

A Report on
Child Safety and Dog Attacks

Ursula Bennett
Holly Snape
David Swain

Department of Societies and Cultures
Faculty of Arts and Social Sciences
The University of Waikato
Hamilton, New Zealand

2000

This 1999-2000 Summer Research Scholarship report was funded by the
Child Accident Prevention Foundation of New Zealand

Executive Summary and Recommendations

The research investigated the issues involving dog attacks on children, specifically by dogs known to the child. The report identifies the circumstances and conditions which may result in an attack by a family dog. This report provides research-based recommendations to reduce the incidence and severity of dog attacks on children. To accomplish this objective a qualitative approach was applied, including examination of both New Zealand and overseas research on this issue.

The methods employed to achieve the objectives included an examination of the available literature pertaining primarily to dog behaviour and child development. Other approaches comprised meetings with expert informants, an investigation into relevant New Zealand statistics, an examination of media articles, self-selected interviews and findings from questionnaires that were distributed to selected veterinary clinics throughout our target area. The Waikato and Bay of Plenty regions were selected as base for the research due to monetary and time restraints. The findings from the above methodologies were analysed to provide the basis and support for the following recommendations.

The recommendations include:

- **Caregivers should always supervise children around dogs.**
Young children should be supervised at all times when in the company of dogs. This applies to both familiar and unfamiliar dogs.
- **Caregivers should ensure the appropriate hierarchy is established in the household.**

As domestic dogs perceive the family in terms of a hierarchical 'pack', caregivers must make sure that the hierarchical order is resolved appropriately, ie. that the dog 'knows its place'.

- **Caregivers have a responsibility to teach children about dog behaviour.**

Children are not born with the ability to interact correctly and safely with domestic dogs. Thus it is the responsibility of the caregiver to ensure the child is educated with suitable information regarding dog behaviour, graduated according to the child's developmental stage.

- **Caregivers should ensure that dogs attend obedience classes.**

Obedience training socialises dogs with other dogs, people and unfamiliar situations. This is essential in nurturing a well balanced, friendly dog.

- **Meet the puppy's parents before adopting**

As aggressive behavioural problems can be inherited genetically, it is important to research the background of the puppy to ensure it is not genetically aggressive. If this is not possible, potential dog owners should familiarise themselves with the dog, before adopting, to gain a sense of the dog's nature.

- **Caregivers must learn about dog breeds before adopting a dog.**

Dogs were bred for a variety of specific purposes, so it is imperative that potential owners investigate the breed of dog before adopting.

- **Primary school age children must learn to interact appropriately with dogs.**

Older children are more capable of interacting appropriately with domestic dogs. They must exhibit the ability to act responsibly with the family dog before they are left unsupervised with their pet.

- **Treatment of the dog**

Dogs should be treated with affection and attention. If this affection is transferred to a new family member (for example a baby) the dog may act out aggressively.

- **Introducing new babies or children to the household**

When a new baby is introduced to the household, the dog should be given time to become accustomed to the change and caregivers must ensure the dog is still receiving adequate attention and affection.

- **Hospitals should keep adequate records of dog attacks on children.**

Statistical records should be gathered in order to establish an understanding of the extent of the issue of dog attacks on children.

- **Schools and Kindergartens should run a session on child safety around familiar and unfamiliar dogs**

Children require adequate education on dog safety. As many children do not live with dogs they may not receive the information at home necessary to keep them safe with dogs. Schools and kindergartens can provide this instruction.

- **Child Accident Prevention Foundation provide on-line information on child safety with familiar and unfamiliar dogs.**

On-line information would provide those with access to the internet appropriate information on dog safety.

- **A booklet containing all the relevant information regarding child safety and dogs.**

A complete guide regarding dog safety and children should be made available to the general public.

It is hoped the serious nature of this issue is considered by local authorities, hospitals, schools, experts in child and animal behaviour and caregivers. The measures proposed

are practical and economically viable preventative strategies with the potential to minimise the risk of dog attacks on children.

Acknowledgments

The researchers would like to acknowledge the following, whose input and support throughout this research have been fundamental in the production of the report.

We would like to acknowledge Associate Professor David Swain for his contribution to this report. Your flexibility and supervisory expertise have been essential during the course of this project. We are sorry that during this research you suffered an injury as a result of a dog 'attack' and hope the recommendations in this report prove to be useful in future situations.

We would like to extend a thank you to the University of Waikato, particularly the Department of Sociology and Social Policy, for providing support and unlimited access to resources.

We would like to thank the expert informants who met with us and provided us with the information necessary to produce this report. To Bark Busters for their unlimited generosity and time, Hamilton City Council for their advice and consultation and Waikato Canine Obedience for their assistance, we appreciate your support throughout the duration of this research project.

To the key informants who participated so willingly in the research. Thank you for your time and input. This proved to be essential in producing a balanced research report.

To Robyn Caulfield for going out of her way to seek information to assist in the production of this report. Your interest in our research was much appreciated and your investigatory skills proved useful in gathering the initial information.

We would like to extend a thank you to Anne McQuoid for initially highlighting the necessity for research into this issue. We would also like to acknowledge your ongoing support and contributions to this research.

Thank you Scott Forbes for providing technical assistance and for sacrificing your weekends over the last few months. We appreciate your commitment to our cause.

And finally, to the Child Accident Prevention Foundation of New Zealand, without whom this research would not be possible. Thank you for your faith and support in a topic that has received much media attention but very little substantial research. We hope the outcomes of this research prove to be beneficial to your needs.

Table of Contents

Executive Summary and Recommendation	i
Acknowledgements	v
Table of Contents	vi
1. Introduction	1
2. Methodology	4
2.1 Introduction	4
2.2 Literature Review	4
2.3 Fieldwork	5
2.3:1 Expert Informants	5
2.3:2 New Zealand Statistics	6
2.3:3 Key informants	6
2.4 Recommendations	8
3. Literature Review	9
3.1 introduction	9
3.2 Media	9
3.3 Dogs	10
3.3:1 History of the Canine	10
3.3:2 Canine Communication	11
3.3:3 Socilaisation	12
3.3:4 Impact of Owner Attitudes	13
3.3:5 Genetic Factors and Breeding	15
3.3:6 Reasons that Dogs Bite	17
3.4 Children	19
3.4:1 Introduction	19
3.4:2 Why Children are at Risk	19
3.4:3 New Borns	20
3.4:4 Toddlers	21
3.4:5 Pre-school	22
3.4:6 Primary School Age	23
3.4:7 Benefits of Children Having Dogs	24
3.5 Review of Children's Literature	24
4. Fieldwork	26
4.1 Expert Informants	26

4.1:1 City Council and Policy	26
4.1:2 Expert in Child Development	28
4.1:3 Canine Behaviourist and Trainer	28
4.1:4 Obedience Trainer	30
4.2 New Zealand statistics	31
4.3 Key Informants	32
4.3:1 Media Articles	32
4.3:2 Interviews	35
4.3:3 the Questionnaires	38
5. Recommendations	41
5.1 Caregivers	41
5.2 Children	43
5.3 Safety Recommendations	44
5.4 Overall recommendations	45
6. Conclusion	48
References	50
Appendix One	54
Appendix Two	55
Appendix three	56

1. Introduction

All dogs have the capacity to bite, and children are most at risk of a dog attack because of their size, motor skills, knowledge and level of interaction. Children are more likely to be bitten around the face and head, making them more susceptible to a permanent injury or fatal attack. Young children are not born with an innate ability to interact safely with domestic dogs and thus it is the responsibility of adults to ensure that children are safe when co-existing or associating with canines.

As children are at greater risk of being attacked by a familiar, rather than a strange dog, this research report will investigate dog attacks on children specifically in reference to dogs known to the child. The primary objective of this research is to provide recommendations that can be implemented by caregivers, children and child-care establishments to minimise the risk of a child being bitten by a dog and as a result, reduce the amount of dog attacks on children. Adults are the primary target group of this research as they have the responsibility to ensure the safety of children around dogs. Young children do not have the capability to understand all the issues covered in this research as they are dependent on the supervision and guidance of their caregivers.

Media articles highlighted dog attacks on children as a salient issue. This was corroborated by a literature review into the behavioural characteristics of domestic dogs, the significance of adequate socialisation and genetic factors. Through investigating these areas we were able to provide an understanding of the conditions that may lead to aggression in dogs. A second component of the literature review examined the different developmental stages of children. This was intended to illustrate the capabilities of children to interact safely with dogs at different stages of development. It was necessary

to investigate the two areas independently due to a deficiency in literature concerning the relationships between children and dogs. A final component of the literature review involved an analysis of children's books to ascertain the kinds of messages to which children were exposed. This highlighted that children were often misinformed about dog behaviour and interaction, misleading children with dangerous messages that may ultimately place them in greater danger of a bite or attack.

The results of the three dimensions of the literature review were substantiated in meetings with experts in dog behaviour, child development and policy. As much of the literature was based upon overseas research, it was necessary to establish a New Zealand context to ensure the information developed in the literature review was consistent with the New Zealand experience of dog attacks on children. Expert informants also highlighted that the necessary information regarding child safety around dogs is available but not generally accessible in New Zealand. The expert informants were only able to advise clients on issues within their field of expertise. A more comprehensive understanding required that caregivers take the initiative to investigate the fragmented information available on the issue.

The key informants provided an understanding of the knowledge possessed concerning child safety and dogs and the actual practices executed by caregivers and dog owners regarding this issue. This also assisted in developing a New Zealand context. The purpose of this part of the research was to establish the areas of dog safety that required specific attention since these would provide the basis for grounded recommendations. In-depth interviews and questionnaires were employed as a means to procure the above information. A final component of the key informant section involved a review of newspaper articles. This provided clear examples of the way this issue is shaped for the public by media reporters.

A number of recommendations have been developed within this report. These have been identified and then elaborated upon to ensure the reader is aware of the theoretical and

practical foundation of each recommendation. The recommendations have been organised into categories specific to caregivers, children, schools and child safety establishments. This section also emphasises the necessity for extensive research into this issue due to the severity of the topic. Such research is also essential as New Zealand based information regarding dog attacks on children is limited and currently is not readily accessible to the public in one inclusive report.

2. Methodology

2.1 Introduction

The objective of this report was to investigate the incidences of dog attacks on children, in particular dogs known to the child. The purpose of this was to identify preventative measures that caregivers may employ to reduce the amount of dog attacks on children. To actualise this objective the researchers applied various methods to obtain a variety of data to clarify the above issue. Through combining the literature with detailed fieldwork we were able to gauge the extent of public knowledge of the issue and common misconceptions regarding dogs and children. Interviews with expert informants also supplemented the literature search by providing detailed knowledge on child and dog behaviour and policy issues. Combining these methods we were able to formulate grounded recommendations based on the information procured.

The Waikato region was selected as the primary focus of the investigation. This was due to the location of the researchers, time restraints and an initial media search which identified that dog attacks were frequent in the Waikato region. The Bay of Plenty was used as a secondary district to provide data complementary to the initial investigation.

2.2 Literature Review

A literature review was undertaken to collect and explore relevant data in regards to dog attacks on children. This provided the initial basis of the research and a foundation on which to develop the recommendations. The review also brought to light inconsistencies and gaps in the literature, and directed the approach of the fieldwork.

As literature concerning dogs and children was limited, it was necessary to investigate the two areas independently. The first stage involved a literature review examining dog behaviour and aggression. The literature covered national and international research regarding ancestry, socialisation, canine management and genetics. This provided an outline of conditions that may lead to aggression in dogs and also served to produce a basis regarding recommendations for caregivers.

Secondly, material on child development was explored to illustrate the progressive stages of learning, comprehension and exploration in children. This was undertaken to reveal children's developmental stages, indicating their capabilities and understanding of animal behaviour. The purpose of this was to determine the ways that children interact with dogs known to them and to identify the awareness of children, at different ages, in regards to safety around dogs.

The final component of the literature review involved an analysis of children's books to ascertain the kinds of messages to which children are exposed. This was considered an essential factor as children's books are a fundamental component of their learning and development. Undertaking such an analysis assisted in formulating an impression of the kinds of messages they receive and as a result, recommendations were based upon that information. Once the information was collated, the three sections were synthesised to construct an account of conditions that may lead to attacks by dogs on children.

2.3 Fieldwork

2.3:1 Expert Informants

Expert informants were approached providing valuable information for the research. The Hamilton and Christchurch City Councils offered information on dog control in their regions. A meeting with the Dog Control Officer at the Hamilton City Council involved a

discussion of the current policy concerning dog control in New Zealand and clarification of the term 'dog attack'. This meeting also included a review of current policy and a discussion on the information that the Council provides for the wider community as well as proposals for further educative practices.

Specialists in animal behaviour and training were also contacted to reinforce further the information that was developed within the literature review. Experts in the field of child development were contacted to supplement the literature on the developmental stages of children.

2.3:2 New Zealand Statistics

An investigation into New Zealand based statistics was undertaken to identify the extent of this issue. ACC records, New Zealand Statistics and City Council records were explored in an attempt to locate reliable statistics regarding dog attacks on children. Once these avenues were exhausted, the Waikato police and regional hospitals were contacted where we were informed that no specific statistics exist in New Zealand regarding the number of dog attacks on children. However, overseas research indicated that dog attacks on children were common (refer to Literature Review), and that children were more likely than adults to suffer severe injuries as a result of a dog attack.

2.3:3 Key Informants

An examination of media articles was undertaken to provide us with an understanding of the way that dog attacks are framed in New Zealand. As much of the literature is limited regarding dog attacks on children in New Zealand, it was also necessary to interview people who possess first hand experience with dogs and children. Thirdly a decision was made to construct a short questionnaire to deposit in veterinary clinics to gather information from a self-selected sample to contribute to a picture of what people understand about dog behaviour and the sorts of practices in which caregivers engage

regarding children and dogs. The purpose of combining these three elements was to ground the research from a New Zealand perspective and to obtain an understanding of the knowledge, within the wider community, regarding dog safety and children.

Media reports were examined to determine the significance of the issue and to ascertain the representation of dog attacks through media coverage. Fifty-nine articles that appeared in newspapers between 1998 and early 2000 were analysed thematically. The articles were located using the on-line data base Newztext INL at the University of Waikato. Newspaper reports identified the severity of attacks, the breeds of dogs involved, and consequences of the dog attacks.

To obtain a sample of interviewees we approached local newspapers to print a story on the research (see Appendix). Volunteers, who had experience or knowledge in this area were invited to participate in the research. Seven people contacted us as a result of the articles and were then interviewed at a location of their choice to ensure a comfortable atmosphere.

The interviews followed a semi-structured interview format to procure detailed qualitative data. An interview itinerary listed broad points of discussion that were intended to standardise, rather than shape, the direction of the interviews (see Appendix). The interviews were recorded on tape and later transcribed into interview summaries. The interview summaries were brief synopses of relevant material from the interviews.

A questionnaire regarding child safety around dogs was compiled (see Appendix). One hundred of these were printed and distributed among veterinary clinics. Six of these were Hamilton based and two were based in the Tauranga district. The questionnaires were composed of twelve closed questions and one open ended question. They focused broadly on the practices of caregivers concerning children and the family dog(s). Twenty-one completed questionnaires provided valuable insight into the practices, interactions and recommendations of the general public.

2.4 Recommendations

The methods applied within this research were first organised and examined independently utilising the appropriate means of analysis. The literature search was analysed thematically to form the basis of the research, with the interviews being summarised and used to supplement the data. The questionnaires were applied in a similar manner to the interviews, having been collated before being examined. These key informants provided their understanding of this issue, often illustrating common misconceptions regarding dog attacks on children. Expert informants were contacted through telephone conversations and meetings. They provided experience and knowledge concerning New Zealand based practices of dog safety issues.

The recommendations were based upon the results of the various methodologies. These were formed into practical suggestions for caregivers and children to apply within their homes, at school and within the wider community. On researching this topic it also became apparent that few studies had been undertaken on this issue. Thus suggestions for further research were also highlighted.

3. Literature Review

3.1 Introduction

Newspaper articles have identified dog attacks on children as a serious issue in New Zealand. Domestic dogs bite for a variety of reasons. Children are particularly at risk according to overseas research which contends that a disproportionate number of children are victims of dog attacks. This literature review will examine overseas and New Zealand research to illustrate factors that may lead to a dog attack on a child. The research showed that most dog attacks are the result of misunderstandings of canine communication, inadequate socialisation, poor owner attitudes, genetic factors and dominance or behavioural issues. A literature search into the development and behaviour of children will illustrate the sorts of behaviours at different life stages that may place children more at risk of a dog attack. Finally, an examination into the messages portrayed in children's book was undertaken. While some of the children's books were informative, the majority personified dogs, conveying an inappropriate message to children.

3.2 Media

Newspaper articles have identified dog attacks as a salient issue. Dog attacks on children have received public attention as a result of numerous articles which often sensationalise the issue. The media have highlighted the need for caregivers to be informed about the risks children face in regards to their family pet. They have identified the frequency of dog attacks and drawn attention to the injuries that a dog has the potential to inflict. For example, *The Evening Post* informed readers that "A dog attacked four-year-old Turangi boy ... and bit off the child's right ear." (NZPA 1998 p 2) *The Daily News* recounted the injuries suffered as a result of a dog attack on a three-year-old. The child sustained

“lacerations around her cheek, upper lip and under one eye.” (Gault, 1998 p 1) The enormity of the problem, as indicated by the media, identifies a need to initiate educative and realistic measures to minimise the risk of dog attacks on children.

3.3 Dogs

3.3:1 *History of the Canine*

The relationship between humans and dogs was well established over ten thousand years ago; however, dogs were not bred as pets until the nineteenth century (Thorne 1992). It is widely accepted that the domestic dog evolved from a wild canine (Thorne 1992). Evidence identifies the wolf as the most likely candidate of ancestry (Nott 1992); however, the exact ancestor of the domestic dog is unknown. The reason that domestic dogs are identified as relations of domesticated wolves is that they share very similar behavioural patterns and instincts (Nott 1992, Scott & Fuller 1965). The owner’s property becomes a ‘den’ to the dog in the same way a wolf would perceive its home (Fuller and Scott 1965). Just as the wolf marks its territory around a den, the domestic dog will mark its territory around its owner’s property. The dog forms close relationships with family members in the same way that a wolf does with its pack. The domestic dog will thus understand its human house-mates as members of a pack with a leader and subordinate.

The significant factor of the domestic dog’s ancestry is that they evolved from wild canines. They still possess the characteristics, general biology and instincts of wild predators, and under particular conditions these traits may surface at the expense of a family (or ‘pack’) member. As a dog does not possess the ability to perceive the complex social relationship of a family in ‘human’ terms, it is necessary for owners to begin to understand the dogs perception of the ‘pack’, and the way each member of the family fits into the pack. Understanding that every domestic dog possesses many of the same behavioural patterns of a wild canine, and some of the biological attributes of their

ancestors, is the first step in learning to be safe around a dog, and more importantly, the first step in teaching children the correct ways to behave and interact with their family pet.

3.3:2 Canine Communication

Domestic dogs communicate in three specific ways; visual, auditory and olfactory. Direct eye contact is interpreted as an act of aggression by a dog. A subordinate will be the first to break the eye contact (Bradshaw and Nott 1995; Nott, 1992). When a dog initiates a competition of holding eye contact this may be interpreted as a challenge. If a person continues to hold eye contact after the dog has looked away, this may be perceived as threatening and may lead to a seemingly unprovoked attack (Bradshaw and Nott 1995). If one makes direct eye contact with a dominant dog, the dog will hold the eye contact and may reinforce its position by baring its teeth and growling (Nott 1992). The posture of a dog also conveys a visual message. A dominant dog will stand erect with its ears pricked and head held high. Subordinate dogs will drop their heads, lower their tails and will position their body low to the ground (Nott 1992). A dog's tail is expressive, conveying a variety of messages. However, as the messages expressed by a wagging tail may be difficult to discern without formal instruction, it is unrealistic to expect a child to interpret the dog's disposition or intention this way (Wilson 1997). As Scott and Fuller explain, often the message being conveyed by the dog is misunderstood by humans.

When a dog jumps up with extended paws and wagging tail, most adults recognise this as 'friendly' behaviour, but a small child may be frightened by it. When a dog advances with tail held erect and wagging slowly... an inexperienced person may conclude that the dog is trying to be friendly. Only close observation of such behaviour between dogs reveals that this latter pattern usually precedes a fight. (Scott and Fuller 1965 p 84)

Auditory communication is manifested through a variety of sounds. A submissive dog will whine or whimper while a growl can be interpreted as a sign of contempt. The message conveyed by a dog bark can be unclear and may represent a number of different

emotions. A bark may be a greeting or a warning, it may be a call for attention or a defensive sound. It is often difficult to discern the message being conveyed through a bark until this form of communication is coupled with the physical posture of the dog (see above).

As domestic dogs use their sense of smell to identify people, objects and places (Bradshaw and Nott, 1995), children need to be taught how to react when a dog investigates them. Whether this is the family pet, a friend's or relative's dog, or a stray, children must be instructed to stand still with their hands at their side while a dog smells their scent. Sudden movements or running may frighten the dog or initiate a 'game of chase' putting children in real danger of an attack or bite. If, while a dog is sniffing a child, the child is knocked off their feet, they must be taught to react by curling into a ball and covering their head and face. The dog may misinterpret the child's attempt to stand as aggressive or challenging and thus react by attacking. A child may easily be frightened by a dog that is attempting to smell them, whether the child is familiar with the dog or not and thus must be taught the appropriate reactions to reduce the risk of unintentionally exciting, challenging or frightening the dog (Wilson 1997).

3.3:3 Socialisation

The socialisation period is a primary period in regards to teaching domestic dogs appropriate behaviour and developing healthy social relationships (Nott 1992).

The period of socialisation is critical, since it determines what species and individuals will become the chief adult relatives of the puppy. (Scott and Fuller 1965 p 111).

The socialisation period begins at roughly three weeks of age and continues until the puppy is ten weeks old. During this time the puppy will begin to interact with other puppies and the wider environment. Nott (1992) asserts that

Throughout the socialisation period play becomes more and more elaborate as the puppies learn what is and what is not acceptable social

behaviours from their interactions with each other and their mother. In addition, dominance and subordination experienced during play may help the puppies to accept social rank differences between dogs during later life. (p 67).

Interaction with people during this period, particularly when the puppy is four to eight weeks old, is crucial to the healthy development of the puppy. Puppies should be exposed to a variety of conditions during this period to familiarise them with possible future situations (Jennens and Raine 1992). This helps to reduce the potentiality of fear in dogs which can result in aggressive behaviour towards people and other animals. As Roberinson (1992) asserts,

Training should also include adequate socialisation so that from an early age a dog learns to respond in a friendly manner to children, other dogs and friends of the owner, and does not assume leadership of the human pack. (p 139).

The social relationships and experiences that the puppy encounters during this period is believed to have a lasting effect on the behaviour of the dog (Nott, 1992; Scott and Fuller, 1965).

The process of socialisation in dogs does not completely cease after this specific period. Dogs require ongoing supervision and training to establish and maintain appropriate patterns of behaviour and interaction (Scott, 1968; Scott and Fuller, 1965). While the socialisation period is critical in introducing and familiarising puppies with new situations, it is crucial that owners continue training the dog to interact and behave appropriately.

3.3:4 Impact of Owner Attitudes

The attitudes and knowledge of owners can impact significantly on the behavioural patterns of domestic dogs. Misunderstanding a dog's comprehension of the hierarchical structure of dominance in the pack and ignorance of canine communication may result in serious aggressive behaviour problems in dogs.

Owners may contribute to their pet's behavioural problems by forming inappropriate relationships with their dogs. Treating pets as 'substitute children' can mislead dogs into believing they possess a high position in the pack hierarchy. Children of the family may be 'challenged' or reprimanded by the dog as a result of the elevated hierarchical position the dog holds (O'Farrell, 1990). Dogs require strict rules and standards to ensure they understand that both the owners and the children retain higher status in the family 'pack'. Pandering to the desires of the dog may serve to confuse the dog's understanding of family member's hierarchical positions and lead to a preoccupation with dominance.

Dogs communicate through signals that are often similar enough to human signals to be understood by both. However, some significant differences in methods of communication may lead to misunderstandings. At approximately two years of age, dogs will begin to formulate an understanding of the hierarchy of the family and their relationship with each of the 'pack members'. At this point the dog may begin to 'test' members of the family in a variety of ways. Some tests are clear, for example, growling at family members who trespass on the dogs territory (around the food bowl or bed). The less obvious 'tests' can lead to serious misinterpretations. Dogs may bring a ball to a family member 'asking' that they play a game. By throwing the ball the dog has initiated the game and if the owner or child plays until the dog tires of the activity, the dog has ended the game. This 'test' can lead the dog to believe they possess a position above their companion as they have exhibited a form of control, the owner/child assuming a subordinate role.

Owners must educate their children about the 'tests' that dogs may administer to ensure that children respond in the appropriate way. They must also treat their dogs as a family pet rather than as a child to ensure that the dog is aware of their station within the family pack. Traditionally, dog owners have been perceived as responsible when they provide adequate housing, grooming and generally care for the dog. However, managing the dog's behaviour, socialising the dog correctly and monitoring the behavioural patterns of the dog are important factors in competent dog care. It is essential that dog owners learn

about the above and apply the correct procedures to minimise the risk of the animal developing an aggressive behavioural problem (Jennens 1992). Being a responsible owner

“...has been traditionally equated with health, welfare, housing,. grooming and formal obedience training, and not with socialisation, behavioural management and control... It is the social and behavioural responsibilities that are of concern... and there is an urgent need for the dog owner to be made aware of what these are and how to carry them out. (Jennens, 1992 p7).

3.3:5 Genetic factors and Breeding

The genetic make-up and breeding of a dog can have an influence on behavioural patterns (Stafford, 1996). Studies have shown that aggression can be inherited genetically and may be more common in specific breeds. Hormonal factors are also evident as unneutered male dogs generally display more aggressive tendencies than female dogs. Taking these factors into account parents can make informed choices regarding the breed and temperament of a potential pet.

Dogs have been bred for specific tasks across time and this has an impact on the broad behavioural patterns of specific breeds. For example, the bulldog "...was selected for a tendency to attack the nose of the bull and hand on instead of using the slashing attack from the rear as preferred by most wolves and dogs.." (Scott and Fuller, 1965 p 77) while "[t]he terrier breeds have been selected for their courage, ie., the tendency to attack prey and keep on attacking regardless of any injury suffered." (Scott and Fuller, 1965 p 77). The breeding of the dog which has isolated and strengthened specific traits may mean that some dogs are more suited to 'family life' than others. Parents looking to introduce a dog to the family should thus take into account the background of the breed to ensure the dog is suitable to interact with children.

Specific hereditary and genetic factors also influence the temperament and behaviour of dogs. For example, some English cocker spaniels have exhibited a rare phenomena referred to as 'rage syndrome' or 'low aggression', where individual dogs become suddenly and unpredictably aggressive for no apparent reason. Such occurrences may only be exhibited once in the dog's life time. This phenomenon appears to be more common in the black or red spaniels, suggesting a genetic basis for the behaviour (Nott 1992). Heredity factors can influence the development of social relationships between dogs and people. Scott and Fuller (1965) argue that heredity can impact on the developmental processes of puppies. They explain that "the majority of hereditary differences in behaviour are expressed as components of social relationships, either with other dogs or people." (Scott and Fuller, 1965 p 113). They summarise that "In general, the results show that heredity is an important quantitative determiner of behaviour in dogs..." (Scott and Fuller, 1965 p 378). However, as there is much genetic variation within any particular breed of dog, it is important that over-generalisations are not made concerning different breeds (Scott and Fuller, 1965). Rather owners, or potential owners, need to educate themselves on the broad genetic background of each breed before selecting the appropriate puppy.

Hormonal factors must also be considered in dog ownership. Evidence has indicated that unneutered males display more behavioural problems and have a higher preoccupation with dominance than neutered male dogs or female dogs. As O'Farrell (1990) claims, "In male dogs, dominance aggression directed towards human beings and other dogs, roaming and urine marking are more common than in bitches." (p 235). However, neutering aggressive dogs is not an assured means of reducing aggression (O'Farrell, 1990), thus owners need to ensure they purchase the appropriate puppy initially.

Parents who are intending to purchase a dog must also consider the kinds of experience they have regarding dog ownership. Willis (1995) argues that "Much trouble with aggression appears to stem from a failure to place *alpha* [dominant] dogs in the right hands. Most inexperienced owners do not know how to handle such animals..." (p 61).

Alpha dogs tend to be male and exhibit fixations with dominance. They can be aggressive and difficult to handle or train for an inexperienced owner.

Hart (1995) undertook a study to determine aggression in dogs by breed category. She found that among others the golden retriever, newfoundland, labrador retriever and collie rated low in the category "Snapping at Children". High ranking dogs such as the chow chow, miniature schnauzer, scottish terrier and pomeranian are not dogs immediately associated with aggression, thus it is essential that owner investigates information regarding any breed they are considering introducing into a household with children. As Nott (1992) asserts, some breeds are generally more dependant breeds and are often readily trained. She claims that this is a result of the breed's tendency to depend on their human pack for leadership.

3.3:6 Reasons that Dogs Bite

There are many different types of aggression of which owners must be aware. Understanding the sorts of conditions that may lead dogs to aggressive behavioural problems can equip owners with the tools necessary to prevent or reduce the likelihood of such problems emerging.

Genetic and hormonal factors contribute to aggression problems in dogs (O'Farrell, 1990). Some breeds exhibit a higher tendency towards aggression than others and intact male dogs are more likely to be aggressive. Evidence has also shown that spayed female dogs may initiate an increased tendency towards dominance and aggression (O'Farrell, 1990) Fear is another factor that can initiate aggression in a dog. If a dog is confronted with a situation with which they are unfamiliar they may react aggressively out of fear (Nott, 1995). Parents who are considering introducing a dog into the family must ensure the dog is socialised with children adequately to minimise this risk.

Dominance issues in dogs can also put children at risk. Dominance-related aggression is often directed at family members as the animal competes for a higher position in the pack (Serpell and Jagoe, 1995). This form of aggression is one of the more frequent behavioural problems in dogs (O'Farrell, 1990; Serpell and Jogoe, 1995). Dominance aggression can be recognised by the posture of the dog (see above), highlighting the need to understand the body language being expressed by the family pet.

Dogs will also bite or attack as a form of protection, either for themselves or another family member. If the dog perceives that a pack member is in trouble they may respond aggressively to that danger. Dogs will also fight to protect their food and for this reason, children should be encouraged not to approach a dog while it is eating. If the dog is feeling harassed or is hurt by a human they may also respond aggressively to protect themselves (Wilson 1997). This may be a particular risk for parents with young children who have not been taught to interact with the family pet properly.

Dogs play with each other using their teeth almost as child would their hands (Wilson 1997). Playing can aid in socialising a dog as they learn interactive behaviour and develop their communication skills (Nott 1992). However, as dogs perceive children in their household as pack members, the children may be at risk of an accidental or overexcited bite. Adequate supervision will minimise this risk.

Predatory aggression is another form of aggression of which parents should be aware. This aggression is usually directed towards other animals, assumed to be of a different species. "These attacks are often triggered by vocalisation and quick movement of the victim. They are not preceded by threats and a victim cannot prevent them by taking a submissive posture" (O'Farrell, 1990). One American study revealed that twenty percent of fatalities as a result of a dog attack were with sleeping infants (HSUS analysis of the 1989-90 fatalities: Lockwood, 1995).

Dogs will bite for many different reasons. Genetic and hormonal factors may mean a dog is predisposed towards aggression, however, environmental factors also contribute to the issue. As Lockwood (1995) asserts

...the likelihood that a particular individual will bite is also strongly influenced by many environmental variables including the training of the animal, the extent of its socialisation to people (especially children), the quality of the animals supervision and restraint, and the behaviour of the victim. (p 134).

By teaching children to understand the 'language' of the dog and by learning to follow simple rules, it is possible to reduce the likelihood of an attack, and create a safer atmosphere for both the child and the dog.

3.4 Children

3.4:1 Introduction

Children's ability to interact with dogs will depend upon their stage of development. As infants and toddlers, children do not yet possess the necessary skills to be left unsupervised with dogs. As children learn to follow basic rules and give simple commands, they are more equipped to interact safely with dogs. Caregivers must realistically consider the basic capabilities of both the child(ren) and the dog, in order to make well-grounded decisions regarding the level of interaction between children and dogs.

3.4:2 Why Children are at Risk

Children are particularly at risk of a dog attack. Langley (1991) argues that "those most at risk of injury requiring hospitalisation were children less than ten years of age." (p34). Dogs can cause serious injuries to a child and if children are not taught the appropriate ways to interact with a dog, they are in greater danger of suffering a dog bite. Jennens

argues that caregivers often assume that children are safe in the company of dogs that the child knows. "Parents often assume that children and dogs will always get along with each other, and are surprised when their own, neighbour's or friend's dog bites a child." (Jennens, 1992 p 6). Bandow (1996) asserts that "...children are more often bitten by their own dogs or those belonging to neighbours..." (p 478).

Holmes and Houpt (1993) state that "Aggression towards children is a serious matter because dogs are so frequently the cause of facial injury in children" (p 39). An Australian study noted that face and scalp injuries made up 61 percent of injuries sustained by children as the result of a dog attack (Animals, Community Health and Public Policy Symposium, 1998). New Zealand research by John Langley also supports the above contention that children are more at risk of sustaining head and face injuries in a dog attack (Langley, 1992). Langley, has produced the most relevant and specific data on dog attacks in New Zealand. He asserts that people may be socially handicapped as a result of a dog attack causing "...scarring of the face, possible eye damage or reduction of vision, given the number of injuries to the face and ocular adnexa which result in hospitalisation." (Langley, 1991 p34). This information is particularly pertinent to this study as children are a greater risk of having their face mauled by dogs.

3.4:3 *New Borns*

New-borns are in a potentially vulnerable position with the family dog. As well as being considerably smaller than most dogs, their inability to move a great deal makes them an easy target for a dog.

"No dog should ever be left alone in a room with a baby, nor should a baby be on the floor where the dog can reach it even when other people are present. A dog can kill a baby before the parent can cross the room."
(Holmes and Houpt, 1993 pp 38-39).

Babies' motor control and cognitive abilities have not fully developed and their larger heads can contribute to their limited mobility. They are extremely dependent on their

caregivers, relaying their needs through crying, as newborns are unable to communicate through complex language. Houpt (1993) states that “dogs could be reacting in a predatory fashion to [a] babies high pitched cries” (p39). Newborns are only able to see the detail of objects within 25 centimetres of themselves (Leech, 1998, p 131). Thus, if unsupervised dogs can get very close to the child before the baby even perceives the threat.

If the baby is born into a family that already has a dog, introductions are necessary. This involves familiarising the dog with the baby by allowing the dog to sniff him/her and commanding the dog to lie down when the baby is being fed or changed (Romeo, 1998 p 47). In doing this the caregiver is able to establish the appropriate hierarchy. Dogs will generally view a new additions to the family as part of the pack, therefore clarifying the baby’s dominant position in relation to the dog is essential (Romeo, 1998 p 46).

3.4:4 Toddlers

From approximately six months onwards, babies are beginning to move around, having more control over their motor skills. Language becomes an instrumental part of life and vision is more accurate. Their world has opened up and the home becomes a place of discovery. Toddlers will grab everything in sight and often physically taste the objects of their external environment. A child’s curiosity is not limited to fixed objects as the child will also be interested in the family dog. Holmes and Houpt (1993) assert that toddlers are inclined to pull on the dog’s fur, ears and tail and to take the dog’s toys and bones. When the child crawls up to the dog the animal perceives itself as having dominance over the child (Romeo 1998, p 46). Holmes and Houpt also claim that the height of toddlers also increases their risk of an attack. “Toddlers are most at risk because they make direct eye contact with the dog” (Holmes and Houpt, 1993 p 39) which is perceived as a threatening gesture (see above).

Toddlers can be particularly rough with animals. Dogs are generally tolerant of this behaviour but it cannot be assumed that this tolerance will continue. Morris (1995) stated that "the toddler has little sense concerning bodily safety" (p26) therefore it is the parent's responsibility to supervise the relations between the child and the dog. Boys in particular tend to be more raucous than girls which accounts for a higher number of attacks on boys. "In respect of aggression, it is well established that males pose more problem than females" (Serpell, 1995, p60).

3.4:5 Pre-school

Three-to-five-year-olds exhibit the ability to retain knowledge. Morris (1995) described this age group as having "an eagerness to learn about themselves, people, their culture, and the world they live in" (p 48) which includes dogs. They have no innate understanding of how to interact appropriately with dogs, and thus caregivers must teach children appropriate behaviour around family pets. Caregivers can arrange meetings where the children can become accustomed to the family pet under supervision, which also acts as a learning tool for caregivers who in turn can ascertain areas where problems might occur between the child and dog (Romeo, 1998). Children in this age group often learn through the actions and practices of other family members (Quilliam, 1994). As a consequence, children witnessing their caregivers playing boisterously with the dog are likely to engage in the same behaviour. Alternatively, caregivers who spend time interacting appropriately with their dog are sending a positive message to their children.

Children in this age group have more control of their motor skills than toddlers and as a result they can be more active, possessing a developing sense of self-awareness. Pre-school children may be harder to supervise as they want to discover their new-found independence and abilities. Caregivers must "discourage children from approaching a dog and doing other things that might be viewed as aggressive" (Romeo, 1998 p 47). An example of behaviour by children that could be considered aggressive is climbing on the dog, looking directly into the dog's eyes or teasing the animal with food or objects.

Teasing dogs can be particularly dangerous. As Jennens and Raine (1992) assert “Teasing dogs is similar to attack training them, but without having the control over the dog. It facilitates the aggression. Many dogs that bite have a history of being teased by family members or neighbouring children” (p 26).

3.4:6 Primary School Age

Children from ages five to ten have developed a heightened ability to learn. This is an ideal opportunity for caregivers to educate their children about dog behaviour and care. It is wise that parents who do not own a dog still educate their children about dogs regardless, as their children will encounter dogs in various situations. It is the responsibility of caregivers to determine appropriate safety practices around dogs, particularly if the child(ren) is more at risk of encountering a dog. Schools provide an opportunity for teachers to educate children on dog behaviour. This is an ideal situation for children who do not own a family pet to learn about the appropriate ways to interact with dogs.

Children in this age group are able to spend more unsupervised time with the family dog. Caution must still be practiced and it is recommended that caregivers still monitor the interaction between the child(ren) and the dog. However, if the dog has exhibited an aggressive behavioural problem, the animal should be fully supervised at all times when with children, regardless of the child’s age. Children like to exhibit independence from adults, often being uncooperative and refusing to conform to the requests of their caregivers (Morris, 1995). When the child is misbehaving, they should not be left unsupervised with a dog. However at this age children possess the capacity to carry out simple instructions with a dog, thus under specific conditions, they may be capable of interacting with a dog without parental supervision. It is important for caregiver to take into account the personality of the dog before leaving a child alone with the animal. A dog that possess a placid disposition may not pose as much of a risk as a boisterous or

dominant dog. While all dogs have the potential to bite or attack, caregivers must employ discretion based on their knowledge of canine behaviour.

3.4:7 Benefits of Children Having Dogs

There are many benefits for children who have dogs. Pets are seen to encourage the development of social skills in children. Roberinson (1992) asserts that

Pet ownership has be found to be beneficial for the social development of children. Guttman *et al.* (1985) showed that having a pet furthered a child's understanding of human non-verbal communication, and that pet owning children were more likely to establish social contacts than non-pet owners. (p 8).

This point is further substantiated by Hart (1995) who states that “[t]he experience of talking and playing with a pet, especially a dog, may educate a child in some of the subtleties of social relationships.” (p 167). Children can also learn patience and tolerance from their pets through interacting with their dogs (Cohen, Kilhan and Oates, 1989).

3.5 Review of Children's Literature

A review of twenty five children's book regarding dogs highlighted that in most instances children were exposed to negative and dangerous messages concerning dog behaviour. The canine subjects were often personified, performing human tasks and displaying human thought processes. Many popular children's books had dogs sleeping in beds, driving cars and conversing in English. For example

“When morning came Fred called on the phone. ‘Lets take a walk’, said Fred to Ted. ‘A good idea’ said Ted to Fred. ‘We can walk and talk’.”
(Eastman, 1973 p 19).

Where dogs were treated as a pet they were credited with human emotions and motivations for actions. For example,

“Benjy was still outside, more jealous than ever. Suddenly he had an idea... carefully Benjy picked up her cage... lifting it into the dustbin.”

(Graham, 1971 pp 7-8).

They were ridden like horses, and sleeping on the children’s beds. For example, ‘Spot’, a popular children’s book character, stays at his friend’s place, sleeping beside his friend on the floor, in a sleeping bag (Hill, 1990). These messages conflict with the literature on dogs which shows that domestic dogs must be treated and interacted with *as a pet* rather than as a substitute child. Personifying these animals may lead children to misunderstand their pets, placing them in a vulnerable position and increasing the risk of a bite or attack.

To allow dogs to sleep on children’s beds may confuse the dog’s sense of hierarchy, potentially leading to dominance behavioural problems. Normalising this activity through children’s books may also confuse children’s understanding of the relationships they have with their pets. Climbing on dogs can potentially hurt or aggravate the animal, possibly resulting in protective aggression,. If children are taught to relate to and understand domestic dogs in human terms though literary construction of these pets as human they are at higher risk of misunderstanding canine communication.

While many of the children’s books personified domestic dogs, others provided clear and positive information on dogs. These books, usually aimed at children over seven years, outlined dog behaviour and communication. they illustrated how dogs can make loyal companions but emphasised the need to maintain firm but kind dominance over the animals.

Children’s books can have either a positive or a negative effect on children’s understanding of and interaction with domestic dogs. Children must be educated about ways to interact with their pet in an appropriate way to minimise the risk of dominance and protective aggression.

4. Fieldwork

4.1 Expert Informants

Expert informants were contacted to gather information regarding policy on dog control, current practices in training animals and suggestions to minimise the risks of dogs developing aggressive behavioural problems. Expert informants included the manager of the Animal Control and By-Laws Unit at the Hamilton City Council, an expert in child development and professionals in canine training and behaviour.

4.1:1 *City Council and Policy*

The Dog Control Act, 1996 outlines the policy in regards to the control of dogs. The policy clearly defines the responsibilities of dog owners. They are held accountable for any inappropriate actions of the dog. A single attack could lead to the owner being disqualified from having any canine in their care and the title of 'dangerous dog' can be imposed upon the aggressive animal. This classification can be authorised on the grounds that evidence is provided proving the aggressive nature of the dog. The courts can action the destruction of the dog. Section 57(1) of the Dog Control Act 1996, defines the rights of a witnesses to an attack. They "...may forthwith either seize or destroy the dog" (New Zealand Statutes, 1996 p 207). Penalties that may be imposed on owners whose dogs have attacked include a fine of \$5,000 or three months imprisonment, or both, where serious injury has resulted (New Zealand Statutes, 1996). It is believed that many attacks go unreported as some owners are aware of the consequences outlined in the policy and thus choose to ignore the attack in order to protect themselves and their pet. Reports are likely to be lodged when an attack is by a strangers dog.

The manager of the Animal Control and By-laws Unit in Hamilton provided the definition of a dog attack as being any deliberate physical contact actioned by a dog that results in an injury, regardless of location of that attack.¹ However, people often provide their own definition of what constitutes an ‘attack’. Many people perceive an attack to involve mauling or causing grievous harm to the victim² and therefore, do not report the attacks that result in minor injuries. Thus number of attacks that do occur are not conveyed to the Animal Control and By-laws section of the Council so the extent of the issue is not properly represented. The Christchurch City Council have asserted that more often than not aggressive behaviour by a dog is left unreported until a serious accident occurs.

The statistics provided by the Hamilton City Council did not provide data specific to dog attacks on children. The only available statistics emphasised that 62 percent of dog attack victims were persons, both children and adults.³ It is important that the issue of dog attacks on children be taken more seriously in terms recording of statistical information. The use of such figures could provide evidence for the need to develop adequate educative assistance for children and improved information for parents.

It must be noted that the Hamilton City Council actively sends material regarding dog attacks to schools. This is carried out in October of every year and if no response is received the council sends pamphlets out again in November⁴. The Manager of Hamilton’s Animal Control and By-laws Unit stated that “children are dog owners of the next generation”⁵ therefore the Council is taking an active role in attempting to educate children about responsible dog ownership and appropriate interactions with pets and stray dogs. The Waikato District Council provide information to owners when registering

¹ From an interview with the Manager of the Animal Control and By-Laws Unit of the Hamilton City Council.

² From an interview with the Manager of the Animal Control and By-Laws Unit of the Hamilton City Council.

³ Statistics supplied by Hamilton City Council for the period of 1998

⁴ From an interview with the Manager of the Animal Control and By-Laws Unit of the Hamilton City Council

⁵ From an interview with the Manager of the Animal Control and By-Laws Unit of the Hamilton City Council

their dogs such as a user-friendly booklet outlining their rights and responsibilities regarding dog ownership.⁶

4.1:2 Expert in Child Development

Dr. Jenny Ritchie from the Department of Early Childhood at Waikato University has suggested to us that a child will begin to develop a code of expectations at about three years of age. At this time the child will begin to understand what they can and can not do, making them more receptive to educations and instructions regarding the family dog. Ritchie went on to add that a child does not begin to develop a sense of responsibility or the ability to make decisions on safety until they are approximately six to eight years old. Thus a child should not be left to interact with a dog unsupervised prior to this time. This information was consistent with the literature on stages of child development; however, Ritchie went on to specify that these stages of developments are broad generalisations. The ability of the child to engage in dog-safe behaviour will depend largely on the developmental stage of the specific child and the nature of the dog.

4.1:3 Canine Behaviourist and Trainer

A meeting with behavioural therapist and trainer Selena Holmes, of Bark Busters reinforced several salient issues concerning child safety around dogs. Holmes takes the view that children should not be allowed to reprimand or punish dogs. Young children are often perceived by an adult dog as retaining a similar position, in the family hierarchy, to a puppy. In a pack, an adult dog would never allow a puppy to reprimand an adult dog and a family pet will expect the same of a child. An adult dog may become aggressive if the child corrects the dog without the proper authority.

⁶ As initiatives will differ between Councils it must be noted that this information is specific to the Waikato region only.

Caregivers must be aware of simple 'testing' behaviours that dogs may exhibit, and act appropriately. For example, a dog should never snatch food from a child or enter a doorway before any member of the family as this encourages disrespect and reinforces the dog's dominant position. Holmes asserted that dog owners must not accept inappropriate behaviour from a dog. If poor behaviour is succeeded with the immediate appropriate response, behavioural problems are less likely to develop or become established. Owners should never hit or physically threaten their dogs as this may lead to further aggression. As Holmes explained "Aggression breeds aggression" and such disciplinary action can serve to exacerbate the problem, ultimately increasing the risk of a family pet attacking a child.

A domestic dog may also attempt to reprimand a child who is acting inappropriately. Holmes said "a dog will first give a warning growl, and if this is ineffective in producing the desired result, its next step may be a warning snap or bite. People smack with their hands and dogs smack with their mouths." Caregivers must be aware of the behavioural instincts of dogs in order to keep their children safe with family pets.

Parents should be able to remove food, including bones, from a dog while it is eating, without growling or becoming aggressive. this is because, "in the wild a more dominant dog would not share its food with a subordinate pack member. If the dog will not let a family member remove the food, it perceives itself as higher in the pack hierarchy. If a dog is food aggressive, the child is in greater danger if a bite in approaching a dog that is eating." Holmes asserts that dogs require proper socialisation and training to minimise the risk of dogs acting aggressively around food.

Holmes concluded that children and dogs should be supervised at all times. She asserted that all dogs have the potential to bite and in order to minimise this risk, young children should not be left alone with a dog.

Bark Busters also produces valuable resources that are available to the public. An educational video, aimed at children aged three to seven, instructs children in simple safety rules with dogs. Several books written by the founder of Bark Busters are also available, educating people on a variety of different aspects of dog behaviour and safety. As most children are likely to interact with a dog during some stage of their childhood, it is advisable that caregivers and schools invest in and utilise such resources to ensure children are equipped with the knowledge necessary to interact safely with dogs.

4.1:4 Obedience Trainer

An expert informant at Waikato Canine Obedience Club, suggested that dogs be included in the family. She asserts that as domestic dogs are pack animals, they need to be involved in the family 'pack'. This suggestion does not imply that dogs be treated as substitute children, but rather that they receive an appropriate amount of attention and affection. The spokesperson for the Obedience Club specified that many problems arise when young couples adopt a dog and later have children. When attention is transferred from the animal to the new-born, problems often develop as the dog competes for the affection that the child is receiving. Ensuring the dog is still included in the family and receiving the same attention as it was prior to the baby will minimise the risk of these problems developing.

Obedience training is also an important issue as many dog owners are unaware of the correct training procedures and basic canine behaviour. Training also socialises the dog with other dogs and people. The Obedience Club representative advised that children are not permitted to participate in the formal dog training procedures as they pose a greater risk due to their height and lack of strength in controlling the dog should a dangerous situation arise. Thus it is the responsibility of caregivers to pass the necessary information on to children.

4.2 New Zealand Statistics

Accident Compensation Corporation records were investigated for statistics on dog bites and children. The available records stipulated the type of injury and we were unable to ascertain the causes of the injuries. New Zealand Statistics were investigated to determine the amount of dog attacks on children. New Zealand statistics did not record this information. It was also hoped that these records would provide an indication of the number of registered dogs in New Zealand, however, this information was also unavailable.

Two local Hamilton police stations were contacted to discuss dog attacks reported to police. An exploratory search revealed that the police are not involved in offences concerning dog attacks, but rather, they are referred to Dog Control with the local City Council. Thus, no statistics were procured through the local police stations.

It was expected that hospital records would provide statistical data to analyse the costs that dog attacks incur upon the New Zealand health system. On contacting major hospitals in the region it became clear that this information is not recorded. Hospitals tended to record the nature of the injury rather than the cause.

Several City Councils (Tauranga, Hamilton, Christchurch) were also contacted to acquire statistics that indicated the number of children who are bitten by dogs in New Zealand annually. This information was also unavailable. Firstly, the statistics collected and retained by city councils indicated that 62 percent of dog attacks were on people, however, the data does not stipulate the age of the victim. Secondly dog control officers presume this percentage is based on under-reporting as minor attacks by family pets are believed to go largely unreported. The City Councils were also unable to provide statistics regarding the number of registered dogs in New Zealand. It was expected that this information would indicate the extent of the risk that children have regarding coming into contact with or coexisting with a dog.

Undertaking this largely fruitless search for New Zealand statistics resulted in frustration at the lack of information regarding dog attacks on children. It also raised questions regarding how caregivers are able to make decisions affecting the safety of their children when so little statistical evidence is available and accessible to the general public. As Jennens (1992) asserts, “A reliable dog bite reporting system that is inclusive of local authorities, doctors, veterinarians, hospitals and police, needs to be established” (p 14). With such a high proportion of reported victims being human and with estimations that the number of victims are much higher than the limited statistics indicate, the suggestion arises that nationwide statistics be collected and collated to ascertain the financial cost incurred by the health system and the emotional costs and risks of caregivers and dog owners concerning dog attacks on children.

4.3 Key Informants

Key informants provided us with an impression of what the public knows and understands about dogs and children. Media articles highlighted the ways this issue is represented to the public. In-depth interviews gave insight into specific experiences of dog attacks on children and the kinds of misinformation about correct dog handling procedures. Some interviewees also provided grounded suggestions regarding safety issues for dogs and children. Questionnaires were distributed to elicit information regarding what practices were employed by dog owners and caregivers regarding their children and dogs.

4.3:1 Media Articles

Classification of Breed

The media often sensationalise and misrepresent dog attacks on children. By framing dog attacks as a ‘breed’ issue, the media assist in adding to a complacency of many dog owners regarding their own dog’s breed. The media often frame breeds such as ‘pit bull terriers’ and ‘rottweilers’ as aggressive dog breeds. This kind of representation may lead

dog owners of other breeds to believe their own pets do not retain the potential to be as dangerous. It is also possible that such representation may lead dog owners of the designated 'dangerous' breeds to become defensive and thus less likely to take correct preventative measures ensuring dog safety around children.

A number of the media articles made assumptions regarding breeds of dogs involved in the attacks. This further implies that certain types of dogs are 'dangerous' as opposed to other 'safe' breeds. An example of this was highlighted in *The Press* (3 July 1998) where the dog involved in the incident was "believed to be a Rottweiler" (p 7). It cannot be assumed that only certain breeds of dogs attack. Jennens (1992) asserts that "The media highlighting certain breeds as dangerously aggressive leaves out the fact that any dog, including the family pet, can display acts of aggression." (pp 13-14) All dogs have the potential to bite and will attack under particular conditions (refer to Literature Review). This includes the 'typically docile' family pet. Dog owners have an obligation to provide sufficient training, socialisation plus the appropriate environmental conditions, especially when children are frequently present.

Sensationalising the Issue

The articles examined for the purpose of this study revealed that stories on dogs attacks contained titles and descriptions which sensationalised the issue. For example headlines such as "Child-biting dog put down" (The Evening Post, 27 July 1998 p 2) or "Dog sinks teeth into boy's face (NZPA, 26 August 1998 p 2) were frequent. The purpose of such headlines are to capture the attention of readers, regardless of possible consequences such as heightening people's fear of specific breeds through the use of stereotypes. The use of descriptions such as "shaken like a rag doll" (Humpheries, 1998 p 18) further reinforces these stereotypes. Portraying dogs through applying such an approach can serve to hinder the potentially beneficial relationships children could have with dogs. Instead the impression is given that only 'bad dogs' continually bite children.

Misrepresentation of the issue

The media articles focused primarily on the impact and consequences of attacks rather than identifying the conditions that lead up to the attack. For example an article in *The Southland Times* recounted an incident of a dog attack, on a child that resulted in the destruction of the animal. Descriptions such as “blood pumping from her son’s head” and “left him with skull and nose fractures” characterise the article (Allison, 12 February 1998 p 1). *The Dominion* published an article that described an attack on a young girl framing the incident with comments such as “the dogs tore at her body and arms” (NZPA, 15 April 1998 p 1). Rather than simply publishing information concerning the details and outcomes of a dog attack, newspapers could be used as an informative tool to educate their readers on why dogs attack, the circumstances behind the attacks and what could be done in order to prevent similar situations. In focusing on the sensational aspects of the story the emphasis is removed from safety issues and instead framed as a problem of a ‘dangerous dog’. Jennens (1992) identifies this as an issue, claiming that

“A preoccupation with describing the breed of dog involved in an attack may overlook the necessity of evaluating the dogs behaviour and history, and the circumstances of the incident, to find out why the attack occurred.” (p 4)

It must also be determined how much knowledge the child has regarding dog behaviour and ways to interact with dogs. All children, regardless of whether they have a family pet or not, need sufficient education concerning safety with dogs.

The sensationalisation of dog attacks on children by the New Zealand media contributes to a misunderstanding of the issue. All domestic dogs have the potential to cause physical harm to a child regardless of the breed of the dog. While the media construct dog attacks as a serious problem, they do not to provide a comprehensive outline of the issue and fail to educate readers on ways to avoid similar situations.

4.3:2 Interviews

Seven in-depth interviews were undertaken with key informants who had knowledge or experience of dog attacks, specifically in reference to children. The interviews provided insight into the kinds of information regarding child safety around dogs to which caregivers have access. They also highlighted the misunderstandings of canine behaviour and the consequences of such misunderstandings. Finally, the interviews gave insight into the essential programmes that are available to socialise dogs and to manage and retrain dogs that are exhibiting behavioural problems.

Training and Socialising Dogs

Each of the interviewees had owned many dogs. Most suggested that attending dog obedience classes was an essential factor in socialising and training their pets. Puppy school was also suggested as an option to socialise dogs early with both other dogs and people. Most of the dogs that attended a form of obedience school exhibited no serious behavioural problems. Three deviated from this norm. In each of these instances it seemed the dogs had genetically inherited the aggression, highlighting the need to meet both of a puppy's parents before adopting.

Access to Information

Many of the participants had read books about behaviour and dog breeds. These books were recommended by veterinarians and dog trainers. Books were located in public libraries and thus were readily available. In most cases the interviewees began to read about dog behaviour after an aggressive incident or evidence of a behavioural problem had developed. On reading these books the participants claimed they understood how the behaviour had developed. They felt that if they had access to these books prior to adopting a puppy or dog, the behaviour may have been avoided.

Most of the participants said that most of the information they received on dog behaviour and managing dominance or aggression issues came from veterinarians or dog trainers.

Perceptions on Why Dogs Bite

Four of the participants stated that dogs bite children because they have been teased or provoked. While this may be a contributing factor, it must be noted that if children are not taught the appropriate ways to interact with a dog, they may not be aware that their behaviour is upsetting for the dog. These interviewees also stated that dogs do not bite children unless they are provoked. This is an example of the misinformation possessed by some dog owners. Predatory aggression (see Literature Review) is not a result of provoked anger. Dogs may also unintentionally nip a child while playing. Dog owners must be aware that dogs will bite for a variety of reasons and children cannot be perceived as solely responsible for an attack.

When Aggression Occurs

Several of the participants spoke of contacting dog behaviourists when their pet's behaviour deteriorated. Visiting a specialist in dog behaviour proved to be valuable in each of these instances. They were given crucial information regarding sources of aggression and ways to establish healthy relationships with their dogs. The behaviourists highlighted how children may be at risk as the dogs had assumed a high ranking position in the family 'pack' expecting the children to assume a subordinate role and act accordingly. The animal specialists also educated these dog owners in the appropriate ways to approach the problem of aggression, retraining dogs to accept a subordinate role (refer to Recommendations).

Dog attacks on Children

The four dog owners who had specific experience with a dog attack on a child outlined the conditions that led up to the attack. One dog owner spoke of the one attack on a child that she had experienced. The child was supervised and was warned that the dog had a tendency towards aggression. The child continued to slowly pat the animal until the dog turned and bit his arm. A second participant recounted an incident that occurred to a toddler who was playing with a friend's dog. The child had pulled the dogs tail on several

occasions and was reprimanded by his mother. He pulled on the tail again and the dog reacted by biting the child on the face, causing permanent scarring. In a situation such as this, the dog should have been removed when the caregivers and dog owner witnessed the child pulling on the dog's tail. The two other dog owners described attacks that may have been avoided by supervising the dog and the child. During these attacks, the children were in a separate room, playing with the dog when they were bitten. These incidences were described as 'provoked', however, adequate supervision could minimise the risk of a 'provoked' attack as caregivers would have the opportunity to remove the dog before any aggressive reaction could result. As Seksel (1996) claims "People leave kids and dogs unsupervised together, and people really just don't know enough about the signals that dogs let out, and you can't expect a young child to do that." (pp 34-35)

Children need to be taught to respect and interact appropriately with domestic dogs. Each of the interviewees offered valid suggestions in regards to educating children on dog safety. Participants who had more experience with dogs (through attending dog obedience training and owning multiple dogs) suggested that potential dog owners investigate the puppy's parents before adopting. This is consistent with the literature which suggests that aggressive behaviour can be inherited.

Participants also made valuable suggestions regarding feeding and sleeping arrangements. Dogs should be fed after the children in the household and should not be encouraged to sleep on furniture or children's beds. These recommendations are based upon the dog's notion of hierarchy. Just as dominant members of a canine pack eat first, children should eat before, and in front of, the domestic dog to illustrate their dominant position in the family 'pack'. Sleeping arrangements define territory and a domestic pet should not be given the opportunity to become territorial over a child's bed or the family furniture.

A final suggestion to which many of the participants referred was to ensure that potential dog owners investigate different dog breeds and to consider the lifestyle they enjoy before adopting a dog. This is particularly pertinent for caregivers. A dog that has been bred to

herd or attack animals may exhibit these behavioural traits in the family. Some dogs make better solo companions while other breeds may suit a family environment. Dogs may also develop behavioural problems if they become bored so stimulation and exercise may be an important issue. Caregivers must consider what kind of dog would suit their family environment and lifestyle before adopting a pet.

Overall, the seven interviews highlighted that misconceptions and ignorance about dogs and dog behaviour can result in an attack on a child. Constant and full supervision of young children around dogs is necessary to minimise the risk of a dog attack. The interviews also indicated that those who had taken dogs to obedience training and learned about general dog behaviour were aware of simple steps that can be employed to minimise the risk of a dog attack on a child. Many of these were consistent with the literature on dog behaviour and with advice from expert informants. Enforced on a daily basis, these simple steps can aid in reducing the risk of a dog attack on a child (see Recommendations).

4.3:3 The Questionnaires

Although the questionnaires were distributed to two veterinary clinics in the Bay Of Plenty region, the response received was meagre, with only one completion. Both clinics were well established within the area, the questionnaires being easily accessible over a lengthy period of time. However, the Waikato region responded favourably to the questionnaires providing valuable information. Twenty-one completed questionnaires were collated.

The questionnaires provided valuable information because select people elected to complete them of their own accord. Those participants interested in the topic happily supplied valuable information. A definite interest in the topic was indicated as twenty of the questionnaires were taken home by customers. Of the one hundred distributed questionnaires, twenty-one completed forms were deposited in the collection box.

Contradictions in Dog Ownership and Safety

Participants, overall, had implicit trust in their family dogs, being confident that their children were equipped to behave safely around their pet(s). Yet a majority of caregivers have not pursued or received information regarding child safety around dogs, and a majority of family pets had not attended dog obedience training. However many responses relating to the open-ended question, regarding the vital factor concerning child safety and dogs, indicated that education was the key factor. Contradiction appeared regularly concerning what should be implemented and what indeed was practiced.

Dog and Child Safety Issues

Some principles concerning dog handling protocol are recognised to a greater extent than others. Responses largely indicated that the dog(s) were fed after the family as well as stating that control was sustained, prohibiting pets on the furniture. However, 95 percent of participants maintained that they permitted their children to occupy the same room as their dog unattended, having complete assurance of their child(ren)'s safety. Children are at risk when left alone with dogs, regardless of the animal's 'typically' good nature, being reliable and compliant (Wilson, 1997). By incorporating questions that tested dog owners understanding of the dog's perception of hierarchy we were able to ascertain that there is a limited knowledge of the hierarchy of the family according to canine understanding.

A notable proportion of respondents signified that their dogs became an addition to the family home after the arrival of the children. Only four participants had their dogs before the children were born. The disadvantage of having the dog first is that he/she would have established itself within the family home. A new arrival, without the appropriate preparations previously, will disrupt the entire foundation of the dog which may as a result test for hierarchy and assume dominance over the child(ren) to reassert it's position in the pack.

Canine Behavioural Problems

The responses indicated that overall, participants did not believe their dogs displayed behavioural problems. However two accounts of attacks on people were noted and six attacks on other dogs. The breeds included a diverse range, from those classed as 'dangerous' such as rottweilers and bull terriers, to 'placid' golden retrievers. A relatively even representation existed between owning male and female dogs, in fact 57 percent were female were as opposed to 43 percent of males. In general, female dogs are classed as less aggressive than males. Just under half of the participants' pets had been de-sexed which has been stated as a contributing factor towards less risk of dangerous behaviour (refer to Literature Review).

Understanding of the Dog's Pack Behaviour

It was indicated that the participants saw their dogs as part of their family, with only two deviating from this by recognising their family as part of the dog's pack. This highlights, largely, a lack of understanding concerning dog behaviour as dogs do represent the family as part of their pack. Treating a dog as family member is acceptable assuming it is remembered that we are perceived differently by dogs and thus accord them the appropriate behaviour. This can be achieved by establishing an appropriate hierarchy and an appropriate realisation of territory issues.

Safety Suggestions

Responses to the open-ended question on safety suggestions varied. A key factors illustrating the major concerns of participants concerning the issue of child safety and dogs included the necessity of seeking dog owners permission to approach their dog. This applied to dogs owned by people known to the children also. Only one questionnaire mentioned that children should not be left unsupervised with dogs, however the literature review illustrated this as a particularly significant issue. Many understood that a dog's basic needs must be met and that discipline and rules are important for the dog's development. Only two of the key informants chose not to respond to the open ended question.

5. Recommendations

5.1 Caregivers:

1. Caregivers should always supervise children around dogs

Babies and young children should never be left alone with a dog. Babies are in greater danger of becoming a victim of predatory aggression. Young children are less likely to have developed the skills necessary to interact safely with a dog. Caregivers of older children should ensure their children are capable of interacting with the dog responsibly and ensure the child is close enough that if intervention is necessary, it can be done promptly.¹

2. Caregivers should ensure the appropriate hierarchy is established in the household.

As dogs perceive the family as a hierarchy, caregivers must be aware of the actions they can employ to make clear to the dog the subordinate position that dogs must assume in the household. Feeding the dominant pack members first (that is, the children and adults) is an appropriate action to take to highlight the dominant position of children over the dog in the family.

To further establish the hierarchy in the family, dogs should not be encouraged to share sleeping quarters with children. Allowing the dog to sleep on beds and sit on family furniture can encourage the dog to assume they share equal status and may result in

¹ Refer to sections 3.4:3; 3.4:4; 3.4:5; 4.1:2; 4.1:3

territorial aggression. To avoid this, dogs should be offered alternative sleeping arrangements.²

3. Caregivers have a responsibility to teach children about dog behaviour

Children must be taught how to interact with dogs appropriately. They should be taught to avoid dogs while they are sleeping, eating or acting over-excited. Children also need to learn about the natural concept of hierarchy that dogs understand. Manipulating the 'tests' that dogs give to aid in establishing order in the family pack, will give children the advantage and reassert their dominance over the animal.

Children need to be taught about the behavioural instincts of a dog so they are in a position to interact with dogs safely. As dogs are descendants of wild canines they still possess many of the characteristics of their ancestors. They mark territory, establish hierarchy, and, if necessary, maim or kill to protect.

Canine communication is an essential aspect of understanding domestic dogs. Body postures, vocal sounds and body language communicate the nature, mood and thoughts of the dog. Caregivers need to educate themselves and then their children on basic aspects of this communication. For example, eye contact is aggressive in canine communication and children need to be taught to avoid prolonged direct eye contact with the dog as it may be interpreted as threatening. Teaching children about canine communication and behaviour will assist in providing them with the knowledge and skills necessary to avoid a dog bite.³

4. Caregivers should ensure that dogs attend obedience classes

By attending dog obedience the dog is socialised correctly and owners are given valuable information about teaching and controlling their pets. Caregivers can also pass on the necessary information to their children to ensure they are being taught the appropriate

² Refer to sections 3.3:4; 4,1:3

³ Refer to sections 3.3:1; 3.3:2; 3.4:3; 3.4:4; 3.4:5; 4.1:3

information regarding dog behaviour and techniques for interacting with dogs. Adequate socialisation and training will also reduce the likelihood of the family pet developing an aggressive behavioural problem.⁴

5. Meet the puppy's parents before adopting

As aggression can be inherited, it is essential that prospective owners ask to meet the parents of a puppy before they adopt. This is to ensure the parents of the dog do not exhibit aggressive behavioural problems that may have been passed genetically to the puppy. Many breeders, animal shelter workers and pet shop proprietors will help the prospective owners to select a puppy that will be congruent with an environment with children. Those planning on adopting a puppy should make the seller aware that the puppy will be joining a family with children. Many people who market dogs will also be aware of many important aspects of rearing dogs around children and prospective dog owners can utilise this opportunity to discuss these with the proprietor.⁵

6. Caregivers must learn about dog breeds before adopting a dog

As the breed of dog may impact on the kinds of needs and general behavioural patterns of the dog, it is essential that prospective owners find information on different domestic dog breeds. Again, many people who sell or place dogs and puppies will be in a position to pass on this kind of information, but as the seller has a vested interest, independent research may be a safer option. Many reputable breeders and shelter workers are willing to inform prospective buyers of the negative aspects of the breed.⁶

5.2 Children:

1. Introducing new babies or children to the household

In introducing a new baby to the household the dog should be allowed time to adjust and get to know the baby's smell. The dog should also be given the same amount of attention

⁴ Refer to sections 3.3:3; 4.1:4

⁵ Refer to section 3.3:5; 3.3:6

⁶ Refer to section 3.3:5

that they received prior to the addition. Babies can become victims of predatory aggression and protection aggression. Dog owners must be aware of this danger and ensure that the child is never left alone in a room with a dog and that the dog receives an appropriate amount of affection to avoid behavioural problems emerging.⁷

2. Primary school aged children must learn to interact appropriately with dogs

By the time a child reaches the age of 5 or 6 they should be able to understand and carry out simple rules with dogs. Caregivers may encourage children to interact with domestic dogs as this can develop the child's social skills. However, caregivers must learn to identify when the dog is placid enough to play or whether the dog's nature is appropriate to interacting with a child.⁸

5.3 Safety recommendations

1. Treatment of the dog

Dogs should be treated like dogs, that is, they should not be encouraged to sit on furniture or beds. However, dogs should also be treated as members of the family. That is, dogs are pack animals and need to be involved in the pack. They should receive adequate attention, affection and exercise. Failing to provide a dog with an appropriate amount of attention may lead to a dog developing a behavioural problem. Isolating a pet may lead to fear biting. Dogs should be encouraged to interact and play with children, but this must be facilitated, particularly with young children, and caregivers must ensure their children are aware and capable of acting in a responsible, dog safe way.⁹

2. Dog Obedience Classes

Certification of obedience training from any approved obedience training facility should result in financial incentives from local authorities. Registration fees could be reduced 5 percent if authentic certification is produced upon registration of the dog. This may assist

⁷ Refer to section 3.4:3

⁸ Refer to sections 3.4:6; 4.1:2

⁹ Refer to sections 3.3:3; 3.3:4; 4.1:3

in increasing the numbers of puppies and dogs that attend obedience training. As the research has shown, this could assist in reducing the number of dogs with aggressive behavioural problems and educate dog owners on appropriate ways to raise, train and socialise their dogs.

3. Schools and Kindergartens run a session on child safety around familiar and unfamiliar dogs

A one-hour plan should be drafted to teach children to be dog-safe. Obedience training personnel and kennel club representatives could be approached to inquire if they would provide information in the classroom free of charge, with a dog to educate children on dog safety issues. Children could be taught to the correct procedure if approached by a strange dog. They could be educated on ways to interact safely with dogs they know and basic communicative and behavioural characteristics of dogs. These programmes could be aimed at children of different ages.

4. Child Accident Prevention Foundation provide on-line information on child safety with familiar and unfamiliar dogs

Caregivers need access to information provided by a reputable child safety organisation to ensure they receive reliable information on child safety around dogs. At present there is limited information on this issue and much of the information is fragmented. Caregivers need a reliable source that will outline the complete issue and recommend the appropriate suggestions on ways to minimise the risk of a dog attack on a child.

5.5 Overall Recommendations:

1. Hospitals etc keep adequate records of dog attacks on children

Inadequate records regarding dog attacks on children mean that it is impossible to ascertain the extent of the issue. Statistics gathered by hospitals, medical centres and general practitioners would assist in forming the foundation of further research on this

topic to determine the extent of this problem. It could also aid councils in justifying prosecutions and illustrate to the public the prevalence and seriousness of this issue.

2. Further research on this topic

It is recommended that further research on this topic be undertaken to identify, more specifically, the issues that have been raised in this report. In-depth interviews with a variety of animal behaviourists and child psychologists could aid in the development of more detailed recommendations to keep children dog-safe. Interviews and questionnaires with broader and larger samples may assist in identifying further areas of concern regarding the current practices of caregivers and their children around dogs. Further research on this topic could also include a preliminary search into New Zealand statistics regarding dog attacks on children, through a survey on a sample of New Zealand dog owners. This may be distributed through veterinary clinics, Obedience Clubs, Kennel Clubs and City Council Dog Registration offices.

3. A booklet containing all the relevant information regarding child safety and dogs

As our report has indicated, caregivers do not often have access to the kinds of information necessary to minimise the risk of a dog attack on a child. Thus it is recommended that one brief but complete booklet be published containing all the necessary information for caregivers regarding children and dog safety.

The booklet should outline basic canine behaviour. For example, the dog's understanding of the family as a 'pack', different forms of aggression and the instinctual concept of hierarchy for the dog. The booklet should also outline the different forms of aggression in dogs and ways to recognise the onset of an aggressive behavioural problem. Equipping dog owners with the knowledge of a dog's understanding will better prepare them in raising dogs and introducing these animals to the family.

The booklet must also inform caregivers of the basic stages of child development to illustrate the realistic capabilities of the child.

The names and phone numbers of dog obedience course providers should be published at the back of the booklet so caregivers have the opportunity to contact reputable and reliable experts in the area. The names and telephone numbers of reputable animal behaviourists should also be published, giving caregivers the opportunity to contact the appropriate expert should a behavioural problem arise.

To reduce the cost of the booklet, the agencies and clubs listed in the booklet could pay a small fee. If necessary, the booklets could incur a minimal fee or voluntary fee to further reduce the costs of publishing.

The booklets could be distributed through veterinary clinics, local authorities, obedience clubs, Child Accident Prevention Foundation, Plunket, and schools.

6. Conclusion

This report has investigated the issue of dog attacks on children. The research has focused primarily on dogs known to the child as this is the most common, yet overlooked, condition of a dog attack. The purpose of this report is to provide grounded recommendations for care-givers, children, schools and child safety organisations to initiate in order to reduce the number of dog attacks on children.

Taking a largely qualitative approach the research was able to:

- Identify that children are at particular risk of an attack by a dog known to them.
- Identify, through current literature, problematic areas of interaction between dogs and children.
- Identify a New Zealand based understanding of the issue and explicate the misinformation that places children in greater risk of a dog attack.
- Provide preventative strategies in the form of recommendations to reduce the number of dog attacks on children.

The suggestions outlined in this research have been organised into the appropriate categories. While the fieldwork of this report was conducted largely in the Waikato and Bay of Plenty regions, the recommendations are believed to be applicable on a national level.

The findings upon which the recommendations were based were procured through a literature review, interviews with key informants and meetings with expert informants. These highlighted that children are at particular risk of a dog attack, particularly by a dog

they know, as children do not possess the necessary information to interact safely with domestic dogs. It was found that it is the responsibility of caregivers and other adults to educate and facilitate children and dogs. Organisations such as obedience clubs, veterinarians and child safety organisations can assist further in reducing the number of dog attacks on children by ensuring caregivers and children receive the information necessary to keep children dog safe. Through applying the recommendations that are suggested within this report, the number of dog attacks on children annually can be significantly reduced.

References

- Bandow, J.H. (1996). Will breed-specific legislation reduce dog bites. *Canadian Vet Journal*. 37: p 478-481. Administrators of Ontario: Canada.
- Bradshaw (1992) in Thorne, C. (Ed.) *The Waltham Book of Dog and Cat Behaviour*. (2nd Ed.) Pergamon Press: Oxford.
- Cohen, D., Kilhan, H., & Oates, K. (1989). *The Complete Book of Child Safety. Pets: Child Safety Foundation of New Zealand*. Phamplet: Australia.
- Christchurch City Council. (1999). *Aggressive Dog Reporting*.
<http://www.ccc.govt.nz/animals/AggressiveDogReporting.asp>.
- Community Health and Public Policy Symposium. (1998). *Dog bites and injury prevention/ A critical review and research agenda*. Proceedings. Animals, 1998. <http://www.health.usyd.edu.au/achp/pets/dogbites.html>
- Darwin, C. (1999). *The Expression of the Emotions in Man and Animals*. Introduction afterword and commentaries by Paul Ekman. HaperCollins Publishers: London.
- Duhaime, L. (1998). *Dog Attack*. For The WWLIA 1994 - 1998
<http://wwlia.org/dog.html> Staying Safe.
http://inform.dia.govt.nz/internal_affairs/inform_indexes/every_issue/staysafe.html
- Eastman, P.D. (1973). *Big Dog ... Little Dog: A Bedtime Story*. Random House: New York.
- Graham, M. (1971). *Benji and the Barking Bird*. The Bodley Head Ltd.: New York.
- Hart, B.L. (1995) in Serpell, J. (Ed.) *The Domestic Dog: Its Evolution, Behaviour and Interactions with People*. Cambridge University Press: Cambridge.
- Hill, E. (1990). *Spot Stays Overnight*. Ventura Publishing Limited: London.
- Holmes, and Houpt, (1993). *The T G Hungerford Refresher Course for Veterinarians. Preceedings*. Post Graduate Committee in veterinary Science University of Sydney: Sydney.

- Haupt, K.A. (1993). *Animal Behaviour: Canine Territorial and Predatory Aggression*. Sydney: Post graduate Committee in Veterinary Science
- Jennens, G. (1992). *The Role of Research and Behaviour in Legislation and Community Attitudes. Research and Behaviour*. UAM Proceedings.
<http://www.farmwide.com.au/nff/vetasscm/uam/proc92/7.ht>.
- Jennens, G.W., & Raine, T. G. (1992). *Your Dog's Behaviour and the Law in Western Australia*. Animal Behaviour Services: Australia.
- Langley, J.D. (13 September 1991). Submission on "Review of Cog Control Policy" - A Report prepared by Department of Internal Affairs - (5 August 1991). Submission 2. p2-4.
- Langley, J. (1992). The Incidence of Dog Bites in New Zealand. *New Zealand Medical Journal*. 105: p 33-35.
- Leech, P. (1998). *Your Baby and Child: New version for a new generation*. London: Penguin Books.
- Nott (1992) in Thorne, C. (Ed.). *The Waltham Book of Dog and cat Behaviour*. (2nd Ed.). Pergamon Press: Oxford.
- Nott and Bradshaw (1995) in Serpell, J. (Ed.). *The Domestic Dog: Its Evolution, Behaviour and Interactions with People*. Cambridge University Press: Cambridge.
- Morris, B.J. (1995). *Nohongatahi me te tamariki - Living with children*. Upper Hutt: Wright & Carman Limited.
- New Zealand Statutes*. (1996). Number 13. The Dog Control Act 1996. Volume 1.
- O'Farrell, V. (1990) in Monaghan, P., & Wood-Gush, D. (eds.). (1990). *Managing the behaviour of animals*. Chapman & Hall: London.
- Quilliam, S. (1994). *Child Watching: A Parent's Guide to Children's Body Language*. Dai Nippon Printing Company: Hong Kong.
- Romeo, T. (January-March 1998). The Truth about Children and Dogs. *Pet New Zealand*. (2): p46-47. Bascands Limited: Auckland.
- Segal, M., & Adcock, D. (1985). *Your child at play: one to two years*. New York: Newmarket Press.

- Serpell, and Jagoe, (1995) in Serpell, J. (Ed.). *The Domestic Dog: Its Evolution, Behaviour and Interactions with People*. Cambridge University Press: Cambridge.
- Seksel, K. (1996). *Socialising Puppies into the Human Environment*. The Seventh New Zealand Companion Animal Workshop: Auckland.
- Scott (1968) in Newton, G. (Ed.). *Early experience and behaviour*. Thomas Books: Springfield.
- Stafford, K.J. (1996). Opinions of veterinarians regarding aggression in different breeds of dogs. *New Zealand Veterinary Journal*. 44(4): p 138-141. AIS for New Zealand Veterinary Association: Wellington.
- Staying Safe*. http://inform.dia.govt.nz/internal_affairs/inform_indexes/every_issue/staysafe.htm.
- The Daily News*. (1 August 1998). Gault, S. "Horror of dog attack recalled by mother". Edition 1: p 1.
- The Daily News*. (8 August 1998). Humphreys, L. "24-hour coverage for dog complaints. Caption.
- The Dominion*. (15 April 1998). NZPA. "Dog nearly sever girl's arm". Edition 2: p 1.
- The Evening Post*. (12 March 1998). NZPA. "Boy's ear severed". Edition 3: p 2.
- The Evening Post*. (27 July 1998). Child-biting dog put down". Edition 3: p 2.
- The Evening Post*. (26 August 1998). Dog sinks teeth into boy's face. NZPA. Edition 3: p 2.
- The Evening Standard*. (13 May 1998). Gerbich C. "Dog attack shows need for care". Edition 1: p1.
- The Press*. (3 July 1998). "Driver praised after rescuing boy in dog attack". Edition 3: p 2.
- Roberinson (1992) in Thorne, C. (Ed). *The Waltham Book of Dog and cat Behaviour*. (2nd Ed.).
- The Southland Times (20 February 1998). "Usually Lovable family Dog's Fate Inevitable." Edition 1: p 1.

Willis (1995) in Serpell, J. (Ed.). *The Domestic Dog: Its Evolution, Behaviour and Interactions with People*. Cambridge University Press: Cambridge.

Wilson, S. (1997). *Bite Busters: How to deal with dog attacks*. Simon & Schuster Australia: Roseville.

Zillmann, D. (1979). *Hostility and Aggression*. Lawrence Erlbaum Associates Publishers: New Jersey.

Appendix One

Press Release

Research Aims to Reduce Dog Attacks on Children

The Child Accident Prevention Foundation have funded a research project aimed to reduce dog attacks on children. The research will be carried out by University Of Waikato Graduates, Holly Snape and Ursula Bennett.

Holly and Ursula will be advised by Associate Professor David Swain from the University's Department of Sociology and Social Policy.

The research will focus on children who have been attacked by dogs with which the children are familiar. Holly and Ursula are particularly interested in interviewing parents of such children and will be asking their parents to volunteer to be interviewed by them.

For further information, contact the Department of Sociology and Social Policy on 838 4718.

Appendix Two

Interview Itinerary

1. Background of dog ownership

- How many dogs has the participant owned
- What breeds
- What genders
- Did the participant grow up with dogs
- Where were the dogs adopted from
- Why was that specific adopted

2. Children

- How many children does the participant have
- What ages
- How many children were in the household when a dog was introduced
- What ages were the children when the dog was introduced to the household
- How was the dog introduced

3. Dogs

- Has the participant ever owned a dog that has exhibited an aggressive behaviour problem.
- How was the behaviour exhibited
- Has the dog ever attacked (bitten) a child
- What were the circumstances leading up to the attack
- Was the behaviour foreshadowed
- What was done regarding responding to the aggression
- Did the dog attend obedience training
- Was the dog neutered
- Are the dog(s) allowed on the furniture at home
- Where does the dog sleep
- Who is fed first- the children or the dog

4. Owner experience

- Has the participant ever been bitten by a dog
- What were the events leading up to the bite
- What does the participant know about canine behaviour
- What does the participant perceive to be the most pertinent issue of child safety with dogs
- Has the participant ever received any formal information regarding canine behaviour or child safety and dogs
- Where has this information come from.

5. Further comments

- Is there anything the participant feels has been left out
- Is there anything the participant would like to mention



Quick Questionnaire Parents of Children with a Family Dog

1. What do you think is the most important factor concerning child safety and dogs?
- _____
- _____
- _____
- _____
2. Does your child know what do and what not to do to keep safe around a dog? Yes No
3. Have you ever been given or found information on how to keep children safe with dogs? Yes No
4. Has your dog attended obedience training? Yes No
5. Has your dog ever displayed behavioural problems with:
- Other people Yes No
- Another animal Yes No
- Never (please tick if appropriate)
6. Do you feel safe leaving your dog with your child(ren) while you are in another room? Yes No
7. Were any of your children born after your dog joined the household? Yes No
8. Does your dog get fed before or after your child(ren)? Before After
9. Is your dog allowed on furniture in the household? Yes No
10. People have told us different ways of seeing their household, including their dog. Do you see your dog :
- As a member of the family Yes No
- Your family as a member of the dog's pack? Yes No
- Neither (please tick if appropriate)
11. Has your dog been de-sexed? Yes No
12. What breed is your dog? _____
13. What age and sex is your dog? Age Years
- Sex Male Female