Early Experience and the Development of Behavioural Problems in the Dog

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Introduction

The first year of canine behavioural development is of most importance. It is during this time that most social and environmental learning occurs and learned behaviour patterns become established. It is also when behaviour problems are most likely to develop (Lund et al, 1996).

Early laboratory experiments identified a 'sensitive period' of canine development between 3 and 12-14 weeks of age, during which the dog is dependent upon exposure to appropriate social and environmental stimuli in order for its development to continue normally. In pet dogs, retrospective studies have identified various practices which can limit experience during this period and are associated with an increased risk of problem behaviour. These include non-domestic breeding environments, late acquisition by the new owners and delays to the age of first exposure outside the home (Jagoe, 1994; Appleby, 2002; Sterry et al, 2005; O’Sullivan et al, 2008).

The goal of the study was to employ a longitudinal design to investigate factors influencing early experience and the development of problem behaviours during the dogs’ first year.

Method and Results

A longitudinal design was employed whereby 51 dog owners completed a series of four questionnaires. The sample comprised 30 males and 21 females of a variety of breeds including cross-breds. Questionnaires were provided at the point of first vaccination, 6 months, 9 months and 1 year of age and were designed to obtain information on the dogs' early environment and upbringing throughout the study. Behaviour was assessed using the Canine Behaviour and Research Questionnaire (Hsu and Serpell, 2003) at each stage in the study. Responses produced scores on 6 subscales which had been validated by the current authors for this age group (<1 year): Attachment/attention seeking (AAS); non-social fear (NSF); dog-directed aggression or fear (DDAF); owner-directed aggression (ODA); stranger-directed fear (SDF) and separation-related problems (SRP).

The sum of these scores across all four questionnaires was used to analyse total problem behaviour. Pearson product moment correlations were utilised to investigate specific relationships between given questionnaire items and scores on the C-BARQ subscales. Where appropriate, ANCOVA with planned comparisons were used to identify significant differences on C-BARQ scores between specific groups.

Breeding environment

Although puppies purchased from a domestic environment (living area of the house) showed the lowest mean scores for ‘total problem behaviour’, there was no significant difference between the scores of these dogs and those from other breeding environments. However, correlation analysis of the individual subscale scores revealed a significant relationship between non-domestic/isolated environments and scores on the following subscales. Dogs from:-

- Puppy farms/warehouses had higher stranger-directed fear scores [r=0.40, n=51, p=0.003] and non-social fear scores [r=0.31, n=51, p=0.026] at 6 months

- Outdoor farm/barns had higher stranger-directed fear scores at 9 months [r=0.29, n=51, p=0.036]

- Outdoor kennels had higher stranger-directed fear scores at 9 months [r=0.31, n=51, p=0.026] and 12 months [r=0.43, n=51, p=0.002].

- Domestic environments (isolated part of the breeders home) had higher non-social fear scores [r=0.28, n=51, p=0.048] and attachment/attention seeking scores [r=0.31, n=51, p=0.029] at time of recruitment

- Rescue centres had higher attachment/attention seeking scores [r=0.33, n=51, p=0.017] at 6 months

Age of re-homing

Mean plots for age of re-homing against ‘total problem behaviour’ scores showed 2 clear groups. Significantly lower scores were noted for puppies purchased between 6 and 7 weeks than those purchased between 8 and 13 weeks [F(1,40)=5.8, p=0.02]. Analysis of the individual subscale scores revealed that dogs purchased at 6-7 weeks had significantly lower:-

- Dog directed aggression or fear scores at 6 months [F(1,40)=4.5, p=0.03] and 12 months [F(1,43)=4.9, p=0.03]

- Stranger-directed fear scores at recruitment [F(1,18)=10.1, p=0.005] and at 9 months [F(1,41)=14.8, p=0.02]

- Non-social fear scores at recruitment [F(1,3)=6.5, p=0.02]; 6 months [F(1,3)=8.8, p=0.04]; 9 months [F(1,40)=5.3, p=0.02] and 12 months [F(1,14)=13.2, p=0.003]

Age of exposure outside of the home

Mean plots for age at first taken outside of the home against ‘total problem behaviour’ scores showed 2 clear groups. Significantly lower scores were noted for dogs commencing regular outings at ≤ 13 weeks than those commencing outings at ≥14 weeks [F(1,34)=7.6, p=0.009].

Correlation analysis of the individual subscale scores revealed a significant relationship between age of first exposure outside the home and scores on the following subscales. The older the puppy when first taken on regular outings, the higher the:-

- Dog-directed aggression or fear scores at 6 months [r=0.47, n=49, p=0.001], 9 months [r=0.29, n=49, p=0.047] and 12 months [r=0.39, n=49, p=0.006]

- Stranger-directed fear scores at 9 months [r=0.29, n=49, p=0.046]

- Non-social fear scores at 6 months [r=0.31, n=49, p=0.029] and 12 months [r=0.39, n=49, p=0.005]

Conclusions

Practices resulting in reduced exposure to socio-environmental stimuli during the socialisation and juvenile periods were associated with higher incidence of problems relating to fear and aggression. These include:-

- non-domestic or isolated breeding environments
- re-homing at 6 weeks or later
- delaying exposure outside of the home until the end of the socialisation period (13-14 weeks)

These results are in agreement with prior research (Jagoe, 1994; Appleby, 2002; Sterry et al, 2005; O’Sullivan et al, 2008) and provide further support for their findings whilst utilising differing methodology.

References


