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## Acute and repeated exposure to social stress reduces gut microbiota diversity in Syrian hamsters.

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### 1. Introduction

Mood and anxiety disorders are strongly associated with somatic symptoms such as gastrointestinal distress (Bekhuis et al., 2014, Felice et al., 2015), and a high co-morbidity exists between stress-related neuropsychiatric symptoms and gastrointestinal disorders such as irritable bowel syndrome (Kanuri et al., 2016, Kennedy et al., 2012, Qin et al., 2014). One possibility is that stress impacts brain function and mental health via its effect on the gastrointestinal tract (for review see Dinan & Cryan, 2012, Dinan et al., 2015, Parashar & Udayabanu, 2016). Given that the available treatment strategies for a variety of stress-related neuropsychiatric disorders are inadequate for many, expanding our knowledge of a broader range of potential etiologic factors

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