Canine separation-related behaviour at six months of age: Dog, owner and early-life risk factors identified using the 'Generation Pup' longitudinal study

Fiona C Dale<a href="https://orcid.org/0009-0006-3948-7938">https://orcid.org/0009-0006-3948-7938</a>, Charlotte C Burn, Jane Murray, and Rachel Casey

Table S1. Recategorisation of categories of questions from the Generation Pup questionnaires for univariate and multivariate statistical analysis (variables which reached P < 0.200 shown)

| Variable<br>name/question                                       | Questionnaire/<br>Time-point | Original categories in Generation Pup  | New<br>Variable<br>Name | Categories used for analysis   |
|---|------------------------------|--|-------------------------|--|
| My puppy is a/an  | About My<br>Puppy            | List of dog<br>breeds<br>presented to<br>owners  | Dog Breed               | <ul><li>Crossbreeds</li><li>Labrador Retriever</li><li>Other pure breeds</li></ul>   |
| Derived Kennel<br>Club<br>classification<br>from breed<br>names | About My<br>Puppy            | None and Unknown Working Pastoral Hound Terrier Utility Toy Gundog                                 | Kennel Club<br>Group    | <ul> <li>None and Unknown</li> <li>Working, Hound,<br/>Terrier, Utility and<br/>Toy</li> <li>Pastoral</li> <li>Gundog</li> </ul> |
| I am aged   | About Me                     | 16-24 years 25-34 years 35-44 years 45-54 years 55-64 years 65 years and older Prefer not to state | Owner Age               | <ul><li>16-34 years</li><li>35 years and older</li></ul>   |

| My marital status is   | About Me              | Single Common law partnered/Co habiting Married Civil partnered Divorced/Sep arated Widowed Prefer not to state                         | Marital<br>Status<br>Combined                    | <ul> <li>Single &amp; Widowed</li> <li>Common Law</li> <li>Married &amp; Civil<br/>Partnered</li> <li>Divorced/Separated</li> </ul>   |
|--|-----------------------|---|--|---|
| I live in a  | About My<br>Household | City or urban area Suburban area Village or small town Rural area (such as small village or hamlet) In a remote/isolat ed area Other    | Home<br>Location<br>Combinatio<br>n              | <ul> <li>City or urban area</li> <li>Suburban area</li> <li>Village or small town or</li> <li>Rural or remote</li> </ul>  |
| The longest period that my puppy has been left at home without human company (during the day/evening or night) was | ≤16 weeks             | Less than 1 hour One or more hours but less than three hours Three or more hours but less than six hours Six or more hours I don't know | Maximum Period Left at ≤16 weeks combinatio n    | <ul> <li>Not Left Alone</li> <li>Less than 1 hour</li> <li>One or more hours<br/>but less than three<br/>hours</li> <li>Three or more hours<br/>but less than six<br/>hours and</li> <li>Six or more hours</li> </ul> |
| The type of enclosed space used for my puppy was   | ≤16 weeks             | A crate or indoor kennel A utility room or kitchen area which may be shut off from the rest of the house A garage/outbuilding           | Type of Enclosed Space Combinatio n at ≤16 weeks | <ul> <li>Not enclosed</li> <li>Any crate experience</li> <li>Other (e.g. utility room or kitchen area only, play pen, area of house sectioned off by gate etc)</li> </ul>   |

|  |           | An outdoor<br>kennel<br>Other (please<br>specify)  |   |   |
|--|-----------|--|---|---|
| I have used an enclosed space for my puppy   | ≤16 weeks | To make sure he/she had a safe space To separate him/her from other household pets To keep him/her calm/quiet To keep him/her still if he/she has been naughty To house train him/her Other (please specify) | Reason<br>Enclosed at<br>≤16 weeks                          | <ul> <li>Not enclosed</li> <li>Calm and/or safe only (plus sleep only) and house train</li> <li>Different combinations but include separate from others or keep still if naughty</li> </ul> |
| My puppy goes in the enclosed space  | ≤16 weeks | Occasionally Regularly, in the day, for less than 3 hours total Regularly, in the day, for 3 or more hours in total Overnight  | Frequency<br>Enclosed at<br>≤16 weeks<br>day/night          | <ul> <li>Not enclosed</li> <li>Day Only (not<br/>mention overnight)</li> <li>Combinations of<br/>time but experience<br/>of being enclosed<br/>overnight</li> </ul>                         |
| My puppy<br>sleeps during<br>the night-time<br>for a total of<br>approximately     | ≤16 weeks | Owner entered maximum number of hours  | Maximum<br>Hours Sleep<br>at Night at<br>≤16 weeks          | <ul> <li>6 hours to 8 hours</li> <li>9 hours</li> <li>10 hours and over</li> <li>Unspecified</li> </ul>   |
| My puppy<br>sleeps during<br>the night-time<br>for a total of<br>approximately<br> | ≤16 weeks | Owner entered minimum number of hours  | Minimum<br>Hours Sleep<br>at Night at<br>≤16 weeks          | <ul> <li>0 hours - 4 hours</li> <li>5 hours</li> <li>6 hours</li> <li>7 hours</li> <li>8 hours or more</li> <li>Unspecified</li> </ul>  |
| My puppy<br>sleeps during<br>the day-time<br>for a total of                        | ≤16 weeks | Owner entered maximum number of hours  | Maximum<br>Hours Sleep<br>During the<br>Day at ≤16<br>weeks | <ul> <li>2 hours - 3 hours</li> <li>4 hours</li> <li>5 hours</li> <li>6 hours</li> <li>7 hours and over</li> </ul>  |

| approximately<br>                                    |           |   |  | • Un  | specified  |
|--|-----------|---|--|---|--|
| At the moment, my puppy is settled to sleep at night | ≤16 weeks | By having him/her in a bedroom with human company By sleeping in another room in the house with him/her (for example sleeping in the living room) By waiting for him/her to be asleep before going to bed in a different room By leaving him/her in a room/area without human company By leaving him/her in an outbuilding (for example kennel, stable) | Method of settling at ≤16 weeks combinatio n         | <ul> <li>(By in hu</li> <li>By an ho (for sleen in ho)</li> <li>(Experimental in ho)</li> <li>(By in wing co)</li> <li>By in experimental in ho)</li> </ul> | reping in room  y having him/her a bedroom with man company sleeping in other room in the use with him/her or example reping in the living om) waiting for m/her to be asleep fore going to bed a different room) aving Alone y leaving him/her a room/area thout human mpany leaving him/her an outbuilding (fo ample kennel, able) |
| At night my<br>puppy sleeps                          | ≤16 weeks | In a kennel/crate On a dog bed On a chair/other furniture On a person's bed On the floor Other (please specify)   | Sleep<br>Location at<br>≤16 weeks<br>combinatio<br>n | ind<br>ke<br>pe<br>do<br>ch<br>the<br>• Ke<br>otl<br>• Ke<br>• Pe<br>me<br>(w   | ything not cluding nnel/crate or rson's bed (on a g bed, on a air/furniture, on e floor) nnel/crate plus her locations nnel/crate only rson's bed entioned ith/without other cations)  |
| My puppy's housetraining                             | ≤16 weeks | Is complete,<br>my puppy no<br>longer has   | Housetraini<br>ng<br>Progression                     | • Ze  | ro to three<br>cidents a week  |

|   |           | any accidents indoors Is ongoing, and there are fewer than four accidents a week Is ongoing, but there are still four or more accidents per week   | at ≤16<br>weeks<br>combination                                     | Is ongoing, but there are still four or more accidents per week  |
|---|-----------|--|--|--|
| I am training, or want to train my puppy to toilet by       | ≤16 weeks | Taking/letting him/her outside regularly Telling him/her off when he/she toilets inside Praising him/her when he/she toilets in the correct place Using puppy pads/newspa pers on the floor to show areas where he/she may toilet I haven't started this training yet Other (please specify) | House Train Method at ≤16 weeks combinatio n                       | <ul> <li>Taken out regularly and/or praised</li> <li>Telling off mentioned and/or praise not mentioned</li> </ul>  |
| At the party/class, I was given information or shown how to | ≤16 weeks | Given information about this, but NOT shown how to do this Shown how to do this, but NOT given separate information about this   | Puppy Training Class House Training Info at ≤16 weeks Combinatio n | <ul> <li>No classes</li> <li>Given information about this, but NOT shown how to do this</li> <li>Shown how to do this, AND/OR given separate information about this</li> <li>This was not covered</li> </ul> |

|  |           | Shown how<br>to do this<br>AND given<br>separate<br>information<br>about this<br>This was not<br>covered  |   |   |
|--|-----------|---|---|---|
| When training my puppy to do a new behaviour, I use the following rewards  | ≤16 weeks | Verbal praise (for example 'good boy/girl') Physical praise (for example pat/stroke/cu ddle) A toy A ball A clicker Some of his/her normal dog food A dog food other than his/her own kibble/biscuit Dog food treats Human food (for example cheese/sausa ge\) None/no other rewards are used Training not started Other (please specify) | Training Reward – Kibble or dog food treat at ≤16 weeks | <ul> <li>No use of kibble and/or dog food treats</li> <li>Kibble and/or dog food treats</li> </ul>  |
| When<br>correcting my<br>puppy for doing<br>something<br>wrong, I<br>would | ≤16 weeks | Tell him/her off Use a physical reprimand/co rrection (for example smack or tap him/her on  | Correction Method at ≤16 weeks combinatio n             | <ul> <li>Move away,         withhold treats,         ignore, don't use         anything, other(e.g         Show him/her         correct behaviour,         redirect behaviour)</li> <li>Tell off, physical,         distraction,</li> </ul> |

| In total, the  | 6 months | nose or bottom) Distraction (for example rattle can/loud noise/water spray) Withold treats Ignore him/her Use physical manipulation (for example putting him/her into a sit or pushing him/her if he/she jumps up) Hold him/her still I don't use anything Other (please specify) Not stayed | Nights  | manipulation still (may use response cat too (e.g. movignore etc)                                  | e<br>egories<br>ve away, |
|--|----------|--|---|--|--------------------------|
| number of nights my puppy has been separated from me, and all household members (if applicable) since he/she came to live me is        | 6 months | away One night 2-5 nights 6-10 nights 11-15 nights More than 15 nights I don't know/can't remember   | separated<br>at six-<br>months<br>combinatio<br>n                     | <ul> <li>Not stayed a</li> <li>One to five n</li> <li>6-10 nights</li> <li>11 or more n</li> </ul> | ights                    |
| In general, during the last seven days, when I/we were relaxing at home with my puppy and he/she behaved in a way that I/we would like | 6 months | Verbally praise him/her (for example saying 'good dog') Play with him/her Give him/her a food treat  | Response to<br>Good<br>Behaviour<br>when<br>Relaxing at<br>six-months | <ul> <li>No cuddle or</li> <li>Cuddle and/ostroke</li> </ul>                                       |                          |

| him/her to,              |          | Ignore              |                        |                                 |
|--------------------------|----------|---------------------|------------------------|---------------------------------|
| I/we would               |          | him/her             |                        |                                 |
|                          |          | Stroke              |                        |                                 |
|                          |          | him/her             |                        |                                 |
|                          |          | Cuddle              |                        |                                 |
|                          |          | him/her             |                        |                                 |
|                          |          | Not                 |                        |                                 |
|                          |          | applicable,         |                        |                                 |
|                          |          | he/she has          |                        |                                 |
|                          |          | not generally       |                        |                                 |
|                          |          | behaved in a        |                        |                                 |
|                          |          | way I would         |                        |                                 |
|                          |          | like to             |                        |                                 |
|                          |          | encourage           |                        |                                 |
|                          |          | _                   |                        |                                 |
|                          |          | Other (please       |                        |                                 |
| In concret               | 6 months | specify)            | Posnanca ta            |                                 |
| In general,              | 6 months | Tell him/her<br>off | Response to<br>Bad     | • ≤1 aversive                   |
| during the last          |          |                     |                        | techniques and no               |
| seven days,<br>when I/we |          | Use a physical      | Behaviour              | timeouts                        |
| =                        |          | reprimand/co        | when                   | • ≤1 aversive                   |
| were relaxing at         |          | rrection (for       | Relaxing at six-months | techniques but time-            |
| home with my             |          | example             | six-months             | outs                            |
| puppy and                |          | smack or tap        |                        | <ul> <li>≥2 aversive</li> </ul> |
| he/she behaved           |          | him/her on          |                        | techniques                      |
| in a way that            |          | nose or             |                        |                                 |
| I/we would               |          | bottom)             |                        |                                 |
| NOT like                 |          | Distract            |                        |                                 |
| him/her to,              |          | him/her (for        |                        |                                 |
| I/we would               |          | example             |                        |                                 |
|                          |          | rattle              |                        |                                 |
|                          |          | can/loud            |                        |                                 |
|                          |          | noise/water         |                        |                                 |
|                          |          | spray)              |                        |                                 |
|                          |          | Move away           |                        |                                 |
|                          |          | from him/her        |                        |                                 |
|                          |          | Don't give          |                        |                                 |
|                          |          | him/her             |                        |                                 |
|                          |          | treats that         |                        |                                 |
|                          |          | would               |                        |                                 |
|                          |          | normally be         |                        |                                 |
|                          |          | given at this       |                        |                                 |
|                          |          | time                |                        |                                 |
|                          |          | Ignore              |                        |                                 |
|                          |          | him/her             |                        |                                 |
|                          |          | Physically          |                        |                                 |
|                          |          | manipulate          |                        |                                 |
|                          |          | him/her (for        |                        |                                 |
|                          |          | example, hold       |                        |                                 |
|                          |          | still, put          |                        |                                 |
|                          |          | him/her into        |                        |                                 |
|                          |          | a sit or push       |                        |                                 |

off if he/she jumps up) Play with him/her Stroke him/her Cuddle him/her Hold him/her still Encourage him/her to calm down Let him/her outside into the garden or yard Move him/her to another part of the house Not applicable, he/she has not generally behaved ina way I would like to discourage Other (please

| In general,     |
|-----------------|
| during the last |
| seven days,     |
| when I was      |
| preparing to    |
| leave my puppy  |
| behind in the   |
| house (without  |
| human           |
| company), and   |
| she/he behaved  |
| in a way that   |
| I/we would like |
| him/her to,     |
| I/we would      |
|                 |

6 months

specify) Verbally praise him/her (for example saying 'good dog') Play with him/her Give him/her a food treat Ignore him/her Stroke him/her Cuddle

him/her Not

applicable, he/she has not generally Response to Good Behaviour when Preparing to Leave Without Puppy at six-months

- No stroke and/or cuddle
- Stroke and/or cuddle mentioned

|   |          | behaved in a<br>way I would<br>like to<br>encourage<br>Other (please<br>specify)   |   |   |
|---|----------|--|---|---|
| In general, during the last seven days, when I was preparing to leave my puppy behind in the house (without human company), and she/he behaved in a way that I/we would NOT like him/her to, I/we would | 6 months | Tell him/her off Use a physical reprimand/co rrection (for example smack or tap him/her on nose or bottom) Distract him/her (for example rattle can/loud noise/water spray) Move away from him/her Don't give him/her treats that would normally be given at this time Ignore him/her Physically manipulate him/her (for example, hold still, put him/her into a sit or push off if he/she jumps up) Play with him/her Stroke him/her Cuddle him/her Cuddle him/her Hold him/her still | Response to Bad Behaviour when Preparing to Leave without Puppy at six-months | <ul> <li>≤1 aversive technique</li> <li>≥2 aversive techniques</li> <li>Not applicable mentioned</li> </ul> |

Encourage him/her to calm down Let him/her outside into the garden or yard Move him/her to another part of the house Give him/her a food treat Not applicable, he/she has not generally behaved ina way I would like to discourage Other (please specify) 6 months In general, Tell him/her Response to No aversive during the last off Bad techniques\* seven days, Use a physical Behaviour One or more reprimand/co when I was when aversive techniques preparing to rrection (for Preparing leave the house example to Leave WITH my puppy smack or tap with Puppy (for example him/her on at sixputting on coat, nose or months picking up keys, bottom) picking up lead Distract or harness), and him/her (for my puppy knew example rattle he/she was coming too and can/loud he/she behaved noise/water in a way that spray) I/we would Move away **NOT like** from him/her him/her to, Don't give I/we would... him/her treats that would normally be given at this time Ignore him/her

Physically manipulate him/her (for example, hold still, put him/her into a sit or push off if he/she jumps up) Play with him/her Stroke him/her Cuddle him/her Hold him/her still Encourage him/her to calm down Let him/her outside into the garden or yard Move him/her to another part of the house Give him/her a food treat Not applicable, he/she has not generally behaved in a way I would like to discourage Other (please

| <b>During the last</b> | 6 months |
|------------------------|----------|
| seven days,            |          |
| when left at           |          |
| home without           |          |
| human                  |          |
| company my             |          |
| puppy was              |          |
| usually left           |          |
|                        |          |

specify)
Confined to
his/her
outside
kennel
Confined to
his/her
indoor kennel
Outside, with
free range of
the garden

Left Alone Access at six-months

- Confined to his/her indoor crate/outdoor kennel
- Restricted to one room/area of the home
- With free range of house OR in the house with access to the garden/OR

|  |          | Restricted to one  |   | outside, with free range of the garden  |
|--|----------|--|---|---|
|  |          | room/area of the home With free range of the house In the house with access to garden Other (please specify)   |   |   |
| In general,<br>during the last<br>seven days, my<br>puppy has<br>slept             | 6 months | Indoors, in a bedroom with human company Indoors, in a room without human company Outdoors, in an outbuilding (for example stable or barn) Outdoors, ina kennel or small sheltered area Other (please specify) | Sleeping<br>Location<br>Type at six-<br>months  | <ul> <li>Indoors, in a bedroom with human company (With human company)</li> <li>Indoors, in a room without human company/Outdoors, in a kennel or small sheltered area (Without human company)</li> </ul> |
| In general,<br>during the last<br>seven days, my<br>puppy has<br>slept             | 6 months | On the floor On furniture (other than a bed) On a human bed In a crate/kennel On a dog bed I don't know Other (please specify)   | Normal<br>Sleeping<br>Location at<br>six-months | <ul> <li>Only dog bed, floor, other</li> <li>Mention crate (no human bed or furniture)</li> <li>Mention human bed and/or furniture</li> </ul>   |
| In general,<br>during the last<br>seven days,<br>when I or other<br>members of the | 6 months | Verbally<br>praise<br>him/her (for<br>example  | Response to<br>Good<br>Behaviour<br>when No     | <ul><li>No stroke and/or cuddle</li><li>Stroke and/or cuddle</li></ul>  |

| household were not paying attention to my puppy, and he/she behaved in a way that I/we would like him/her to, I/we would  | 6 months | saying 'good dog') Play with him/her Give him/her a food treat Ignore him/her Stroke him/her Cuddle him/her Not applicable, he/she has not generally behaved in a way I would like to encourage Other (please specify) Tell him/her off                              | Attention at six-months  Response to Bad Rehaviour | • | ≤1 aversive techniques                          |
|---|----------|--|--|---|---|
| seven days, when I or other members of the household were not paying attention to my puppy, and he/she behaved in a way that I/we would NOT like him/her to, I/we would |          | Use a physical reprimand/co rrection (for example smack or tap him/her on nose or bottom) Distract him/her (for example rattle can/loud noise/water spray) Move away from him/her Don't give him/her treats that would normally be given at this time Ignore him/her | Behaviour when No Attention at six-months          | • | ≥2 aversive techniques Not applicable mentioned |

Physically manipulate him/her (for example, hold still, put him/her into a sit or push off if he/she jumps up) Play with him/her Stroke him/her Cuddle him/her Hold him/her still Encourage him/her to calm down Let him/her outside into the garden or yard Move him/her to another part of the house Give him/her a food treat Not applicable, he/she has not generally behaved in a way I would like to discourage Other (please specify)

| In general,      | 6 months |
|------------------|----------|
| during the last  |          |
| seven days,      |          |
| when my puppy    |          |
| was separated    |          |
| (for example by  |          |
| a closed or baby |          |
| gate) from       |          |
| myself or        |          |
| another          |          |
| member of the    |          |

Tell him/her off
Use a physical reprimand/co rrection (for example smack or tap him/her on nose or

bottom)

Response to Bad Behaviour when Separated at Home at six-months

- ≤1 aversive techniques≥2 aversive techniques
- Not applicable

household
while in the
home, and
he/she behaved
in a way that
I/we would
NOT like
him/her to,
I/we would...

Distract him/her (for example rattle can/loud noise/water spray) Move away from him/her Don't give

Don't give him/her treats that would normally be given at this

time
Ignore
him/her
Physically
manipulate
him/her (for
example, hold
still nut

example, hold still, put him/her into a sit or push off if he/she jumps up) Play with him/her Stroke him/her Cuddle him/her Hold him/her

still

Encourage
him/her to
calm down
Let him/her
outside into
the garden or

yard
Move
him/her to
another part
of the house
Give him/her
a food treat
Not

Not applicable, he/she has

|   |          | not generally<br>behaved in a<br>way I would<br>like to<br>discourage<br>Other (please<br>specify)  |  |  |
|---|----------|---|--|--|
| In general,<br>during the last<br>seven days,<br>when my puppy<br>had been left at<br>home WITHOUT<br>human | 6 months | Tell him/her off Use a physical reprimand/co rrection (for example smack or tap   | Response to<br>Bad<br>Behaviour<br>upon<br>Return at<br>six-months   | <ul> <li>≤1 aversive techniques</li> <li>≥2 aversive techniques</li> <li>Not applicable</li> </ul>                           |
| company and I/we returned to the house, and he/she behaved in a way that I/we would NOT like him/her to,    |          | him/her on<br>nose or<br>bottom)<br>Distract<br>him/her (for<br>example<br>rattle<br>can/loud   | Response to Bad Behaviour upon Return at six-months - Greet/Tell Off | <ul> <li>No greet or tell off</li> <li>Greet and/or tell off</li> <li>No greet or tell off<br/>but not applicable</li> </ul> |
| I/we would  |          | noise/water spray) Move away from him/her Don't give him/her treats that would normally be given at this time Ignore him/her Physically manipulate him/her (for example, hold still, put him/her into a sit or push off if he/she jumps up) Play with him/her Stroke him/her Cuddle | Response to Bad Behaviour upon Return at six-months - 'Fuss'         | <ul> <li>No play/stroke/cuddle/ greet</li> <li>Play/stroke/cuddle/ greet</li> <li>Not applicable</li> </ul>                  |

|                                     | Hold him/her    |              |  |
|-------------------------------------|-----------------|--------------|--|
|                                     | still           |              |  |
|                                     | Encourage       |              |  |
|                                     | him/her to      |              |  |
|                                     | calm down       |              |  |
|                                     | Let him/her     |              |  |
|                                     | outside into    |              |  |
|                                     | the garden or   |              |  |
|                                     | yard            |              |  |
|                                     | Move            |              |  |
|                                     | him/her to      |              |  |
|                                     | another part    |              |  |
|                                     | of the house    |              |  |
|                                     | Give him/her    |              |  |
|                                     | a food treat    |              |  |
|                                     | Not             |              |  |
|                                     | applicable,     |              |  |
|                                     | he/she has      |              |  |
|                                     | not generally   |              |  |
|                                     | behaved in a    |              |  |
|                                     | way I would     |              |  |
|                                     | like to         |              |  |
|                                     | discourage      |              |  |
|                                     | Other (please   |              |  |
|                                     | specify)        |              |  |
| In the last two                     | Yes             | Vet Visit at | <ul> <li>A visit of any type</li> </ul>  |
| months I have                       | No, but a vet   | six-months   | (Yes or No, but a vet                    |
| taken my puppy                      | visited my      |              | visited my home                          |
| to a veterinary                     | home            |              | instead/there is a                       |
| practice                            | instead/there   |              | vet in the                               |
|                                     | is a vet in the |              | household)                               |
|                                     | household       |              | <ul> <li>Not at all, my puppy</li> </ul> |
|                                     | Not at all, my  |              | has not seen a vet in                    |
|                                     | puppy has       |              | the last two months                      |
|                                     | not seen a vet  |              |  |
|                                     | in the last     |              |  |
| * Aversive techniques: Tell him/her | two months      | . 1/ .1      | · // //                                  |

<sup>\*</sup> Aversive techniques: Tell him/her off, physically reprimand/correct him/her (for example smack or tap on nose or bottom), distract him/her (for example with a rattled can/loud noise/water spray), physically manipulate him/her (for example hold still, put into a sit, or push off if he/she jumps up), hold him/her still

Table S2. Variables that reached threshold significance of  $P \le 0.200$  in univariable analysis for risk factors (n = 145).

| Variable | Categories | Reference Category | P-    | OR | CI |
|----------|------------|--------------------|-------|----|----|
| name     |            |                    | value |    |    |

| Dog Breed                   | Crossbreeds                                | Unknown/known      | 0.020   |        |                 |
|-----------------------------|--|--------------------|---------|--------|-----------------|
| (Combined                   | Labrador Retriever                         | breeds/crosses     | 0.005   | 0.172  | 0.05-           |
| categories)                 | Other pure breeds                          |                    | 0.188   | 0.618  | 0.594           |
|                             |  |                    |         |        | 0.303-          |
|                             |  |                    |         |        | 1.264           |
| Kennel Club                 | None and Unknown                           | None and Unknown   | 0.001   |        |                 |
| Group                       | Working, Hound, Terrier,                   |                    | 0.900   | 1.055  | 0.457-          |
| (Combined                   | Utility and Toy                            |                    |         |        | 2.433           |
| Categories)                 | Pastoral                                   |                    | 0.073   | 0.371  |                 |
|                             | Gundog                                     |                    | 0.001   | 0.218  | 0.126-          |
|                             |  |                    |         |        | 1.095           |
|                             |  |                    |         |        | 0.092-          |
| Dune w Cress                | Pure breed                                 | Pure breed         |         |        | 0.517           |
| Pure v Cross<br>Breed       | Cross breed                                | Pure breed         | 0.057   | 1.967  | 0.980-          |
| breeu                       | Cross preed                                |                    | 0.037   | 1.907  | 3.949           |
| Owner Age                   | 16-34 years                                | 16-34 years        |         |        | 3.343           |
| Owner Age                   | 35 years and older                         | 10 34 years        | <0.001  | 5.349  | 2.025-          |
|                             | 33 years and older                         |                    | 10.001  | 3.3 13 | 14.126          |
| Marital Status              | Single & Widowed                           | Single & Widowed   | 0.045   |        |                 |
| Combo                       | Common Law                                 | J                  | 0.395   | 1.76   | 0.479-          |
|                             | Married & Civil Partnered                  |                    | 0.131   | 0.512  | 6.467           |
|                             | Divorced/Separated                         |                    | 0.081   | 0.21   | 0.215-          |
|                             |  |                    |         |        | 1.22            |
|                             |  |                    |         |        | 0.036-          |
|                             |  |                    |         |        | 1.21            |
| Home                        | City or urban area                         | City or urban area | 0.198   |        |                 |
| Location                    | Suburban area                              |                    | 0.072   | 0.395  | 0.144-          |
| Combo Plus                  | Village or small town or                   |                    | 0.191   | 0.549  | 1.086           |
|                             | Rural or remote                            |                    |         |        | 0.224-          |
|                             | AL . I C. AL                               | AL . 1 C. AL       | 0.050   |        | 1.348           |
| Maximum                     | Not Left Alone                             | Not Left Alone     | 0.063   | 4 5    | 0.543           |
| Period Left at<br>≤16 weeks | Less than 1 hour and One or more hours but |                    | 0.435   | 1.5    | 0.542-<br>4.155 |
| 210 MEEK2                   | less than three hours                      |                    |         |        | 4.133           |
|                             | Three or more hours but                    |                    | 0.042   | 2.946  |                 |
|                             | less than six hours and                    |                    | 0.042   | 2.540  | 1.042-          |
|                             | Six or more hours                          |                    |         |        | 8.335           |
|                             |  |                    |         |        |                 |
| Type of                     | Not enclosed                               | Not enclosed       | <0.001  |        |                 |
| Enclosed                    | Any crate experience                       |                    | < 0.001 | 0.176  | 0.069-          |
| Space Combo                 | Other                                      |                    | 0.420   | 0.583  | 0.45            |
| at ≤16 weeks                |  |                    |         |        | 0.158-          |
|                             |  |                    |         |        | 2.159           |
| Reason                      | Not enclosed                               | Not enclosed       | 0.003   |        |                 |
| Enclosed at                 | Calm and/or safe only                      |                    | 0.001   | 0.195  | 0.076-          |
| ≤16 weeks                   | (plus sleep only) and                      |                    |         |        | 0.505           |
|                             | housetrain                                 |                    |         |        |                 |
|                             | Diff combinations but                      |                    | 0.018   | 0.259  |                 |
|                             | include separate from                      |                    |         |        | 0.084-          |
|                             |  |                    |         |        | 0.794           |
|                             |  |                    |         |        |                 |

|   | others or keep still if naughty  |                    |  |   |  |
|---|--|--------------------|--|---|--|
| Frequency<br>Enclosed at<br>≤16 weeks                       | Not enclosed Day Only (not mention overnight) Combinations of time but experience of being   | Not enclosed       | <0.001<br>0.093                                    | 0.407                                     | 0.142-<br>1.163  |
|   | enclosed overnight   |                    | <0.001   | 0.139                                     | 0.052-<br>0.369  |
| Maximum<br>Hours Sleep<br>at Night at<br>≤16 weeks          | 6 hours to 8hours<br>9 hours<br>10 hours and over<br>Unspecified   | 6 hours to 8 hours | 0.018<br>0.036<br>0.007<br>0.415                   | 0.375<br>0.161<br>0.7                     | 0.15-<br>0.94<br>0.043-<br>0.605<br>0.297-<br>1.649  |
| Minimum<br>Hours Sleep<br>at Night at<br>≤16 weeks          | 0 hours - 4 hours 5 hours 6 hours 7 hours 8 hours or more Unspecified  | 0 hours - 4 hours  | 0.068<br>0.180<br>0.911<br>0.275<br>0.042<br>0.789 | 2.554<br>1.061<br>0.546<br>0.273<br>0.867 | 0.648-<br>10.059<br>0.375-<br>3.006<br>0.184-<br>1.619<br>0.078-<br>0.954<br>0.304-<br>2.474 |
| Maximum<br>Hours Sleep<br>During the<br>Day at ≤16<br>weeks | 2 hours - 3 hours<br>4 hours<br>5 hours<br>6 hours<br>7 hours and over<br>Unspecified  | 2 hours - 3 hours  | 0.116<br>0.184<br>0.073<br>0.158<br>0.954<br>0.747 | 0.457<br>0.286<br>0.39<br>0.964<br>1.169  | 0.144-<br>1.449<br>0.073-<br>1.124<br>0.105-<br>1.442<br>0.283-<br>3.284<br>0.453-<br>3.014  |
| Method of<br>settling at ≤16<br>weeks                       | Sleeping in room (By having him/her in a bedroom with human company OR By sleeping in another room in the house with him/her (for example sleeping in the living room) OR By waiting for him/her to be asleep before going to bed in a different room) | Sleeping in room   |  |   |  |

|   | Leaving Alone (By leaving him/her in a room/area without human company OR By leaving him/her in an outbuilding (for example kennel, stable))                  |   | 0.021                            | 0.45                    | 0.228-<br>0.889                                     |
|---|---|---|----------------------------------|-------------------------|---|
| Access to People at ≤16 weeks                           | No<br>Yes   | No                                      | 0.008                            | 3.136                   | 1.343-<br>7.324                                     |
| Sleep<br>Location at<br>≤16 weeks                       | Anything not including kennel Kennel plus something Kennel only Persons bed at all  | Anything not including kennel           | 0.001<br>0.340<br>0.002<br>0.330 | 0.591<br>0.273<br>1.92  | 0.2-<br>1.742<br>0.118-<br>0.631<br>0.516-<br>7.144 |
| Housetraining Progression at ≤16 weeks                  | Zero to three accidents per week Is ongoing, but there are still four or more accidents per week  | Zero to three accidents per week        | <0.001                           | 4.356                   | 1.861-<br>10.197                                    |
| House Train<br>Method at<br>≤16 weeks                   | Taken out regularly and/or praised Telling off mentioned and/or praise not mentioned  | Taken out regularly<br>and/or praised   | 0.107                            | 2.164                   | 0.846-<br>5.531                                     |
| Puppy Training Class House Training Info at ≤16 weeks   | No classes Given information about this, but NOT shown how to do this Shown how to do this, AND/OR given separate information about this This was not covered | No classes                              | 0.060<br>0.810<br>0.103<br>0.116 | 1.122<br>2.848<br>0.534 | 0.438-<br>2.875<br>0.811-<br>10.008                 |
| Puppy Class Run by Vet Practice at ≤16 weeks            | No classes<br>No<br>Yes   | No classes                              | 0.082<br>0.029<br>0.273          | 3.327<br>1.483          | 1.167<br>1.132-<br>9.779<br>0.733-<br>2.999         |
| Training Reward – Kibble or dog food treat at ≤16 weeks | No use of kibble and/or dog food treats Kibble and/or dog food treats   | No use of kibble and/or dog food treats | 0.003                            | 3.529                   | 1.521-<br>8.189                                     |

| Correction<br>Method at<br>≤16 weeks | Move away, withhold<br>treats, ignore, don't use<br>anything, other<br>Tell off, physical,<br>distraction, manipulation,<br>hold still (may use others<br>too) | Move away, withhold treats, ignore, don't use anything, other | 0.010          | 2.591 | 1.251-<br>5.367 |
|--------------------------------------|--|---|----------------|-------|-----------------|
| Experience                           | Definitely No  | Definitely No   | 0.105          |       |                 |
| <b>Gunshot at</b>                    | Definitely Yes   |   | 0.049          | 0.479 | 0.230-          |
| six-months                           | I don't know   |   | 0.261          | 0.514 | 0.996           |
|                                      |  |   |                |       | 0.161-          |
| Eveniones                            | Dofinitaly No  | Dofinitaly No   |                |       | 1.639           |
| Experience<br>Raised Voices          | Definitely No<br>Definitely Yes  | Definitely No   | 0.043          | 1.935 | 1.022-          |
| at six-months                        | Demintery res  |   | 0.043          | 1.555 | 3.667           |
| Nights                               | Not stayed away  | Not stayed away   | 0.106          |       |                 |
| Separated at                         | One to five nights   | , ,   | 0.475          | 1.325 | 0.613-          |
| six-months                           | 6-10 nights  |   | 0.086          | 2.981 | 2.866           |
|                                      | 11 or more nights  |   | 0.131          | 0.294 | 0.856-          |
|                                      |  |   |                |       | 10.377<br>0.06- |
|                                      |  |   |                |       | 1.438           |
| Response to                          | No cuddle or stroke  | No cuddle or stroke   |                |       | 1.730           |
| Good                                 | Cuddle and/or stroke   |   | 0.062          | 3.033 | 0.944-          |
| Behaviour                            |  |   |                |       | 9.744           |
| when                                 |  |   |                |       |                 |
| Relaxing at                          |  |   |                |       |                 |
| six-months                           | <1 avarsiva tashniquas   | <1 aversive techniques  | 0.020          |       |                 |
| Response to<br>Bad                   | ≤1 aversive techniques≤1 aversive techniques   | ≤1 aversive techniques  | 0.039<br>0.018 | 3     | 1.205-          |
| Behaviour                            | but time-outs  |   | 0.010          | 3     | 7.47            |
| when                                 | ≥2 aversive techniques   |   | 0.018          | 3.25  |                 |
| Relaxing at                          | ·  |   |                |       | 1.227-          |
| six-months                           |  |   |                |       | 8.605           |
| Response to                          | No stroke and/or cuddle  | No stroke and/or cuddle                                       |                |       |                 |
| Good                                 | Stroke and/or cuddle   |   | 0.010          | 2.337 | 1.228-          |
| Behaviour<br>when                    | mentioned  |   |                |       | 4.448           |
| Preparing to                         |  |   |                |       |                 |
| Leave                                |  |   |                |       |                 |
| Without                              |  |   |                |       |                 |
| Puppy at six-                        |  |   |                |       |                 |
| months                               |  |   |                |       |                 |
| (Includes 4                          |  |   |                |       |                 |
| NAs) Response to                     | ≤1 aversive technique  | ≤1 aversive technique   | 0.002          |       |                 |
| Bad                                  | ≥2 aversive techniques   | T aversive tecilinque   | 0.002          | 3.5   | 1.062-          |
| Behaviour                            | Not applicable mentioned   |   | 0.033          | 0.442 | 11.534          |
|                                      |  |   |                |       |                 |
| when                                 |  |   |                |       | 0.221-          |

| No aversive techniques<br>One or more aversive<br>techniques   | ≤1 aversive technique  | 0.043  | 1.927   | 1.02-<br>3.643  |
|--|--|--|---|---|
| Confined to his/her indoor crate/outdoor   | Confined to his/her indoor crate/outdoor   | 0.048  |   |   |
| kennel<br>Restricted to one  | kennel   | 0.018  | 2.31  | 1.156<br>4.615  |
| room/area of the home With free range of house OR in the house with access to the garden/OR outside, with free range of the garden   |  | 0.117  | 2.117   | 0.829<br>5.409  |
| Indoors, in a bedroom with human company (With human company) Indoors, in a room without human company/Outdoors, in a kennel or small sheltered area (Without human company) | Indoors, in a bedroom with human company (With human company)  | 0.013  | 0.432   | 0.223<br>0.837  |
| Only dog bed, floor, other   | Only dog bed, floor,   | 0.001  |   |   |
| Mention crate (no human bed or furniture)  | other  | 0.951  | 1.027   | 0.442<br>2.383  |
| Mention human bed and/or furniture   |  | 0.004  | 3.896   | 1.551<br>9.783  |
| No<br>Yes  | No   | 0.148  | 1.624   | 0.841<br>3.135  |
| No stroke and/or cuddle<br>Stroke and/or cuddle  | No stroke and/or cuddle  | 0.04   | 2.19  | 1.036-<br>4.627   |
|  |  |  |   |   |
|  | Confined to his/her indoor crate/outdoor kennel Restricted to one room/area of the home With free range of house OR in the house with access to the garden/OR outside, with free range of the garden  Indoors, in a bedroom with human company (With human company (With human company) Indoors, in a room without human company/Outdoors, in a kennel or small sheltered area (Without human company)  Only dog bed, floor, other Mention crate (no human bed or furniture) Mention human bed and/or furniture  No Yes  No stroke and/or cuddle | Confined to his/her indoor crate/outdoor kennel Restricted to one room/area of the home With free range of house OR in the house with access to the garden/OR outside, with free range of the garden  Indoors, in a bedroom with human company (With human company (With human company) Indoors, in a room without human company/Outdoors, in a kennel or small sheltered area (Without human company)  Only dog bed, floor, other Mention crate (no human bed or furniture) Mention human bed and/or furniture  No Yes  No stroke and/or cuddle  Confined to his/her indoor crate/outdoor kennel Indoors, in a bedroom with human company (With human company)  Only dogs, in a bedroom with human company)  Only dog bed, floor, other Mention crate (no human bed or furniture)  No Yes | Confined to his/her indoor crate/outdoor kennel Restricted to one room/area of the home With free range of house OR in the house with access to the garden/OR outside, with free range of the garden  Indoors, in a bedroom with human company (With human company) (With human company) (With human company) (Without human company) (Without human company) (Without human company)  Only dog bed, floor, other Mention crate (no human bed or furniture)  Mention human bed and/or furniture  No Yes  Confined to his/her indoor sher indoor crate/outdoor kennel  Indoor crate/outdoor kennel  Indoors, in a bedroom with human company  With human company  (With human company)  Only dog bed, floor, other Mention crate (no human bed or furniture)  No Yes  No Stroke and/or cuddle  No stroke and/or cuddle | One or more aversive techniques  Confined to his/her indoor crate/outdoor kennel Restricted to one room/area of the home With free range of house OR in the house with access to the garden/OR outside, with free range of the garden  Indoors, in a bedroom with human company (With human company) Indoors, in a room without human company/Outdoors, in a kennel or small sheltered area (Without human company)  Only dog bed, floor, other Mention crate (no human bed or furniture)  Mention human bed and/or furniture  No Yes  No stroke and/or cuddle  Confined to his/her indoors in 0.048  Indoors, in a bedroom windoor crate/outdoor kennel 0.018  Indoors, in a bedroom with human company (With human company)  Only dor, in a bedroom with human company (With human company)  Only dog bed, floor, other other 0.019  Only dog bed, floor, 0.001  Only dog bed, floor, 0.001  Only dog bed, floor, 0.001  Only dog bed, floor, 0.004  Only dog bed, floor, 0.001  Only dog bed, floor, 0.001 |

| Behaviour   | Not applicable mentioned  |                          | 0.446 | 0.684 | 1.528- |
|---|---|--------------------------|-------|-------|--------|
| when No   |   |                          |       |       | 8.091  |
| Attention at  |   |                          |       |       | 0.257- |
| six-months  |   |                          |       |       | 1.817  |
| Response to   | ≤1 aversive techniques  | ≤1 aversive techniques   | 0.015 |       |        |
| Bad   | ≥2 aversive techniques  |                          | 0.111 | 2.708 | 0.796- |
| Behaviour   | Not applicable  |                          | 0.033 | 0.44  | 9.211  |
| when  |   |                          |       |       | 0.207- |
| Separated at  |   |                          |       |       | 0.936  |
| Home at six-  |   |                          |       |       |        |
| months  |   |                          |       |       |        |
| Puppy   | No  | No                       |       |       |        |
| Behavioural   | Yes   |                          | 0.013 | 2.553 | 1.220- |
| Problem at  |   |                          |       |       | 5.341  |
| six-months  |   |                          |       |       |        |
| Response to   | No cuddle mentioned   | No cuddle mentioned      |       |       |        |
| Good  | Cuddle mentioned  |                          | 0.002 | 2.826 | 1.458- |
| Behaviour   |   |                          |       |       | 5.476  |
| upon Return   |   |                          |       |       |        |
| at six-months                                       |   |                          |       |       |        |
| Response to   | ≤1 aversive techniques  | ≤1 aversive techniques   | 0.003 |       |        |
| Bad   | ≥2 aversive techniques  |                          |       |       |        |
| Behaviour   | Not applicable  |                          | 0.052 | 8.143 | 0.985- |
| upon Return   |   |                          |       |       | 67.303 |
| at six-months                                       |   |                          | 0.011 | 0.425 |        |
|   |   |                          |       |       | 0.219- |
|   |   |                          |       |       | 0.823  |
| Response to   | No greet or tell off  | No greet or tell off     | 0.001 |       |        |
| Bad   | Greet and/or tell off   |                          | 0.033 | 2.485 | 1.074- |
| Behaviour   | No greet or tell off but  |                          | 0.171 | 0.571 | 5.748  |
| upon Return   | NA  |                          |       |       | 0.256- |
| at six-months                                       |   |                          |       |       | 1.275  |
| -<br>C  |   |                          |       |       |        |
| Greet/Tell Off                                      | N   | N.                       | 0.004 |       |        |
| Response to   | No  | No                       | 0.001 | 2 227 | 0.056  |
| Bahaviavy   | play/stroke/cuddle/greet  | play/stroke/cuddle/greet | 0.063 | 2.237 | 0.956- |
| Behaviour   | Play/stroke/cuddle/greet Not applicable                                 |                          | 0.053 | 0.481 | 5.234  |
| upon Return at six-months                           | NOT ANNICANIE   |                          |       |       | 0.229- |
| at six-months                                       | Not applicable  |                          |       |       |        |
| at one months                                       | Not applicable  |                          |       |       | 1.01   |
| -<br>'Fuss'   | Not applicable  |                          |       |       | 1.01   |
| _   | No.   | No                       |       |       | 1.01   |
| –<br>'Fuss'   |   | No                       | 0.094 | 1.771 | 0.908- |
| -<br>'Fuss'   | No  | No                       | 0.094 | 1.771 |        |
| 'Fuss' Showing Teething at                          | No  | No<br>Yes                | 0.094 | 1.771 | 0.908- |
| -<br>'Fuss'<br>Showing<br>Teething at<br>six-months | No<br>Yes   |                          | 0.094 | 1.771 | 0.908- |
| 'Fuss' Showing Teething at six-months Vet Visit at  | No<br>Yes<br>Some visit of any type                                     |                          | 0.094 | 1.771 | 0.908- |
| 'Fuss' Showing Teething at six-months Vet Visit at  | No<br>Yes<br>Some visit of any type<br>(Yes or No, but a vet            |                          | 0.094 | 1.771 | 0.908- |
| 'Fuss' Showing Teething at six-months Vet Visit at  | No<br>Yes  Some visit of any type (Yes or No, but a vet visited my home |                          | 0.094 | 1.771 | 0.908- |

Not at all, my puppy has not seen a vet in the last two months