Farmers' attitudes and calf welfare on dairy farms with cow-calf contact or early separation

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INTRODUCTION

Cow-calf contact (CCC) systems in contrast to early separation (ES) are of increasing importance. Farmers' attitudes are predictors of their behaviour and, subsequently, animal welfare. We hypothesized that CCC farmers would show more positive attitudes, calf welfare on CCC farms would be better, and that attitudes would be correlated with welfare across systems.

METHODS[1]

- 50 dairy farms in Austria
  – 25 ES, 3-24 (11.8 ± 5.83) calves, 40 calf caretakers
  – 25 CCC, 2-23 (9.3 ± 5.21) calves, 37 calf caretakers
- **Welfare Quality® protocol** (WQP) for dairy calves[2]
- **Questionnaire** on stockpeople's **beliefs about cows** and on **attitudes towards handling** them: in total 111 items on 7-point Likert Scales[3]

RESULTS – Calf Caretakers' Attitudes

- Principal Component Analysis: **14 attitude factors**

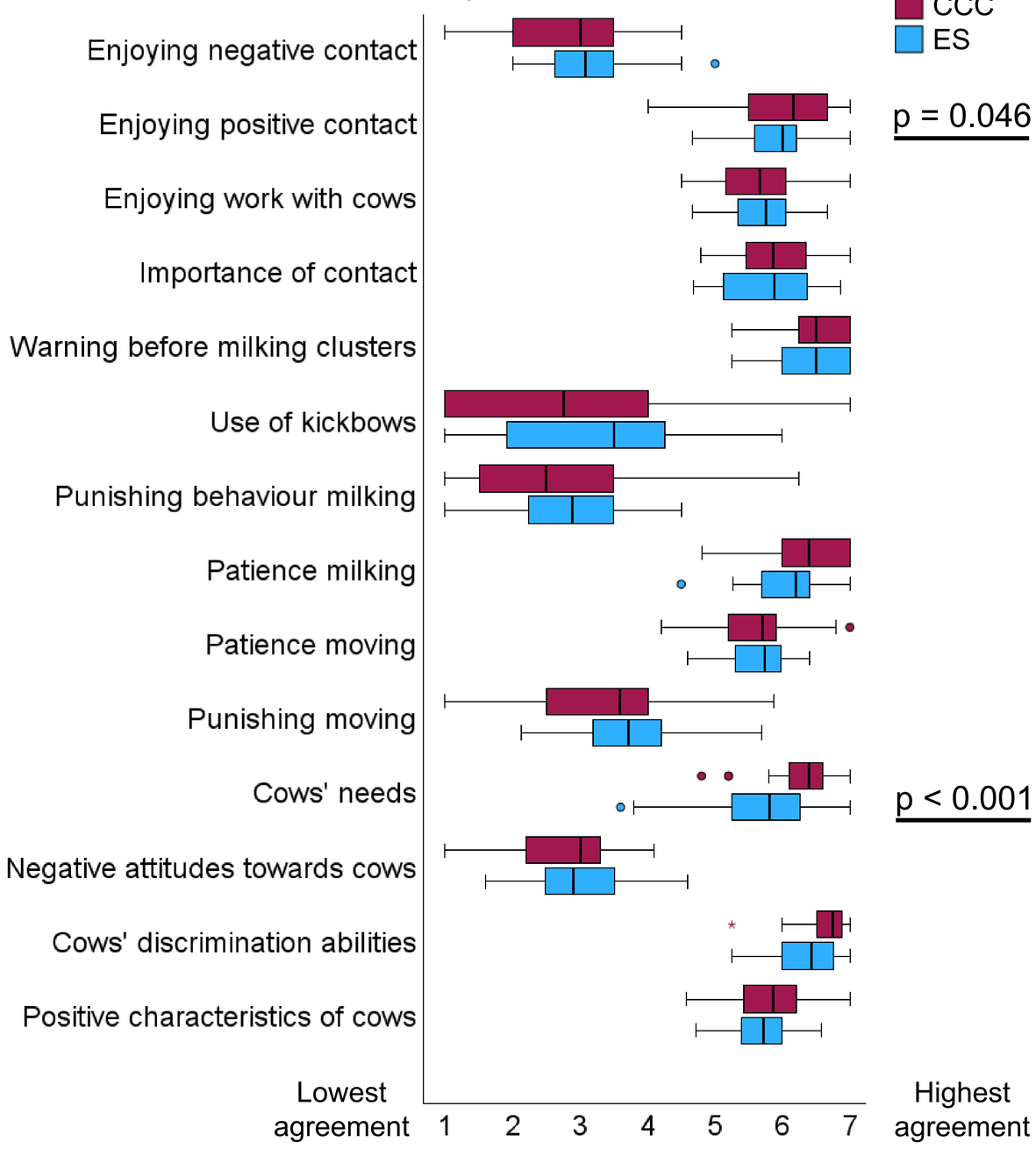

Fig. 1: Attitude factors of calf caretakers on ES and CCC farms. Statistical test: Mann- Whitney U-Test

DISCUSSION AND CONCLUSION

More positive attitudes of calf caretakers and CCC, being also interlinked, contribute to better welfare of calves which is in line with previous studies[3,4,5]. However, effects were rather weak. This was partly expected because the attitude questionnaire was not specifically designed for attitudes towards calves, their handling and caring but mainly for cows[4]. Moreover, the results are influenced by a selection bias especially in the ES farms (convenience sample of farms).

RESULTS - Calf welfare: WQP Data[1]

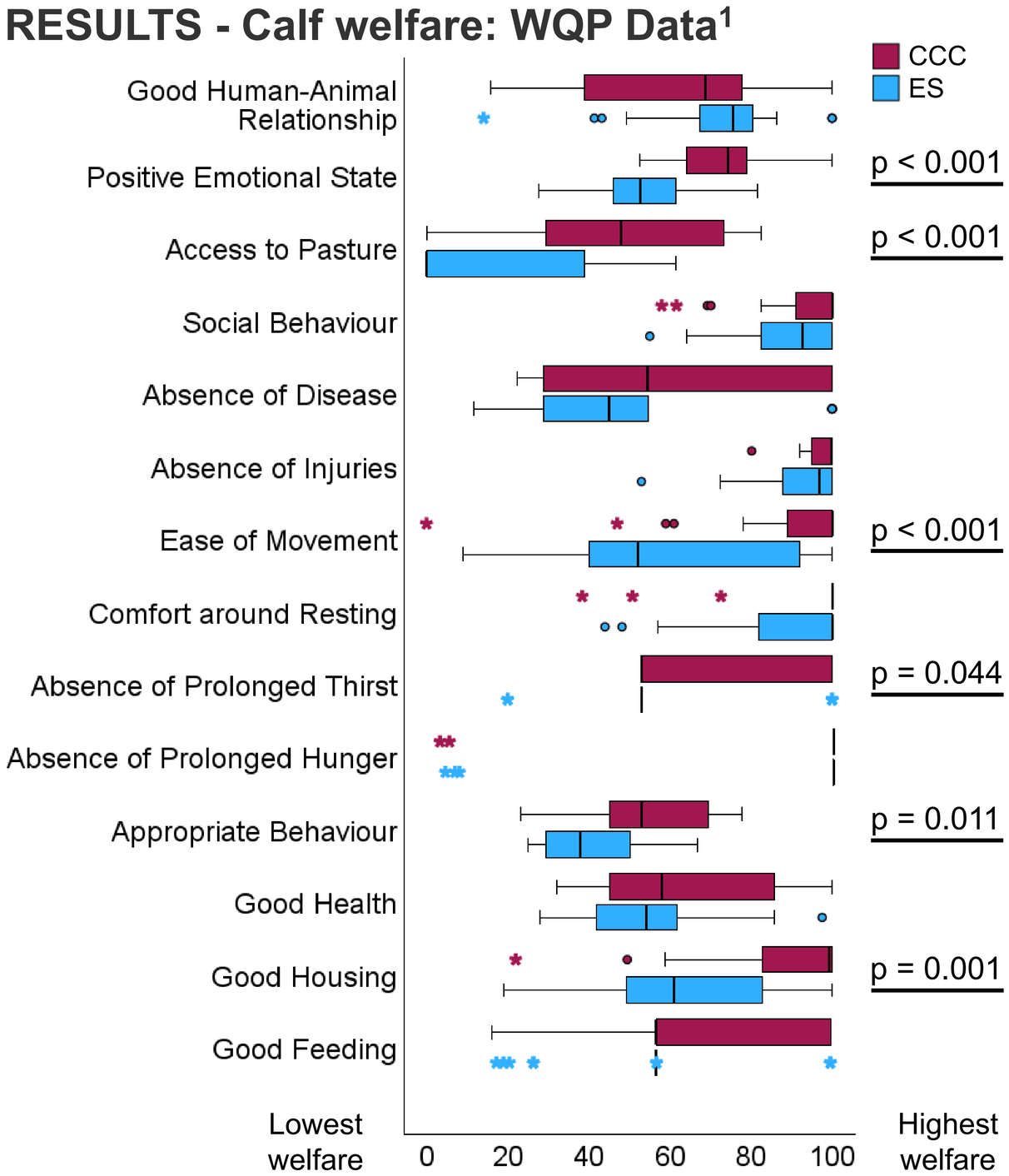

Fig. 2: Welfare Quality® Criterion and Principle Scores of calves on ES and CCC farms. See Rademann et al., 2025[1] (**QR Code**) for detailed description of single measures and aggregation to WQP Scores Statistical test: Mann-Whitney U Test.

Observed but not included in WQ calculation: **Less non-nutritive oral behaviours in CCC calves** (Mann-Whitney U Test, p = 0.030)

RESULTS – Correlations Attitude and Welfare

WQ principle or criterion	Good feeding		Appropriate Behaviour		Absence of Prolonged Thirst		Access to Pasture	
	r_s	p	r_s	p	r_s	p	r_s	p
Attitude factor								
Punishing behaviour milking	-0.422	0.002	-0.333	0.02	-0.358	0.01	-0.336	0.02
Enjoying negative contact	-0.370	0.008			-0.280	0.05		
Patience milking					0.281	0.05		
Warning before milking clusters							-0.290	0.04

Tab. 1: Significant (p ≤ 0.05) results of Spearman correlation of WQP Scores and attitude factors. No significant correlations were found for the other parameters.

[1]Rademann et. al., 2025. Welfare of calves and heifers on dairy farms with cow-calf contact rearing or early separation. Frontiers in Veterinary Science. In press. doi: 10.3389/fvets.2025.1610084. [2]Gratzer et al., 2010. *On-farm welfare assessment in dairy calves and heifers*. Deliverables D2.32 and D2.33, subtask 2.4.4, EU Food-CT-2004-506508. [3]Waiblinger et al., 2002. The relationship between attitudes, personal characteristics and behaviour of stockpeople and subsequent behaviour and production of dairy cows. Applied Animal Behaviour Science 79, 195–219. https://doi.org/10.1016/S0168-1591(02)00155-7, [4]Hemsworth, P.H., Coleman, G.J., 2011. Human-livestock interactions: the stockperson and the productivity and welfare of intensively farmed animals, 2nd ed. ed. CABI, Wallingford. [5]Meagher, R.K., Beaver, A., Weary, D.M., von Keyserlingk, M.A.G., 2019. Invited review: A systematic review of the effects of prolonged cow–calf contact on behavior, welfare, and productivity. Journal of Dairy Science 102, 5765–5783. https://doi.org/10.3168/jds.2018-16021

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