



Are whippets and Italian Greyhounds “breedist” when deciding whether to join other dogs in play? A survey among Italian caretakers

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Abstract: Dogs modulate their social behavior in response to the species of the other partner(s) and to the situation or context of the interaction. In the present study, reluctance to join other dogs in play, exhibited by whippets and Italian greyhounds (two sighthound breeds) was investigated, regarding breed. The effects of the possible canine play partner being another sighthound vs other breed/type, and of being in a fenced vs an unfenced area, was considered about caretaker perception. Data on a convenience sample of 75 dogs (38 Italian greyhounds, 37 whippets) were analysed using a generalized estimated equation with breed, age, sex as factors, the dog as individual, and the area, the breed/type of other dog and the interaction area*partner as within subject predictive variable. The dependent variable was the rating given to the dog by the caretaker regarding the reluctance of a dog to join other dogs in play in the four different situations resulting by the combination of area and partner. Overall, the sighthounds in the present study’s sample were quite willing to join other dogs in play, showing little reluctance (median 3 out of 10). Both investigated breeds (Italian greyhounds were more hesitant than whippets) and the breed/type of other dogs playing (dogs hesitating more if the prospective partner(s) was/were not (a) sighthound(s)) significantly influencing the hesitation, whereas the other factors in the model had no effect. Given the importance of play in the development of behavior and for maintaining positive welfare, further studies investigating factors influencing willingness to play in animals are needed.

Key Words: behavior, sighthound, social play.

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Introduction

Play behavior consists of different heterogeneous voluntary motor activities performed after birth that appear to be pleasurable and to lack a direct utilitarian purpose, apart from the pleasure of the activity itself, in which motor patterns from other contexts may often be used in modified forms and altered temporal sequencing (Bekoff & Byers, 1981; Sommerville et al., 2017). Play has been described in many species, including primates (for a review, Loizos, 2017), dogs (for a review, Sommerville et al., 2017), cats (for a review, Delgado & Heckt, 2019), parrots (Diamond & Bond, 2003, O’Hara & Auersperg, 2017), reptiles (Dinets, 2015) and even bees (Galpayge Dona et al., 2022). Play is shown not only by juvenile but also by adult animals (Loizos, 2017; Sommerville et al., 2017; Delgado & Heckt, 2019). The presence of play behavior is recognized as a sign of a positive welfare (Boissy et al., 2007) or at least indicates a reduction in negative emotional states (Ahloy-Dallaire et al., 2018), although some conditions must apply (Sommerville et al., 2017). Although the functions of play are still somewhat debated, it has been linked with improving motor, cognitive and social skills, and increasing social cohesion (Sommerville et al., 2017). Indeed, in many species, including canids (Cafazzo et al., 2018), social play (play directed toward another individual) is an important form of affiliative social behavior, and of parental behavior, when occurring between a parent and their offspring (Lezama-García et al., 2019).

Dogs have been shown to modulate their social behavior depending on the context, including their freedom of movement and the number and identity of the other individual/s. Dogs

were found to interact less with other dogs, including playing, when leashed (Westgarth et al., 2010; Řezáč et al., 2011), however in an off leash area, more non-contact behavior was initiated, when intermediate levels of dogs were present (Howse et al., 2018). Regarding the identity of the other individual, dogs have been found to differentiate playing with other dogs from playing with people (Rooney et al., 2000), but playing asymmetry did not differ between strange and familiar dogs (Cordoni et al., 2016). Indeed, the motivation to play with other dogs did not decrease with frequency of play with people, and vice versa, and the frequency of varying morphological patterns of play differed between the two situations (Rooney et al., 2000). Dogs were also found to play more with similarly sized individuals and, in the case of male dogs, with females rather than with other males (Řezáč et al., 2011). However, to our knowledge, the effect of the morphology other than size of the other dog (whether similar or not) or of the presence of a fence surrounding the area in which the action takes place on social play in dogs has not been investigated.

Therefore, the aim of the present study was to investigate the response of a sighthound to other dogs. We considered the effects of the other dog being/not being another sighthound and the effect of being in a fenced vs an unfenced area, on the reluctance/hesitation of whippets and Italian greyhounds (IG), to join other dogs in play as perceived by their caretakers. The whippet and the IG are the smallest two of the sighthound breeds, as classified by the Fédération Cynologique Internationale (FCI). Our hypotheses were that:

- 1) dogs would be more willing (i.e., hesitate less) in joining dogs who were more similar to them (i.e., other similarly sized sighthounds) and
- 2) they would be more willing to do so in an un-fenced area which did not restrict their movements.

Materials and Methods

The results detailed in the present paper are part of a larger survey on the behavior of whippets and IGs. A dedicated online questionnaire, based on the relevant scientific literature (Elliott et al., 2010; Thomas et al., 2017) was used (Normando et al., 2021). The questionnaire included several sections: demographics, management, health problems, general behavior, behavioral issues, satisfaction with the dog, and signs of positive emotional states. In the general behavior section, four questions investigated the effect of some characteristics of the context in which there was reluctance to engage in intra-specific play. In particular, they investigated whether the sighthound “when off leash, hesitated to join other similarly sized dog(s) in play” in different situations.

The situations detailed in the questions were:

1. The other dog(s) were sighthounds and the action took place in an enclosed/fenced area;
2. The other dog(s) were not sighthounds and the action took place in an enclosed/fenced area;
3. The other dog(s) were sighthounds and the action took place in an unfenced area;
4. The other dog(s) were not sighthounds and the action took place in an unfenced area.

For all the questions, possible answers were on a Likert scale (1 (not at all) to 10 (completely)). Repeatability of all items in the questionnaire was tested using (weighted) Ks (Bateson & Martin, 2021, pp. 162-165) on a separate sample of 30 dog caretakers completing the questionnaire twice with a time interval of approximately 10 days. Unfortunately, there were many missing data in the responses to the four questions targeted in the present study (up to 50.3% in those regarding playing with sighthounds), due to many caretakers stating that they had never encountered the described situation, greatly reducing sample size. This notwithstanding, the dependent variables used in the present study showed substantial to almost perfect agreement, with weighted K values between 0.72 and 0.92.

From the convenience sample of 326 dogs included in the wider study, we selected only the dogs who were rated on all four questions, where the caretaker did not indicate that the situation did not apply, and for those sighthounds who were not living with other sighthounds or with

other breeds. The latter was done to avoid familiarity possibly confounding the results.

On the resulting sample, after descriptive statistics, a generalized estimated equation (ordinal logistics) was run with breed (two levels; IG vs whippet), age (in years), sex (2 levels: male vs female) as factors, the dog as individual, and the area (2 levels: fenced vs unfenced) and the type of other dog (2 levels: with sighthound vs with non-sighthound type dogs) as within subject predictive variable. The interaction area*partner was also added as possible predictive variable to the model. The dependent variable was the rating given to the dog by the caretaker regarding the reluctance of the dog to join other dogs in play. Given the subjective nature of rating scales, even when numerical, we considered the dependent variable as ordinal for this analysis, as suggested by Bateson and Martin (2021, pp. 91-93). Cronbach alpha tests were run on the data regarding both all four play situations, and for pairs of them, in order to assess whether a common construct could be underlying the dogs' reactions within the different contexts. For all tests, alpha was set as = 0.05. The statistical analyses were completed using SPSS software (SPSS ver. 27, IBM, Armonk, NY, USA).

Results and Discussion

From the convenience sample of 329 dogs in the general survey, only 75 (38 IGs, 37 whippets, mean age \pm standard deviation (SD) = 3.6 \pm 2.8 years) qualified for the present study. Among the IGs, 12 were intact females, 6 spayed females, 1 castrated male, 19 intact males. Among the whippets, 13 were intact females, 6 spayed females, 1 castrated male, 17 intact males. The main reason for exclusion (155 dogs) was living with other dogs (103 with other whippet(s)/IG(s), 26 were living with non-sighthound breed/type dog(s), 15 with both non-sighthound breed/type dog(s) and other whippet(s)/IG(s), 9 with larger sighthound(s), 2 with both non-sighthound breed/type dog(s) and larger sighthound(s)).

Overall, the sighthounds in the present study's sample were quite willing to join other dogs in play, showing little reluctance (median 3 out of 10). Both the breed and the breed/type of other dog/s playing, significantly influenced hesitation to play, whereas the other factors in the model had no effect (Table 1). Our first hypothesis was thus confirmed, however the second was not.

Table 1. Factors influencing reluctance to join other dogs in play (GEE results)

Factor	Wald Chi-Square	df	Sig.	Difference
Age	1.776	1	0.183	-
Area	0.477	1	0.490	-
Breed	5.551	1	0.018	IGs more reluctant than whippets (median 2 vs 4)
Companion	7.653	1	0.006	Dogs were less reluctant to join other sighthounds than non-sighthound type dogs (median 4 vs 2)
Sex	0.439	1	0.507	-
Area*	0.316	1	0.574	-
Companion				

The four dependent variables included in the present study had good internal consistency (Cronbach alpha 0.86, George & Mallery, 2003), suggesting the presence of the same underlying construct (i.e., willingness to play). Interestingly, when the variables were analysed two by two, those where the dogs were of same breed/type and a different area (i.e., fenced vs unfenced) had good consistency (sighthounds 0.87; non-sighthounds 0.86), whereas those with the same area and of differing breeds/types had only acceptable consistency (unfenced area 0.70, fenced area 0.73).

The results of the present study support the hypothesis that dogs, in particular whippets and IGs, modulate their play behavior dependent on breed and morphological characteristics of the

other individual(s) involved in play, as found by Rooney et al. (2000) concerning play partners belonging to different species, and by Řezáč et al. (2011), concerning size and sex within the same species. The present study expands on the finding that the type of individual (other sighthounds vs non-sighthounds) within the same species and size can make a difference in preference for play partners. The whippets and IGs in the sample showed more willingness to play with other similarly sized sighthounds than with other similarly sized non-sighthound breed/type dogs, and this could contribute to explaining why they are often kept with other whippets and IGs (as seen in the general survey sample), as might the finding by Schatz et al., (2021), that breed difference in mimic facial muscles may create difficulties in dog intraspecific communication, particularly in brachycephalic breeds. Additionally, it may be that sighthound owners have an exclusive breed preference. As sighthounds appear to be kept with others of their breed type, it raises a question for further research as to whether this may have influence on their preferences for social partners, which was not investigated in this study. This finding could have potential practical use when planning structured social play sessions for dogs, also as negative emotional states, such as frustration, can be linked with motivational conflict in the case of a dog being motivated to play, but hesitating due to circumstances or context.

On the contrary, we did not find any influence of the area being fenced vs unfenced. This somewhat contradicts what was found by Westgarth et al. (2010) and Řezáč et al. (2011), in that the degree of freedom of movement did not have an effect in the present study. However, a larger size fenced area, may not be perceived by dogs as restrictive to their autonomy regarding mobility, as a leash, or the difference could be due to methodology, as the present study was based on the perception of the caretakers, whereas Westgarth et al. (2010) and Řezáč et al. (2011) used actual behavioral observations.

The present study was based on volunteers taking part in a survey and, thus, all the limitations of this type of study, regarding representativeness of the sample and reliability of answers, apply (Cohen & Todd, 2019; Krumpal, 2013; Rosenthal, 1965). Moreover, due to the high percentage of dogs living with other dogs, which was an exclusion criterion for the present study, the sample was relatively small.

Conclusions

Social play is an important element of the behavior of many species which can have welfare significance (Boissy et al., 2007), and it is therefore important to investigate which factors promote the expression of this behavior. The present study is the first attempt at investigating factors, which may influence dogs' willingness to join other dogs in intra-specific social play, which supports that the similarity of the potential play partner can have an effect on this.

Given the significance of social play in dogs and of affiliative behavior in general, for positive animal welfare, further studies are needed to test our hypothesis in other whippet/IG populations, including the possible influence of same breeds vs different breeds kept together, dogs kept singly or other factors possibly affecting dogs' willingness to play with unknown dogs.

Ethical statement

Respondents were advised about their rights, data management and protection in accordance with the Regulation (EU) 2016/679 and they were asked to express their informed consent to take part in the study. No Ethical committee approval is needed in Italy for this kind of studies. This notwithstanding, an assessment was asked to the Institutional Review Board of the University of Padua, that reviewed and approved the research (OPBA protocol 52/2022).

Conflicts of interest

All authors report no conflicts of interest: none of the authors has any financial or personal relationships that could inappropriately influence or bias the paper's content.

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I levrieri italiani e Whippet sono “razzisti” quando decidono di giocare con altri cani? Un’indagine tra i possessori di cani di queste razze

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Sintesi

I cani modulano il loro comportamento sociale in risposta alla specie dell’altro o degli altri partner e alla situazione o al contesto in cui si svolge l’interazione. Nel presente studio è stata analizzata, utilizzando le risposte date dai caregiver, la riluttanza a giocare con altri cani, manifestata da whippet e piccoli levrieri italiani a seconda che il cane partner fosse o meno un altro levriero e che l’interazione potesse avvenire in un’area recintata o non recintata.

I dati relativi a un campione di 75 cani (38 levrieri italiani, 37 whippet) sono stati analizzati utilizzando un’equazione stimata generalizzata con razza, età e sesso come fattori, il cane come individuo e l’area, la razza/tipo dell’altro cane e l’interazione area*partner come variabili predittive interne al soggetto. La variabile dipendente è stata la valutazione data al cane dal caregiver riguardo alla riluttanza del cane a unirsi ad altri cani nel gioco nelle quattro diverse situazioni risultanti dalla combinazione di area e partner. Nel complesso, i levrieri del campione del presente studio erano abbastanza disposti a unirsi ad altri cani nel gioco, mostrando poca riluttanza (mediana 3 su 10). Sia la razza (i piccoli levrieri italiani erano più esitanti dei whippet) sia la razza/il tipo di altri cani che giocavano (maggior esitazione se i potenziali partner non erano levrieri) hanno influenzato significativamente l’esitazione, mentre gli altri fattori del modello non hanno avuto alcun effetto. Stante l’importanza del gioco per il corretto sviluppo comportamentale del cane per il suo benessere sono necessari ulteriori studi che indaghino possibili fattori che influenzino la propensione al gioco negli animali.