far; they bought their horses in the same county the most (31.5%, N=218).

Kruskal Wallis tests (α=0.05) revealed that the position of the owner had a significant influence on the geographical selling distance; χ^2 (5, N=476) = 13.334, p= 0.020. The outcome of the test statistic and significance level can be seen in figure 4.26 in Appendix 4 (p. 117).
In table 4.16 in Appendix 4 (p. 118) can be seen that both professional (21.8%, N=32) and leisure horse owners (32%, N=116) mainly sold their horses on to a location in the same county as they were situated.

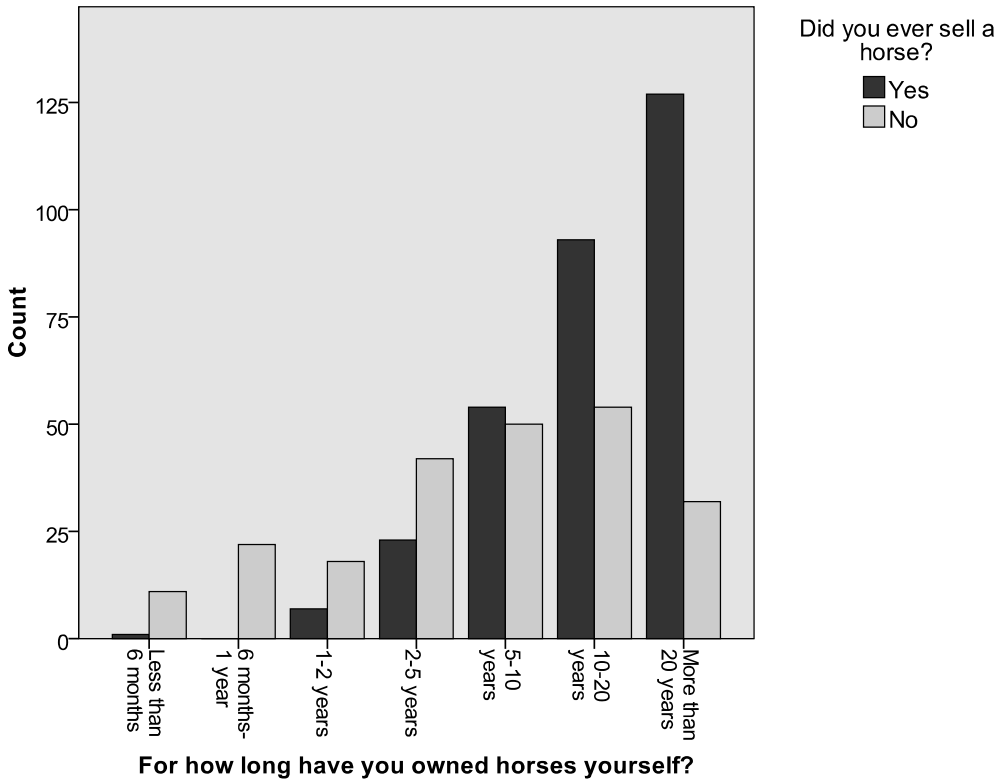
4.2.2.5 Sub question 10: Is there an association between the time the horse owners have owned horses themselves and whether they have sold a horse or not?

This question can be answered by combining the information given to 'How long have you been owning horses yourself' and about whether owners have pointed out in their selling type of media choice that they have not sold a horse in their life. Exploring the data of 631 horse owners reveals that 229 owners never sold a horse before and 305 did.

A Mann-Whitney *U* test (α=0.05) revealed that there was a statistically significant association between the time the owners owned horses and whether they have sold horses or not; *U*= 18565,5 and ρ≤ 0.001. The outcome of the test statistic and significance level can be seen in figure 4.27, Appendix 4, (p. 118).

In the bar chart in fig 4.12 can be seen that the longer an owner is owning horses, the more often they sell horses, which increases in time. An overview of all frequencies can be seen in table 4.17, Appendix 4 (p.118).

Fig. 4.12 Distribution of responses to the question *Is there an association between the time the horse owner has owned horses him/her self and whether they have sold a horse or not* (N=534)

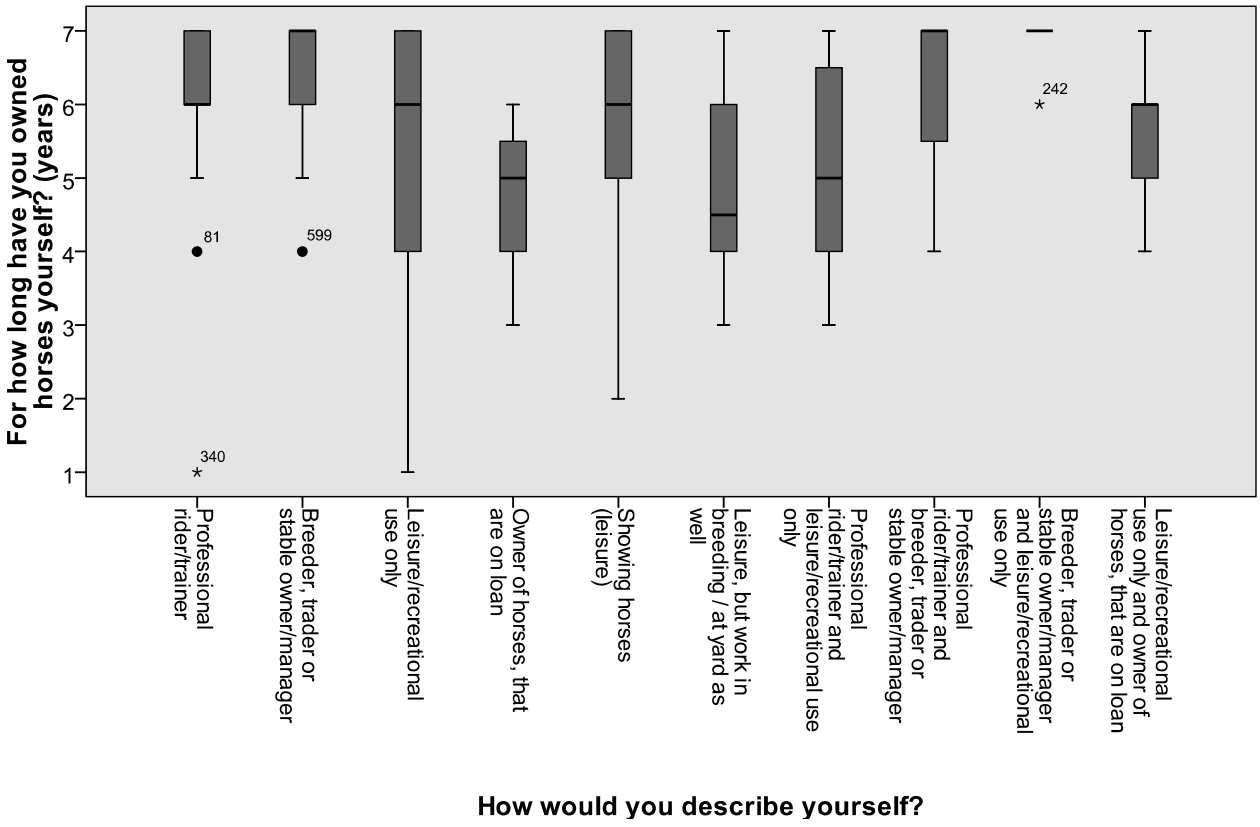


From this information, another question rose: Is there an association between the time an owner has owned horses him/herself and the position they have in the equine sector? A Kruskal-Wallis test (figure 4.28, Appendix 4, page 119) revealed that there was a statistical significant difference between these two variables; χ^2 (9, N=610) = 32.827, p≤ 0,001.

Leisure horse owners (40.5%) and leisure horse owners who also owned horses which were on loan (46.2%) were the two groups that scored on never sold a horse most often. The ones that had breeding/trading or stable owning/managing (85.7%) and professional riding/training (76.7%) as main horse activity scored the highest on selling horses. The frequency table (table 4.18) can be seen in Appendix 4 (p.119).

In figure 4.13 a box plot shows that on average 'breeder, trader or stable owner/manager' and owners that are a combination of 'professional rider/trained and breeder, trader or stable owner/manager' score the highest median value in the time they own horses themselves, while 'leisure riders who work in breeding or at a yard' and the 'owners who have their horses loaned out' score lowest in time.

Fig. 4.13 Box plot on *Is there an association between the time an owner has owned horses him/herself and the position they have in the equine sector* (N=631).



Chapter 5
Discussion

In this section, findings from the previous chapter are explored and discussed.
Noted should be that this research has been set up to be a baseline assessment of why and how often leisure horses change ownership, in order to support the four -year PhD research project investigating the welfare of equids throughout England and Wales with scientific evidence about this vulnerable group of equines. Therefore, although the results were highly expected by the research team, it will add valuable information to the current supply of scientific knowledge about leisure horses and their owners.

5.1 Sample

Although this study has collected unique information on leisure horse owners in Great Britain and their animals, there are some limitations which have to be considered when using this data.

First, owners were able to choose themselves to be a participant or not. Therefore, unknown to us, a certain trend in type of participants may arise. This may be the consequence of the sample recruitment sources used, amount of spare time available for these participants or willingness to talk about their way of keeping animals. As an example for the latter, persons who feel like they have rescued their animal from previous bad conditions might be more willing to talk than people who had to sell their animal, because their relationship did not work out. These people may experience a feeling of failure (Shore, 2005) and might be less willing to talk.

Second, the survey was available online, which makes it accessible for people outside the target group (Hockenhull, 2010) and for people whose data is unwanted or partly inapplicable. Also, by using this online survey mode, the sample was biased against those horse owners without the access or the skills to use the Internet.

Third, the owners were able to choose about which horse they wanted to talk, which may lead to social desirable answers to the questions, rather than full honesty. That being said, it has to be pointed out that according to Taylor (2000) and Fricker and Schonlou (2002) Internet surveys suffer less from this than other survey formats.

The fourth point of interest is that this sample might not be representative for all horses and riders in Great Britain; we investigated 631 horse owners, but in total 2.4 million people ride,

and 1526 individual horses, but the numbers are estimated on 60,000 - 1 million horses in Great Britain (British Horse Industry Confederation, 2005).

Fifth, although it was explicitly and repeatedly mentioned that the project solely focused on owned horses, several horse owners filled in the Horse Biography section for 23 horses they loaned. These horses were not used in statistical analysis, but the question arises whether the owners have answered properly about how many horses they actually *owned* instead of only took care of. Although loaned horses were subtracted from the number of owned horses, it remains possible that more loaned horses are accidentally included in the answer.

Last, in the Result section (p. 36) females seemed to be realistically represented, being 75.6% of the total sample size, because a recent survey showed that 72% of UK riders is female (Anon-BETA, 1996). However, 143 participants did not share information about their gender, therefore we only know the gender of 492 participants (N_{males}=12, $N_{females}$=480) for sure. Therefore, the only thing we can say according to these known numbers, is that females might be strongly over represented with 97.6% and 2.4% and males seem strongly under represented with 1.9%.

5.2 Horse keeping

The number of horses kept by an owner (one versus more than one horse) was almost equally divided, which might indicate that owners prefer the one-on-one human-horse relationship as much as they prefer to bond with more animals at a time. This result may also have a link to the purpose for which the horse(s) has or have been acquired in the first place.

It was expected that leisure horse owners kept their horses for quite a long time because their main goal of having horses, having fun, might be easier accomplished than the goals of those who are involved with horses professionally. The results revealed that currently owned horses on average have stayed with their owner for ca. 6 years until now. This might be, because nowadays the emotional attachment is more important to the owner (Bibikova, 1967; Endenburg, 1999) than the economic value of the animal. Next to that, owners have a choice in thoroughly selecting an animal during the buying process (Odendaal, 2005) , although reality does not always turn out the way they expected.

However, with measuring staying time, the survey focused on years, rather than dates. This means, that when a horse is e.g. sold in 2010, this could be either January or December. This measuring gave difficulties with measuring staying time of horses which were sold on or

bought in the same year as well. Therefore, the averages and number of years given may differ slightly from the actual time span.

The findings suggest that horses which are currently owned (ca. 6 years) on average stayed longer with their owners than horses which were sold in the past (3 years). The reason for this might be, that leisure horse owners may buy an animal on more emotional grounds and lack the experience to recognise and cope with mental or physical problems (Leckie, 2001; Henderson, 2007). Therefore, it is not surprising that the unsuitability of the horse and behaviour problems have the highest score in single and combined selling reasons respectively.
Also, the financial situation of owners can have a considerable influence (McGreevy, 2004; Odendaal, 2005); a horse can be bought for little money, but maintenance for e.g. a horse in full livery, on straw, fed hay and concentrates and properly vaccinated and wormed will cost on average £9500 (ca. 11,5 thousand Euros) a year (British Horse Society, 2004). In 17.2% of the answers why the owner has sold his horse on, 'To earn money' was written down. In 27.3% 'Financial constraints were named. Owners might have had to sell their horse because of financial constraints, but sometimes, the horse was bought to train and sell on for a higher price. Nevertheless, it has to be pointed out that the latter only was answered for 14 of the 962 analysed currently owned horses.
A last reason might be, that owners have learned from their sold horses what they can and cannot handle or what they specifically want from a horse. Consequently, currently owned horses might have been selected more carefully, with regard to both horse and rider.

In the results could be seen that the more years a horse stayed with its owner, the lower the frequency of this number of years was found in the sample. This might be a logic result from the age of horses; horses do not live as many years as humans, therefore 20 years with one owner is quite long. Also when one takes into account that many horses are not bought as a foal, but as a young adult, this outcome is not surprising.

Next to that, the time a currently owned horse stayed with its owner was influenced by the method of acquisition of this horse. However, the Kruskal- Wallis test did not reveal a strong significance (ρ=0.048 and α= 0.05) and when looking at the box plot (Fig. 4.10, page 46) it can be seen that 'Rescued' made the difference in significance. When 'Rescued' (N=9) was removed and a Chi-square for Independence test was performed, the outcome showed non significance (ρ=0.315, α=0.05). Therefore, the question arises whether an answer, strongly influenced by a group of only 9 rescued horses, is representative for a total of 949 analysed horses.

The participants who were mainly involved with horses professionally scored the highest median values on the time they were owning horses themselves. They might have grown up with horses and owned them since they were a young child, or as soon as financial circumstances allowed. The owners, who are mainly involved with horses in leisure activities, score the lowest median values. It should be noted, that some of them are professionally working with horses, but this was not seen as the main activity. This might mean that they did not have the time or urge to buy a horse for themselves, because they would encounter horses regularly at work. Van Dierendonck and Goodwin stated in 2005 that the high numbers of volunteers might be, because people feel attracted and attached to horses. This may also count for those who do not have the financial resources or spare time to own a horse themselves.

Descriptive analysis showed, that owners of horses, that are on loan owned horses for a small period of time until now. They might have spend lots of time doubting about acquiring a horse or maybe it might have been the other way around; the idea of buying a horse has suddenly appeared. After acquisition, keeping horses might have been different, more expensive or harder than expected, but due to the emotional bond, the owner decided not to sell, but loan the horse to someone else.

5.3 Buying horses

With buying a horse, people tend to stay close to the county they live in. Overseas transactions rarely take place, which might be because of transportation costs and effort. The chance of finding a 'fun-purpose' horse nearby might be higher than finding a horse which has to meet certain production or accomplishment conditions.
That being said, a division in buying distance could be seen: professionals mainly bought their horses in the same country as where they where located themselves, but leisure horses tended to travel less far; they bought their horses most often in the same county as they were situated. This might be, because professionals search for e.g. jumping or dressage suitability, potential and trainability in a horse, where leisure horse owners see ease of handling and maintenance as most important (Górecka-Bruzda, et al, 2011). Therefore, professionals might be willing to look further away for a suitable horse, because the wish of accomplishment and possible profit is strong. Leisure horse owners might search less far away, because their only wish is to have fun with the horse.

The main reason why owners bought a particular horse, is because this horse fitted according to their 'wish list'. However, the conditions the owner had in mind can be different

for each person. Górecka-Bruzda et al (2011) found that ease of handling and maintenance are the most important horse traits for leisure riders. Competition riders focused much more on the horse's natural athletic ability and willingness to perform. Males prefer that the horse challenges the rider's skills although this type of horse was avoided by leisure riders. It can be said that the 'wish list' is strongly linked to the future purpose of usage of the horse.
An attention point rises when looking at the question "Why did you acquire this particular horse"; owners were not given clear guidelines to answer accordingly. Therefore, many participants answered that the horse they had bought was 'exactly what they were looking for' (fitted best to their 'wish list'), without mentioning what they were looking for precisely.

The main purposes why owners bought a particular horse, were for sports and leisure riding, which is consistent with what was found in the literature search; as Lawrence (1985) stated, the number of equines for recreation and sport purposes increased in the 20th century.

Horses were mainly bought by using the owner's own social network, Internet and horse magazines. The results showed a significant influence of the use of a breeder, horse market, horse magazine, local newspaper and the Internet on the geographical buying distance. The horse owners who used one of these media types mainly bought their horses in the same country as they are located themselves, with the exception of those who used the local newspaper; they tend to buy a horse which is located in the same county as themselves.
This might be, because breeders, markets, magazines and the Internet are able to spread and distribute widely, making them accessible for a whole country, where local newspapers mainly focus on interests of places nearby.

There was not found a significant association between whether the owner had detailed background information about their horse and how the horse was acquired. Statistical analysis on the value 'detailed background information' showed that the insignificance was not due to a small number of participants, when the "Three or more times" – rule was used as a filter. This rule contains a measurement for the value 'detailed background information'; five background related questions were asked and when owners declared to know detailed information about three or more questions, this knowledge was labelled 'detailed'. This means, that the criterion for *detailed* rested on 'more than half of the questions was answered affirmatively'.
When this rule was examined, it was temporary adjusted to a 'Two or more'- rule. The Chi-square for Independence test still showed insignificant differences, therefore we concluded that the insignificance was not due to the number of analysed participants, selected by the 'Three or more'- rule.

5.4 Selling horses

Horses, sold in the past, stayed on average 3 years with the same owner. Also, the higher the number of years, the lower the percentage of horses which stayed with the same owner for this period of time. Not surprisingly then, when looking at frequencies, most horses stayed with their owner for only one or two years. This is a curious point; the hypotheses that leisure horses would stay with their owners for a longer time, was derived from the thought that the main goal of keeping horses, having fun, was achieved quite easily.

The short staying time may be the result of the owner physically or mentally outgrowing the horse, the animal's unsuitability for a certain purpose or behaviour problems (Van Dierendonck and Goodwin, 2005). Kiley-Worthington (1982) points out that horses with behaviour problems are strongly unpreferred by owners. This might also explain that owners often mentioned behaviour problems together with a 'no click' – feeling; when the behaviour does not disappear (Minero and Canali, 2009) or worsens, it might lead to anger, disappointment or stress.

The current financial situation in Great Britain may have played its part as well; the Horse's Trust and other equine charities have seen a dramatic increase in abandoned animals in the last few years (The Horse Trust, 2011). Owners might consider to sell or get rid of their horse in times of recession: in 27.3% of the single and combines selling reasons given, 'Financial constraints' were named.

The results showed that both professional and leisure horse owners mainly sold their horses on to a location in the same county as they were situated. This might be a part of a vicious circle, in which leisure horse owners buy a horse nearby (in the same county) and therefore they do not tend to sell their horse (for leisure purposes) to far away either. There might be demand for the horse at nearby locations. Also, professionals might prefer to sell the horses nearby, to establish a good reputation in that area.

An important point in measuring geographical distances, is that the current living location is compared with the mentioned buying or selling location. However, it is possible that owners lived at an other location at the time of buying or selling. Although this location was corrected when this was mentioned by the owner, current locations might differ from actual ones during the buying and selling process.

Horses were mainly sold by using the owner's own social network, Internet and horse magazines. The results showed a significant influence of the use of this social network, veterinarians and horse magazines on the geographical selling distance. The owners who used their social network, tended to sell their horse within the same county as they were located themselves. This might be, because in order to see and speak to each other

regularly, direct social contact is often situated close to home. Those who used the help of a veterinarian or horse magazine mainly sold their horses in the same country. This might occur because the network of a veterinarian (who travels around to see horses and colleagues) and magazine issues are distributed more widespread than leisure horse owners would go themselves.

Another interesting point is, that owners tend to behave the same during buying and selling with regard to used media types; if they have not used a certain type during buying, they will not use it during selling and vice versa. Horse owners might see other people use this media type successfully and follow their example, rather than trying out other media types themselves.

A last interesting result combines the owner's frequencies of buying and selling horses. A significant difference was found in transaction levels across the different owners' positions in the equine sector; those owners involved with the sector professionally buy and sell more horses than leisure horse owners. It might be, that professionals are more familiar with the buying and selling process. Possibly, they do it more often and therefore with more ease than those who do not regularly experience a horse's selling process. The longer they have sold horses, the more familiar they get.
This matches with the result that the participants who have owned horses for a long time tend to have sold horses more often. The ones who did not, seem to own horses themselves for a shorter period of time. Although it might come to mind that the longer someone owns horses, the higher the chance is that they come across a horse they (have to) sell, the decision of selling a horse has been considered a conscience one. Seventeen leisure horse owners specifically mentioned that whatever happened, they have not sold and would not sell their horse(s) ever in their life.
Nevertheless, one should keep in mind that possibly one of the most common reasons why professionals trade a horse, is money.

An attention point for 'total transaction' is, that the number of horses owned and sold are added up. However, it is not necessary that all these horses where actually bought; they might have been found or given. The 'total transaction' number is expected to be corrected for euthanized animals, by specifically asking how many horses were *sold*.
Also, participants were able to select the answer 'more than 20' instead of answering with the exact number. Because no average of this could be estimated, owners with this answers were filtered out, which may lead to a different number of 'total transaction' as when these numbers would have been included.

Chapter 6
Conclusions

This section provides conclusions drawn from the results in Chapter 4 (p. 36).

This research has provided an insight in horse buying, selling and keeping of leisure horse owners living in Great Britain. By far, the largest percentage of participants was located in England (ca. 76%) and ca. 24% of the total respondents came from its South-Western counties.

6.1 Keeping horses

Horse owners are slightly more likely to own more than one horse. Owning one horse scored 49.9% and owning more than one horse scored 50.1% of the total respondents. This means, that leisure horse owners have a slight preference of owning more animals at a time.

Most often, the currently owned horses have stayed with the same owner for 1 or 2 years until now, with an average of ca. 6 years. This indicates, that owners who owned their horse for a short period of time until now, are willing to talk about their animal.
Also, the more years a horse stayed with the same owner, the lower the frequency of this number of years was found in the sample. This shows that very long time periods with the same owner are rare.
Next to that, currently owned horses have stayed on average longer (ca. 6 years) with their owner than horses, sold on in the past (3 years). This indicates that when owners are not satisfied about a certain horse, they tend to sell it within three years. When they are satisfied, the horse stays for a longer period of time with the same owner.
The staying time had a significant association with the way a horse was acquired; the horses which were bred by the owner or were given as a present had the highest median values. This indicates that these animals stay longer with their owners than horses which where acquired via an other method, e.g. purchased.

The participants who are mainly involved with horses professionally scored the highest median values on the time they were owning horses themselves. The owners, who are mainly involved with horses in leisure activities, score the lowest median values. Owners of horses, which are on loan score low as well. Concluded can be, that professionals have been horse owners for a longer period of time than leisure – or loan horse owners.

6.2 Buying horses

Currently owned horses were mainly bought because they fitted best to the wishes of their current owner. This means that owners set up a certain ‘wish list’ before buying a horse and keep to it. The main purposes were for sports and leisure riding.

The horses were acquired within the same or neighbouring county as in which their owner is located, which indicates that a large part of currently owned horses has not been travelling very far. Owners who were involved with the equine sector professionally, mainly bought their horses in the same country as where they where located themselves. Leisure horses tended to travel less far; they bought their horses most often in the same county as they were situated This indicates that professionals are willing to travel further away for a good and suitable horse; leisure horse owners find their preferred horse more nearby.

Buying horses most often occurred through using the owner’s social network, the Internet and horse magazines. This means, that social contact and widespread media are experienced as successful buying tools.

A significant influence of using a breeder, horse market, horse magazine, local newspaper and the Internet during buying on the geographical buying distance was found. The horse owners who used one of these media types mainly bought their horses in the same country as they are located themselves, with the exception of those who used the local newspaper; they tend to buy a horse which is located in the same county as themselves.

This means, that when an owner bought via a breeder, a horse market, a horse magazine or the Internet, they have a high chance of buying a horse which is located further away from home. The local newspaper will aid them in finding a horse more nearby.

Most horse owners have detailed background information about their currently owned horses, however this was not significantly linked to the acquisition method of this horse. This means that although most owners have detailed background information about their horses, it cannot be proven that this is influenced by the way a horse is acquired.

6.3 Selling horses

The findings show, that sold horses investigated in this study most often stayed with their owners for 1 or 2 years, with an average of 3 years. This indicates that owners do not tend to keep the horses they have sold for many years. Also, the higher the number of years, the lower the percentage of horses which stayed with the same owner for this period of time. This means that the longer someone has owned a certain horse, the smaller the chance they will sell it on.

Horses were sold because of behaviour problems, unsuitability, physically outgrowing of owners, financial purposes or because the owner experienced a lack of connection with them. This means that usage purpose, ease of handling and 'bonding' feelings play a large role in the decision to sell a horse on.

After selling, the horses' new home was most often located in the same county or country as in which they were previously situated. This means, that although a large group of sold horses does not travel very far, but another large group does; a country can cover many miles.
Nevertheless, the results showed that both professional and leisure horse owners sell their horses on to a location in the same county as they were situated. This shows that there is demand for both production/competition horses as well as leisure horses. Horses do not necessarily have to travel far to a new owner. However, when looking for a suitable horse, professionals showed to literally go the extra mile to find it.

Horses were mainly sold through the owners social network, the Internet and horse magazines. The results showed a significant influence of the use of this social network, veterinarians and horse magazines on the geographical selling distance. The owners who used their social network, tended to sell their horse within the same county as they were located themselves. Those who used the help of a veterinarian or horse magazine mainly sold their horses in the same country. This shows, that social network will aid a seller to find a new owner nearby, where veterinarians and magazines attract possible buyers from further away.

The research participants tend to behave the same during buying and selling; if they have not used a certain type of media during buying, they will not use it during selling and vice versa. This indicates that once (future) horse owners have decided which media type not to use, they stick to it.

The longer owners had owned horses themselves, the more they tend to have been selling horses as well. Those owners who were involved with horses professionally have the highest horse transaction behaviour, leisure and loan horse owners score the lowest. This shows that in total, professionals are buying and selling more horses than leisure owners.

6.4 Recommendations

This section will first give recommendations for subsequent research. Last, it will point out to which elements of this research project should be paid attention to, if the project is to be repeated.

6.4.1 Keeping horses

The number of horses owned (one versus more than one) was almost equally divided among the research participants. This raises the question what type of owner tends to own one horse, and what type owns more than one horse. This might give a predictive value to buying or owning behaviour of certain type of owners.
Also, might this amount of owned horses be linked to the purpose why an owner acquires his or her horses? This may provide a valuable insight in how many horses an owner prefers to have, according to which purpose they are using them for.

Currently owned horses most often stayed with their owners for 1 or 2 years until now. The same years came across when sold horses time was estimated. What might be interesting for further research, is why the owners which mainly had their horses for 1 or 2 years reacted so often to the online survey. Did the advertisement of the research project attract these people for a certain reason?

The results showed that professionals have been owning horses for a longer period of time than leisure horse owners. This raises the question: Why do leisure horse owners own horses themselves for a shorter time span? Is this because e.g. they have previously done voluntary work in the equine sector or for financial reasons?
Next to that comes up, why the owners of loan horses have owned their current horses such a short time until now. Did they doubt about the acquiring for very long or, contrasting, did they acquire a horse without thinking, which turned out not the way they expected it to be?
This might give valuable insight in the decision phases of (future) horse owners.

6.4.2 Buying horses

In the discussion, it came up that the purpose of usage might be closely linked to the ‘wish list’ an owner has in mind while searching for a suitable horse. This raised the question: does the suitability to the initial purpose of acquiring of a horse influence the degree of ‘bonding’ an owner experiences with his/her animal? Does this result in a longer period of time the horse stays with this owner? The answers to these question might shed light on where the feeling of bonding may rest on, and what influence this feeling has on the horse’s life.

The results show, that when owners use a breeder, horse market, horse magazine or the Internet during buying, most often they find their preferred horse within the same country, whereas if they used a local newspaper, they found a horse nearby. This raises the question: Do leisure horse owners take travelling distance into account? Do they first search locally, after which they widen their view, or do they start with a wide spread focus immediately? This might give a valuable insight in the motivation (future) owners have to find their perfect animal.

6.4.3 Selling horses

With selling horses, a curious point is that behaviour problems and feeling 'no click' with the horse are the number one combined selling reasons, but do not score vey high in the single reasons given. For subsequent research, the question whether there is a link between the behaviour problems and the 'lack of connection' felt by the owner, might be of interest.

Earning money has been mentioned as a reason to sell the horse on. The number of horses acquired to school and sell on was small (N=14), therefore this trend might have something to do with the current economic situation. In 27.3% of the single and combined reasons given, financial constraints were named. A next step in research might be, to investigate how many owners have been forced by the current economical recession to sell, abandon or euthanize their horse. This might be hard to research, because the owners might have a feeling of 'failure' (Shore, 2005) and are not willing to speak about these matters.

The longer an owner has been owning horses, the more they tend to have sold some of them as well. It might be interesting to look at if this was their initial plan when acquiring their horses, or if it was the consequence of something they could not mend themselves. This means: how flexible is ownership; do horse owners have a plan for when things go wrong or is the horse sold on quickly in this case? In this research project namely, 36.3% of the participants never sold a horse in their lives. Seventeen participants pointed out to give their horses homes for life. We have not foreseen this trend in setting up the online survey, but in order to understand with what intend people keep horses, this point needs further understanding.

6.4.4 Owner's transaction behaviour

Horses were mainly bought and sold by using social network, Internet and horse magazines. The results show that there was no significant influence of method of acquisition on whether the owners had detailed background information of their horse. These two outcomes raise the question, if type of media used during the buying or selling process has an influence on method of acquisition or on the having of detailed background information. The answers to this might give a valuable insight in what role different types of media play in determining buying/selling actions and levels of knowledge gained by the owner.

In the questions 'How many horses have you owned' and 'how many horses have you sold' a possible answer was 'More than 20'. It might be interesting to investigate which type of owner had such a high buying or selling number, in order to predict transaction levels of comparable horse owners.

6.4.5 Recommendations for repeating this research project

The recommendations will be given in a bullet list below:

- By asking how many horses the participant has owned and sold, give them the opportunity to fill in the number themselves, rather than provide a premade selection list. This prevents the loss of a certain year values, here: all data regarding 20 years<
- Make sure, that the message that you only wish to have information on *owned* horses and that *loaned* horses are not important here, cannot be missed.
- When measuring the time a horse stayed with the same owner, ask for years and months to obtain a detailed period of time.
- Give clear guidelines according which the participants can answer the question 'Why did you acquire this particular horse". In this research, a multiple line text box was used to enable owners to recall the specific reason themselves, instead of pre-directing them to a certain answer. The researcher searched for trends in the given text, which were put individually into several reason classes.

  This question might be answered in a more valuable way when presented as a multiple answer question, with an 'Other, please specify' option provided. Make clear what your main focus is e.g. feelings, purpose of usage or buying situations.
- When measuring geographical buying or selling distances, make sure that you ask where the owner was living (town and county) at the time of buying or selling the particular horse. This prevents calculating with erroneous locations.

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Appendices

Appendix 1 Online survey by Bristol Online Survey- system

Online survey page 1 of 14 (front page)

Welcome

Page 1 of 14

Welcome to the research survey 'Movement of horses and ponies between owners in Great Britain'. My name is Maxine Heijtel and I am a student carrying out this research for the University of Bristol, School of Veterinary Sciences.

The survey will take less than 20 minutes to complete and is designed to find out how often horses and ponies in Great Britain move between owners and why. The results of this research will contribute to the health, safety and welfare of horses in Great Britain.

If you **own** a horse or pony and are over 18 years of age then please could you tell me about how **you** acquire, keep and sell your horse(s) by completing the questions on the following pages.
If you own a horse or pony which is currently out on loan please include it in this survey.
If you have a loan horse or pony, but don't own it, then please don't include it in your answers.

By filling in this survey, you can enter a draw to win a Tack Shop voucher worth £100!

Please note that throughout the rest of the survey we will just use the term "horse", but we are interested in both horses and ponies.

For more information or if you have any questions, please don't hesitate to contact me at:
maxine.heijtel@bristol.ac.uk

Thank you for your time.

Maxine Heijtel
Maxine.Heijtel@bristol.ac.uk
University of Bristol, School of Veterinary Sciences, Langford

P.S. Note that once you have clicked on the CONTINUE button at the bottom of each page you cannot return to review or amend that page.

Data Protection statement
All data collected in this survey will be held anonymously and securely. Giving your contact details is optional and any information you give will not be passed on to third parties. Cookies, personal data stored by your Web browser, are not used in this survey.

Continue >

Online survey page 2 of 14

Page 2 of 14

Survey 'Movement of horses and ponies between owners in England'

The survey starts after this introduction.

There are five sections with related questions.
The purpose of each section will be explained at the top of the questions' page.

Note that once you have clicked on the CONTINUE button your answers are submitted and you cannot return to review or amend that page.

Continue >

After these two introductions, the questions start. The five sections and their subsequent questions are described below:

Page 3 of 14

Section 1: Horse ownership
Explanation: In this section we would like to know how many horses you own and where you keep them.
This survey is only about the horses **you own.**

Question 1: How many horses do you own at the moment? (Mandatory)
Possible answers: (Selection list)

- 1 horse
- 2 horses
- 3 horses
- 4 horses
- 5 horses
- 6 horses
- 7 horses
- 8 horses
- 9 horses
- 10 horses
- 11 horses
- 12 horses
- 13 horses
- 14 horses
- 15 horses
- 16 horses
- 17 horses
- 18 horses
- 19 horses
- 20 horses,
- More than 20 horses

Question 2: How many horses have you owned during your lifetime? (Mandatory)
Possible answers: (Selection list)

- 1 horse
- 2 horses
- 3 horses
- 4 horses
- 5 horses
- 6 horses
- 7 horses
- 8 horses
- 9 horses
- 10 horses
- 11 horses
- 12 horses
- 13 horses
- 14 horses
- 15 horses
- 16 horses
- 17 horses
- 18 horses
- 19 horses
- 20 horses,
- More than 20 horses

Question 3: How many horses have you sold during your lifetime? (Mandatory)
P.A.: (Selection list)

- 0 horses
- 1 horse
- 2 horses
- 3 horses
- 4 horses
- 5 horses
- 6 horses
- 7 horses
- 8 horses
- 9 horses
- 10 horses
- 11 horses
- 12 horses
- 13 horses
- 14 horses
- 15 horses
- 16 horses
- 17 horses
- 18 horses
- 19 horses
- 20 horses,
- More than 20 horses

Question 4: Where is your horse / are your horses being kept?
This can change seasonally, please fill in the main one or two locations per season. (Mandatory)

P.A: (Grid, Multiple answer and single line text box)

	At home or own stables	**Livery yard**	**Pasture**	**Riding school**	**Don't know, horse is on (permanent) loan**	**Other *(please specify)***
a. Spring	☐	☐	☐	☐	☐	☐
b. Summer	☐	☐	☐	☐	☐	☐
c. Autumn	☐	☐	☐	☐	☐	☐
d. Winter	☐	☐	☐	☐	☐	☐

Page 4 of 14

Section 2: Horse owning experience
Explanation: In this section we ask you about your horse keeping experience

Question 5: For how long have you owned horses yourself? (Mandatory)
P.A: (Selection list)

- Less than 6 months
- 6 months - 1 year
- 1-2 years, 2-5 years
- 5- 10 years
- 10-20 years
- More than 20 years

Question 6: How would you describe yourself? *(select all that apply)* (Mandatory)
P.A: (Multiple answer)

- Professional rider/trainer,
- Breeder, trainer or stable owner/manager,
- Leisure/recreational user only,
- Owner of horses, that are on loan
- Other (please specify, e.g. show horses, using horses for traction) (Multiple lines text box)

Page 5 of 14

Text top of page: Horse 1

Section 3: Horse biographies
Explanation: In this section we would like to know some general information about your horses. There are enough pages for **three** horses. If you have less than three horses, just fill in the pages for the horses you have, leaving the others blank. If you have more than three horses, just fill in the pages for three of them.

Question 7: Horse's name (Mandatory)
P.A. Open question (Single line tex box)

Question 8: Year of acquisition (Mandatory)
P.A. Open question (Single line text box)

Question 9: Horse's current age
P.A. Open question (Single line text box)

Question 10: Where did you buy this horse (town and **county**)
P.A. Open question (Single line text box)

Question 11: On average, how much time do you spend with this horse (hours per week)?
Please include time spent feeding/grooming/riding/mucking out. (Mandatory)
P.A.: Grid

a. Summer (followed by single line text box for answer)
b. Winter (followed by single line text box for answer)

Question 12: How did you acquire this horse? (Mandatory)
P.A: (Multiple choice)

- Purchased
- Exchanged
- Obtained as a present
- Don't know
- Other, please specify

Question 13: Why did you acquire this particular horse? (Mandatory)
P.A. Open question (Multiple line text box)

Question 14: At the time of acquisition, were you able to find out about: *(select all that apply)* (Mandatory)
P.A.: (Multiple answer)

- Owner's history
- Previous use of the horse
- Horse's health history
- Horse's behavioural traits
- Reason for selling the horse on
- None of the above

Note at end of the page: **If you own one horse, please go to page 8**
If you own more than one horse, please go to the next page

Page 6 of 14

Text top of page: Horse 2

This page is identical (from section name until last question) to page 5, only the questions' numbers change. However, all the questions are now optional instead of mandatory (the horse owners who only fill in one or two horses must be able to continue to section 4).

Note at the end of the page: **If you own two horses, please go to page 8**
If you own more than two horses, please go to the next page

Page 7 of 14

Text top of page: Horse 3

This page is identical (from section name until last question) to page 5, only the questions' numbers change . However, all the questions are now optional instead of mandatory (the horse owners who only fill in one or two horses must be able to continue to section 4).

No note at the end of the page

Page 8 of 14

Text top of page: Horse 1

Section 4: Selling horses
Explanation: If you have ever sold a horse, please complete the following pages.
There are enough pages for **three** horses.
If you have sold less than three horses, just fill in the pages for the horses you have, leaving the others blank.
If you have sold more than three horses, just fill in the pages for three of them.
If you have never sold horses, please skip this section and go to page 11.

Question 31: Horse's name (Optional)
P.A. Open question (Single line tex box)

Question 32: Year of acquisition (Optional)
P.A. Open question (Single line text box)

Question 33: Year of sale (Optional)
P.A. Open question (Single line tex box)

Question 34: If you know, which part of the country did the horse go to after sale? (Optional)
P.A. Open question (Multiple line tex box)

Question 35: Why did you sell this horse on? *(select all that apply)* (Optional)
P.A: (Multiple answer)

- Behavioural problems
- I didn't click with this horse
- Children grew up
- Owner's health
- Financial constraints
- To earn money
- Horse illness
- Age of horse
- Horse no longer suitable
- Loss of interest
- Don't know
- Other *(please specify)* (Multiple line text box)

Note at the end of the page: **If you have only ever sold one horse, please go to page 11**
If you have sold more than one horse, please go to the next page

Page 9 of 14
Text top of page: Horse 2

This page is identical (from section name until last question) to page 8, only the questions' numbers change . All the questions in this section have to be optional (the horse owners who only fill in one, two or none horses must be able to continue to section 5).

Note at the end of the page: **If you have only ever sold two horses, please go to page 11**
If you have sold more than two horses, please go to the next page

Page 10 of 14
Text top of page: Horse 3

This page is identical (from section name until last question) to page 8, only the questions' numbers change . All the questions in this section have to be optional (the horse owners who only fill in one, two or none horses must be able to continue to section 5).

No note at the end of the page

Page 11 of 14

Section 5: Buying and selling practices
Explanation: In this final section we would like to find out what actions you took once you had made the decision to buy or sell a horse.

Question 46: To acquire your horse(s), which of the following have you used? *(select all that apply)* (Mandatory)
P.A: (Multiple answer)

- Trader
- Breeder
- Horse market
- Relatives
- Own social network
- Veterinarian
- Farrier
- Horse magazine
- Local newspaper
- Other newspaper
- Radio
- Television
- Internet
- Don't know
- Other *(please specify)* (Single line text box)

Question 47: To sell your horse(s), which of the following have you used? *(select all that apply)* (Mandatory)
P.A: (Multiple answer)

- Trader
- Breeder
- Horse market
- Relatives
- Own social network
- Veterinarian
- Farrier
- Horse magazine
- Local newspaper
- Other newspaper
- Radio
- Television
- Internet
- Don't know
- Other *(please specify)* (Single line text box)

Question 48: If you have additional information, comments or experiences about buying or selling your horses; please add them below. (Optional)
P.A: Open question (Multiple line text box)

Page 12 of 14

Text at top of the page: County

Question 49: Which town and **county** are you from? (Mandatory)
P.A: Open question (Single line text box)

Question 50: Where did you hear about this survey? (Mandatory)
P.A: Open question (Multiple line text box)

Page 13 of 14

Text at top of the page: Contact details
Optional!

Explanation: In this section we give you the opportunity to complete your contact details.
This information will be securely handled and is only for the researcher (Ms. M.G. Heijtel, maxine.heijtel@bristol.ac.uk) to see. Your contact details will not be passed on to third parties in any way.
If you want to enter the draw for the £100 Tack Shop voucher please enter your contact details below

Question 51: What is your gender? (Optional)
P.A: (Multiple choice)
- Male
- Female

Question 52: Optional contact details
P.A: (Grid)

Name	
b. Street name and house number	
c. Town	
d. Postal code	
e. Phone number	
f. Email address	

Explanation text for question 53: **If you would like to participate in further aspects of this study or be contacted by the researcher in the future, please click 'Yes' in the box below**

Question 53: I am willing to be contacted by the researcher again in the future. *(select all that apply)* (Optional)
P.A: (Multiple answer)
- Yes (Note: participant can click 'Yes' or leave the question unanswered, which will mean ' No')

Page 14 of 14 (end page without any questions)

Text at top of the page: **Thank you very much for completing this survey.**
Then lower text: Your survey has now been submitted.
You may close this window by pressing the red cross in the upper right corner of your screen.

Appendix 2 Advertisement Strategy

Advertisement stage 1

During the first advertising phase (April-May 2011) the following advertisement activities took place:

University of Bristol Press release

The Press Office of the University of Bristol launched an online and newsletter press release about the research project, including the link to the online survey.

Agricultural shows

Two nearby agricultural/horse shows were contacted and agreed to help during the dissemination phase.

Advertisement: 100 posters and 500 flyers per show, disseminated in person

- Badminton Horse trials (World Horse Welfare stand, 3 days)
- Bath and West show (4 days)

Magazines and their websites

Two horse related magazines and their websites were contacted and agreed to help during the dissemination phase.

Advertisement: Posters, flyers and research project information, placed once in the magazine or provided on the website as advertisement.

- Tacking-up (Susan McBane)
- Equine Behaviour Forum

Online forums

35 horse or pet related online forums were contacted and 17 agreed to help during the dissemination phase. The high post position was actively maintained.

Advertisement: Research project information, link to the online survey provided in as many threads as possible.

- Horse and Hound
- Pet forums
- Pet Chat
- Pet Health forum
- Horse Network
- Your Horse
- Potty about Pets
- Horse and Rider UK
- The Paddocks
- UK Chatterbox
- Best UK Forums
- Dog pages
- Your Dog
- Pet crash
- Ruffdogs
- Animal Lifeline UK
- D for dog UK

Talks, lectures and gatherings

The research project was actively presented during 2 horse related lectures and gatherings.

Advertisement: 20-50 posters, 25- 250 flyers each, disseminated in person.

- Dr. Clare Main 18th of May (Veterinarian gathering, 1 evening)
- Equine Behaviour Forum Symposium (22nd of May, 1 day)

Veterinarian clinics

217 veterinary clinics located in South West England were contacted by phone and 101 agreed on helping in the dissemination of this research project.

Advertisement: 2 posters, 25 flyers each, together with an explanatory letter, send by post or email to clinics.

Bristol

1. Avenue Veterinary Centre
2. Langford Equine Practice
3. Langford Equine Referral Hospital
4. Tibbs & Simmons Farm Animal Veterinary Surgeons
5. Winterbourne /Axe valley Veterinary Clinic
6. Axe Valley Veterinary Practice Ltd

Somerset

1. Silva House Veterinary Group (Radstock)
2. M T Sheppard BVetMed MRCVS
3. The Shepton Veterinary Group
4. Silva House Veterinary Group (Frome)
5. Garston Veterinary Group
6. SJ Turner
7. Francis & Jackson MsRCVS
8. The Stables Equine Practice
9. Bruton Veterinary Surgery
10. Delaware Veterinary Group (Castle Cary)
11. Southill Veterinary Group
12. Delaware Veterinary Group (Yeovil)
13. Polden Hills Veterinary Centre Ltd
14. Langport Veterinary Centre
15. Black Rock Veterinary Surgery
16. Isle Valley Veterinary Group
17. Deane Veterinary Centre
18. Deane Vets
19. White Lodge Veterinary Clinic
20. Mount Veterinary Hospital
21. Orchard Brook Stables
22. Browne, White & Gliddon
23. Dulverton Veterinary Practice
24. Kingston Veterinary Group

Dorset

1. Damory Veterinary Clinic
2. Blackmore Vale Veterinary Centre
3. Whistlejacket Equine Surgery
4. Weatherbury Veterinary Clinic
5. Milton Equine Veterinary Clinic
6. Dorset Equine Veterinary Services
7. Priory Veterinary Group
8. Pilgrims Veterinary Practice
9. Pilgrims Vet Practice

Devon

1. The Vale Veterinary Group
2. P S Ikin & G J Oxenham
3. Western Counties Equine Clinic Ltd
4. St David's Equine Practice Ltd
5. Linhay Veterinary Rehabilitation
6. Jonathan Wood
7. Wolfgar Veterinary Surgery
8. West Ridge Veterinary Practice Ltd
9. North Park Veterinary Group
10. Market Veterinary Centre
11. Wildman Equine Veterinary Practice
12. Stringer Equine Veterinary Practice
13. Penbode Veterinary Group
14. Locke & Preston Veterinary Ltd
15. Hatchmoor Veterinary Practice
16. Torbridge Veterinary Hospital
17. Charter Veterinary Hospital Group
18. Gabriel, Grills & Associates
19. South Moor Vets
20. Woodlands Veterinary Hospital
21. Eqwest Equine Veterinary Clinic
22. Powderham Veterinary Group
23. Seymour Vets Ltd
24. South Moor Vets
25. Selworthy Veterinary Group

Cornwall

1. T M O'Sullivan
2. Calweton Veterinary Group
3. Pelyn Veterinary Group
4. Luxstowe Vets
5. Albert Cottage Veterinary Clinic
6. G & P J Nute
7. Penmellyn Veterinary Group
8. Kenwyn Veterinary Centre Ltd
9. Head & Head
10. Mounts Bay Veterinary Centre Ltd
11. Rosevean Veterinary Practice

Wiltshire

1. Wessex Equine Limited
2. George Veterinary Group
3. Drove Veterinary Hospital
4. Calne Veterinary Centre
5. Walters, McFadyen & Jones
6. The Hale Veterinary Group
7. The Paddock Veterinary Practice
8. Endell Veterinary Group Equine Hospital

Gloucestershire

1. Willesley Equine Clinic Ltd
2. Wood Veterinary Group
3. Woodlands Veterinary Clinic
4. Millpark Veterinary Centre Limited
5. John McKenna
6. J H C Coldicott
7. Severnside Veterinary Centre
8. M Cheslin
9. D Rhys-Jones
10. Three Counties Equine Hospital
11. Abbey Green Vets Ltd
12. Bushy Equine Vets
13. The Sidings Veterinary Surgery
14. Drybridge Veterinary Clinic
15. The Coppins Veterinary Practice
16. Bourton Vale Equine Clinic Limited
17. Shipston Veterinary Centre Ltd
18. Rowe vet group

Examples of the poster (figure 3.4) and flyer (figure 3.5) and letter (figure 3.6) can be found in Appendix 3 (pp. 96-98)

Advertisement stage 2

After week 3 of data collection (beginning of June 2011), there was need for a follow up advertisement phase because the number of respondents to the online survey was suddenly decreasing. The second advertising phase took place (June-July 2011), with the following activities:

Stud books

53 studbooks were contacted by email and 8 agreed to help during the dissemination phase. They posted the advertisement on their website or in their magazine.

Advertisement: Poster and flyer information, placed once in magazine or provided on the website as advertisement.

- The American Saddlebred Association of Great Britain
- Appaloosa Horse Club (UK)
- Dales Pony Society
- Lipizzaner Society of Great Britain
- The National Pony Society
- New Forest Pony Breeding Society
- The Shetland Pony Stud Book Society
- United Saddlebred Association – UK Ltd.

Magazine websites and newsletters

When the number of respondents did not increase much, the researcher and supervisors decided to use paid advertisement as well. Two horse related websites and one online horse newsletter were contacted by phone for paid advertising. An online banner was placed at the Your Horse website and an advert was placed in the Horse Deals online magazine and at the Horse and Rider website. Examples of the online adverts banners (figure 3.7a & b) and the online advert for online magazine (figure 3.8) can be found in Appendix 3 (p.99)

Advertisement: Banners (.gif files) and flyer advertisement, placed once in magazine or provided on the website as advertisement.

- Horse Deals newsletter (6th of June, bottom advert, £150 excl. VAT, once, to
- ± 34,500 email addresses)
- Your horse website (Top page banner, £360 excl. VAT, one month,
- 30,000 impressions)
- Horse and Rider website (Tower banner, £90, one month, 1/4th of every page hit)

Agricultural and equestrian shows in Great Britain

18 agricultural/equestrian shows were contacted by email and 4 agreed to help during dissemination phase.

Advertisement: Poster and flyer information, placed once in magazine or provided on the website as advertisement, also 10 posters and 150 flyers per show.

- Royal Cornwall show
- The Honley show
- Whole Horse Weekend
- Derbyshire County Show

Arenas and riding clubs in Bristol Area

5 riding clubs and arenas were contacted by email and 3 agreed to help during dissemination phase.

Advertisement: 7 posters and 150 flyers per show, disseminated in person.

- Banwell Pony Club
- Badgeworth Arena
- Sorcy riding club

Radio

A radio interview with the researcher was arranged, with radio BBC Essex.

Advertisement: information press release and information poster

- BBC Radio Essex (live interview)

Appendix 3 Advertisements

Fig. 3.4 Example of the poster used during the advertising stages (size: 1 x A4)

University of BRISTOL

Online survey closes on the 3rd of July 2011

Leisure horse owners wanted

Win a £100 Tack shop voucher!

We are looking for leisure horse owners to take part in a survey about; 'Movement of horses between owners in Great Britain'.

My name is Maxine Heijtel and I am a student of the University of Bristol, School of Veterinary Sciences. I am conducting a research to find out how often horses in Great Britain move between owners and why.
The results of this research will contribute to the health, safety and welfare of horses in Great Britain.

If you are over 18 years of age, please could you tell me about how you acquire, keep and sell your horse(s) in order to improve the health and welfare of Britain's Equines?

Please go to

www.survey.bris.ac.uk/awb/horseowners

Thank you for your help.

For more information or if you have any questions, please contact:
Maxine Heijtel
Email: maxine.heijtel@bristol.ac.uk

Fig. 3.5 Example of the flyer used during the advertising stages (size: 1 x A6)

Leisure horse owners wanted

Win a £100 Tack shop voucher!

If you would like to fill in our online survey,
please go to:

www.survey.bris.ac.uk/awb/horseowners

Online survey closes on the 3rd of July 2011

Fig. 3.6 Example of the letter sent do the advertising veterinary clinics

Ms. Maxine Heijtel
Researcher Equine Health and Behaviour project
School of Veterinary Sciences
Dolberry Building
Langford
Bristol BS40 5DU
Email : Maxine.heijtel@bristol.ac.uk

3rd of May 2011

Rowe Vet Group
The Veterinary Hospital
Bradley Green
Wotton-Under-Edge
Gloucestershire
GL12 7PP

Dear colleague,

Following our recent telephone conversation, thank you very much for agreeing to help the University of Bristol, School of Veterinary Sciences with advertising our research survey "Movement of horses between owners in Great Britain".

With this research project, we are trying to find out how often leisure horses move between their owners, and why. This survey will be online from the first week of May onwards.

As discussed, please find enclosed some posters and flyers to advertise the survey.

I would be very grateful if you could pass these to any of your clients who may be interested in completing the survey.

Thank you again for your help.

With best wishes,

Maxine Heijtel

Ps. If you find that you need additional posters or flyers, please don't hesitate to contact me.

Fig 3.7 Example of the banners used for online advertisements

Fig. 3.7a Top page banner Your Horse website 1 (728x90 pixels)

Fig. 3.7b Top page banner Your Horse website 2 (728x90 pixels)

Fig. 3.8 Example of the Horse deals e-magazine bottom advert and Horse and Rider website tower banner (240x400 pixels)

Appendix 4 Statistical analyses output

Table 4.4 Percentages of research participants divided over Great Britain's counties (N=635)
E= England, NI= Northern Ireland, S=Scotland, W=Wales

Which county are you from?

	County	*Frequency*	*Percent*	*Valid Percent*	*Cumulative Percent*
Valid	Not filled in	99	15,6	15,6	15,6
	Abroad	1	,2	,2	15,7
	Aberdeenshire (S)	1	,2	,2	15,9
	Antrim (NI)	2	,3	,3	16,2
	Ayrshire (S)	2	,3	,3	16,5
	Bedfordshire (E)	8	1,3	1,3	17,8
	Berkshire (E)	12	1,9	1,9	19,7
	Berwickshire (S)	1	,2	,2	19,8
	Bristol (E)	28	4,4	4,4	24,3
	Buckinghamshire (E)	10	1,6	1,6	25,8
	Cambridgeshire (E)	8	1,3	1,3	27,1
	Carmarthenshire (W)	3	,5	,5	27,6
	Cheshire (E)	18	2,8	2,8	30,4
	Clackmannanshire (S)	1	,2	,2	30,6
	Conwy (W)	2	,3	,3	30,9
	Cornwall (E)	8	1,3	1,3	32,1
	Cumbria (E)	5	,8	,8	32,9
	Denbighshire (W)	4	,6	,6	33,5
	Derbyshire (E)	6	,9	,9	34,5
	Derry/Londonderry (NI)	2	,3	,3	34,8
	Devon (E)	32	5,0	5,0	39,8
	Dorset (E)	5	,8	,8	40,6
	Durham (E)	4	,6	,6	41,3
	East Lothian (S)	2	,3	,3	41,6
	East Sussex (E)	3	,5	,5	42,0
	East Yorkshire (E)	1	,2	,2	42,2
	Essex (E)	20	3,1	3,1	45,4
	Fife (S)	1	,2	,2	45,5
	Flintshire (W)	2	,3	,3	45,8
	Gloucestershire (E)	24	3,8	3,8	49,6
	Greater London (E)	10	1,6	1,6	51,2
	Greater Manchester (E)	2	,3	,3	51,5
	Hampshire (E)	18	2,8	2,8	54,3
	Herefordshire (E)	5	,8	,8	55,1
	Hertfordshire (E)	6	,9	,9	56,1
	Inverness-shire (S)	1	,2	,2	56,2
	Isle of Man	1	,2	,2	56,4
	Isle of Wight (E)	2	,3	,3	56,7

	Kent (E)	11	1,7	1,7	58,4
	Lanarkshire (S)	3	,5	,5	58,9
	Lancashire (E)	7	1,1	1,1	60,0
	Leicestershire (E)	5	,8	,8	60,8
	Lincolnshire (E)	9	1,4	1,4	62,2
	Merseyside (E)	27	4,3	4,3	66,5
	Midlothian (S)	2	,3	,3	66,8
	Monmouthshire (W)	2	,3	,3	67,1
	Newport (W)	1	,2	,2	67,2
	Norfolk (E)	7	1,1	1,1	68,3
	North Yorkshire (E)	10	1,6	1,6	69,9
	Northamptonshire (E)	3	,5	,5	70,4
	Northumberland (E)	4	,6	,6	71,0
	Nottinghamshire (E)	5	,8	,8	71,8
	Oxfordshire (E)	2	,3	,3	72,1
	Pembrokeshire (W)	1	,2	,2	72,3
	Perthshire (S)	2	,3	,3	72,6
	Renfrewshire (S)	2	,3	,3	72,9
	Roxburghshire (S)	1	,2	,2	73,1
	Shropshire (E)	6	,9	,9	74,0
	Somerset (E)	36	5,7	5,7	79,7
	South Yorkshire (E)	9	1,4	1,4	81,1
	Staffordshire (E)	10	1,6	1,6	82,7
	Stirlingshire (S)	2	,3	,3	83,0
	Suffolk (E)	5	,8	,8	83,8
	Surrey (E)	18	2,8	2,8	86,6
	Swansea (W)	4	,6	,6	87,2
	Tyne and wear(E)	2	,3	,3	87,6
	Vale of Glamorgan (W)	3	,5	,5	88,0
	Warwickshire (E)	10	1,6	1,6	89,6
	West Lothian (S)	1	,2	,2	89,8
	West Midlands (E)	13	2,0	2,0	91,8
	West Sussex (E)	4	,6	,6	92,4
	West Yorkshire (E)	26	4,1	4,1	96,5
	Wiltshire (E)	18	2,8	2,8	99,4
	Worcestershire (E)	2	,3	,3	99,7
	Wrexham (W)	2	,3	,3	100,0
	Total	635	100,0	100,0	

Table 4.5 Distribution of all responses for the question *Why did you acquire this particular horse* (N=962).

Why did you acquire this particular horse?

	Reason	*Frequency*	*Percent*	*Valid Percent*	*Cumulative Percent*
Valid	Not filled in	55	5,7	5,7	5,7
	First pony/horse	20	2,1	2,1	7,8
	For children	51	5,3	5,3	13,1
	For sports	120	12,5	12,5	25,6
	Leisure riding	108	11,2	11,2	36,8
	Riding & club activities	10	1,0	1,0	37,8
	Showing	34	3,5	3,5	41,4
	Breeding	13	1,4	1,4	42,7
	To school and sell on	14	1,5	1,5	44,2
	As a rider's project	57	5,9	5,9	50,1
	Horse was confidence giver	10	1,0	1,0	51,1
	Wanted or needed another/ an other horse	50	5,2	5,2	56,3
	Fitted in what current owner wanted	167	17,4	17,4	73,7
	(Always) wanted this type/breed of horse	30	3,1	3,1	76,8
	Fell for him/her	72	7,5	7,5	84,3
	Rescued/ felt sorry for the horse	52	5,4	5,4	89,7
	Horse needed home (purchased)	13	1,4	1,4	91,1
	Horse needed home (given to current owner by previous owner)	20	2,1	2,1	93,1
	Current owner was only one who could handle horse	1	,1	,1	93,2
	Companion for other horse(s)	32	3,3	3,3	96,6
	Recommended by a friend	14	1,5	1,5	98,0
	To provide retirement	5	,5	,5	98,5
	Parents/friends liked the horse	1	,1	,1	98,6
	Came for free with other horse/foal of bought horse	5	,5	,5	99,2
	Current owner didn't want to search anymore	1	,1	,1	99,3
	Riding and showing	3	,3	,3	99,6
	Breeding and showing	4	,4	,4	100,0
	Total	962	100,0	100,0	

Table 4.6 Distribution of all single reasons given to the question *Why did you sell your horse on* (N=454).

Why did you sell this horse on?

	Single reason	*Frequency*	*Percent*	*Valid Percent*	*Cumulative Percent*
Valid	Behavioural problems	27	5,9	5,9	5,9
	I didn't "click" with this horse	25	5,5	5,5	11,5
	Children grew up	42	9,3	9,3	20,7
	Owner's health	10	2,2	2,2	22,9
	Financial constraints	38	8,4	8,4	31,3
	To earn money	78	17,2	17,2	48,5
	Horse illness	8	1,8	1,8	50,2
	Age of horse	10	2,2	2,2	52,4
	Horse no longer suitable	90	19,8	19,8	72,2
	Horse was outgrown	43	9,5	9,5	81,7
	Loss of interest	5	1,1	1,1	82,8
	Loss of grazing area	2	,4	,4	83,3
	Loss of confidence	2	,4	,4	83,7
	Lack of time	34	7,5	7,5	91,2
	Moved houses, horse couldn't come with	5	1,1	1,1	92,3
	Horse had too much potential for owner	3	,7	,7	93,0
	Horse was too big/strong	9	2,0	2,0	94,9
	To give the horse a better home	21	4,6	4,6	99,6
	Not filled in	2	,4	,4	100,0
	Total	454	100,0	100,0	

Table 4.7 Distribution of all combined reasons given to the question *Why did you sell your horse on* (N=110)

Why did you sell this horse on?

	Combined reason	*Frequency*	*Percent*	*Valid Percent*	*Cumulative Percent*
Valid	Behavioural problems and no "click"	14	12,7	12,7	12,7
	Behavioural problems and lack of time	1	,9	,9	13,6
	Behavioural problems and horse no longer suitable	14	12,7	12,7	26,4
	Behavioural problems and to earn money	1	,9	,9	27,3
	Behavioural problems, horse no longer suitable and children grew up	1	,9	,9	28,2
	Behavioural problems and financial constraints	1	,9	,9	29,1
	Behavioural problems, no "click" and horse no longer suitable	11	10,0	10,0	39,1
	Behavioural problems, no "click" and lack of time	1	,9	,9	40,0
	Behavioural problems, no "click", horse no longer suitable and loss of interest	2	1,8	1,8	41,8
	Behavioural problems and loss of interest	1	,9	,9	42,7
	Behavioural problems, no longer suitable and horse illness	1	,9	,9	43,6
	No "click" and horse no longer suitable	8	7,3	7,3	50,9
	Financial constraints and to earn money	3	2,7	2,7	53,6
	Financial constraints and age of horse	1	,9	,9	54,5
	Financial constraints and loss of interest	1	,9	,9	55,5
	Financial constraints and horse no longer suitable	2	1,8	1,8	57,3
	Financial constraints and lack of time	2	1,8	1,8	59,1
	Financial constraints and owner's health	3	2,7	2,7	61,8
	Financial constraints and children grew up	1	,9	,9	62,7
	Financial constraints, to earn money and no "click"	1	,9	,9	63,6
	Financial constraints, to earn money and horse no longer suitable	2	1,8	1,8	65,5

	Financial constraints, age of horse and horse illness	1	,9	,9	66,4
	Financial constraints, to earn money and lack of time	2	1,8	1,8	68,2
	Financial constraints, no "click" and horse no longer suitable	1	,9	,9	69,1
	Age of horse and horse was outgrown	1	,9	,9	70,0
	Age of horse and lack of time	1	,9	,9	70,9
	Age of horse and horse no longer suitable	4	3,6	3,6	74,5
	Age of horse and horse illness	1	,9	,9	75,5
	Horse no longer suitable and owner's health	1	,9	,9	76,4
	Horse no longer suitable and horse was outgrown	3	2,7	2,7	79,1
	Horse no longer suitable and children grew up	7	6,4	6,4	85,5
	Horse no longer suitable and to earn money	3	2,7	2,7	88,2
	Horse no longer suitable and loss of interest	3	2,7	2,7	90,9
	Horse no longer suitable, to earn money and lack of time	1	,9	,9	91,8
	Horse no longer suitable, age of horse and horse illness	2	1,8	1,8	93,6
	Horse no longer suitable, age of horse and children grew up	2	1,8	1,8	95,5
	Children grew up and age of horse	1	,9	,9	96,4
	Children grew up and loss of interest	1	,9	,9	97,3
	Children grew up, age of horse and horse illness	1	,9	,9	98,2
	Children grew up, loss of interest and no "click"	1	,9	,9	99,1
	Children grew up, loss of interest, no "click" and financial constraints	1	,9	,9	100,0
	Total	110	100,0	100,0	

Table 4.8 Distribution of responses to the question *How long does a currently owned horse stay with its owner* (N= 962).

Time the horse lives with this owner (current date-year of acquisition)?

	Time (years)	*Frequency*	*Percent*	*Valid Percent*	*Cumulative Percent*
Valid	Less than a year (0,5)	81	8,4	8,4	8,4
	1	142	14,8	14,8	23,2
	2	113	11,7	11,7	34,9
	3	83	8,6	8,6	43,6
	4	84	8,7	8,7	52,3
	5	69	7,2	7,2	59,5
	6	51	5,3	5,3	64,8
	7	47	4,9	4,9	69,6
	8	38	4,0	4,0	73,6
	9	23	2,4	2,4	76,0
	10	29	3,0	3,0	79,0
	11	39	4,1	4,1	83,1
	12	32	3,3	3,3	86,4
	13	15	1,6	1,6	87,9
	14	17	1,8	1,8	89,7
	15	18	1,9	1,9	91,6
	16	15	1,6	1,6	93,1
	17	10	1,0	1,0	94,2
	18	6	,6	,6	94,8
	19	8	,8	,8	95,6
	20	6	,6	,6	96,3
	21	9	,9	,9	97,2
	22	2	,2	,2	97,4
	23	1	,1	,1	97,5
	24	6	,6	,6	98,1
	26	1	,1	,1	98,2
	28	1	,1	,1	98,3
	29	1	,1	,1	98,4
	30	3	,3	,3	98,8
	Not filled in	12	1,2	1,2	100,0
	Total	962	100,0	100,0	

Table 4.9 Distribution of responses to the question *How long did a sold horse stay with its owner* (N= 545).

Time the horse stayed with this owner (Year of sale - Year of acquisition)

	Time (years)	*Frequency*	*Percent*	*Valid Percent*	*Cumulative Percent*
Valid	0	75	13,8	13,8	13,8
	1	107	19,6	19,6	33,4
	2	113	20,7	20,7	54,1
	3	77	14,1	14,1	68,3
	4	69	12,7	12,7	80,9
	5	35	6,4	6,4	87,3
	6	21	3,9	3,9	91,2
	7	19	3,5	3,5	94,7
	8	5	,9	,9	95,6
	9	5	,9	,9	96,5
	10	9	1,7	1,7	98,2
	12	1	,2	,2	98,3
	14	2	,4	,4	98,7
	15	3	,6	,6	99,3
	16	2	,4	,4	99,6
	17	1	,2	,2	99,8
	19	1	,2	,2	100,0
	Total	545	100,0	100,0	

Fig. 4.14 Outcome test statistic and significance level of the question *Influence of the method acquisition on the time a currently owned horse stays with its owner* (N=949).

Test Statistics[a,b]

	Time the horse lives with this owner (current date-year of acquisition)?
Chi-Square	12,718
df	6
Asymp. Sig.	,048

a. Kruskal Wallis Test

b. Grouping Variable: How did you acquire this horse?

Table 4.10 a Distribution of responses to the value *Types of media used during acquiring* (N=631)

Type of media used	*Yes*	*No*	*Horse was bought for owner*	*Not filled in*	*Total*
Trader	26.6% (N=168)	58.2% (N=367)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Breeder	25% (N=158)	59.7% (N=377)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Horse market	12.5% (N=87)	72.3% (N=456)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Relatives	10.3% (N=65)	74.5% (N=470)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Social network	47.1% (N=297)	37.7% (N=238)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Veterinarian	7.9% (N=50)	76.9% (N=485)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Farrier	9% (N=57)	75.8% (N=478)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Horse magazine	33.9% (N=214)	50.9% (N=321)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Local newspaper	29.8% (N=188)	55% (N=347)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Other newspaper	6.2% (N=39)	78.6.% (N=596)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Radio	0.3% (N=2)	84.5% (N=533)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
TV	0.3% (N=2)	84.5% (N=533)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Internet	42.5% (N=268)	42.3% (N=267)	0.3% (N=2)	14.9% (N=94)	100% (N=631)
Don’t know	0.5% (N=3)	84.3% (N=532)	0.3% (N=2)	14.9% (N=94)	100% (N=631)

Fig. 4.10 b Distribution of responses to the value *Types of media used during acquiring, filled in for option ‘Other, please specify’*

Other, please specify	*Count*	*Percentage*
No or not applicable	466	73.9%
Not filled in	91	14.4%
Horse was bought for owner	2	0.3%
Word of mouth	13	2.1%
Trainer	10	1.6%
Riding school (or it’s instructor)	22	3.5%
Riding club	1	0.2%
Riding school and riding club	2	0.3%
Livery yard	2	0.3%
Sales/auction	4	0.6%
Welfare association	1	0.2%
Breeder society	1	0.2%
Advertising local tack/feed shops	11	1.7%
Advertising at horse show	1	0.2%
Advertising at yards	2	0.3%
Slaughterhouse	1	0.2%

Table 4.11 a Distribution of responses to the value *Types of media used during selling* (N=631)

Type of media used	*Yes*	*No*	*I have never sold a horse*	*Not filled in*
Trader	6.5% (N=41)	41.8% (N=264)	36.3% (N=229)	15.4% (N=97)
Breeder	.2% (N=14)	46.1% (N=291)	36.3% (N=229)	15.4% (N=97)
Horse market	3.3% (N=21)	45% (N=284)	36.3% (N=229)	15.4% (N=97)
Relatives	3.5% (N=22)	44.8% (N=283)	36.3% (N=229)	15.4% (N=97)
Social network	26.1% (N=165)	22.2% (N=140)	36.3% (N=229)	15.4% (N=97)
Veterinarian	2.7% (N=17)	45.6% (N=288)	36.3% (N=229)	15.4% (N=97)
Farrier	3.8% (N=24)	44.5% (N=281)	36.3% (N=229)	15.4% (N=97)
Horse magazine	17.1% (N=108)	31.2% (N=197)	36.3% (N=229)	15.4% (N=97)
Local newspaper	14.3% (N=90)	34.1% (N=215)	36.3% (N=229)	15.4% (N=97)
Other newspaper	2.5% (N=16)	45.8% (N=289)	36.3% (N=229)	15.4% (N=97)
Radio	0.3% (N=2)	48% (N=303)	36.3% (N=229)	15.4% (N=97)
TV	0.5% (N=3)	47.9% (N=302)	36.3% (N=229)	15.4% (N=97)
Internet	20.3% (N=128)	28.1% (N=177)	36.3% (N=229)	15.4% (N=97)
Don't know	0.3% (N=2)	48% (N=303)	36.3% (N=229)	15.4% (N=97)

Table 4.11 b Distribution of responses to the value *Types of media used during selling, filled in for option 'Other, please specify'*

Other, please specify	*Count*	*Percentage*
No or not applicable	286	45.3%
Not filled in	96	15.2%
I have never sold a horse	229	36.3%
Word of mouth	8	1.3%
Riding club/school	4	0.6%
Livery yard	2	0.3%
Sales	2	0.3%
Adverts in local saddlery and riding schools	3	0.5%
Adverts in tack shops	1	0.2%

Fig. 4.15 Outcome test statistic and significance level of the question *Does media type 'Breeder' influences the geographical buying distance?* (N=836).

Test Statistics[a,b]

	To acquire your horse(s), which have you used: Breeder
Chi-Square	21,491
df	6
Asymp. Sig.	,001

a. Kruskal Wallis Test

b. Grouping Variable: How far away from their hometown did leisure horse owners buy their horse?

Fig. 4.16 Outcome test statistic and significance level of the question *Does media type 'Market' influences the geographical buying distance?* (N=836).

Test Statistics[a,b]

	To acquire your horse(s), which have you used: Horse market
Chi-Square	20,214
df	6
Asymp. Sig.	,003

a. Kruskal Wallis Test

b. Grouping Variable: How far away from their hometown did leisure horse owners buy their horse?

Fig. 4.17 Outcome test statistic and significance level of the question *Does media type 'Horse magazine' influences the geographical buying distance?* (N=836).

Test Statistics[a,b]

	To acquire your horse(s), which have you used: Horse magazine
Chi-Square	21,344
df	6
Asymp. Sig.	,002

a. Kruskal Wallis Test

b. Grouping Variable: How far away from their hometown did leisure horse owners buy their horse?

Fig. 4.18 Outcome test statistic and significance level of the question *Does media type 'Local newspaper' influences the geographical buying distance?* (N=836).

Test Statistics[a,b]

	To acquire your horse(s), which have you used: Local newspaper
Chi-Square	16,647
df	6
Asymp. Sig.	,011

a. Kruskal Wallis Test

b. Grouping Variable: How far away from their hometown did leisure horse owners buy their horse?

Fig. 4.19 Outcome test statistic and significance level of the question *Does media type 'Internet' influences the geographical buying distance?* (N=836).

Test Statistics[a,b]

	To acquire your horse(s), which have you used: Internet
Chi-Square	18,587
df	6
Asymp. Sig.	,005

a. Kruskal Wallis Test

b. Grouping Variable: How far away from their hometown did leisure horse owners buy their horse?

Table 4.12 Distribution of all responses to the question *How many participants used the media types which are significantly influencing the geographical buying distance?*

How far away from their hometown did leisure horse owners buy their horse?	Media type Breeder (N)	Media type Horse market (N)	Media type Horse magazine (N)	Media type Local newspaper (N)	Media type Internet (N)
Within town	27	4	17	13	25
Within county	84	35	94	105	128
To neighbouring county	62	36	93	87	112
Within Great Britain (same country)	97	41	108	87	130
Within Great Britain (other country)	17	11	20	18	35
Abroad (inside Europe)	8	1	5	6	6
Abroad (outside Europe)	3	3	3	0	3
Total	298	131	340	316	439

*Note that the total number of participants here will not add up to the total number of respondents in this research. The participants could respond to more than one media type, therefore numbers may overlap.

Fig. 4.20 Outcome test statistic and significance level of the question *Does media type 'Own social network'' influences the geographical selling distance?* (N=471).

Test Statistics[a,b]

	To sell your horse(s), which have you used: Own social network
Chi-Square	13,167
df	5
Asymp. Sig.	,022

a. Kruskal Wallis Test

b. Grouping Variable: To how far away from their hometown did leisure horse owners sell on their horse?

Fig. 4.21Outcome test statistic and significance level of the question *Does media type 'Veterinarian' influences the geographical selling distance?* (N=471).

Test Statistics[a,b]

	To sell your horse(s), which have you used: Veterinarian
Chi-Square	15,127
df	5
Asymp. Sig.	,010

a. Kruskal Wallis Test

b. Grouping Variable: To how far away from their hometown did leisure horse owners sell on their horse?

Fig. 4.22 Outcome test statistic and significance level of the question *Does media type 'Horse magazine' influences the geographical selling distance?* (N=471).

Test Statistics[a,b]

	To sell your horse(s), which have you used: Horse magazine
Chi-Square	11,068
df	5
Asymp. Sig.	,050

a. Kruskal Wallis Test

b. Grouping Variable: To how far away from their hometown did leisure horse owners sell on their horse?

Table 4.13 Distribution of all responses to the question *How many participants used the media types which are significantly influencing the geographical selling distance?*

How far away from their hometown did leisure horse owners buy their horse?	Media type Own social network (N)	Media type Veterinarian (N)	Media type Horse magazine (N)
Within town	8	4	8
Within county	96	4	45
To neighbouring county	67	6	45
Within Great Britian (same country)	75	9	55
Within Great Britian (other country)	22	4	18
Abroad (inside Europe)	1	0	7
Abroad (outside Europe)	0	0	0
Total	269	27	178

*Note that the total number of participants here will not add up to the total number of respondents in this research. The participants could respond to more than one media type, therefore numbers may overlap.

Table 4.14 Distribution of all responses to the question *Do leisure horse owners have detailed information about their horses' backgrounds and is there an association with the method of acquisition* (N=910)

How did you acquire this horse	No detailed background information	Detailed background information
Purchased	85.7% (N=221)	85.6% (N=558)
Exchanged	1.9% (N=5)	0.6% (N=4)
Obtained as a present	5.4% (N=5)	9.0% (N=59)
Don't know	1.2% (N=3)	0.5% (N=3)
Given for free	3.1% (N=8)	3.8% (N=25)
Rescued	2.7% (N=7)	0.5% (N=3)
Total	100% (N=258)	100% (N=910)

Fig. 4.23 Outcome test statistic and significance level of the question *leisure horse owners have detailed information about their horses' backgrounds and is there an association with the method of acquisition* (N=885)

Chi-Square Tests

	Value	*df*	*Asymp. Sig. (2-sided)*
Pearson Chi-Square	3,009[a]	2	,222
Likelihood Ratio	3,203	2	,202
Linear-by-Linear Association	1,505	1	,220
N of Valid Cases	885		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 9,06.

Fig. 4. 24 Outcome test statistic and significance level of the question *Is there a difference in transaction levels across the different positions in the equine sector* (N=626)

Test Statistics[a,b]

	Total number of horses owned and sold in lifetime (transactions)
Chi-Square	67,890
df	9
Asymp. Sig.	,000

a. Kruskal Wallis Test

b. Grouping Variable: New How would you describe yourself?

Fig. 4.25 Outcome test statistic and significance level of the question *Does the position of the owner in the equine sector influence the geographical distance of where a horse was acquired* (N=837)

Test Statistics[a,b]

	How would you describe yourself?
Chi-Square	22,862
df	6
Asymp. Sig.	,001

a. Kruskal Wallis Test

b. Grouping Variable: How far away from their hometown did leisure horse owners buy their horse?

Table 4.15 Distribution of all responses to the question *Does the position of the owner in the equine sector influence the geographical distance of where a horse was acquired* (N=837)

How far away from their hometown did leisure horse owners buy their horse?	Professional horse owner	Leisure horse owner
Within town	13.2% (N=19)	7.4% (N=51)
Within county	25.7% (N=37)	31.5% (N= 218)
To neighbouring county	21.5% (N=31)	27.7% (N=192)
Within Great Britian (same country)	27.8% (N=40)	25.0% (N=173)
Within Great Britian (other country)	6.3% (N=9)	6.9% (N=48)
Abroad (inside Europe)	5.6% (N=8)	1.0% (N=7)
Abroad (outside Europe)	0% (N=0)	0.6% (N=4)
Total	100% (N=144)	100% (N=693)

Fig. 4.26 Outcome test statistic and significance level of the question *Does the position of the owner in the equine sector influence the geographical distance of where a horse was sold on to* (N=476)

Test Statistics[a,b]

	How would you describe yourself?
Chi-Square	13,334
df	5
Asymp. Sig.	,020

a. Kruskal Wallis Test

b. Grouping Variable: To how far away from their hometown did leisure horse owners sell on their horse?

Table 4.16 Distribution of all responses to the question *Does the position of the owner in the equine sector influence the geographical distance of where a horse was sold on to* (N=476)

How far away from their hometown did leisure horse owners buy their horse?	Professional horse owner	Leisure horse owner
Within town	7.0% (N=8)	2.5% (N=9)
Within county	28.1% (N=32)	32.0% (N= 116)
To neighbouring county	22.8% (N=26)	25.1% (N=91)
Within Great Britian (same country)	26.3% (N=30)	30.1% (N=109)
Within Great Britian (other country)	10.5% (N=12)	9.1% (N=33)
Abroad (inside Europe)	5.3% (N=6)	1.1% (N=4)
Abroad (outside Europe)	0% (N=0)	0% (N=0)
Total	100% (N=114)	100% (N=362)

Fig 4.27 Outcome test statistic and significance level of the question *Is there an association between the time the horse owner has owned horses him/her self and whether they have sold a horse or not* (N=534)

Test Statistics[a]

	For how long have you owned horses yourself?
Mann-Whitney U	18656,500
Wilcoxon W	44991,500
Z	-9,490
Asymp. Sig. (2-tailed)	,000

a. Grouping Variable: Did you ever sell a horse?

Table 4.17 Distribution of responses to the question *Is there an association between the time the horse owner has owned horses him/her self and whether they have sold a horse or not* (N=375)

For how long have you owned horses yourself?	Did sell a horse	Never sold a horse	Total
Less than 6 months	0.3 % (N=1)	2.9% (N=11)	3.2% (N=12)
6 months-1 year	0% (N=0)	5.9% (N=22)	5.9% (N=22)
1-2 years	1.9% (N=7)	4.8% (N=18)	6.7% (N=25)
2-5 years	6.1% (N=23)	11.2% (N=42)	17.3% (N=65)
5-10 years	14.4% (N=54)	13.3% (N=50)	27.7% (N=104)
10-20 years	24.8% (N=93)	14.4% (N=54)	39.2% (N=147)
Total	47.5% (N= 178)	52.5% (N=197)	100% (N= 375)

Fig 4.28 Outcome test statistic and significance level of the *question Is there an association position the horse owner has in the equine sector and whether they have sold a horse or not* (N=610)

Test Statistics[a,b]

	For how long have you owned horses yourself?
Chi-Square	32,827
df	9
Asymp. Sig.	,000

a. Kruskal Wallis Test

b. Grouping Variable: How would you describe yourself?

Table 4.18 Distribution of responses to the question *Is there an association between the position the horse owner has in the equine sector and whether they have sold a horse or not* (N=631)

Profession	*Yes*	*No*
Professional rider/trainer	76.67% (N=23)	13,33% (N=4)
Breeder, trader or stable owner/manager	85.71% (N=12)	7.14% (N=1)
Leisure/recreational use only	44% (N222)	40.48% (N=204)
Owner of horses, that are on loan	28.56% (N=2)	57.14 (N=4)
Equine chiropractor, saddle fitter and instructor	0	0
Equine veterinarian/nurse	0	100% (N=1)
Equine student (and leisure rider)	100% (N=1)	0
Showing horses (leisure)	61.54% (N=8)	15.38% (N=2)
Leisure, but work in breeding / at yard as well	66.67% (N=4)	16.67% (N=1)
Leisure, previously worked in equine sector	75% (N=3)	25% (N=1)
Professional rider/trainer and leisure/recreational use only	71.43% (N=5)	28.57% (N=2)
Professional rider/trainer and breeder, trader or stable owner/manager	42.86% (N=3)	14.29% (N=1)
Professional rider/trainer and owner of horses, that are on loan	0	100 % (N=1)
Professional rider/trainer, breeder, trader or stable owner/manager and leisure/recreational use only	100% (N=2)	0
Professional rider/trainer, leisure/recreational use only and owner of horses, that are on loan	0	100% (N=1)
Breeder, trader or stable owner/manager and leisure/recreational use only	100% (N=9)	0
Breeder, trader or stable owner/manager and owner of horses, that are on loan	100% (N=1)	0
Breeder, trader or stable owner/manager, leisure/recreational use only and owner of horses, that are on loan	100% (N=4)	0
Leisure/recreational use only and owner of horses, that are on loan	46.15% (N=6)	46.15% (N=6)
Total	N = 305	N= 229