

The socially isolated- Lit Review

Individuals	Animals	Context	Gender	Safety
<p>Individuals who are well integrated into society have greater access to resources and tend to live longer (Brent, Ruiz-Lambides, Platt, 2017, abstract).</p>	<p>Using social network data spanning up to half of the median adult lifespan in a gregarious primate, we found that some measures of social isolation were modestly repeatable within individuals, consistent with a trait (Brent, Ruiz-Lambides, Platt, 2017, abstract).</p>	<p>Answering this question requires establishing the mix of intrinsic and contextual factors that contribute to social isolation (Brent, Ruiz-Lambides, Platt, 2017, abstract).</p>	<p>Females with fewer close relatives were more isolated, and the more time males spent in a new group the less isolated they became, independent of their social status (Brent, Ruiz-Lambides, Platt, 2017, abstract).</p>	<p>Social connections can determine an individual's access to resources and information, as well as their ability to avoid predators (5, 6 as cited by Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>
<p>Why some individuals are socially isolated and others are not is therefore puzzling from an evolutionary perspective (Brent, Ruiz-Lambides, Platt, 2017, abstract).</p>	<p>By contrast, social isolation was not explained by the identity of an animal's mother or the group into which it was born (Brent, Ruiz-Lambides, Platt, 2017, abstract).</p>	<p>These results show that social isolation results from a combination of intrinsic and environmental factors. From an evolutionary perspective, these findings suggest that social isolation could be adaptive in some contexts and partly maintained by selection (Brent, Ruiz-Lambides, Platt, 2017, abstract).</p>		<p>However, social isolation could also be a viable alternative strategy whose benefits arise in contexts, such as elevated risk of communicable disease (13, 14) that are common or severe enough to drive selection but not common enough to be detected by most (relatively short-term) studies relating sociality to fitness (as cited by Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>

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<p>It is perhaps surprising that research from a range of group-living species has shown not all individuals are as integrated in their social environments as all others; studies of humans (7-9) and other animals (1, 10-12) have documented individuals that are, at least in relation to other members of their population, socially isolated (as cited by Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>	<p>Nevertheless, age, sex and social status each played a role, as did kin dynamics and familiarity (Brent, Ruiz-Lambides, Platt, 2017, abstract).</p>	<p>Isolated individuals may be pushed to the periphery of their social networks by extrinsic factors, such as competitive exclusion (Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>		
	<p>In gregarious animals, being socially integrated has been linked to reproductive success, health and longevity (1-4 as cited by Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>	<p>The first critical step toward understanding the evolutionary and neurobiological drivers underlying social isolation is to understand the characteristics of isolated individuals (Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>		
	<p>In nonhuman animals, measures of social</p>	<p>But we currently know very little about the</p>		

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	<p>integration have been shown to be repeatable in naturalistic settings (e.g. guppies, <i>Poecilia reticulata</i> (20) sharks, <i>Scyliorhinus canicular</i> (21) and following experimental perturbations (e.g. beetles, <i>Bolitotherus cornutus</i> (22) guppies (23) great tits, <i>Parus major</i> (24) as cited by (Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>	<p>factors associated with social isolation (Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>		
	<p>But barring a few exceptions (kangaroos, <i>Macropus giganteus</i> (25); great tits (10) these results tend to be based on two or fewer years of data (as cited by Brent, Ruiz-Lambides, Platt, 2017, p. 1)</p>	<p>For example, whether individuals are consistently isolated over time, whether social isolation is driven by environmental or other factors, or whether isolated animals have features in common with one another, are all currently unclear (Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>		
		<p>Consistent expression of social isolation within individuals over time,</p>		

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		<p>i.e. repeatability, can reveal information about the plasticity of social behavior and can set the upper limit of its heritable basis (15, 16 as cited by Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>		
		<p>This information can, in turn, inform studies of the selective pressures acting on social isolation and of the genomic architecture underlying it (Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>		
		<p>A person's degree of introversion (17, 18) and feelings of loneliness (19) may be relatively consistent but whether this consistency translates to being consistently less socially connected is unclear (Brent, Ruiz-Lambides, Platt, 2017, p. 1).</p>		

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		Information regarding the consistency of social isolation across longer portions of the lifespan are needed, especially in long-lived species, in order to reveal how social isolation may impact lifetime biological success (Brent, Ruiz-Lambides, Platt, 2017, p. 1-2).		
		Factors that contribute to social isolation may include the genetic features that drive intra-individual repeatability as well as aspects of the social environment (15 as cited by Brent, Ruiz-Lambides, Platt, 2017, p. 2).		