## Introduction

Animals constantly face events that can disrupt their homeostasis. These disruptions can be acute, such as a sudden predator attack, or long-term, like prolonged droughts or habitat degradation ([McEwen & Wingfield, 2003](#ref-mcewen_concept_2003); [Sapolsky et al., 2000](#ref-sapolsky_how_2000)). Regardless of the nature of the challenge, organisms must adjust to allostasis to maintain their physiological and behavioural integrity ([Wingfield & Kitaysky, 2002](#ref-wingfield2002endocrine)). In vertebrates, the ability to cope with disruptions in homeostasis is carried out by the hypothalamic-pituitary-adrenal/interrenal (HPA/HPI) axis ([Sapolsky et al., 2000](#ref-sapolsky_how_2000)). This system elicits a physiological response, also known as the stress response, mediated by glucocorticoids (GCs), a group of hormones that facilitate the reallocation of energetic resources to restore homeostasis ([McEwen & Wingfield, 2003](#ref-mcewen_concept_2003); [Sapolsky et al., 2000](#ref-sapolsky_how_2000)). For example, when an animal faces a predatory attack, GCs mobilise energy to support increased locomotor activity, vigilance, or attention to avoid the threat ([Trompeter & Langkilde, 2011](#ref-trompeter2011invader)). In the short term, GCs help organisms cope with acute challenges. However, long-term exposure to GCs can carry significant metabolic costs ([Picard & McEwen, 2014](#ref-picard_mitochondria_2014)). Prolonged elevations in GCs can lead to immune suppression, impaired growth, or permanent neural alterations ([McEwen, 2017](#ref-mcewen2017neurobiological)). Furthermore, reacting to stressors can reduce the time and energy available for essential activities such as foraging, thermoregulation, or social interactions ([Belliure & Clobert, 2004](#ref-belliure2004behavioral); [Martı́n et al., 2024](#ref-martin2024blind)). As such, animals are predicted to evolve mechanisms to appropriately respond to acute stressors while avoiding the costs in the long term. For example, by regulating their responses to homotypic (repeated and similar) stressors, particularly those that are predictable and non-lethal ([Grissom & Bhatnagar, 2009](#ref-grissom2009habituation)). Habituation - the reduction of physiological responses elicited by exposure to a homotypic stressor ([Pfister, 1979](#ref-pfister1979glucocorticosterone)) - can be crucial to avoid the long-term costs of chronic stress without compromising the response to acute stressors.

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## Results

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| Figure 1— Activity budget of the focal group of chacma baboons (Papio ursinus) at the Cape Peninsula, South Africa, during the study period. The data are presented as the mean percentage of time spent in each activity category per hour (± SE). |