

amongst equestrian riders.

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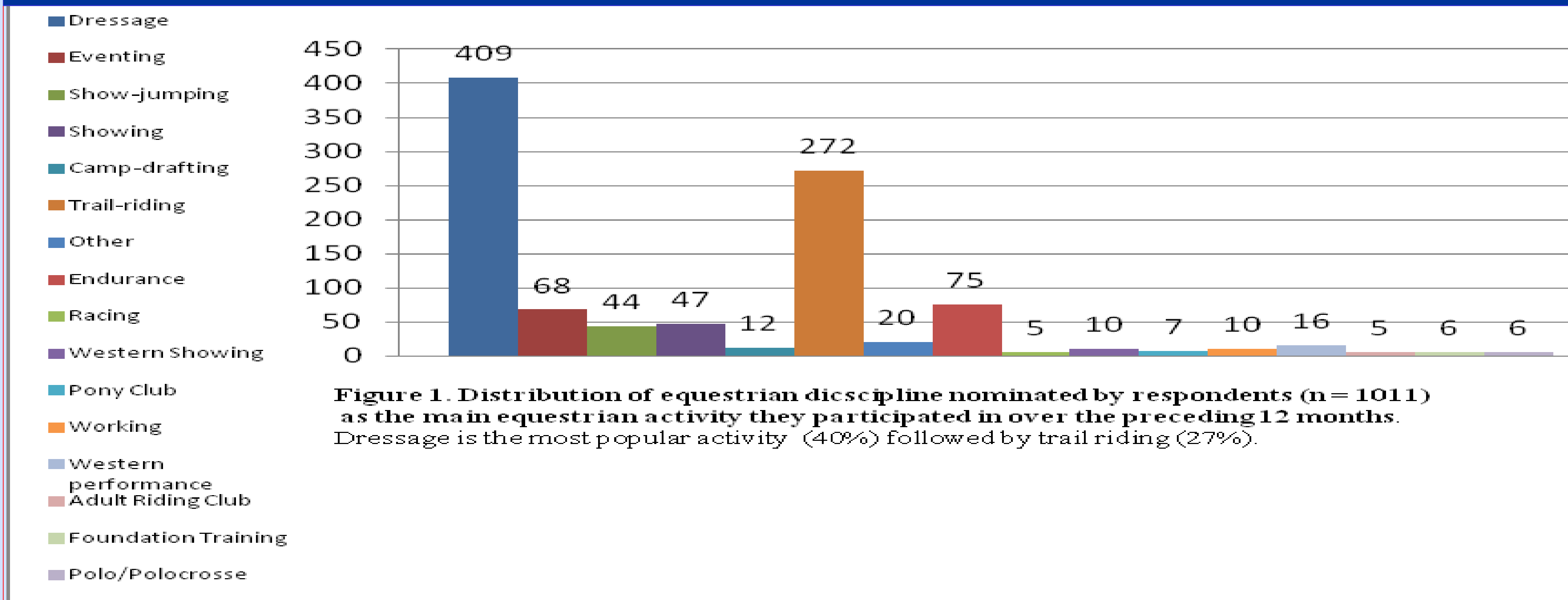


Figure 1. Distribution of equestrian discipline nominated by respondents (n = 1011) as the main equestrian activity they participated in over the preceding 12 months. Dressage is the most popular activity (40%) followed by trail riding (27%).

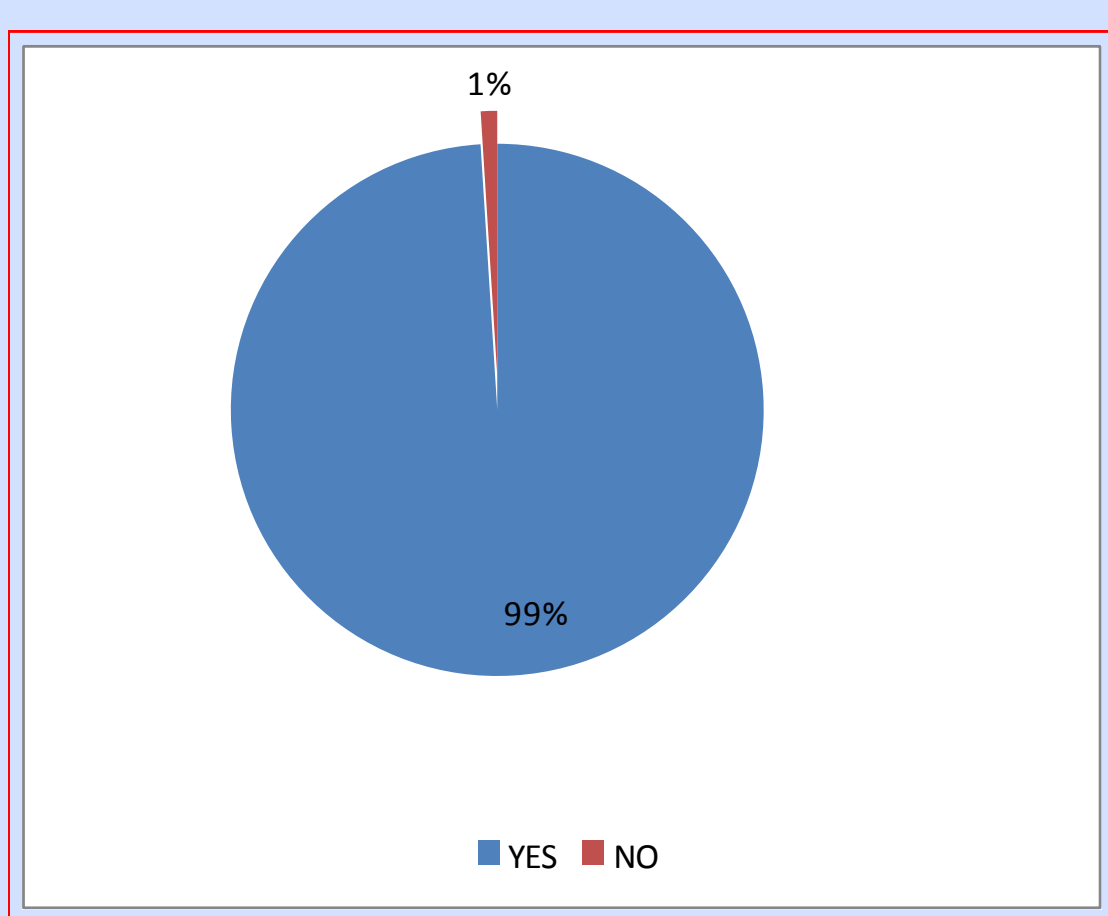


Figure 2. Usage of layer between saddle and horse's back. Only 14 respondents (n=1011) reported they did not use a layer between the saddle and the horse's back. Research on back pressure experienced by the ridden horse should account for this result as layers of material under the saddle may disperse or concentrate pressures. Use of saddle pads or blankets are to be encouraged in equitation science so that studies can more closely align with reality.

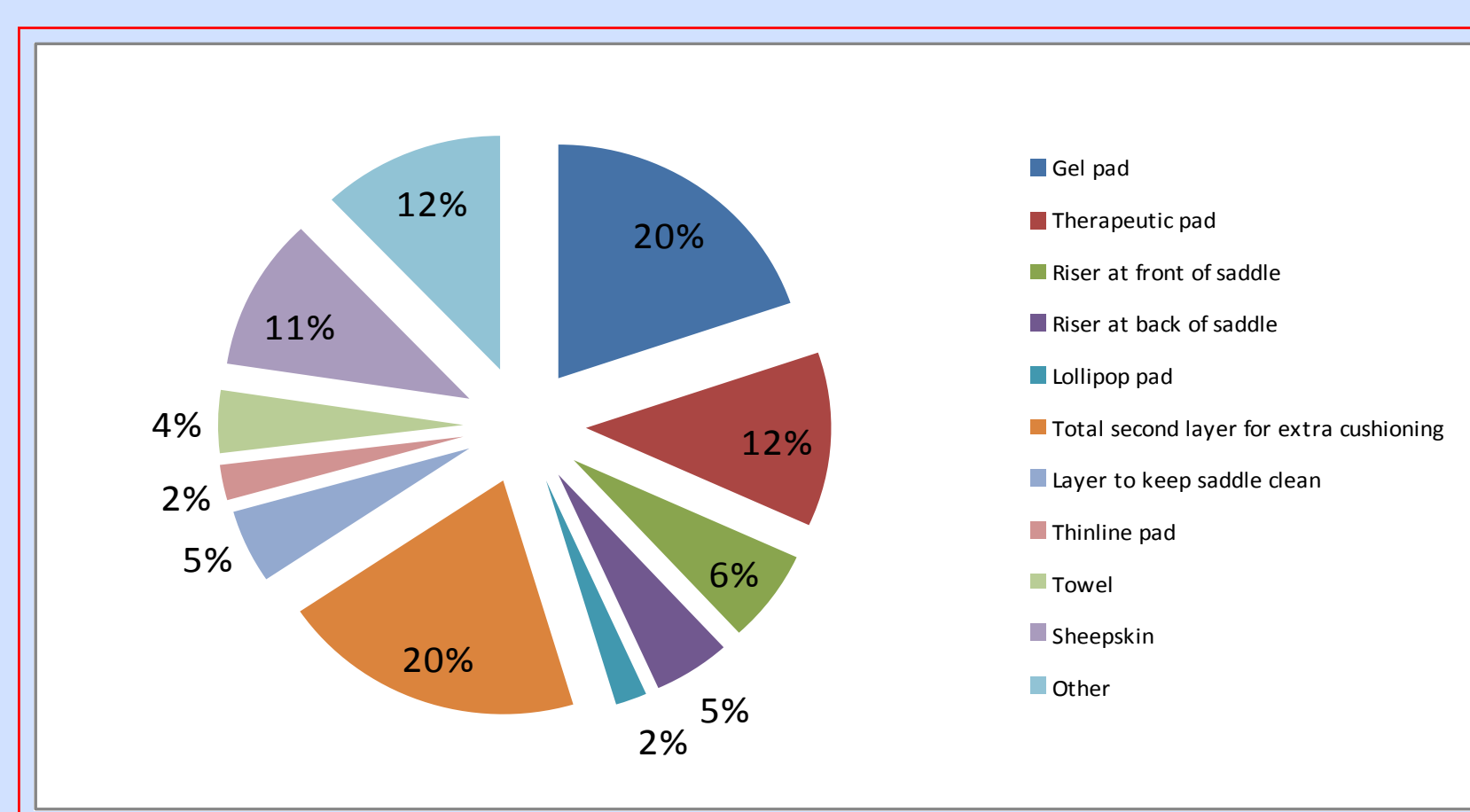


Figure 4. Types of products used by the 46% respondents who reported using more than one layer between their saddle and the horse's back. Overall 65% of respondents reported that total layer thickness was greater than 1 cm. This level of padding may make a well fitting saddle too narrow for optimum comfort. This is not the case in western style saddles which are designed to have a substantial layer between the thinly padded panels and the horse's back. However in this survey there was no significant association between western style riding and layers thicker than 1cm suggesting that thick layers under saddles are also used under other styles of saddle.

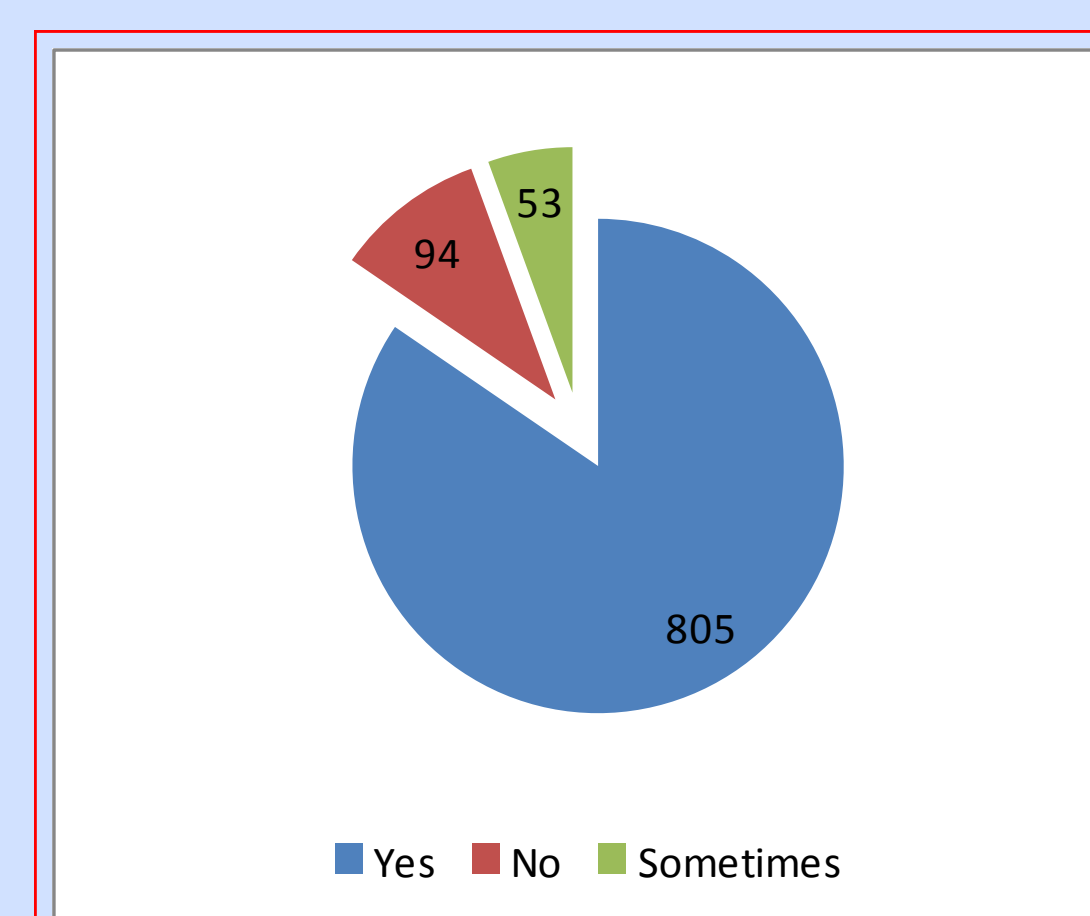


Figure 3. Distribution of respondents reporting they tuck the layer(s) up into the gullet of the saddle. Respondents involved in dressage and showing (p<0.001) and endurance and trail-riding (p=0.17) were most likely to report this behaviour. Tucking up was significantly associated with layer slipping down towards the spinous processes of the horse while being ridden (p<0.001) and the layer not changing position while riding (p<0.001). This suggests that factors not captured in this survey such as saddle fit, materials, horse conformation etc. maybe playing a role in the undesirable slipping down towards spinous processes behaviour of some layers and warrants further research.

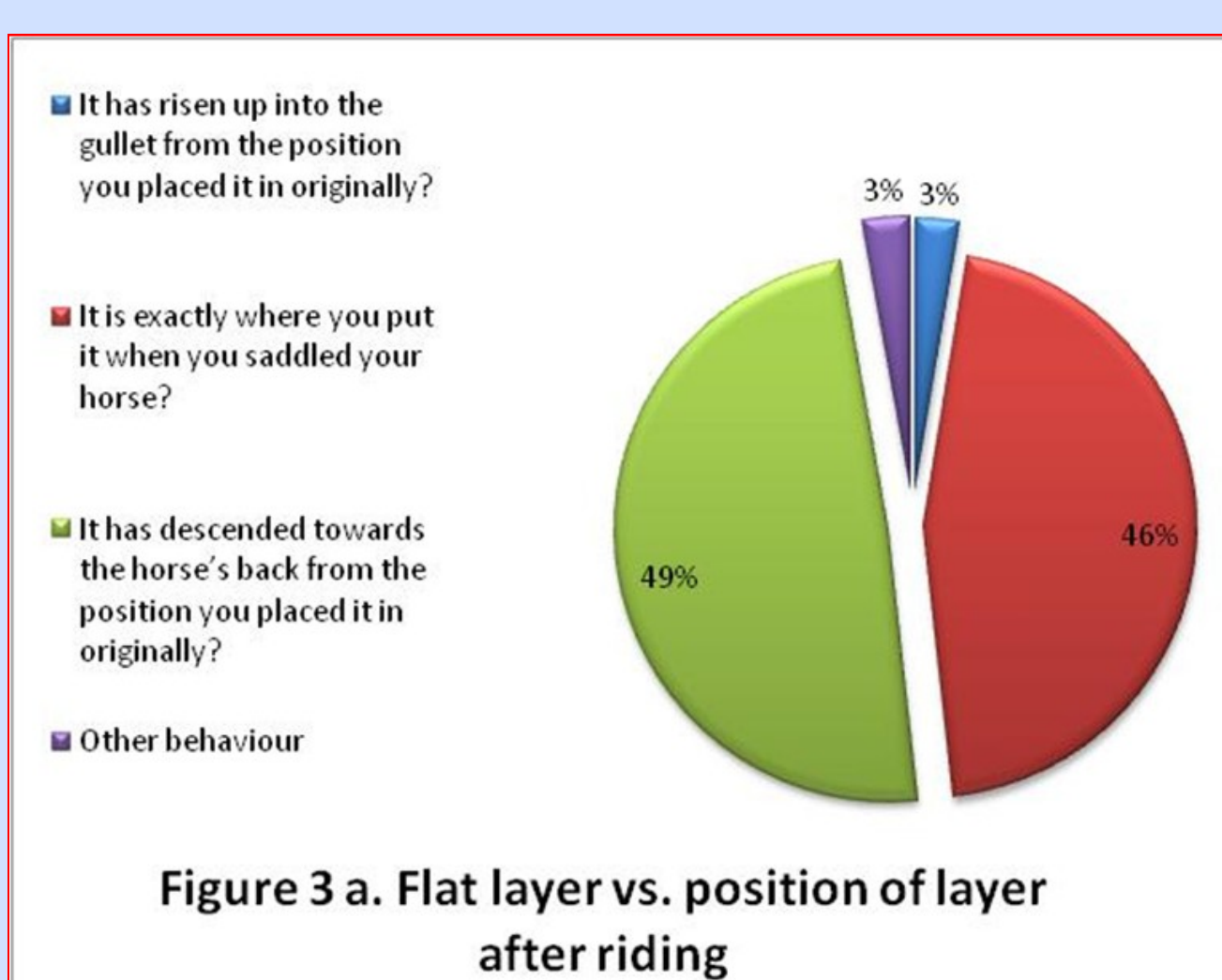


Figure 3 a & b. Comparison of layer type versus behaviour of layer while being ridden. Flat layers were reported to slip down towards the horse's back more than contoured layers. However tucking up into gullet when saddling (p<0.001), using a layer because that is the way the respondent was taught (p<0.001) and using a layer because it helps balance the rider (p=0.002) were associated with downward slipping of all layers. With type was not significantly associated with slipping behaviours.

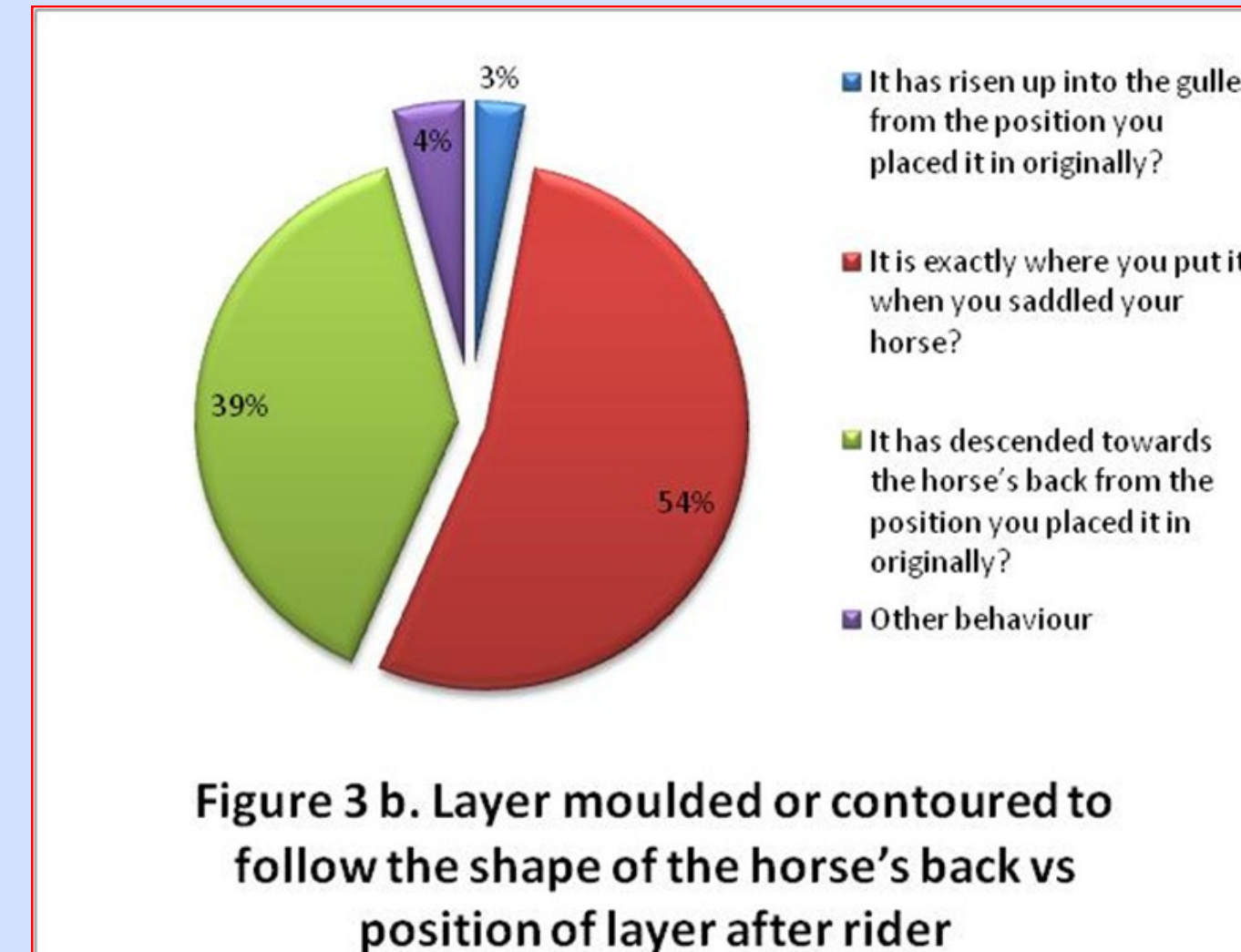


Figure 3 b. Layer moulded or contoured to follow the shape of the horse's back vs position of layer after rider

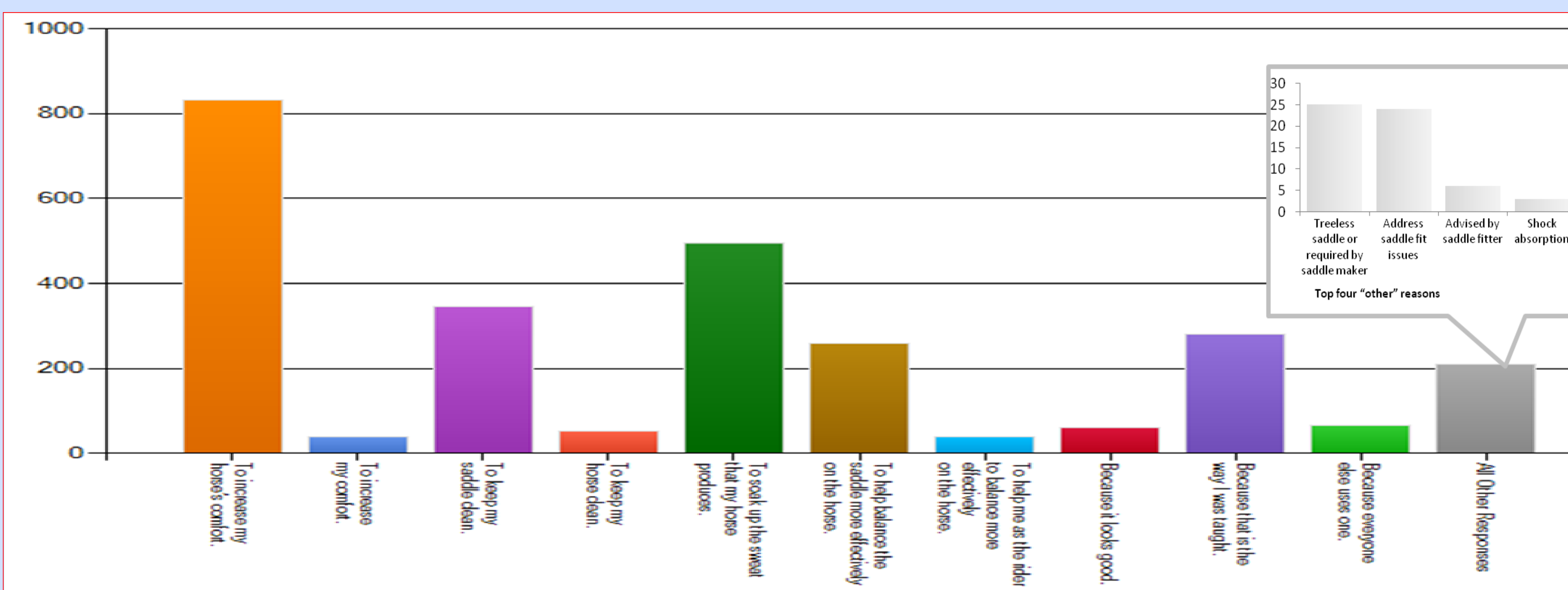


Figure 4. Frequency of reasons for using layers between horse's back and saddle. Respondents could nominate more than one reason. Break out graph shows top four reasons offered in other category. Even though helping to balance the saddle represented 27% of responses there is no evidence to suggest that layers can address poor saddle fit issues in the longer term. The well represented dressage group and the smaller showing group report similar influences as the "riding long periods" group with the addition of layer type (p= 0.02) and using the layer to help balance the rider (p = 0.036). Dressage respondents preferred a contoured layer while the smaller showing group preferred flat layer. There is no indication in the literature that any type of layer between saddle and horse can contribute to rider balance. It suggests a lack of understanding of not only equipment and materials but also equine and human biomechanics.

BACKGROUND

Contemporary saddle pads or blankets are produced in a wide variety of materials including cotton, foam, felt, leather and synthetic blends. Their manufacturers claim a myriad of roles, from correcting poor saddle fit to shock absorption and massage of the horse's back. These claims are not supported in the scientific literature (Harman 2004, Hofmann *et al*, 2006, Baltacis *et al*.2006). Saddle pressure studies conducted without such layers (Byström *et al*, 2010) may lack relevance for most working horses. Layers under the saddle sometimes slip down towards the horse's spinous processes entirely defeating the object of using a saddle with a gullet. We designed an online survey to characterise saddle pad usage and behaviour in the general equestrian community.

METHODOLOGY

A survey was run on the online survey engine "Survey Monkey" (www.surveymonkey.com). The study was approved by the University of Sydney Human Ethics Committee.

Questions included:

- Main equestrian discipline participated in over the previous 12 months
- Shape of horse's withers
- Nature of any layers used between the saddle and their horse's back including "extra" layers such as pads designed to raise specific parts of the saddle.
- Overall thickness of the padding
- If the layer was raised into gullet of saddle
- Girthing practices

Survey distributed through the equine media, industry bodies and the industry itself. It was open to respondents for three months. Logistic regression identified any explanatory variates for key responses. A 5% significance level was applied throughout

CONCLUSIONS

- Use of one or more layers between the saddle and back of the horse is common, across disciplines.
- Saddle pressure research should incorporate such layers.
- Many people tuck the layer up into gullet when saddling up.
- Many report downward slippage of the layer that can compromise equine welfare and performance.
- Use of extra layers suggests poor saddle fit.

REFERENCES

Baltacis, A., Hofmann, A., Schobesberger, H. and Peham, C. (2006) C. Evaluation of pressure distribution under a fitting saddle with different saddle pads. *Journal of Biomechanics* 39: S559-S559.
Harman, J. (2004) *The Horse's Pain-Free Back and Saddle-Fit Book*. Kenilworth Press, Addington, Buckingham.
Hofmann, A., Baltacis, A., Schobesberger, H. and Peham, C. (2006) Evaluation of pressure distribution under a too wide saddle with different saddle pads. *Journal of Biomechanics* 39: S559-S560.

