Investigating Reliability of Qualified Saddle Fitters and Coaches When Observing Saddle Fit on the Horse During Ridden Exercise

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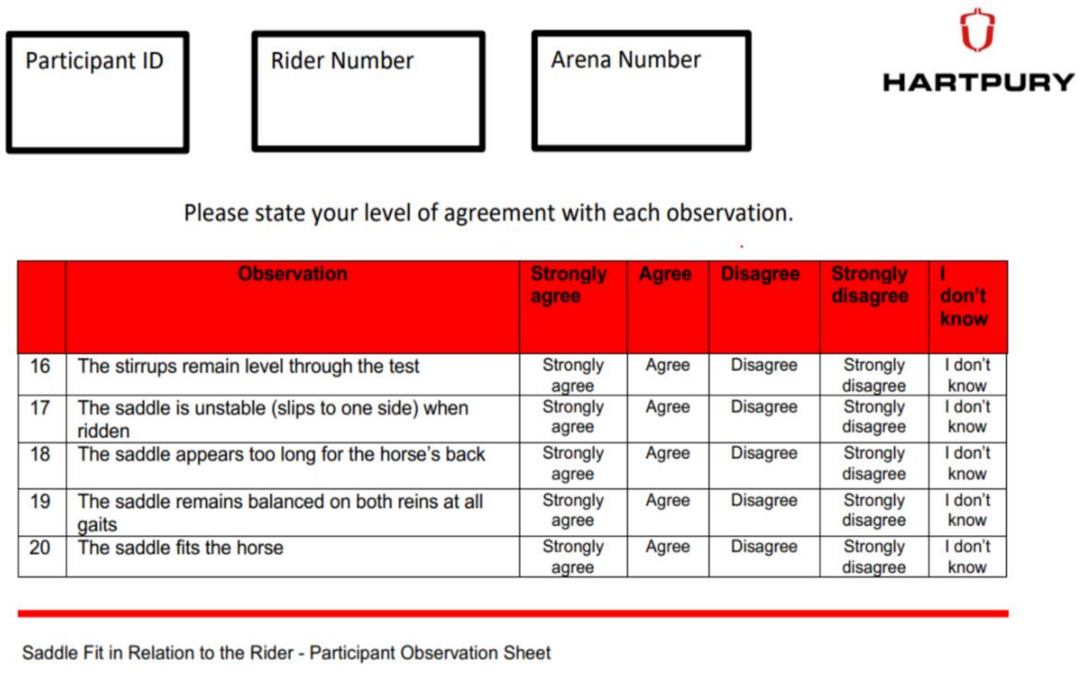
INTRODUCTION:

Saddles play a crucial role in horse-rider interaction, impacting balance, comfort and performance (Clayton *et al*., 2018). Ill-fitting saddles can compromise performance, alter kinematics and induce back problems and asymmetry in both horse and rider (Greve and Dyson, 2013).

- The saddle must be fitted to accommodate the horse's biomechanical movements and adjust accordingly to avoid the risk of uneven pressure distribution, discomfort and potential injury due to the saddle shifting (Clayton, O'Connor and Kaiser, 2014; MacKechnie-Guire *et al*., 2018)
- Regular assessments by a qualified saddle fitter (QSF) are recommended. Despite perception of professionalism and qualification status, subjective challenges within the saddle fitting industry persist (Guire *et al*., 2017).
- Recent research has underscored the significance of QSF and coaches as the primary individuals who observe horses under saddle within the team (Nankervis *et al.*, 2024). This emphasises the need for coach training in detecting ill-fitting saddles, to ensure consistency when communicating with riders and owners and effective multidisciplinary team function.
- This study addresses gaps in understanding agreement in dynamic saddle fit assessments among professionals, aiming to enhance industry standards and credibility.
- This study aimed to quantify agreement within three group variables: 1) among Society of Master Saddlers qualified saddle fitters, 2) among United Kingdom Coaching Club/British Horse Society qualified coaches and 3) between the two groups when observing saddle fit on the horse during ridden exercise, using Likert-scale observation sheets.

METHOD:

- Eight QSF and four coaches
- Twenty-nine horse-rider-pairs
- Participation required saddle fitting by a qualified saddle fitter within six months
- Simulated a dressage competition day with two 20x40m arenas beside each other
- Riders own saddle used
- Included rider-prescribed warm-up and standardised exercise test
- Likert-scale response options used for observation sheets related to dynamic saddle fit criteria – completed by each QSF and coach for each horse-rider combination
- Agreement was calculated using Fleiss Kappa (k), percent observed agreement and correlation tests



Participant ID | Rider Number | Arena Number

HARTPURY

Please state your level of agreement with each observation.

	Observation	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
16	The stirrups remain level through the test	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
17	The saddle is unstable (slips to one side) when ridden	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
18	The saddle appears too long for the horse's back	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
19	The saddle remains balanced on both reins at all gaits	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
20	The saddle fits the horse	Strongly agree	Agree	Disagree	Strongly disagree	I don't know

Saddle Fit in Relation to the Rider - Participant Observation Sheet

Figure 1. Horse-Rider-Saddle Fit Observation Sheet.

RESULTS: Agreement varied from poor to fair and was dependent on the criterion evaluated and the group assessed. Poor agreement was found for saddle length among coaches (k=-0.134) and between QSF and coaches (k=-0.041). Slight agreement was found across all group variables for stirrup level (1) k=0.207, 2) k=0.164, 3) k=0.158), and also for overall saddle fit (1) k=0.146, 2) k=0.170, 3) k=0.078). Slight agreement was found for saddle stability among QSF (k=0.129) and between the two groups (k=0.154), also for saddle balance (1) k=0.126, 3) k=0.152). Slight agreement was found for saddle length among QSF (k=0.049). Fair agreement was found among coaches for saddle stability (k=0.371) and saddle balance (k=0.306).

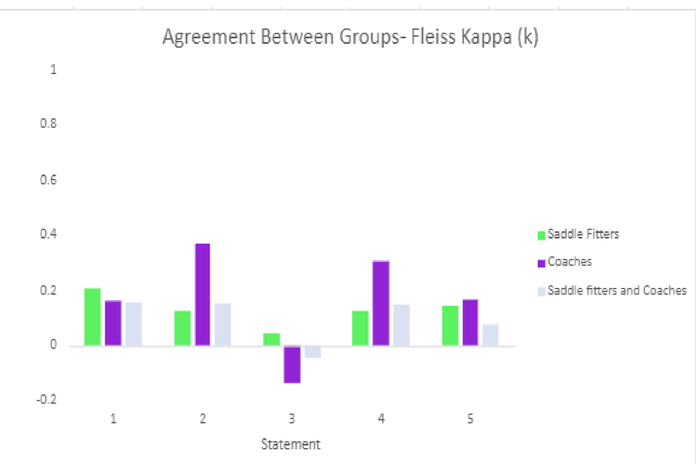


Figure 2. Column chart showing Fleiss Kappa results among QSF, among coaches, and between QSF and coaches.

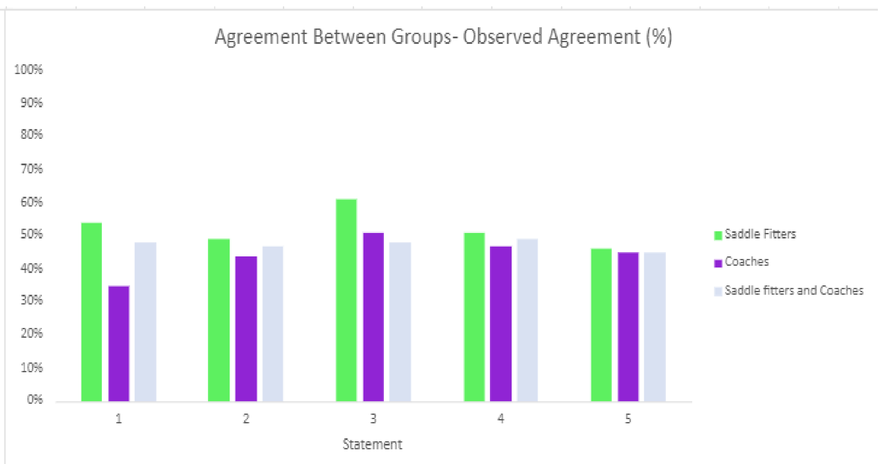


Figure 3. Column chart showing percentage observed agreement results among QSF, among coaches, and between QSF and coaches.

Figure 7. Horse-Rider-Pair (29) with the lowest observed agreement for both coaches and QSF regarding statement 3.

Figure 8. Horse-Rider-Pair (61) with the highest observed agreement among saddle fitters and between the two groups regarding statement 3.

DISCUSSION & CONCLUSIONS: This is the first study to have assessed agreement between qualified saddle fitters as well as coaches when observing saddle fit dynamically. The study found that there was limited agreement among QSF, among coaches and between the two groups when conducting a standardised, dynamic saddle fit observation and agreement levels varied, dependent on criteria. Lower agreement, particularly for saddle length, was suggested to be exacerbated by lacking standardised guidelines, time limitations, and reliance solely on visual assessment, indicating the need for additional tools, rider feedback, and palpation for comprehensive evaluations.

Differences in expertise between QSF and coaches, focusing on saddle modification versus rider aid modification respectively, reflect their distinct roles and expertise and may have affected agreement. The study highlights the subjective nature of saddle fitting, emphasising the need for standardised guidelines and objective measurement research to validate saddle fit. These findings underscore the necessity for collaborative efforts, standardised criteria, and objective approaches to enhance saddle fit assessments, ensuring correct saddle fit for optimal welfare and performance of horses.

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