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Understanding Nurture's Influence on the Development of Mental Disorders

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Essay Prompt

The grand question of Nature (genes and DNA) versus Nurture (environment, parenting) has been debated for a long time. Psychiatrists used to think that schizophrenia was caused by "bad" mothering. If generalized, one might conclude that any or all mental disorders may be caused by "nurture (1)." In class, so far, you have seen three different patients with three different disorders (depression, schizophrenia, and addiction). Choose either "nature" or "nurture" as your stance and write an essay persuading the reader that one is more important than the other in terms of causing mental illness. Using examples from the citation, class interviews, optional reading, and/or your own experiences would be much appreciated!

A child's upbringing may be influenced by their parents or guardians, teachers, classmates, friends, living situation, financial hardships, as well as their environment. Children learn about the world through experience, relying on those around them to help them through obstacles. Importantly, children pick up on the cues adults give. Object relations theory states that our early childhood relationships and interactions with those close to us ultimately shape our behaviors and future relationships (1). For example, during my high school years, I was an instructor for a martial arts dojo, where I would teach students ranging from four to thirteen years old. As I guided the students, I noticed the effect that my opinions

and actions had on my students. These same students, who depended on me as their instructor to guide them, also latched onto how I thought and processed information. Nurture is a parallel process independent of the psyche.

Bethany Yeiser, a schizophrenia advocate living in full recovery, often shares what she thought many years back, while in the throes of psychosis: "My personality is the opposite of a schizophrenic person's. I am emotionally strong," Yeiser was unaware that schizophrenia is in fact a brain disorder that can affect people of all personalities (2). Bethany Yeiser recounts her delusions from 2003-2007, which were not an overnight event, but rather a buildup of fixed, false beliefs that

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seemed entirely real. In 1999, as a student at the University of Southern California, Yeiser became obsessed with research and then travel, so much so that she lost interest in relationships and became isolated. Specifically, the environment in Yeiser's case, a competitive university, may leave a more profound psychological impact on students, as students who are genuinely motivated and determined toward their goal will analyze the minor interactions they have with their environment. At the same time, those not as stubborn to succeed may even forget about the whole situation. Yeiser falls into the category of the first type of student. As an excellent student throughout her high school years, Yeiser's determination to do well was not a sudden event; however, Yeiser dedicated even more time to her research regardless of the effects of distancing from other interests that also gave her satisfaction. Being a naturally ambitious student and yearning for a competitive edge against her peers, Yeiser's buildup of constantly dedicating her time and effort to only one task formed a false sense of reality, where she lost her grasp on the actuality of the situation. Yeiser was unable to realize her extreme obsession with her work, as her personality of being a high achiever masked the obsession.

Likewise, later, Yeiser mentioned that she became obsessed with solely doing good for the world or becoming "Mother Theresa," a desire which built up over time with experiences of doing good. With this in mind, Yeiser may have also been greatly influenced by her church's beliefs and thoughts about community service, an ideology embedded into her as a child due to her family's commitment to religion. This continuous exposure to beliefs held most likely by parents, elders, and church members led Yeiser again to obsession with the ideology of only doing good, regardless of her situation. Nurture, in this sense, may have contributed to the onset of schizophrenia because of the deliberate actions of the patient that

correlate to the ideas and beliefs that others held. In the sense that the opinions of those with whom you surround yourself ultimately affect the psyche. Yeiser's experience demonstrates the deep impact of influential figure's actions and behaviors on our beliefs and perceptions, along with the thought that the accumulation of certain events and experiences can lead to a more apparent display of a disorder.

Similarly, in the case of another patient struggling with a different central nervous system disorder, environment also significantly impacted her decision-making process and outcomes. Kari, now an advocate for substance use disorders and a support system for the youth in her area, mentioned that when she was a child, her father dealt cocaine, and that she was always surrounded by friends and family who utilized drugs openly. For Kari, the chance of utilizing drugs was always present. Kari, who was young at the time of being exposed, may have even taken these signs as encouragement to utilize drugs. These circumstances set the individual up to act in specific ways, even if they are naturally predisposed to act in another. For instance, identical twins are born with the same genome, yet they may differ in personality and habits. Even though they carry the same predisposed conditions, the feature that differs most would be their versions of normality. Nurture revolves around following those around us and depending on them to guide us/show us what a "normal" life looks like. For Kari, regardless of her genes or predisposition to addiction, she was always surrounded by various drugs, and it became part of her daily life to see and watch others do them. In fact, there was likely pressure for Kari to start taking drugs because of her constant indirect involvement with them due to her environment and community. Kari realized that her place of upbringing and the people she was surrounded by were driving her addiction. For this reason, Kari

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rarely returns home to avoid falling into the same habits as before.

Both Yeiser and Kari demonstrated a remarkable ability to bounce back given challenges faced in their disorder. A study conducted to understand motivational interviewing as an intervention for patients with schizophrenia stated that "[a]bout 75% of patients with schizophrenia discontinue their antipsychotic drug treatment within 18 months (3)." Initially, Yeiser struggled with finding medications that suited her best, leading to an ongoing battle with committing to her medication. This changed, however, when Yeiser finally found a doctor who understood her and listened to her struggle. The effect of this simple interaction motivated Yeiser to both continue her medication and find techniques to manage her schizophrenia. Likewise, Kari continued to return to old habits; however, her eagerness to stop using was not necessarily attenuated. Another study conducted revealed that "relapse rates [were] as high as 65% to 70% in the 90 days following treatment (4)." Regardless of her past failures in ending her drug use, she managed to return with a headstrong mentality to cease her addiction for the last time.

If the relapse rates are elevated, and the environment is a significant factor regarding these individual's responses to situations, how can these individuals be pushed forward? My belief is that both patients share a unique trait: resilience. Their resilience ultimately developed through their recovery and their ability to fall and rise again after their challenges. An individual is not necessarily born with the characteristics of being courageous or determined; instead, the experiences one undergoes allow one to genuinely shine. As one experiences a downfall, they learn to build themselves to prevent the next challenge. However, as the cycle continues and the individual continues to learn, their mindset to handle challenges changes. Instead of dreading the challenge, the individual adapts, just like Yeiser and Kari did. Nurture may not be just learning

from others in the environment but may also be learning from one's own past experiences.

The effects of nature are often hard to disregard, however, with recent studies into epigenetics, the interactions of nurture on nature may be explained at a biological level. Epigenetics is the study of gene activity without modification to the primary sequences. These modifications primarily occur due to environmental events that cause the individual's genes to produce more or less of a protein. For instance, smoking can cause DNA methylation, a process in which a methyl group is added onto a carbon, activating, or repressing certain gene expressions. In a study conducted to review the epigenetic alterations caused by smoking, researchers concluded that due to various genetic variants that mediate DNA methylation, it displays those genes, and the environment works together to showcase a disease (5). Even though this may hold true, smoking, for instance, is a habit picked from one's environment, displaying that the environment does heavily influence and may even increase the cause for a mental disorder.

Ultimately, nurture more heavily influences mental disorders, as nurture builds our experiences, our thoughts, ideologies, and, most importantly, our mindset. As kids, when we experience our environment and get to know those in our environment, we feel obliged to follow in their footsteps. Even if we disagree, we are still influenced by the opinions and actions of others. Genetics may give us the possibility to be a certain way, but our environment and those around us give us the ability to be that way.

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References

 Fritscher, L., How early attachments set the stage for future relationships.
 Verywell Mind, 2023. https://www.verywellmind.com/what-isobject-relations-theory-2671995#:~:text=Object%20relations%20t

- UTJMS 2025 May 15; 13(S2):e1-e4
- heory%20is%20all,significant%20people% 20in%20your%20life
- Yeiser, B., Chapter One, in Mind Estranged: My Journey from Schizophrenia and Homelessness to Recovery, G. Dietz, Editor. 2014, Bethany Yeiser. p.13.
- Dobber, J., Latour, C., de Haan, L., op Reimer, W., Peters, R., Barkhof, E., and van Meijel, B., Medication adherence in patients with schizophrenia: a qualitative study of the patient process in motivational interviewing. BMC Psychiatry, 2018. 18(135). https://doi.org/10.1186/s12888-018-1724-9
- Sinha, R., New Findings on Biological Factors Predicting Addiction Relapse Vulnerability. Curr Psychiatry Rep, 2011. 13: p. 398-405. https://doi.org/10.1007/s11920-011-0224-0.
- Kaur, G., Begum, R., Thota, S., and Batra, S., A systematic review of smoking-related epigenetic alterations. Arch Toxicol, 2019.
 p. 2715–2740. https://doi.org/10.1007/s00204-019-02562-y.