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Whether it be through track competitions, dance team tryouts, or even a flashcard

race with my brother at the dinner table, I consistently find myself thriving in environments that inherently breed both unhealthy and healthy competition. My high school, in particular, groomed all its students to attain an unreasonably high level of academic and extra-curricular excellence through announcements on the telecom on which students won the gold medals, 3-hour awards ceremonies to exhibit what “model students” should look like, and the annual magazine publication of the seniors that were accepted into Ivy League Schools.

At college, the comparative measures for success are the same, if not heightened, as the race transitions from getting into the best university to getting the highest earning job. It becomes very easy for us students to measure ourselves by comparing letter grades or the type of internships we had in the summer whilst completely shoving our mental wellbeing to the side. The psychological tolls and stresses on a student’s mental health from exceedingly high expectations appear to be almost universal, especially at highly regarded institutions like Duke University. While my Writing 101 class focused primarily on the evolutions of cooperation, for my final classroom piece, I chose to explore the detrimental effects of competition by releasing a scribe video (a video with hand-drawn images and an accompanying recorded explanation) to cater to two audiences. I wanted students to reflect on their own emotional journeys dealing with stress and I wanted school faculty and administrators to re-evaluate the type of environment they host in their institutions.

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Competition In A Learning Environment: Helpful or Harmful?

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Writing 101: *Evolutions of Cooperation*

Instructor: Kerry Ossi-Lupo

In 2010, a straight-A high school student Cameron Lee takes his life with no explanation. Cameron went to Gunn, a high school where the student population is comprised mostly of over-achievers and perfectionists, where winning math and biology Olympiads are the norm, where the robotics team always ranks in the top 10 in the country, and where the school musical is considered the best youth production by [BroadwayWorld.com](#).

In a school where success is the norm, many people were shocked to learn of the student suicide rate. Carolyn Walworth, a student at Gunn, writes: “We are lifeless bodies in a system that breeds competition, hatred, and discourages teamwork and genuine learning.” Walworth showcases the toxic and often overlooked mental and emotional distress that students face in an environment that breeds competitive behavior and reinforces idealistic emblems of perfection. The student suicide rates in successful high schools and universities like Gunn raises pressing and relevant questions: Why do we compete if it comes at such a cost? Wouldn’t more cooperation lead to better, healthier outcomes?

Competition drove human evolution, therefore, it is an inseparable component of who we are as humans. Charles Darwin’s theory of natural selection asserts that it is our genetic and biological predisposition to compete since competition is inherently linked to the basic needs of survival for all animals. Darwin’s theory further explores the preservation of favorable traits through competition for resources.

Evolutionary biologist Ernst Mayr subdivided Darwin’s theory into five categories, one of them being natural selection, a process in which only the strongest and most adaptive species are able to survive in the struggle for resources. Both Mayr and Darwin reinforce the idea that evolution is driven through an environment that facilitates competitive behavior and acknowledges “superior” traits. This may explain our urges to work hard to win gold medals or earn A-pluses and why we feel a sense of fulfillment from winning spelling bees, sports competitions, or even a game of rock-paper-scissors.

Ashley Merryman, in her book *Top Dog: The Science of Winning and Losing*, discusses the neuroscience and psychology of competitive behaviors and distinguishes competitive behaviors based on chemical differences in our bodies. She asserts that the competitive gene arises from the recycling of dopamine in the

prefrontal cortex—the part of the brain that deals with high-level planning, thinking, and memory. Humans possess genetic coding that influences the manner in which we react to the stress of competitive environments. The variations in genetic coding splits us into worriers and warriors.

Worriers sustain higher levels of dopamine - a chemical that affects how we feel pleasure and

determines our abilities to react and plan. In stressful, competitive environments, however, worriers get overloaded with an excessive amount of dopamine. Warriors, on the other hand, have less dopamine on a regular basis, so in more competitive environments, the dopamine levels peak to the optimum amount, allowing them to perform their best. Merryman's studies thus prove that competition is part of our genetic, biological makeup and inseparable from who we are as humans.

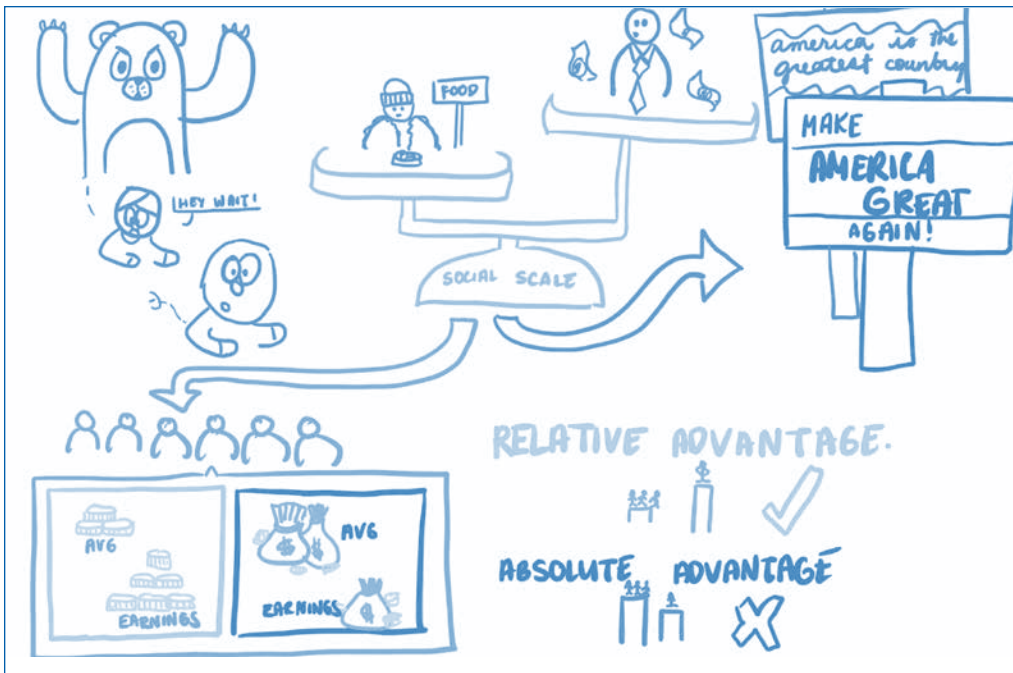
Roberto Cazolla Gatti, an evolutionary biologist, thinks otherwise. Gatti's evolution model suggests that the coexistence and cooperation of human species in a low-stakes environment is what drove the expansion of the human race, indicating that our abilities to cooperate are just as primal as our competitive instincts. While competition may have allowed for the preservation of certain traits, cooperation allowed for diversification, thus playing a significant role in human evolution.

Humans may have selfish genes, but they also have self-less genes. Neurophysiologists at the University of Parma in Italy discovered that we possess mirror neurons that drive the majority of our social interactions. They are stimulated when we witness the experiences of others to discern what their intentions are and which allows for empathy. Mirror neurons are responsible for the feelings of giddiness when we see our favorite people smile at us, as well as for pain when we witness an injury or failure, propelling us to empathize and perform random acts of kindness. Our possession of mirror neurons are prove that cooperative tendencies are just as primal as selfish ones, so why do humans still have the tendency to choose competition even when cooperation can be more beneficial?

There's more to competition than biological drive. Consider the survival tactic: "when you are being chased by a bear, you don't have to outrun the bear, just outrun your friend." Competition can be shaped by environmental factors, especially in a society where socio-economic comparison is prevalent, which is why slogans that assert hierarchy and superlatives are used in political campaigns and success is often measured by rank and status. In a survey of faculty, students, and staff at the Harvard T. Chen School of Public Health, the majority of the respondents said they'd prefer to live in a world where the average salary was \$25,000 and they earned \$50,000, versus one where the average was \$200,000 but they earned \$100,000. This survey indicates that the majority of respondents preferred relative advantage (a case scenario in which they win over everyone else) over absolute advantage (a scenario where everyone else wins.)

Similarly, Richard Easterlin, an economist from the University of Southern California, introduced the Easterlin Paradox. Through a study of 12,000 British citizens who ranked their happiness levels, he discovered that people are only





satisfied when their income rose higher than their peers of similar age, socio-economic status, and race. Easterlin reasoned that personal satisfaction depends on social comparison. This explains why members in a high ranking university compete for A-pluses when B-minuses are unheard of. Social comparison appears to be a driving force for success in our education system, where we are measured against our peers through learning curves, class averages, and standard deviations. Even if everyone gets richer, or smarter, nobody becomes happier, suggesting that competition is largely shaped by one's environment.

Nevertheless, it is possible that competitive environments can still produce cooperative outcomes. Competition is an integral and inseparable part of human society, and we can still put our ingrained competitive genes to good use in group settings. Whether it be in a soccer tournament or on a debate team, it is evident that



even when groups are pitted against each other, they are motivated to work together which, in turn, induces a more cooperative environment.

However, we cannot ignore the detrimental effects competition has on humans, and specifically students. Oftentimes, the education system fosters a breeding ground that induces social comparison through grades, and unintentionally breeds learners who are more concerned with their GPA and class rank than actually learning.

The story of Cameron Lee is only one of many tragic stories about the toxic learning environments formed as a result of competition. As a society, we cannot let these stories go unaddressed. Educators must not only reinforce collaborative skills

in the classroom at an early age rather than pitting students against each other, but also reassure high-achieving students that failure and asking for help does not make them imperfect, but, rather, human.

In summary, although it is impossible to completely negate competitive drive in the classroom, students need to

be encouraged and guided to be more cooperative through emphasis on teamwork and empathy. After all, the most efficient and healthy human environments are those where levels of competition and cooperation are inextricably intertwined, and where its members are mindful about balancing both evolutionary forces.

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