1 What Is Positive Evolutionary Psychology?

When Charles Darwin (1859) so famously explained to the world that the entirety of life on earth, including humans, is largely the result of natural selection, our shared understanding of who we are shifted both qualitatively and permanently. And when he famously applied the evolutionary principles that he had discovered to the domain of behavior (e.g., Darwin, 1872), he rocked our understanding of the world and of our place in it even more so. For all intents and purposes, Darwin himself started the field of evolutionary psychology, showing us how to apply evolutionary principles to give us insights into behavioral and concomitant psychological processes. When people talk about when the field of evolutionary psychology started, to our minds, the answer clearly goes back to Darwin.

Scores later, when renowned behavioral scientist Martin Seligman (see Seligman & Csikszentmihalyi, 2000) suggested that the behavioral sciences change from a focus on problematic features of the human experience (e.g., disorders of mental health) to a focus on the positive aspects of the human experience, including such outcomes as happiness and growth, the field of positive psychology was famously born, leading to a global and ongoing effort to scientifically understand factors associated with human thriving at both the individual and community levels. As we describe throughout this Element, this large-scale initiative has led to a landslide of scholarship and insight into the human condition.

With our recent book, Positive Evolutionary Psychology: Darwin’s Guide to Living a Richer Life, we (Geher & Wedberg, 2020) worked to integrate the ideas of these fields into a coherent and organized effort to shed light on the positives of the human experience via the application of Darwinian principles. As we addressed in detail in that work, past scholarship in the field of evolutionary psychology has all but fully neglected the positive psychology movement – and vice versa. Systematic examinations of literature cited in positive psychology journals, for instance, rarely touch on work conducted in the evolutionary behavioral sciences (see Geher & Wedberg, 2020). Similarly, systematic examinations of work couched as positive psychology virtually never draws on literature from the evolutionary behavioral sciences. These two significant and growing areas of scholarship on the human condition basically have been progressing for decades now without being informed by the other whatsoever.

The field of positive evolutionary psychology is designed to change all that. Given the ubiquitous and powerful capacity for evolutionary psychology to inform all areas of the behavioral sciences (see Carmen et al., 2013), we believe that using an evolutionary approach to address questions of positive psychology has enormous untapped potential to help us best understand the science of living the good life.
To understand the nature of positive evolutionary psychology – the focus of this Element – we need to understand the basics of its two primary components: evolutionary psychology and positive psychology. Evolutionary psychology (see Buss, 2019; Geher, 2014) is an approach to understanding human behavior by seeing human behavior as a product of deep evolutionary forces, such as natural selection. While all evolutionary principles that have been discovered by Darwin and his intellectual disciples (e.g., Trivers, 1972) are fair game in the work of evolutionary psychology, a large focus is found in work that sees behavioral patterns as adaptations that follow from natural selection-based reasoning.

A classic example is found in the very basic human fear of snakes (see Öhman & Mineka, 2001). Fear of snakes represents one of the most common human fears, worldwide. And this fact makes good sense given that all humans have their roots in sub-Saharan Africa, where venomous snakes are common. Under such conditions, which characterized our ancestral contexts (known as the Environment of Evolutionary Adaptedness or EEA; Bowlby, 1969), individuals who tended to naturally have a fear of snakes were more likely than others to survive and thus, to reproduce. That is because those who did not fear snakes were more likely to find themselves as victims of fatally poisonous snakebites and, accordingly, die Darwinian deaths, failing to both survive and reproduce. To the extent that fear of snakes is a heritable element of human psychology (as so many features of our psychology are; see Miller, 2000), we can easily see how fear of snakes, a basic and straightforward psychological attribute, can be understood in evolutionary terms.

Compared with evolutionary psychology, the field of positive psychology tends to be much more applied by its very nature. Positive psychology (see Peterson, 2013), which has its roots in the humanistic psychology movement that started in the middle of the twentieth century (c.f., Bugental, 1964), has a goal that is beyond simply better understanding the human condition. Positive psychology, based on its very nature, is all about using behavioral science to help us make improvements in human functioning at the individual and community levels. A basic idea here is that all humans are capable of thriving – of living up to their potential – of experiencing such positive affective states as happiness and self-love – and of taking steps to build positive and enriching communities that benefit individuals as well as broader groups of individuals. Using a diverse array of scientific methodologies (see McManus & Estes, 2015), positive psychologists are all about developing ways to improve the human condition.

In short, positive evolutionary psychology is merging of these two fields. The basic idea here, elaborated in detail across this Element, is to address issues that
have typically been within the purview of positive psychology, such as factors that cultivate happiness, via the application of principles and research findings from the evolutionary behavioral sciences. Positive evolutionary psychology is a field dedicated to using Darwin’s big ideas to shed light on the positives of the human lived experience. See Figure 1 for visual representation of the relationship between the field of positive and evolutionary psychology across time.

Coming from a slightly different background and perspective, renowned evolutionary biologist David Sloan Wilson (2019, 2011) has written extensively about how evolutionary principles can shed light on all kinds of human outcomes, at both the individual and group levels. Drawing largely on this model of multilevel selection, Wilson (2019) focuses on how our evolved nature includes a combination of (a) selfish attributes (which arose, per Wilson’s terminology,
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via within-group selection pressures) and (b) other-oriented attributes, including prosocial behavior (which arose, per Wilson’s terminology, via between-group selection pressures). In presenting our evolved behavior in this way, Wilson provides models of how evolutionary principles and scholarship have helped to shape all kinds of positive human outcomes, such as improvements in social functioning among adolescents (Wilson, 2011), productivity and happiness in organizational functioning, efforts to increase sustainability in terms of environmental issues (Wilson, 2019), and more.

Other work by such academic pugilists as Steven Pinker (2012) The Better Angels of Our Nature: Why Violence Has Declined. Penguin. draws largely on evolutionary principles to help shed light on large-scale, societal issues such as levels of violence, malnutrition, and violence on a global scale. Using an empirically based approach, on this point, Pinker argues that modern industrialized societies, while highly imperfect for various reasons, actually have proven successful in reducing rates of such adverse phenomena as warfare and violence.

In many ways, these scholars have paved the way for the emergence of positive evolutionary psychology as a discrete academic field of inquiry that draws on a vast literature in the evolutionary behavioral sciences to help facilitate human growth and positive change at both the individual and community levels.

In citing much of the most recent published research that integrates evolutionary and positive psychology, this Element is organized to help the reader understand the field of positive evolutionary psychology from multiple angles. Sections in the Element are organized as follows:

• Why Do We Need Positive Evolutionary Psychology?
• Evolutionary Mismatch as a Foundational Concept in Positive Evolutionary Psychology
• Understanding Family through an Evolutionary Lens
• Evolutionary Psychology Applied to Education
• Evolutionary Psychology, Happiness, and Mental Health
• Evolutionary Psychology and the Cultivation of Community
• The Evolution of Social and Moral Emotions
• Evolutionary Psychology and Physical Health
• Future Directions in Positive Evolutionary Psychology

Welcome to the new field of positive evolutionary psychology.

2 Why Do We Need Positive Evolutionary Psychology?

As defined in the previous section, positive evolutionary psychology is an emerging area in the field of psychology with basic principles from the marriage
of positive and evolutionary psychology. Although the field is new and still being developed, it integrates critical bodies of literature to help advance our understanding and potential improvement of the human experience. By taking the core principles from two powerful fields of psychology, with the goal of 

*thriving better*, the field of positive evolutionary psychology stands to become a powerful approach of psychology, essential for human improvement.

The field of evolutionary psychology seeks to understand why patterns of behavior and psychological processes exist through the lens of Darwinian principles, allowing for a new understanding of what it means to be human. On the other hand, positive psychology seeks to expand our understanding of the positive aspects of human existence. Both fields independently exhibit the power to expand our knowledge and improve the human experience, but the framework outlined by the marriage of the two is something that we believe is an integral part of the development of psychology as a discipline.

Similar to the academic fields it is derived from, positive evolutionary psychology gives insight into a broad range of topics – as outlined by Geher and Wedberg (2020) – including politics, religion, love, social relationships, resilience, and an evolutionary perspective on taking a positive approach to life. And more. Positive evolutionary psychology seeks to advance our understanding of positive aspects of the human experience such as these, and in doing so it furthers our understanding of ways to improve the human experience. For example, positive evolutionary psychology can be used to increase positive feelings and behaviors in the long-term manner through positive psychological intervention (PPI), which have traditionally been fully under the purview of positive psychology (Schueller & Parks, 2014). The goal of a PPI is extremely similar to the core contents of this field, and effective PPIs have been shown to lead to decreases in depression symptoms as well as increases in overall well-being (Boiler et al., 2013; Sin & Lyubomirsky, 2009). Studies on PPIs have found that they can lead to improved functioning across various environments (Sergeant & Mongrain, 2015) for people of all ages (Leontopoulou, 2015). Positive psychology-based approaches serve to benefit people of all ages in all aspects of life.

Positive evolutionary psychology also potentially serves as an important bridge between evolutionary psychology and other areas of academic psychology. Historically, evolutionary psychology has not been well received throughout the academic world (see Geher & Gambacorta, 2010), despite its countless contributions to the understanding of human behavior. Marrying the concepts and ideas of evolutionary psychology with positive psychology presents them as a “kinder, gentler evolutionary psychology” (Geher & Wedberg, 2020, p. 23). The evolutionary perspective has shown an unparalleled capacity...
to expand our understanding of human behavior through the generation of new research questions, and, in turn, new research findings. The resistance that has often been launched at the field is, to our minds, depriving scholars of the insights it can provide and the understanding of human behavior that it can provide. By developing the field of positive evolutionary psychology, an area of study is being developed in which scholars can take the tools from the evolutionary perspective and apply them to research questions that search to improve the lives of human beings without (in theory) poorly construed perceptions of the field of evolutionary psychology getting in the way.

The field of positive evolutionary psychology is still new, but it is clear that it is an inherently important field to further understand and improve the human experience. With goals that seek to improve the positive aspects of the human experience, this field is integral to the development of the field of psychology and to the improvement of the human experience.

3 Evolutionary Mismatch as a Foundational Concept in Positive Evolutionary Psychology

*Evolutionary mismatch* (see Geher, 2014) exists when an organism is currently living in an environment that is mismatched from the ancestral environment that surrounded the evolutionary history of its ancestors. Despite the vast arrays of technologies we have developed at a global level, we face the same challenges and problems dealt with by our ancestors. Some may say that we are actually less equipped to face these challenges now that we have such advanced technologies at our everyday disposal. Douglas Kenrick and David Lundberg-Kenrick outlined multiple examples in their new book *Solving Modern Problems with a Stone-Age Brain* (2022). For example, one of the commonly mentioned hurdles in evolutionary psychology is partner infidelity. In ancestral conditions it was much more difficult to be disloyal to your partner as a part of such a small community where you know everyone and everyone knows you (vis-à-vis Dunbar’s number (1992), elaborated on later in this section). In our current world, one can walk into a busy restaurant without knowing a single person. Life is much more anonymous in the exponentially larger societies we are living in today. Because of this, it is much easier for someone to be unfaithful and get away with it. Another example of mismatch can be seen in our physical proximity to those with whom we are closely linked. In ancestral conditions, you were in close proximity to everyone you were linked to. In the current environment, family and friend groups are scattered all around the world due to work, schooling, and so on. This distance is decreasing the likelihood that we will join social groups or have social gatherings.
with friends. Not having these close social connections increases mortality as much as smoking fifteen cigarettes a day (Kenrick & Lundberg-Kenrick, 2022).

One of the goals of positive evolutionary psychology is to use the knowledge we have about our evolution and human sociality to benefit our present-day lives. By viewing the implications of the evolutionary mismatches we have in our society, we can advance the goals of positive evolutionary psychology by understanding problems of the human experience that result from modern contexts being out of line with ancestral conditions. The concept of mismatch has been raised in many different disciplines such as biology (e.g., Schlaepfer et al., 2002), economics (Burnham, 2016; Kanazawa, 2004), health (Buss, 2000), medicine (Nesse & Williams, 1995), and ecological conservation (Li et al., 2018), as well as multiple psychological disciplines such as social (Maner & Kenrick, 2010), cognitive (Tooby & Cosmides, 1990), developmental (Bjorklund, 2021), and organizational (Spranger et al., 2012; van Vugt & Ronay, 2014) psychologies. As societies continue to globalize and human-induced changes continue to alter our environment, evolutionary mismatch is becoming increasingly prevalent and relevant.

As mismatch often comes with consequences that negatively affect psychological and physical health, it is important not only for psychological research but also for achieving a better understanding of the modern world in order to address the numerous problems we face (Li et al., 2018). Thus, the idea of mismatch is critical to the broader concept of positive evolutionary psychology.

3.1 Dunbar’s Number and Society

In evolutionary psychology one of the most important figures to keep in mind is known as Dunbar’s number (Dunbar, 1992). Dunbar’s number is the idea that the nomadic clans our ancestors lived in rarely exceed a population of 150. The clans consisted mostly of kin and those you had known your entire life (see Geher & Wedberg, 2020). Encountering strangers was a rarity and would often be viewed as something dangerous, which explains the reason why today we may become nervous or anxiety-ridden when having to confront large groups of strangers or peers.

Modern, westernized societies tend to be comprised of communities that are off-the-scale when it comes to Dunbar’s number. For instance, if we look at major cities like New York City, we see populations in the millions. Even modern “small towns” (e.g., New Paltz, NY, with a population of about 10,000 people) have populations that often are wildly off the charts when it comes to Dunbar’s number. Thus, modern community sizes are highly
mismatched from the kinds of communities that our ancestors evolved within.

This mismatch leads to higher crime rates and increased prevalence of mental health issues when compared to small communities (Figueroedo et al., 2006; Srivastava, 2009). The fact that there are more social and crime-related issues, per capita, in larger cities around the world speaks strongly to the adverse effects of evolutionary mismatch when it comes to group size.

3.2 Large-Scale Implications of Modern Politics

Dunbar’s number also explains why large-scale politics are often so problematic. When we hear stories of humanitarian crises across the world, we may feel angered or emotional over the action, yet our reactions are fleeting (Geher et al., 2015). However, if our communities began restricting our own particular rights, our reactions would be monumental and long-lasting. This difference may be due to the fact that our neocortex can only register information that pertains to relatively small-scale social living and, as such, large-scale political issues are inherently difficult for us to process (Geher & Wedberg, 2020). Modern-day humans are adapted for local and small-scale politics, as we physically and mentally cannot comprehend larger-scale politics. These implications may explain why there is typically such a low voter turnout in the United States (Geher & Wedberg, 2020). If political issues are too complex or individuals do not feel as if the results will personally affect them, the motivation to vote would decrease (Geher & Wedberg, 2020).

Not only does our evolutionary development affect how we view large-scale politics but it also has some sway over how we vote for electoral candidates based on the level of prestige versus dominance one may have. We have evolved to view prestige as having a position of power in an individual’s mind, yet this trait is not fear-driven (Henrich & Gil-White, 2001). Instead, it is viewed as an influence over others. An individual with prestige has opinions heavily credited to the standing of the general public (Henrich & Gil-White, 2001). When we look for electoral candidates to vote into office, we are looking for someone with the social and cultural skills needed to lead and create decisions. Often people confuse the difference between prestige and dominance and will make the mistake of believing that a candidate is voted into office because they dominate, but our evolutionary history argues differently.

Based on the foundational evolutionary concept of reproductive success as Darwin’s bottom line, evolutionary adaptations all stem from the idea of reproduction, specifically for men, passing their genes onto future generations (Colegrave, 2012). To accomplish this, intrasexual competition often takes
place and forces men to adapt to the conditions and terms that women find suitable in a partner; for most women, male parental investment is the leading deciding factor when choosing a long-term partner (Henrich & Gil-White, 2001). Females also typically would select mates with higher social and cultural capacities (Henrich & Gil-White, 2001). As this is the case, females and males tend to prefer partners with more useful survival-related skills (Henrich & Gil-White, 2001). To the extent that these tendencies are at all heritable, these preferences are then passed down to generations through natural selection and become traits we naturally look for in people.

The way this applies to politics and political figures is generally done in the same way we would select a mate, because we evolved to look for these cultural and social skills that are naturally preferred, especially with candidates in our communities. Traits that seem to be highly valued in leaders generally speak to indicators of status, community respect, and high-quality social connections (see Geher & Wedberg, 2020). These are all traits associated with prestige and phenomenon such as dialect changes, which have been shown to map onto ratings of prestige (e.g., with some dialects being evaluated as less prestigious than others; Henrich & Gil-White, 2001).

4 Understanding Family through an Evolutionary Lens

Some of the most fundamental concepts in evolutionary psychology are inclusive fitness (Hamilton, 1964) and kin-selection theory (Eberhard et al., 1975). Inclusive fitness allows us to understand why we are so inclined to help our relatives. According to W. D. Hamilton’s theory of inclusive fitness and kin-selection, organisms are more likely to help other conspecifics if they share a higher proportion of their genes. Humans may maximize their own reproductive success in two ways: directly, by mating and having their own offspring, or indirectly, by fostering family members’ reproductive success or survival (Ko et al., 2020). Kin-selected altruism indirectly increases our own reproductive success via self-sacrificial behaviors that may promote the survival of relatives who share a proportionate amount of our genes (Eberhard et al., 1975). Additionally, the development of kin-selected altruism may have given rise to other prosocial behaviors engaged outside of the familial-sphere, such as reciprocal altruism. On average, we are more likely to help our relatives, specifically our children, because they may pass on a high proportion of shared genes.

4.1 Altricial Young, Pair Bonding, and Parental Investment

In comparison to other species, humans have relatively altricial young. Our children are essentially helpless for the first few years of their lives and continue to require a lot of care and support in order to develop and mature into adults.
One reason human children may take longer to mature into adults is due to our brain size and brain complexity. The human female pelvic structure has faced evolutionary pressures to balance the ability to birth infants with larger heads and to maintain the duration of prenatal development and gestation periods (Ruff, 2002). Because the pelvic structure can only withstand so much, infants are born without fully developed brains. Therefore, much of the brain development occurs postnatally, which may require an extended period of time to develop fully (see Flinn et al., 2007). Another reason human children may take more time to develop may be due to the complexity of our social environments. Longer periods of childhood and adolescence may provide us with more time and experience to learn about social contracts, to establish cognitive social abilities, and to develop proficiency in engaging in social interactions (see Flinn et al., 2007).

Effective parenting is required to raise altricial young during these long periods of development to become successful and well-functioning adults. Not only does effective parenting benefit the rearing of a child but it may also contribute to the long-term reproductive success of the parents involved (see Geher et al., 2020). Therefore, humans often invest many resources and time into the rearing of their children (Trivers, 1972). Extensive biparental care, or care from two parents, may increase the efficacy of raising young. Biparental care often requires long-term pair bonds between two individuals (see Flinn et al., 2007). These human pair bonds maximize parental investment and cooperation between partners, thus increasing the potential fitness of children (see Ko et al., 2020).

Interestingly, biparental pair bonds may have been perpetuated further by the cultural evolution of monogamous marriage. Besides the benefits of increased biparental care for offspring, monogamous marriage may also provide benefits in reducing the costs of intrasexual competition. In societies with more intergroup competition, a reduction in intrasexual competition may help to decrease violence, abuse, and crime within groups. In other words, lowering the frequency of intrasexual competition may increase cooperation within groups, allowing for greater group-level fitness. As human societies and cultures continue to rapidly evolve, more social inequalities emerge, which demand greater group cooperation. In some communities, the cultural evolution of monogamous marriage may help to mediate some of these demands and issues, as well as increase parental investment (Henrich et al., 2012).

Compared to any other relative, human mothers generally invest the most in their children (Geary, 2005). For this reason, human parental investment between males and females is often asymmetrical. Females have higher caloric investment in their offspring due to gestation and nursing periods (see Ko et al., 2020). Some events in our evolutionary history may account for this high level