

# [Space exploration assignment](https://assignbuster.com/space-exploration-assignment-essay-samples-2/)

First the crew members’ prolonged exposure to reduced gravity environments can cause bone loss, increased loss of bone materials, increased chances for renal stoners and is f actor in possible post mission bone fractures. Then there are Sensorimotor disturbances that occur during adaptation to spaceflight and during preadaptation to gravity on planetary surfaces. These c hanges can impact control of vehicles and impair functional performance during the important p hase of adaptation to novel gravitational environmental.

Crew members can also experience mus cle effects with heir exposure to reduced gravity causes muscle fibers to shrink leaving astro nauts weaker and less coordinated. Beyond Low Earth Orbit, the protection of the Earth’s atmos phere and magnetosphere are no longer available (NASA). Space radiation may place the crew at significant risk for radiation sickness, and increased lifetime risk for cancer, ce ntral nervous Vaughn 2 system effects, and degenerative diseases.

Spaceflight associated immune dy sregulation persists during exploration flights in conjunction with other factors such as high energ y radiation. It is nclear if this leads to an increased susceptibility to cancer, infectious disease , allergy/ hypersensitivity and autoimmunity. One may ask about the efforts taken to re duce these risks, and make the case that The CSRR (Center for Space Radiation Research) combines exposure to both solar and galactic particles, thereby more closely mimicking the environment actually experienced by astronauts during exploration missions.

Pharmaceuti cal countermeasures are also being evaluated for their ability to mitigate the harmful effects Of spa ce radiation. Scientific discoveries made by the CSRR will not only enable safe and producti e human exploration of space, but may also have the potential to improve life on Earth. Although this is true, Radiation exposure can lead to many health problems, including acute e ffects such as nausea, vomiting, fatigue, skin injury and changes to white blood cell counts a nd the immune system.

Longerterm radiation effects include damage to the eyes, gastrointest inal system, lungs and central nervous system. Exposure also increases cancer risk (Ann R. Kenn edy) Another reason space exploration should be concluded is the effects of the co untless money we spend on space exploration. The budget for space exploration is 17. 7 Billion a year. The total cost in all of the years of space exploration is 780 billion dollars (Amadeo). On e may point out that this money in the long run can help discover amazing things.

Although th is is true, some possible ways this money could’ve been and can be used are to lower the nati Onal debt of 60 trillion dollars, reduce poverty in underdeveloped countries, reduce world hu nger, and decrease global warming. World hunger could be ended for 30 billion a year, meaning n o one would be hungry for 26 years if we had used that 780 billion dollars on world hunger (Y na). Vaughn 3 Another reason space exploration should end is the affects space exploration has on the environment.

At the beginning of the 21 st century, the transition reached a st age where fossil fuels, notably petroleum, are dominant. Out of the world’s total power produc tion, 87. 1% iS derived from fossil fuels. How our activity leads to climate change. When we e xtract and burn fossil fuels such as coal or petroleum, we cause the release of carbon dioxide (C02) and other heattrapping “ greenhouse gases” into the atmosphere. Though natural amoU nts of C02 have aried from 180 to 300 parts per million (ppm), today’s C02 levels are around 400 ppm.

That’s 30% more than the highest natural levels over the past 800, 000 years. We als o can tell that the additional C02 in the atmosphere comes mainly from coal and oil because th e chemical composition of the C02 contains a unique fingerprint (Environmental Defense Fund). Air transportation plays an integral part in the globalization of transportation ne tworks. The aviation industry accounts for 8% of the energy consumed by transportation. Air transport has high energy consumption levels, linked to high speeds.

Fuel is the second mos t important cost for the air transport industry accounting for 1320% of total expenses. This acc ounts for about 1. 2 million barrels per day. Technological innovations, such as more efficient engines and better aerodynamics, have led to a continuous improvement of the energy efficiency of each new generation of aircrafts. While ship and truck engines are adaptations of the di esel engine, jet engines are an adaptation Of the gas turbine. Transportation is almost compl etely reliant (95%) upon petroleum products with the exception of railways using electrical powe .

Scientists may be able to find an alternative fuel sources that doesn’t harm the earth but this co uld possibly take millions of dollars to even start researching (Rodrigue and Comtois). Although Alternative fuels in the form of noncrude oil resources are drawing considerable attention as a result of shrinking Vaughn 4 oil reserves, increasing petroleum costs and the need to reduce emissions of harmful pollutants. The most prevalent alternatives being considered are: Biogas such as ethanol, methanol and biodiesel can be produced from the fermentation of food crops (sugar cane, c rn, cereals, etc. or Woodwaste. Hydrogen is Often mentioned as the energy source Of the future. Electricity is being considered as an alternative to petroleum fuels as an energy source. Hybrid v ehicles consisting of propulsion system using an internal combustion engine supplemented by an electric motor and batteries, which provides opportunities combining the efficiency of electricity with the long driving range of an internal combustion engine. The main concern is the amo unt of oil that can be pumped to the surface on a daily basis, especially where major oil fields ha e reached peak capacity.

Under such circumstances, oil prices are bound to rise in a substanti al way, sending significant price signals to the transport market. How the transport system wil I respond and adapt to higher energy prices is obviously subject to much debate and interpretatio ns. The following potential consequences can be noted: Air. This mode could be significantly im paired, both for passengers and freight. Air transportation is a highly competitive industry and the profit margins tend to be low.

Fuels account for about 15% of the operating expenses of an a ir carrier, but ecause most ofthe other costs are fixed any variations in energy prices is re flected directly on air fares. A long term increase in energy prices, reflected in jet fuel, is likely to impact discretionary air travel (mainly tourism), but air freight, due to its high value, may be less impacted. Technological developments are helping maintaining the competiti veness of air transportation with more fuel efficient planes (Rodrigue and Comtois).

A final reason space exploration should be terminated is the dangers unknow n. There have been 13 fatal spacecraft incidents so far in history. The Challenger is by f r the most Vaughn 5 memorable. At an altitude of 46, 000 feet, while traveling at a Mach number of I . 92 the Challenger was totally enveloped in the explosive burn. The Challenger’s react ion control System ruptured and a hypergolic burn of its propellants occurred as it exited. The ox ygen hydrogen flames. The reddish brown colors of the hypergolic fuel burn are visible on th e edge of the main fireball.

The Orbiter, under severe aerodynamic loads, broke into several larg e sections which emerged from the fireball. Separate sections that can be identified on film incl ude the main engine/ ail section with the engines still burning, one wing of the Orbiter, and the for ward fuselage trailing a mass Of umbilical lines pulled loose from the payload bay ( Chapters Ill and IV). Another incident was the spacecraft Columbia in 2003. On Feb. 1, 2003, sp ace shuttle Columbia broke up as it returned to Earth, killing the seven astronauts on boa rd.

NASA suspended space shuttle flights for more than two years as it investigated the disaster. An investigation board determined that a large piece of foam fell from the shuttl e’s external tank and fatally breached the spacecraft wing. This problem with foam had been know n for years, and NASA came under intense scrutiny in Congress and in the media for allowing t he situation to continue (Chapters Ill and IV). A third instance is the Genesis Incident in 2004. After the collection period, the spacecraft closedup and returned the samples to Earth n a Stardustlike samplereturn capsule (SRC).

On 8 September 2004 the SRC entered Earth’s at mosphere as planned, but its gravity switches were oriented incorrectly as the result of a d eSign error and the parachute system failed to deploy3. The highspeed wreck compromised the S RC and shattered many of the Genesis collectors (Chapters Ill and A final occurrence in spac ecraft crashes is the first manned Apollo 1 in 1967. The first manned Apollo mission was sched uled for launch on 21 February 1967 at Cape Kennedy Launch Complex 34.

However, the death o f the prime crew Vaughn 6 in a command module fire during a practice session on 27 January 1967 put A merica’s lunar landing program on hold. The accident occurred during the Plugs out Integrat ed Test. The purpose of this test was to demonstrate all space vehicle systems and operati Onal procedures in s near a flight configuration as practical and to verify systems capability in a simulated launch (Unknown, APOLLO 1). People may think that it these fatal injuries are worth i t compared to discovering other planets capable of sustaining life.

No one should lose their I ife looking for something that isn’t necessary to human life. In conclusion, space exploration should be discontinued. The effects on astro nauts and Earth are just too dangerous and unnecessary. Although many may think spa ce exploration is a great thing and we should keep progressing in it, space exploration is a waste f time because of the medical effects to crew members, the countless money we spend on it, th e environmental effects, and the dangers of the unknown universe.