



# Happiness in modern society: Why intelligence and ethnic composition matter <sup>☆</sup>



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## ABSTRACT

Recent developments in evolutionary psychology suggest that living among others of the same ethnicity might make individuals happier and further that such an effect of the ethnic composition on life satisfaction may be stronger among less intelligent individuals. Data from the National Longitudinal Study of Adolescent Health showed that White Americans had significantly greater life satisfaction than all other ethnic groups in the US and this was largely due to the fact that they were the majority ethnic group; minority Americans who lived in counties where they were the numerical majority had just as much life satisfaction as White Americans did. Further, the association between ethnic composition and life satisfaction was significantly stronger among less intelligent individuals. The results suggest two important factors underlying life satisfaction and highlight the utility of integrating happiness research and evolutionary psychology.

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## 1. Introduction

There are observable ethnic differences in life satisfaction (Krause, 1993; Okazaki, 1997; Scollon, Diener, Oishi, & Biswas-Diener, 2004). However, there currently exist no comprehensive explanations for such ethnic differences. Numerous evolutionary psychologists have written on happiness over the last decade and half (Buss, 2000; Hill & Major, 2012; Kenrick, Griskevicius, Neuberg, & Schaller, 2010; Nesse, 2004), and an increasing number of positive psychologists have more recently begun to draw on insights from evolutionary psychology (Diener, Kanazawa, Suh, & Oishi, 2015; Heintzelman & King, 2014). These positive psychologists argue that subjective well-being, and the related phenomenon of the sense of meaning in life, are adaptive because they facilitate the efficient execution of evolved psychological mechanisms. They suggest that happier individuals

with greater sense of meaning in life are more likely to engage in adaptive behavior and may have on average greater reproductive success. Happiness may therefore be evolutionarily selected (Kanazawa, in press).

One of the fundamental observations in evolutionary psychology is that, just like any other organ of any other species, the human brain is designed for and adapted to the conditions of the ancestral environment, not necessarily the current environment, and is therefore predisposed to perceive and respond to the current environment as if it were the ancestral environment (Tooby & Cosmides, 1990). Known variously as the *Savanna Principle* (Kanazawa, 2004), the *evolutionary legacy hypothesis* (Burnham & Johnson, 2005) or the *mismatch hypothesis* (Hagen & Hammerstein, 2006), this observation suggests that the human brain may have difficulty comprehending and dealing with entities and situations that did not exist in the ancestral environment, roughly the African savanna during the Pleistocene Epoch (Colarelli & Arvey, 2014; Kenrick & Griskevicius, 2013).

The Savanna Principle can explain why some otherwise elegant scientific theories of human behavior, such as game theory, often fail empirically, because they posit entities and situations that did not exist in the ancestral environment. For example, nearly half the players of one-shot Prisoner's Dilemma games make the theoretically irrational choice to cooperate with their partner (Sally, 1995). The Savanna Principle suggests that this may possibly be

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because the human brain has difficulty comprehending completely anonymous social exchange and absolutely no possibility of knowing future interactions (which together make the game truly one-shot and defection the only rational choice) (Hagen & Hammerstein, 2006; Kanazawa, 2001). Neither of these situations existed in the ancestral environment, where all social exchanges were in person and potentially repeated; however, they are crucial for the game-theoretic prediction of universal defection.

Further, recent developments in evolutionary psychology indicate that general intelligence may have evolved to solve evolutionarily novel problems (Kanazawa, 2010, 2012). Evolutionary psychology posits that evolved psychological mechanisms are relatively narrowly focused in terms of the information they process as input. They evolved to solve adaptive problems that recurrently presented themselves in different domains of life throughout human evolutionary history, such as social exchange, infant care, and incest avoidance (Tooby & Cosmides, 1992). They are domain-specific and operate only within narrow domains of life.

Recent theoretical developments suggests that general intelligence, far from being domain-general, may also have evolved as such a domain-specific evolved psychological mechanism. It may have evolved to allow individuals to solve a wide variety of *non-recurrent* adaptive challenges that also directly or indirectly affected survival or reproduction. All such non-recurrent adaptive problems were *evolutionarily novel*. General intelligence may thus have evolved to solve evolutionarily novel problems, as a psychological adaptation for the domain of evolutionary novelty.

This suggests that the evolutionary constraints on the human brain proposed by the Savanna Principle may be stronger among less intelligent individuals than among more intelligent individuals. More intelligent individuals, who possess higher levels of general intelligence and thus greater ability to solve evolutionarily novel problems, may face less difficulty in comprehending and dealing with evolutionarily novel entities and situations. In contrast, less intelligent individuals may face greater difficulty in dealing with evolutionarily novel entities and situations than more intelligent individuals.

For example, more intelligent individuals are more likely to make the theoretically rational choice to defect in one-shot Prisoner's Dilemma games (Kanazawa & Fontaine, 2013). This may be because more intelligent individuals are better able to comprehend the evolutionarily novel entities of complete anonymity and absolutely no possibility of knowing future interactions and make the rational decision to defect. In contrast, less intelligent individuals may have greater difficulty comprehending such evolutionarily novel entities, and, as a result, make the theoretically irrational (*albeit evolutionarily rational*) decision to cooperate (Kenrick & Griskevicius, 2013).

The Savanna Principle in evolutionary psychology, applied to life satisfaction, may suggest that it may not be only the consequences of a given situation in the current environment that influence individuals' life satisfaction but also what its consequences *would have been* in the ancestral environment. Having implicit difficulty comprehending and dealing with evolutionarily novel situations, the human brain may respond to the ancestral consequences of the current situation and individuals' life satisfaction may fluctuate accordingly. The evolutionary constraints on the human brain may incline individuals to experience a given situation as if it were taking place in the ancestral environment, not in the current environment, and be subject to its ancestral consequences for life satisfaction.

For example, our ancestors lived their entire lives in ethnically homogeneous groups (Oppenheimer, 2003). A multi-ethnic society like the United States today is a very recent phenomenon in human evolutionary history. Perhaps the clearest evidence of

the evolutionary novelty of ethnic diversity is the fact that, while humans appear to possess evolved psychological mechanisms to classify others automatically by sex and age, they do not possess a comparable mechanism to classify them by ethnicity (Kurzban, Tooby, & Cosmides, 2001). From the perspective of the Savanna Principle, this may be because individuals of varied sexes and ages existed in the ancestral environment and thus were evolutionarily familiar, whereas individuals of varied ethnicities did not exist in the ancestral environment and thus were evolutionarily novel.

In the ancestral environment, being among others who looked, spoke and behaved differently from oneself usually meant that one was captured or abducted by a neighboring group or at the very least that one was living without the assistance and cooperation of one's genetic kin and allies. Even though people of different ethnicities can live together harmoniously in modern multi-ethnic societies, being an ethnic minority would have been precarious in the ancestral environment, as neighboring tribes were often not friendly (Diamond, 2012).

Thus, despite the fact that living among others of different ethnicities today, especially in multi-ethnic societies like the United States, poses very few negative consequences that threaten survival and reproduction, the human brain, designed for and adapted to the ancestral environment, may nonetheless experience such situations as a potential threat, as it would have been in the ancestral environment. Individuals may consequently experience lower levels of life satisfaction. For instance, in a recent study, using an ingenious within-subject design, Burrow and Hill (2013) showed that train passengers experienced increased distress and negative mood when they were surrounded by passengers of different ethnicities. The Savanna Principle therefore suggests that the human brain may implicitly experience being surrounded by others of different ethnicities and being an ethnic minority as a potential threat, and, accordingly, life satisfaction may be lower in such circumstances.

Further, the evolutionary psychological perspective on general intelligence suggests that such an effect of living as an ethnic minority among others of different ethnicities on life satisfaction may be stronger among less intelligent individuals. More intelligent individuals may be better able to comprehend the evolutionarily novel situation of ethnic diversity and living as an ethnic minority for what it truly is today – a benign and safe situation. In contrast, less intelligent individuals may have greater difficulty comprehending the same evolutionarily novel situation of ethnic diversity and living as an ethnic minority and may perceive it as if it were in the ancestral environment – a potentially dangerous and threatening situation. As a result, less intelligent individuals' life satisfaction may decrease to a greater degree than that of more intelligent individuals when faced with ethnic diversity and living as an ethnic minority. The theoretical logic would therefore suggest that ethnic diversity and intelligence may have a statistical interaction effect on life satisfaction.

Key insights from evolutionary psychology therefore suggest that the degree of ethnic homogeneity – the extent to which one lives among others of the same ethnicity – may have a positive effect on life satisfaction and further that such an effect of ethnic homogeneity on life satisfaction will be stronger among less intelligent individuals. In particular, the theoretical logic would lead us to predict that, in a society with a clear ethnic majority population like the United States, the majority – White Americans – will experience greater life satisfaction than all other ethnic groups, but such ethnic differences in life satisfaction will disappear once the ethnic composition of the immediate environment is controlled. It would also lead us to predict that the statistical effect of ethnic composition on life satisfaction will interact significantly with individual's intelligence.

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