

Social play and its initiation in an established group of young domestic horses

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Introduction Although ethograms of social play behaviour have been formulated (McDonnell & Poulin, 2002; Zharkikh, 2003) few studies focus on equine social play (Christensen *et al.*, 2002). Social play studies have largely focussed on the time budgets and generalised interactions between herds (for example Boyd, 1988) rather than specific social behaviour sequences between limited numbers of horses. However, by observing pairs or small groups of animals, much may be learned about the dynamics of social communication in a particular species (Kalmus, 1969; Poole, 1972). Although play appears to be considered as either functionless or as serving different roles depending on species, age and even sex of individuals Burghardt (2006) speculated that 5 selected advantages in the performance of play within the behavioural repertoire of an animal existed, control, adaptive function, development, evolution and private experience. Further knowledge of equine social play may be of benefit to equine welfare and performance. The aim of the current study was to describe and quantify the involvement in social play and its initiation within an established group of young horses.

Materials and methods An established grazing group of 8 horses aged between 18 months and 3 years were observed in a single 8 acre pasture enclosure. The group had been managed together at pasture for over 9 months. The enclosure possessed abundant, evenly distributed, grass and water and mineral blocks were available *ad libitum*. Human interference was minimised and horses received no additional food (Christensen *et al.* 2002). Observations were made from outside the enclosure perimeter following a period of acclimatisation. Behavioural data were collected during 100 hours of direct observation using continuous behaviour sampling for 2 hour periods between 06.30 and 08.30 hours. Social play behaviours were recorded using McDonnell and Poulin's ethogram (2002) which includes social object play, social locomotory play, play fighting and play sexual behaviour, and by definition involves more than one participating horse. A social play bout was recorded as commencing when one of these behaviours was exhibited by a horse, the initiator, and ended when a behaviour was observed that was not classified by McDonnell and Poulin (2002) as being a social play behaviour.

Results A total of 134 social play bouts were noted, giving a mean frequency of 1.34 social play bouts per hour. Social play bouts were observed in 71 of the 100 hours of observation. Therefore during 29 hours of the study, no social play was displayed. Of the 134 social play bouts observed 115 were initiated by an individual horse and 19 by groups of horses. The number of play bouts initiated by individual horses ranged between 3.0% and 50.7% and this number significantly varied between individuals (X^2 , $df=7$, $p<0.001$). All horses were solely responsible for the initiation of at least 2 social play bouts (mean \pm SD, 14.38 ± 15.14), however 2 horses were not part of groups initiating play (see table 1). The mean (\pm SD) number of group initiations individuals participated in was 5.75 ± 7.21 and significantly varied between individuals (X^2 , $df=7$, $p<0.001$). Of the 19 social play bouts initiated by groups, 3 were initiated by a pair of individuals, the majority (12) were initiated by 3 individuals, 2 by 4 individuals, 1 by 5 individuals and 1 by 6 individuals. H3 initiated 50.7% of all social play bouts and initiated the most social play bouts as an individual and as a member of the group.

Table 1 Frequency of social play bouts initiated by individual horses

| Initiation | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 |
|------------|-----|------|------|-----|------|------|-----|-----|
| Sole | 4 | 15 | 49 | 9 | 15 | 17 | 2 | 4 |
| Group | 0 | 0 | 19 | 2 | 3 | 15 | 2 | 5 |
| Total | 4 | 15 | 68 | 11 | 18 | 32 | 4 | 9 |
| % of bouts | 3.0 | 11.2 | 50.7 | 8.2 | 13.4 | 23.9 | 3.0 | 6.7 |

Conclusion Social play was observed in the established group young horses and all individuals were involved in its initiation. The majority of social play bouts were initiated by a single individual, however up to 6 individuals were involved in the initiation of a single play bout. Although all individuals were observed to initiate social play they were not equally represented with one individual involved in the initiation of more than half of the social play bouts observed. These results highlight that social play is a regular part of the behavioural repertoire of young horses, even when in an established group. Young horses kept in isolation will therefore be lacking the opportunity to express these behaviours that literature is increasingly demonstrating have real and adaptive benefits to the developing animal. Whilst further research in this area is required, there is sufficient weight of evidence to suppose that welfare may be reduced by preventing the expression of these behaviours.

References

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