

Sheep Fatigue During Transport: Analysis of EU Regulation, Scientific Knowledge, and Stakeholder Perceptions

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Although sheep are commonly transported long distances, and sheep welfare during transport is a topic of research and policy discussion, the subject of their fatigue is under-researched. Our understanding of sheep fatigue remains limited: existing research and commercial transport conditions do not enable us to identify it before it becomes exhaustion. It is therefore likely that a potentially significant percentage of the millions of sheep transported within the EU annually suffer from fatigue, exacerbated by heat stress, overcrowding, and other conditions commonly present in commercial transport. A question therefore arises whether undetected fatigue, which can negatively affect animal welfare (“AW”) and, left to progress to exhaustion, may render the animal non-recoverable, may present a serious issue that needs to be addressed.

The study consisted of two parts. The first part took explained the relevance of fatigue under Regulation 1/2005, EU’s live transport regulation, and conducted a systematized review of available literature on sheep fatigue. Given the limited number of studies focused on fatigue, the scope of the literature review was extended to cover animal- and transport-related factors that may interplay with and exacerbate fatigue. The second part aimed to gain insight into stakeholder views on issues relating to sheep fatigue. Eighteen experts from different stakeholder groups (NGOs, industry, animal welfare research community, and government) were interviewed. Applying reflexive thematic analysis (“TA”) to the interview data resulted in the development of four themes and three subthemes, unified by an overarching theme, as shown on **Figure 1**.

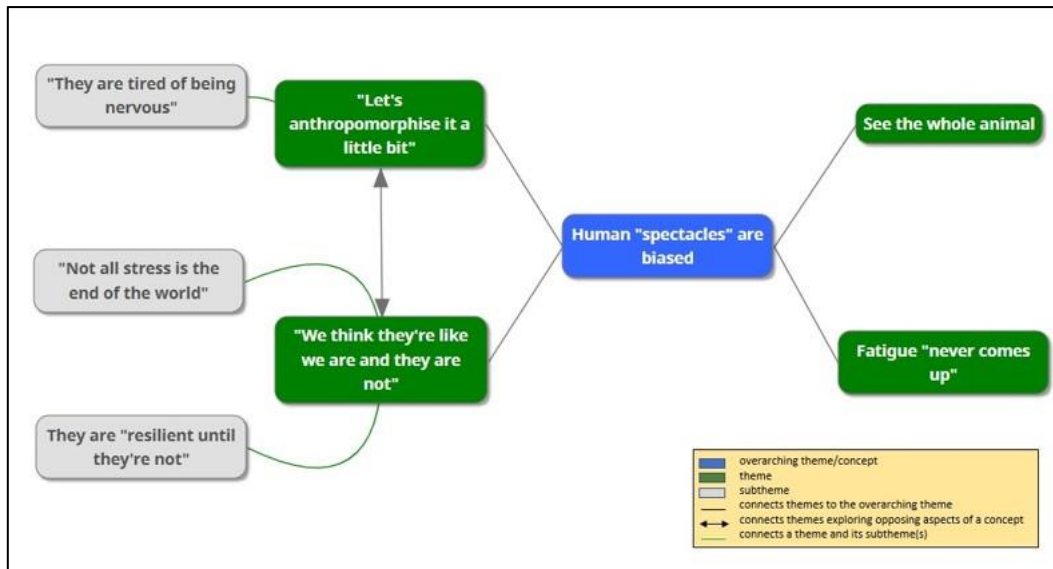


Figure 1: Thematic Map

The quotation marks around names signify that the phrase is a participant quote. Simple black lines connect the main themes with the overarching theme; thin green lines connect themes and their respective sub-themes. The double-sided arrow connecting the two themes expressly focused on anthropomorphism signifies that the two themes illuminate opposing facets of the overall concept of anthropomorphism.

The overarching theme, “Human ‘spectacles’ are biased”, is about the fact that our view of other species is coloured by our individual background and our human-ness: “our human glasses are ingrained in us, and are very hard to remove (if possible at all). Nevertheless, if we are aware of having biased spectacles, we can attempt to address their effects upon us” (Rivas & Burghardt 2002, p. 9). It is our human spectacles that colour our perception of how sheep experience transport and fatigue, including those aspects highlighted in the developed themes and subthemes..

The combined takeaway message of the first two themes is that we can and should anthropomorphise, but we should do so consciously and with care. The first theme, “Let’s anthropomorphise it a little bit”, underscores the pervasiveness of anthropomorphism (attribution of human qualities or experiences such as emotions or motivations to non-humans) in our thinking about sheep fatigue and, more broadly, sheep transport. Anthropomorphism need not be denounced or avoided, however. It

can be used to spur research based on intelligent parallels between sheep and human experiences and drive policy change.

The second theme, “We think that they’re like we are and they’re not”, cautions against transferring human experiences, preferences, and needs to sheep without taking account of the latter’s individual and species background and needs. Doing so can cause us to miss potentially significant welfare problems or implement ineffective or damaging solutions to problems perceived by humans, which may or may not present a concern from a sheep’s perspective. This is important, as such solutions find their way into regulations and guidance, directly impacting sheep’s experience during transport. We should, instead, focus on understanding the environment as perceived by sheep.

The third theme, “See the whole animal”, advocates using qualitative research methods proven reliable in other contexts to deepen and enrich our current understanding of fatigue. The current approach (a short checklist focused on a few specific behaviours or postures associated with exhaustion) is too narrow. We may be able to expand it by harnessing innate human ability to observe and interpret complex circumstances to consider the broader context of how the animal is performing the behaviour.

The fourth theme, “Fatigue ‘never comes up’”, highlights the fact that fatigue is rarely if ever discussed in the context of sheep transport, leaving this potentially serious and pervasive problem unaddressed. The silence around fatigue is not surprising, given the limited body of science on the topic and its virtual absence from regulations. Acknowledging that a potentially important topic is absent from discourse is the necessary first step to remedying the problem.

It seems doubtful that, in the near term, sufficient resources would be allocated to further study of sheep fatigue during transport. It is also doubtful that any further studies would promptly identify practical measures, which would then be implemented with reasonable expediency and actively monitored and enforced. Existing regulations have been deemed insufficient and violations are widespread. It may not be realistic to expect stricter regulations to be more successful. Enforcement resources will always be limited, with ruminant transport unlikely to become a high

priority. Even within ruminant transport, fatigue is unlikely to trump other concerns perceived as being more serious. This means that, potentially, millions of animals will continue experience compromised welfare while transported within (and from) the EU.

In sum, the project contributes to the existing body of knowledge on issues relating to sheep fatigue during transport. It proposes new ways of advancing our understanding of this issue and engaging with stakeholders, which could help improve regulations and practice. These, in turn, may have a tangible positive effect on sheep welfare in transport. While these and other issues raised in relation to live transport are considered, a precautionary approach should be taken: we should assume that transport is fatiguing and seriously reassess not only the sufficiency of the currently provided rest opportunities, but also the continuation of live transport in its current format or at all.

Council Regulation (EC) No. 1/2005 on the protection of animals during transport and related operations and amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) No 1255/97, *O.J. L 3, 5.1.2005, p. 1–44.*

Rivas J and Burghardt GM Crotalomorphism: A metaphor for understanding anthropomorphism by omission. In: Bekoff M, Allen C and Burghardt GM, editors. *The Cognitive Animal: Empirical and Theoretical Perspectives on Animal Cognition*. A Bradford Book, MIT Press: Cambridge MA; 2002. p. 9-18.