

A STUDY OF NATURE VERSUS NURTURE,
WHILE DIAGNOSING ANXIETY OR CONDUCT DISORDERS IN ADOLESCENTS

By

Austin Laura Schnur

Advised by

Dr. Johnston

SOC 461, 462

Senior Project

Social Science Department

College of Liberal Arts

CALIFORNIA POLYTECHNIC STATE UNIVERSITY

Winter, 2017

Nature vs. Nurture While Diagnosing Anxiety or Conduct Disorders

Table of contents

| | |
|---|--------------|
| Research Proposal..... | 3 |
| Annotated Bibliography..... | 5 |
| Outline..... | 11 |
| Text..... | |
| I. Introduction..... | 13 |
| II. Definitions, Symptoms, and Examples..... | 15 |
| III. Literature Reviews..... | 23 |
| IV. Discussion..... | 30 |
| V. Personal Experience..... | 33 |
| VI. Conclusion..... | 36 |
| Works Cited..... | 38 |

Research Proposal

Nature vs. Nurture While Diagnosing Anxiety or Conduct Disorders in Adolescents

Purpose or Goal of the Project

The purpose of this senior project is to learn more about the influences, whether environmental or genetic, on mental disorders such as anxiety and conduct disorders.

Goals include researching about environmental factors that come into play with diagnosing these mental disorders, as well as learning more about the genetic factors that take part. This research will also help me come to personal conclusions on whether nature, such as genetic and biological factors, or nurture, such as social and environmental interactions are more central when, adolescents develop anxiety or conduct behaviors.

How this Project will be Accomplished

The study on nature versus nurture while diagnosing mental disorders in adolescents will be accomplished through review of journal articles and research data. This research will include studying certain theories in relation to how adolescents develop anxiety or conduct behaviors, considering different standpoints and opinions from research articles, and understanding how both factors can take part in a diagnosis.

Statement of Hypothesis

Personally, my hypothesis is that the role of nature and nurture are equal. I think environmental and genetic factors play an equal role in an adolescent's struggle with anxiety or conduct disorders. However, I am open to changing my hypothesis as I explore the research literature.

Significance of the Project

The significance of exploring the research on the impact of nature versus nurture is to more fully understand the importance of genetic and environmental factors, in regards to adolescent behaviors.

How this Project Connects to my Discipline

I am obtaining my Bachelor's degree in Sociology with concentration in Social Services. Studying, researching, and learning about the environmental and genetic factors that affect mental disorders is a subject that frequently comes up in my classes. Over time, I have become very interested in this topic and I feel that learning more about it will be useful for my future knowledge.

How this Senior Project Will Help My Future Career

My future career goal is to obtain a Master's degree in Social Work and then become a Licensed Clinical Social Worker. I hope to work with adolescents within a private practice and hospital setting. Thus in my future job, an understanding how genetics vs. environmental factors contributes to anxiety or conduct disorders will be very important. There will be many times I would potentially be working with an adolescent who was experiencing anxiety or a conduct disorder. It is important that I have the knowledge and understanding of where these mental disorders stem from in order to help with my clients' rehabilitation and success.

Annotated Bibliography

Burt, S. A. (2009). Rethinking environmental contributions to child and adolescent psychopathology: A meta-analysis of shared environmental influences. *Psychological Bulletin*, 135(4), 608-637. doi:10.1037/a0015702

This article focuses on environmental influences on children and adolescents. This is a behavioral genetic research article that discusses the important environmental influences that have affect on the differences and similarities between siblings in relation to specific mental disorders. The author examines different twin and adoption studies in order to see a variance in children or adolescents that have behaviors related to conduct disorders, oppositional defiant disorders, anxiety disorders, or depression. The author also discusses the significance of age in the development of mental disorders. Estimates of environmental influence on mental disorders increasingly declined with age. It seems that the younger the child, the more the environment can influence their behaviors, either toward conduct or anxiety. Adolescents' environment also plays a large part in the development of certain behaviors in adulthood. In contrast, adults' environment had little influence on their development of anxiety, depression, or conduct disorders, if they had not experienced anything in their childhood. In conclusion the analysis revealed that environmental influences accounted for a big percentage of behavioral and psychological outcomes. It appears that environmental and social influences are the reason for differences in siblings, while genetic influences were mostly responsible for the similarities. This article relates to my senior project because of its emphasis on the environmental and genetic reasons of causation, as well as providing specific statistics, on anxiety and conduct disorders among adolescents. The environmental statistics relate to nurture, while the genetic aspects relate to nature. (242 words)

Clark, A. (2003). Nature Or Nurture? Or Neither? *Off Our Backs*, 33(7/8), 25-29.
Retrieved from <http://www.jstor.org.ezproxy.lib.calpoly.edu/stable/20837872>

The Journal article, "Nature or Nurture? Or Neither?" is based on the brief supports of biological factors that contribute to mental disorders and the trauma/environment based factors that contribute. The author explains how some researchers support the notion that biology, physiology, and chemistry are the true bases of mental illness. There is research that has found that brain structure abnormalities, genes, and chemical imbalances all are major causation factors for mental illness. With this approach, medication and physical treatments are standardized to alter brain chemistry. The author then discusses how other researchers believe that traumatic event consequences, or experiences that have triggered emotion in our lives, are what cause mental illnesses to occur. The effects of neglect, abuse, assault, violence, and other negative experience, create a long lasting effect, which induces mental disorders. With this approach, talk therapy versus medication is used to alter behaviors. This article reflects how there are different approaches, different causations, and different treatments, but what is most important is the usefulness of coping strategies. This journal article relates to my senior project as it discusses the nature and biological point of view and the nurture and environmental point of view in

regard to the causation to mental illnesses. This article also reflects the ways that each point of view favors a different treatment method. (219 words)

Clark, M. D. (1999). Anxiety Disorders: Why They Persist and How to Treat Them. *Behaviour Research and Therapy*. 37(1), S5-S27. Retrieved from [http://dx.doi.org.ezproxy.lib.calpoly.edu/10.1016/S0005-7967\(99\)00048-0](http://dx.doi.org.ezproxy.lib.calpoly.edu/10.1016/S0005-7967(99)00048-0)

This research article focuses on anxiety disorders and how they are caused by the environment one experiences. The author discusses how cognitive theorists propose that anxiety and some conduct disorders, as well as other mental illnesses, result from experiences. The author also goes into detail on how those experiences distort one's beliefs about future situations and affect internal stimuli about how to react. These internal stimuli include distorted beliefs about the dangerousness of certain situations based on past mental and traumatic life events. There is evidence that explains how negative thinking about past environments or events create anxiety disorders. This article focuses on why these events and beliefs persist and how these specific reactions maintain anxiety. The author proposes that there are six processes that explain one's anxiety which stem from one's past. These processes include safety seeking behaviors, attentional deployment, spontaneous imagery, emotional reasoning, memory processes and the nature of the threat representation. When someone has experience problems with nurture and upbringing, their logical reasoning is more off track than someone who has not experienced past issues. This article describes each of the six processes in detail as well as how they can be controlled. The journal article relates to my senior project because it discusses how anxiety is caused by past events, which change one's perception. The knowledge on how these processes affect a client's mindset to create anxiety, as well as how to base treatment on correcting thinking, is very beneficial when determining whether nurture or nature causes anxiety disorders. (253 words)

Dodge, K. (2009). Mechanisms of Gene—Environment Interaction Effects in the Development of Conduct Disorder. *Perspectives on Psychological Science*, 4(4), 408-414. Retrieved from <http://www.jstor.org.ezproxy.lib.calpoly.edu/stable/40645709>

This scholarly journal article reflects the gene and environmental interaction effect that is seen with conduct disorders. The article defines a conduct disorder as being a combination of individual aggressive behaviors, antisocial behaviors, and highly emotional aggression. One study found that there is more of a hereditary and genetic basis for psychopathic traits rather than for an emotional aggression, or a conduct disorder. The author focuses on a gene=environment interaction effect that explains how both factors create the behaviors of a conduct disorder. This is explained through a model, beginning with a child experiencing an early environment interaction that creates adversity, this environmental affect creates the brain to degrade norepinephrine, which then accounts for a failure in affect regulation leading to uncontrolled aggressive reactions. This study reflects that early environmental trauma is what creates a genetic imbalance to create aggressive behaviors. The environmental stimulus and biological systems interact to form conduct-disordered behavior. The study also explains that this

early trauma situation can relate to many other mental disorders as well, including anxiety and depression. Those who have an experience of childhood maltreatment, threat or a stress, who then also have a certain genetic disposition within the region of a serotonin transporter, are more prone to have an anxiety or depressive disorder. This journal article relates to my senior project as it explains how nature and nurture both interact together, creating a conduct or anxiety disorder. This article provides an alternate approach to other articles because this author believes that the environment triggers come before the genetic factors. (257 words)

English, D. (1998). The Extent and Consequences of Child Maltreatment. *The Future of Children*, 8(1), 39-53. doi:1. Retrieved from <http://www.jstor.org.ezproxy.lib.calpoly.edu/stable/1602627> doi:1

This journal article discusses the psychological problems that occur for victims of maltreatment. If a child has been brought up in an environment of neglect, abuse, or maltreatment, then the child is at a higher risk for having a psychological problem. The author discusses that abused children who were brought up in an aggressive environment or household, tend to be more aggressive toward other peers or adults and develop conduct-disordered behaviors. These children and adolescents have difficulty with peer relationships and have little capacity for empathy towards others, which creates a high probability of conduct behaviors. The environment a child is brought up in can traumatize and trigger their personality so that they are not able to master developmental skills, which create difficulties with interaction and healing mental disorders throughout their life. Many adolescents externalize their reactions through physical aggression (conduct disorder) or internalize by being anxious and depressed. The environment that has led to a child to be neglected causes them to be more likely to perform poorly in school, commit crimes, experience emotional problems, and develop mental disorders such as anxiety, conduct, and depression. This article discusses the consequences of child maltreatment, as well as the characteristics involved in the environment that create psychological effects. This article relates to my senior project because it explains the details of what types of environments can cause a child to develop certain behaviors. This explains the role of nurture and also provides statistics about how many families place a child in a traumatic environment. (253 words)

Fanti, Kostas A. (2016). Understanding Heterogeneity in Conduct Disorder: A review of Psychophysiological Studies. *Neuroscience and Bio-behavioral Reviews*. doi: <http://dx.doi.org/10.1016/j.neubiorev.2016.09.022>

This article reflects the role of different physiological and biological systems in understanding conduct disorders. Conduct behaviors are based upon physiological arousal, under-arousal and empathy deficits. This article focuses on a study that indicates that children with certain physiological and genetic differences are more likely to be diagnosed with a conduct disorder. The author explains that a conduct disorder is a repetitive and persistent pattern of behavior that violates societal norms and is often seen in children and adolescents who engage in antisocial behaviors. The study focuses on those who have manifested conduct behaviors during childhood and who have manifested

them during adolescence. The biological focus of the study is on the prefrontal cortex, autonomic nervous system, amygdala, and the parasympathetic nervous system. These all contribute to cognitive control, emotional processing, defensive responding, reward, and punishment, which contribute to conduct behaviors and disorders. The author's perspective is based on physiological factors that impact the development of conduct behaviors and how they influence children's interactions. This article relates to my senior project because it explains the biological and physiological reasons why conduct disorders come out in adolescents. This article discusses how nature and biological factors play a huge role in arousing conduct behaviors as compared to social factors. This article focuses on the 'nature' side of the famous debate about 'nature versus nurture'. (222 words)

Jacofsky M., Khemlani-Patel S., Neziroglu F., Santos M. (2013). Biological Explanations of Anxiety. Bio Behavioral Institute.
Retrieved from <https://www.mentalhelp.net/articles/biological-explanations-of-anxiety-part-ii/>

This online article taken from the Bio Behavioral Institute discusses the biological explanations of anxiety. The doctors writing this article focus on the biological causes for anxiety disorder versus the environmental causes. This is based on the nature side of the 'nature vs. nurture' debate. This article focuses on the origins and maintenance of anxiety disorders. In order for anxiety to manifest, biological factors must be in place according to the doctors and authors of this article. The authors' focus on the observable temperamental differences that appear to be a function of genetics and that cause some humans to have extra-sensitive temperaments; these traits in turn, appear to develop into anxiety disorders as a child matures. The nervous, cardiovascular, respiratory, digestive, excretory, and endocrine systems are all responsible for the physiological and chemical changes that cause anxiety symptoms and anxiety disorder. This article highlights the most important origins of anxiety symptoms and how they are formed through biology. Not only does the online article go into detail about each of the systems within the human body that cause an anxiety disorder, the article also reflects how certain psychological factors can also cause our biological systems to increase their biological anxiety response. If people with biological factors that can cause anxiety also experience the variables of perceived control, cognitive appraisals, cognitive beliefs, or cognitive distortions, this combination of factors can heighten their anxiety disorder. The authors' explain how anxiety stems from biological systems but psychological and social issues can heighten the disorder. This article relates to my senior project because it explains the biological reasons of an anxiety disorder, which explains 'nature', and also touches on how 'nurture' can influence mental illness. (281 words)

Kinderman P., Schwannauer M., Pontin E., Tai S. (2013). Psychological Processes Mediate the Impact of Familial Risk, Social Circumstances and Life Events on Mental Health. PLOS ONE 8(10): e76564. doi:10.1371/journal.pone.0076564

This research article examines the role of psychological and biological factors in the development of mental health problems. The article includes the findings of a study on

the key elements of the bio-psycho-social model of mental illness and mental health. The authors' discuss how mental health affects one in every four people and explain the main origins of mental disorders. This article focuses on all aspects of the biological, social, and psychological factors that play an important role in mental health problems. The method of the research was selecting participants from the general population who completed questionnaires hosted by the BBC. The authors' hypothesis was that a family history of mental health, social deprivation, and trauma all together would predict higher levels of anxiety and depression. Overall the findings of research conclude that life events were the strongest predictors of mental health problems, while mental health problems related to genetics were the second strongest predictor. This article connects to my senior project because it is based on nature versus nurture and explains how both aspects affect mental health. It explains the bio-psycho-social model in regard to the causation of mental health disorders, which reflects that nature and nurture both can cause anxiety, depression, or conduct disorders. This research article also reflected upon personal psychological processes that can help one's mental health issues and what processes can also make one's mental illness worst, despite the social or biological impacts. (238 words)

Plomin, R., & Asbury, K. (2005). Nature and Nurture: Genetic and Environmental Influences on Behavior. *The Annals of the American Academy of Political and Social Science*, 600, 86-98. Retrieved from <http://www.jstor.org.ezproxy.lib.calpoly.edu/stable/25046112>

This journal article discusses the basis of nature and nurture in terms of the genetic and environmental influences on behaviors. The author focuses on both aspects, genetic and environmental, that affect behaviors. The author also discusses the history of this debate and what has occurred that has changed certain opinions or opened new ideas. The article focuses on specific studies that support nature and nurture, through studying genetic and environmental measures associated with either genetic or non-genetic behaviors and influences. Developmental change and continuity is also very important, as described by the author, as it changes genetic effects, as well as environmental effects. This explains how certain effects create behavioral changes during adolescence. There is much analysis on DNA included in this article that reflects the genetic aspect of this debate. This article discusses the great importance of genes and the environment in the role of individual differences in behavior. It discusses how these aspects are more accepted in science and in society, however with more acceptance and advances, these findings have created new problems for medicine, parenting, education, insurance, law, and philosophical issues. This leads to the idea that although some people have different environmental upbringings or genetic origins, behaviors and decisions can be made by each individual and everyone should be created equally. The keyword from this journal is 'individual' as the author emphasizes how each person should have specific treatment and interventions that will work for them, despite whether treatment is focused on their genes or their environment. This article relates to my senior project as it discusses nature and nurture in terms of behavior, the onset that occurs in adolescence, as well as how both factors can influence one's mental illness. (285 words)

Schwartz, S. (1998). The role of values in the nature/nurture debate about psychiatric disorders. *Social Psychiatry & Psychiatric Epidemiology*, 33(8), 356.

This paper focuses on the major explanations of the causation of mental illnesses, such as nature vs. nurture, and the arguments about why psychiatric disorders develop. The author discusses examples that explain how one who is on the nature side of the debate would explain the causation of a mental illness vs. the way someone on the nurture side would explain a mental illness. This paper describes both the nature aspect of mental disorders, such as the gene interactions, and the nurture aspect of mental disorders, such as violence and life events that occur in one's environment. The author discusses many analogies that clearly explicate differences between biological and environmental reasons for mental illness and makes a point that the causal chain of a mental disorder is complex. Links are important in the causation of one's mental illness but one's values and inputs of the nature/nurture debate can help one recognize assumptions versus reality, and can create flexibility, greater change, expertise and a more ethical treatment plan. The paper relates to my senior project as it outlines the different points of view on the nature and nurture debate in regard to the causation of mental illnesses. This paper also can allow the reader, such as myself, to understand the debate on a deeper level through modern and story-like analogies. (219 words)

Outline

I. Introduction

- A. Proposal
- B. The purpose of this research paper
- C. The significance of understanding anxiety and conduct disorders

II. Definitions, Symptoms, and Examples

- A. Anxiety
 - 1. DSM V. definition
 - 2. Alternative definitions
 - 3. Symptoms and examples
- B. Conduct Disorder
 - 1. DSM V. definition
 - 2. Alternative definitions
 - 3. Symptoms and examples
- C. Nature vs. Nurture
 - 1. What classifies nature?
 - 2. What classifies nurture?
 - 3. History of the debate
 - a. When did it start?
 - b. Where is it now?
- D. Adolescents
 - 1. Youth affected by anxiety
 - 2. Youth affected by conduct disorders
 - 3. How does the nature vs. nurture debate impact youth?

III. Literature Reviews

- A. Anxiety
 - 1. Biological research (nature)
 - 2. Psychological/environmental research (nurture)
 - 3. Data on nature vs. nurture
- B. Conduct Disorder
 - 1. Biological research (nature)
 - 2. Psychological/environmental research (nurture)
 - 3. Data on nature vs. nurture

IV. Discussion

- A. Summation of explanations of anxiety
 - 1. Nature or nurture?
 - 2. How youth are impacted
 - 3. Diagnosing and treatment
- B. Summation of explanations of conduct disorders

1. Nature or nurture?
2. How youth are impacted?
3. Diagnosing and treatment

V. Personal Experience

- A. Family Care Network, Inc.
 1. Nature or nurture? Both.
 2. Treatments
- B. Opinion and conclusions
 1. Collaboration
 2. Importance of treatment
 - a. Biology focus for basic treatment (external)
 - b. Psychology/Environmental focus for overall treatment (internal and external)

VI. Conclusion

- A. Summary
- B. Future research and success suggestions

Introduction

An adolescent being diagnosed with a mental disorder, especially anxiety and conduct disorders, is increasing among our society. If researchers can understand the significance of these mental disorders and their causation, this process can help promote young adults' mental health and wellbeing for their future success. Acknowledging the differences and similarities among biological and environmental, or nature and nurture, causes for anxiety and conduct disorders, can create better treatment plans and long-term success for individuals living with these illnesses.

This senior research project has the purpose of learning more about the many influences on mental disorders, specifically on anxiety and conduct disorders. The current research literature places an emphasis on the influences and causation of these disorders as being related to either environmental or genetic factors. This paper will review the research on environmental versus genetic factors in the causation of anxiety and conduct disorders. The research also includes conclusions on whether nature, such as genetic and biological factors, or nurture, such as social and environmental interactions, are more crucial when adolescents develop anxiety or conduct behaviors. Therefore, this paper will discuss the history of the nature vs. nurture debate by exploring: what anxiety and conduct disorders are, the biological factors which create anxiety and conduct disorders, the environmental factors which contribute to anxiety and conduct disorders, as well as the author's personal conclusions and observations.

The significance of exploring the nature vs. nurture debate in relation to the causations of anxiety and conduct disorders is very important in understanding adolescent behaviors. Personally, my hypothesis is that the role of nature and nurture are equal. I

think environmental and genetic factors play an equal role in an adolescent's struggle with anxiety or conduct disorders. Both factors are significant, however one factor or the other may dominate depending upon the adolescent's personal struggles or situations.

The findings of the research can help others and myself further define their own thoughts on the biological and environmental factors that contribute to anxiety and conduct disorders and thus gain a better understanding on these mental disorders overall and how they effect adolescents. It is very important for anyone interested in the mental health field to gain the knowledge and understanding of the causations of these mental disorders in order to help with future clients' rehabilitation and success.

Definitions, Symptoms, and Examples

Anxiety Disorder

Anxiety disorders are a common mental illness among many individuals, especially adolescents who have either a biological predisposition or environmental contributions. The Diagnostic and Statistical Manual, *DSM-5*, defines generalized anxiety disorder as:

- A. Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).
- B. The individual finds it difficult to control the worry.
- C. The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms having been present more days than not for the past 6 months):
 - *Note: only one item required in children
 - 1. Restlessness, feeling keyed up or on edge
 - 2. Being easily fatigued
 - 3. Difficulty concentrating or mind going blank
 - 4. Irritability
 - 5. Muscle tension
 - 6. Sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep)
- D. The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- E. The disturbance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition (e.g., hyperthyroidism).
- F. The disturbance is not better explained by another medical disorder (e.g., anxiety or worry about having panic attacks in panic disorder, negative evaluation in social anxiety disorder [social phobia], contamination or other obsessions in obsessive-compulsive disorder, separation from attachment figures in separation anxiety disorder, reminders of traumatic events in posttraumatic stress disorder, gaining weight in anorexia nervosa, physical complaints in somatic symptom disorder, perceived appearance flaws in body dysmorphic disorder, having a serious illness in illness anxiety disorder, or the content of delusional beliefs in schizophrenia or delusional disorder). (p. 222).

Anxiety disorders can be very complex and although most diagnosis will be based off of the criteria of the *DSM-5*, there are alternate definitions in which simplify what an anxiety disorder is. According to the *National Institute of Mental Health*, anxiety disorders are defined as:

Occasional anxiety is a normal part of life. You might feel anxious when faced with a problem at work, before taking a test, or making an important decision. But anxiety disorders involve more than temporary worry or fear. For a person with an anxiety disorder, the anxiety does not go away and can get worse over time. The feelings can interfere with daily activities such as job performance, school, work, and relationships. There are several difference types of anxiety disorders. Examples include generalized anxiety disorder, panic disorder, and social anxiety disorder.

This alternate definition has emphasis on what a true anxiety disorder is versus someone feeling stressed or anxious at only occasional times. A person who has consistent patterns of worry or fear needs the proper treatment in order to have a better future. In order to provide proper treatment, it is important to know the causation of the symptoms. Why do some people experience a temporary feeling of anxiety, while others only feel anxious on occasion? Is it due to biology or the environment?

Generalized anxiety disorder is diagnosed if specific symptoms are occurring. These symptoms can also determine if someone is suffering from this mental illness. Generalized anxiety disorder symptoms include irritability, muscle tension, sleep issues- including difficulty falling asleep or staying asleep, concentration difficulties, restlessness, feeling wound-up, consistent fatigue, and unable to control the feeling of worry (NIMH). These are recognizable if someone is worrying almost everyday, if one is unable to control their worrying, their worrying significantly disrupts their normal functioning, or if their worries are extremely upsetting and stressful. An adolescent who

has an excessive, intrusive, persistent, and disruptive worry, will not only be effected in their everyday lives but these feelings need to be controlled and helped in order for them to achieve future success.

Conduct Disorder

Conduct disorders are another common mental illness that result from either biological or environmental factors. The Diagnostic and Statistic Manual, *DSM-5*, defines conduct disorder as:

- A. A repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated, as manifested by the presence of at least three of the following 15 criteria in the past 12 months from any of the categories below, with at least one criterion present in the past 6 months:
 - Aggression to people and animals
 - 1. Often bullies, threatens, or intimidates others.
 - 2. Often initiates physical fights.
 - 3. Has used a weapon that can cause serious physical harm to others (e.g., a bat, brick, broken bottle, knife, gun).
 - 4. Has been physically cruel to people.
 - 5. Has been physically cruel to animals.
 - 6. Has stolen while confronting a victim (e.g., mugging, purse snatching, extortion, armed robbery).
 - 7. Has forced someone into sexual activity
 - Destruction of Property
 - 8. Has deliberately engaged in fire setting with the intention of causing serious damage.
 - 9. Has deliberately destroyed others' property (other than by fire setting).
 - Deceitfulness or Theft
 - 10. Has broken into someone else's house, building, or car.
 - 11. Often lies to obtain goods or favors or to avoid obligations
 - 12. Has stole items of nontrivial value without confront a victim
 - Serious Violations of Rules
 - 13. Often stays out at night despite parental prohibitions, beginning before age 13 years.
 - 14. Has run away from home overnight at least twice while living in the parental or parental surrogate home, or once without returning for a lengthy periods.
 - 15. Is often truant from school, beginning before age 13 years.
- B. The disturbance in behavior causes clinically significant impairment in social, academic, or occupation functioning. (p. 461)

Not only does the DSM-5 discuss the criteria for and definition of conduct disorders it also defines conduct disorder as the client experiencing limited pro-social emotions, including lack of remorse or guilt, a callous-lack of empathy, unconcern about performance, and a shallow or deficient affect. There are also different severities of conduct disorders including mild, moderate, and severe, which depend on if harm is personal or to others.

Conduct disorders have a very complex and wide range of severity as well as criteria. Many of those who also suffer from these conduct disorders are engaging in these certain behaviors either due to social and environmental contributions that are triggering them to react, or through biological and psychological imbalances.

An alternate simplified definition of what a conduct disorder is can help individuals interested in the mental health field be familiar with general behaviors of a conduct disorder, in order to formulate a diagnosis and possibly determine the causation. In general, a conduct disorder consists of behavioral and emotional problems that usually begin during childhood or adolescence. These individuals have a difficult time following rules or behaving in socially acceptable ways. Some behaviors of a conduct disorder include an individual's display of aggressive, destructive or deceitful behaviors, which in society considering the client as "bad" or "delinquent" rather than having a mental illness (Kivi & Legg, 2016).

Conduct disorders can be seen in those who have experienced environmental stressors such as child abuse, a dysfunctional family, parents who abuse drugs or alcohol, and poverty. People with conduct disorders have also been described as having genetic predispositions such as a reduced ability to plan future actions, a decreased ability to

learn from negative experiences, and a lack of impulse control. These two explanations of conduct disorders focus on the basic environmental and genetic factors in which influence a conduct disorder and are examples of the various factors practitioners can focus on in order to treat the patient properly.

Nature vs. Nurture

Understanding the difference between nature versus nurture from the sociological and psychological perspective is important in order to understand the possible causations of mental illnesses. Nature and nurture relate to the importance of individual's innate qualities compared to an individual's personal experiences. Nature refers to the hereditary, genes, and biological factors which influence who a person is. Nurture refers to the environmental variables, such as experiences, culture, and social relationships, which impact how a person grows and develops. The overall difference between nature versus nurture is determined by the unique contributions of either genetic inheritance or environmental experiences for each person. Nature and nurture both relate to every human's developments in their life and can cause a mental illness to occur depending on one's genetics or their social experiences.

The historical debate on nature versus nurture has made a significant division among many helping professionals. According to Plomin and Asbury, the study of nature and nurture in the development of behavioral traits began as early as 1865 through the work of Francis Galton. The first research study relating to nature and nurture, with twin and adoption studies, was published in 1924. This began the steady growth debate of genetic versus environmental traits in relation to behaviors. The emergence of behaviorism and genetic science created an impact on behavioral science theories and

research. Following the first published book on behavioral genetics in 1960, more studies have occurred which either support nature or nurture as the causation for mental illnesses. In modern times, the debate has evolved into a more balanced perspective. There has been a growing acceptance of the role of both genes and the environment, and a growing focus on how both factors intersect with each other.

Adolescents

The discussion of anxiety and conduct disorders in this research paper will be focused on adolescent clients. Adolescents are defined as youth who are within the age range of twelve to eighteen years old. During adolescence many teenagers go through body changes, mood swings, and also experience social issues. All of these issues can be contributing factors of being diagnosed with a possible mental illness. Adolescence is a prime developmental stage in which biological factors, nature, or environmental and social factors, nurture, can start to play huge roles. These developmental changes can promote a peak time in which an anxiety disorder or a conduct disorder, or potentially both, can occur. Anxiety disorders are one of the most diagnosed mental illnesses for youth, while conduct disorders are not often diagnosed but clearly seen consistently through the labels of deviance.

Literature Review

Anxiety

Biological research (nature). The different developmental causations for anxiety are seen through environmental factors, genetic factors, or a combination of both factors. Researchers on the biological and nature side of the debate agree that in order for an anxiety disorder to manifest, biological factors (or vulnerabilities) have to be in place. Genetic research has found that anxiety disorders have a genetic component.

The genetic components are observable temperamental differences that include extra-sensitive temperaments within the brain. When children are born with these sensitive temperaments they are more likely to develop an anxiety disorder because of their nervous system arousing easily. The human body also consists of many systems; nervous, cardiovascular, respiratory, digestive, excretory, and endocrine, all of which are involved in the production of anxious and fearful symptoms. The body produces physiological, electrical, and chemical changes through these six systems, over or underproduction of these various charges can cause a person to have anxiety symptoms. This explanation makes it clear that the biology of the body alone can create anxiety and that external features may not have anything to do with the origins of anxiety (Jacofsky, Santos, Patel & Neziroglu, 2013).

There are also abnormalities found in the brain structure, genes that link to depressed moods, and brain chemical imbalances, which all create the basis of anxiety as a mental illness. This biological approach is why many health care providers treat anxiety with chemical and physical treatments, instead of potential talk-therapy. Medication is prescribed to rebalance brain chemistry, which has been biologically altered (Clark,

2003). Thus the nature side of this debate sees major mental illnesses, such as anxiety or depression, as purely diseases of a biologically unhealthy brain structure (Schwartz, 1998).

Psychological/environmental research (nurture). There is also an assumption that anxiety disorders result from “distorted beliefs about the dangerousness of certain situations, sensations, or mental events”, which can relate to the nurture perspective of anxiety (Clark, 1999). In contrast, another perspective believes that a depressive and anxious illness occurring because of triggering life events, which lead to a psychological response (Schwartz, 1998). From this viewpoint, traumatic and cultural influences highly relate to the causation of anxiety. When humans experience traumatic events, such as sexual assault, battery, abuse, violence, or injuries, anxiety occurs as a consequence. It makes intuitive sense that certain traumatic events cause people to feel out of control and not safe, which can in turn result in a diagnosis of anxiety. Society also plays a role due to the way that media and society represents certain people, and the stigma around mental health, which can cause anxiety to occur. Cultural influences can make people feel out of place or cause people to have a poor self-image, thus resulting in a negative spiral of anxiety (Clark, 2003). There appears to be a strong case for the role of nurture in the causation of anxiety given the emphasis on traumatic events, media, and experiences.

Data on nature vs. nurture. One study based on the debate on nature versus nurture and the diagnosis of mental health problems, including anxiety, tested the relationships between key elements of the bio-psycho-social model. The study concluded that a family history of mental health difficulties, social deprivation, and traumatic or abusive life-experiences all predict a high level of anxiety. These difficult family

relationships also cause psychological processes, such as difficulties with coping, self-blame, and mental processing. The studies results were significant in confirming the bio-psycho-social model, which states that there is an impact between biological, social, and circumstantial factors that result in anxiety. There is a conjoined effect that creates the common pathway to a mental disorder (Kinderman, Schwannauer, Pontin, & Tai, 2013). The bio-psycho-social model created from this study explains how anxiety does not stem from only biological and psychological factors, but also through traumatic events or experiences. The study future states that all life factors are important, both nature or nurture, and that all these factors are interconnected (see Figure 1 and Figure 2 below). Overall, this study states that the two factors of nature and nurture intersect to result into anxiety and other mental disorders.

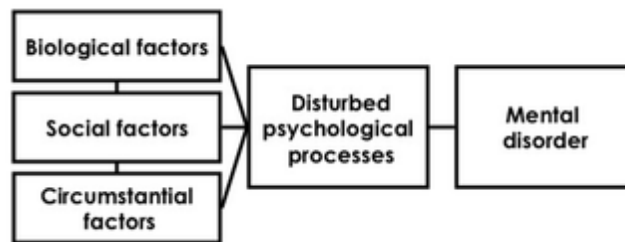


Figure 1: “The hypothesized relationships between elements of the bio-psycho-social model from Kinderman 2005.” (Kinderman, Schwannauer, Pontin & Tai, 2013)

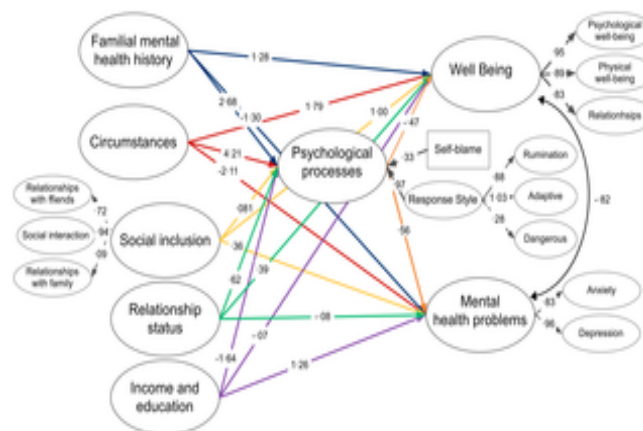


Figure 2: “Psychological processes mediate the impact of familial risk, social circumstances and life events on mental health”.

(Kinderman, Schwannauer, Pontin & Tai, 2013)

Conduct Disorder

Biological research (nature). Many researchers believe that biology is the cause of conduct disorders in adolescents. One side of the debate in relation to the causation of conduct disorders, specifically in adolescents, is biology. These researchers and medical professionals believe that conduct disorders are pure biological disorders caused by a genetic imbalance of the brain and thus the best way to treat conduct disorders is through medication to cure the imbalances. Those on the nature side of the debate believe that conduct disorders and other behavioral mental illnesses are a result of a brain disease or genetic disorder, in which the client’s environment plays no part.

According to the research done by Fanti (2016), adolescents and youth are more likely to engage in multiple antisocial behaviors and delinquency due to conduct disorders. The physiological systems such as skin conductance, heart rate, facial electromyography, and the eye-blink startle reflex are all measures associated with the brain processes responsible for certain antisocial and conduct disorder behaviors. Heart rate and skin conductance are the most popular biological and physiological measures. One’s skin conductance reflects the sympathetic nervous systems (SNS) activity while heart rate reflects both the parasympathetic nervous system (PNS) and sympathetic nervous system activity (SNS). These measures reflect an over response to external stimuli and promote the activity of an adolescents’ response to certain situations, causing their body to be triggered into either a stress regulating response, or fight or flight/fear response (Lorber, 2004). These biological factors, and nervous systems, are related to the ability to regulate emotions.

Those who biologically have a shorter cardiac pre-ejection period have a stronger sympathetic response associated with reward insensitivity (Beauchaine, 2001).

Adolescents develop conduct disorder behaviors as a result of two opposite processes, physiological over-arousals or physiological under-arousals (Fanti, 2016). These studies support the nature argument for the causation of conduct disorders and make the point that biological factors, such as the nervous system that is responsible for emotional processes, structural abnormalities in neurological chemicals such as serotonin and norepinephrine that are linked to behavior problems, and low heart rate or low skin conductance, all cause the foundation of conduct disorders in adolescents.

Psychological/environmental research (nurture). Other researchers believe that environmental dysfunctions are the primary cause of adolescents' negative behaviors and can result in a conduct disorder. These environmental issues include dysfunctional family relationships, parental abuse, parental neglect, poor parenting, and family adversity. All of these issues are strongly associated with the reinforcement and development of conduct problems. Conduct disorder is impacted by the environment, especially in adolescence due to the influences of peers.

Adolescent deviancy and conduct problems can arise due to the influence of peers and their social circle. On the other hand if family and peer relationships are overprotective this can create a sense of rebelliousness. How adolescents respond to environmental factors is a result of individual characteristics, which include temperament, social skills, and hostile attributions in interpersonal relationships (PERS, 2011).

There has also been a significant amount of research done in the past two decades about the development of conduct disorders. One of the main findings was that “early experiences of physical maltreatment and harsh parenting have been found to predict later conduct disorder”. These early environmental traumas create an emotional imbalance and create aggressive behaviors to occur (Dodge, 2009). This research supports the concept that the many aspects of the environment connected with nurture, including family dysfunctions, peers, social circles, and maltreatment, would be issues, which contributes toward an adolescent developing aggressive behaviors or possibly being diagnosed with a conduct disorder.

Data on nature vs. nurture. The Cloninger, Sigvardsson, Bohman, and Von Knorring’s 1982 seminal study of adoptions created a greater understanding of the interaction between biological genetics and the nurturing environment in producing disruptive behavioral outcomes or conduct disorders. A second study by Jaffee et al and Kender et al concluded that when adolescents with a low heritable-risk to develop conduct disorders were compared to children with a higher genetic disposition to develop conduct disorders, each group experienced physical or emotional maltreatment differently. Those with high levels of biological risks were more susceptible to the influence of the environment and were more strongly affected by any dysfunctions. Thus the interconnections between a genetic biological predisposition to be more sensitive and early experiences of maltreatment or environmental trauma can allow a conduct disorder to develop to the level of a mental illness.

Thus recent research supports the concept that early environmental situations, trigger a biological gene, which then creates a stimulus and gene-environment

interaction, that then ultimately leads to conduct disorder or aggressive behaviors in youth (Dodge, 2009). The gene X environment proposed model was developed to exemplify how nature and nurture interconnections are the fundamental cause of a conduct disorder as well as aggressive behaviors (see Figure 3).

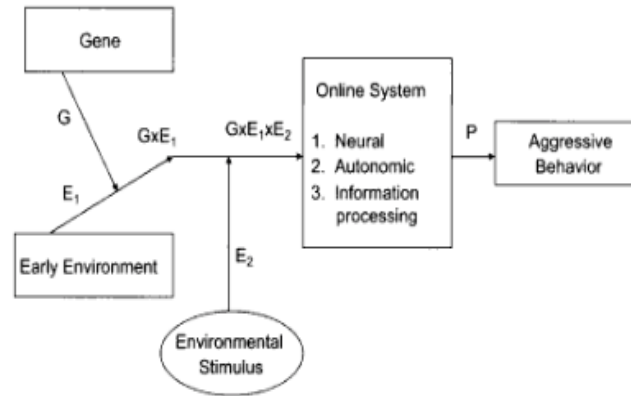


Figure 3: “Proposed model of the mechanisms through which gene-environment interaction affects aggressive behavior” (Dodge, 2009).

Discussion

Summation of Explanations of Anxiety

As many scholarly research articles have discussed, there are many factors that can cause an anxiety disorder to develop for an adolescent. The aspects of nature include the biological factors that contribute to an anxiety diagnosis. These biological factors include genetic predisposition, brain development, brain chemical imbalances, hormonal and bodily shifts, and nervous system responses. The other set of factors relates to nurture, which includes the environmental factors that contribute to anxiety. These environmental factors include any form of maltreatment, early childhood trauma, poor self-esteem, isolation, social pressures, and mental or physical abuse by family members. Overall, it is clear that there is research siding with nature and research siding with nurture, which both point out specific causations of an anxiety disorder.

However, there is also a significant amount of research that does not focus on either nature or nurture but rather on the combination of both factors and how all factors interplay. The combination theory of nature and nurture focuses on how genetics and later life experiences interact as potential causes for adolescent anxiety. According to this combination theory, each adolescent diagnosed with anxiety has different biological and environmental factors that contribute, making it a very individualized mental illness.

According to the statistical data from the National Institute of Mental Health, twenty-five percent of adolescents between the ages of thirteen to eighteen suffer from an anxiety disorder and five percent are diagnosed with a severe anxiety disorder. These numbers point out the significance of anxiety disorders within our society and how

important it is to understand both aspects of nature and nurture in order to provide treatment.

There are several treatments for anxiety disorder among adolescents including psychotherapy and medication. Psychotherapy or “talk therapy”, as well as support groups, focus on specific anxieties and discussing feared situations or the anxiety-producing situations. These aspects address the environmental contributions to the anxiety disorder, and focus on discussing the causes of one’s anxiety and ways to prevent the discomfort. Prescribing medication, such as anti-depressants, anti-anxiety medications, or beta-blockers addresses the biological factors of anxiety disorder. However, the research, which shows that nature and nurture are interconnected causes for anxiety, predicts that a combination of psychotherapy and medication would be most beneficial to fully treat an anxiety disorder for an adolescent.

Summation of Explanations of Conduct Disorders

The research articles reviewed earlier proposed several theories about the causation of conduct disorders. The research supporting the biological, or nature, aspect of conduct disorders focuses on the brain regulation of impulse control and emotion, nervous system responses, deficits in cognitive processing, and a genetic predisposition relating to conduct or associated social disorders. The research supporting the environmental, or nurture, aspects of conduct disorder focuses on dysfunctional family life, early childhood abuse, parental neglect, violence, traumatic experiences, inconsistent discipline, and peer or social pressures.

Although some may argue genetics/nature as the primary causation of conduct disorders while others may argue the environment/nurture, there are also many who argue

for combination theory that proposes genes and the environment as interconnected causations. The theories state that nature and nurture are interconnected in complex ways and uniquely individual ways to cause a conduct disorder or aggressive behaviors in an adolescent. The gene or biological aspects of a conduct disorder causation might be inherited by an adolescent but the environment in which they are placed in will allow that biological factor to be triggered or not. It also depends solely on each individual, as certain teenagers might react differently to their social environments. Understanding the nature and nurture aspects of a conduct disorder and all factors that contribute to it can ultimately create a more successful treatment plan for each individual adolescent.

According to statistical data by Mental Health America, conduct disorder is more common among adolescent boys than girls. Six to sixteen percent of boys and two to nine percent of girls suffer from conduct disorder. Those clients who have conduct disorder often also display their first onset of severe aggressive behaviors associated with the mental illness during their adolescent years.

Treatment for those diagnosed with a conduct disorder follows a similar treatment plan as treatment of an anxiety disorder, depending on the focus of the health care provider. Health care providers focusing on the nature, or biological side, might prescribe medication, such as stimulants, to treat distressing symptoms and reduce impulsivity or aggressive behaviors. In contrast, providers focusing on the nurture or environmental causation of the aggressive behavior would use psychotherapy, such as cognitive behavioral therapy, or family therapy. In contrast, providers who accept the combination theory of the causation of conduct disorders might utilize both therapy to discuss the

environmental and traumatic issues or stressors, and medication to balance out the impulsivity or chemical imbalances.

Personal Experience

Family Care Network, Inc.

After being a direct service intern at Family Care Network in San Luis Obispo, California for eight months and accumulating over four hundred and fifty hours of field work and training, I was able to witness many experiences of anxiety and conduct disorders, as well as their proposed causes and treatments. Family Care Network is a non-profit organization that provides clinical and treatment services to children and youth in a family setting, either their own family or a foster family. Family Care Network provides family support services, behavioral health services, housing and support services, education support services, and community-linked services to support families and youth in all aspects. As an intern at this organization, I was able to work one-on-one with foster youth and also children within the 'Wrap' program of Family Care Network, which is when youth are being treated within their biological homes. I worked with adolescents that were diagnosed with mental illnesses, including anxiety and conduct disorders.

All of the adolescents who were diagnosed with anxiety or conduct disorders were being treated through talk therapy, a change of environmental setting, and medications. Most of them have traumatic backgrounds including substance abuse, family neglect, emotional abuse, sexual abuse, verbal abuse, and more. Most of them also had a family history of either mental illness or substance abuse, creating a genetic predisposition for their anxiety or conduct behaviors.

My observations were that most of the adolescents received the most benefit from their therapy sessions and through support rather than their medications. Thus my observations slightly support the importance of nurture over nature. Most of the youth I

worked with would spiral back into their mental illness or show serious signs of conduct disorder or anxiety, when they experienced a new traumatic situation. Whether they were being treated poorly within their biological family settings, having issues at school, peer pressures, or experiencing a new form of neglect or maltreatment, they would begin to re-experience symptoms of their mental disorders again due to the environments stressors.

Opinion and Conclusions

After seeing adolescents slip back into symptoms of their anxiety or conduct disorders due to trauma or social reasons, I personally realized how much of an impact the environment has on mental disorders. Although some adolescents had biological components causing their behaviors, most if not all were also going through an environmentally caused trauma or had gone through something in the past which had caused their mental disorder to escalate. To me these incidents proved the importance of nurture, and how much the environment and society can impact a youth's wellbeing. However, I also believe that nature is also very important to create a biological balance for an adolescent in order for them to move past their environmental traumas, which supports the theory that nature and nurture are connected sources of causation.

Personally and from prior experience, I think that most adolescents who are being diagnosed with anxiety or conduct disorders have not only a history of biological causation but are also being impacted even further through their environments. I think that biology, and nature, can contribute to one's mental illness but it is their environment, which can either make the mental illness escalate, become severe or return to a manageable state.

Family Care Network had very important treatment plans for adolescents, which I think could benefit anyone suffering from a mental disorder in society. Their treatments consisted of proper medication, therapy, mentor support, setting changes, and overall family support. They have a wrap around approach, which focuses on helping those with mental illnesses in all aspects, which has very high success rates. This wrap around approach includes helping the youth through nature, medications, and nurture, therapy or family setting changes. In order to have successful treatment, basic treatment through biology is needed, followed by the psychological and environmental treatment, which will allow the past to heal and a new insight about the future to occur. This type of wrap around treatment demonstrates that the nature versus nurture debate is a false dichotomy. What is needed is a collaboration of multiple treatment approaches, in order for an adolescent to fully heal and have a successful future.

Conclusion

Summary

Overall, after much research and experience, nature and nurture are both very important in the causation of anxiety and conduct disorders among adolescents. Nature is composed of the biological and physiological components, which cause behaviors and disorders. Nurture is composed of the environmental, psychological, and social causes, which can create certain mental illness behaviors. In relation to anxiety and conduct disorders among adolescents, it seems that although there is much more research on the biological causation of these mental illnesses, the environmental factors is what triggers the symptoms or behaviors. This shows an overall importance on nature and nurture, and how although some researchers support one side or the other, the best approach is an understanding of the complex interconnections and a collaboration, wrap around approach in order to successful treatment plans.

Future Research and Success Suggestions

After reading and studying the research on nature versus nurture related to the causation and diagnosis of mental illnesses, such as anxiety and conduct disorder, there was a very drastic difference in the amount of research studies. Much more research had been done on the biological, nature factors, while in comparison it was difficult to find research related to nurture or environmental factors. Biology and medications have always been seen as the primary reason for disorders and a “quick fix”, while environmental factors and trauma have been covered up through our society. It is hard for people to blame their own society for a loved one’s mental illness. In the past family

traumas have been considered shameful and kept secret, which has allowed more attention to be placed on biological factors.

In the future it is important that more environmental and social factors are researched that show how personal traumas impact adolescents in their everyday and future lives. With more laws, regulations, and a modern day approach, I think that environmental, or nurture, aspects will be more researched and written about soon. In terms of future success for those diagnosed with anxiety or conduct disorders, I think a collaboration of a biological and environmental approach is important. Medication, therapy, and support are all necessary in order to create successful treatments and healthier future generations. I hope that one day I can do my own research on the collaboration of nature and nurture approaches, as well as how much the environment influences adolescents, in order to contribute to this research topic.

Works Cited

- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders: DSM-5*. (5th edition). Washington, D.C. American Psychiatric Association.
- Beauchaine, T.P. (2001). Vagal tone, development: and Gray's motivational theory: toward an integrated model of autonomic nervous system functioning in psychopathology. *Developmental Psychopathology*. Pp.183-214.
- Clark, A. (2003). Nature or nurture? or neither? *Off Our Backs*, 33(7/8), 25-29. Retrieved from <http://www.jstor.org.ezproxy.lib.calpoly.edu/stable/20837872>
- Clark, M. D. (1999). Anxiety disorders: why they persist and how to treat them. *Behaviour Research and Therapy*. 37(1), S5-S27. Retrieved from [http://dx.doi.org.ezproxy.lib.calpoly.edu/10.1016/S0005-7967\(99\)00048-0](http://dx.doi.org.ezproxy.lib.calpoly.edu/10.1016/S0005-7967(99)00048-0)
- Dodge, K. (2009). Mechanisms of gene—environment interaction effects in the development of conduct disorder. *Perspectives on Psychological Science*, 4(4), 408-414. Retrieved from <http://www.jstor.org.ezproxy.lib.calpoly.edu/stable/40645709>
- Fanti, Kostas A. (2016). Understanding heterogeneity in conduct disorder: a review of psychophysiological studies. *Neuroscience and Bio-behavioral Reviews*. doi: <http://dx.doi.org/10.1016/j.neubiorev.2016.09.022>
- Jacofsky M., Khemlani-Patel S., Neziroglu F., Santos M. (2013). Biological Explanations of Anxiety. Bio Behavioral Institute. Retrieved from <https://www.mentalhelp.net/articles/biological-explanations-of-anxiety-part-ii/>
- Kinderman P., Schwannauer M., Pontin E., Tai S. (2013). Psychological Processes Mediate the Impact of Familial Risk, Social Circumstances and Life Events on Mental Health. *PLOS ONE* 8(10): e76564. doi:10.1371/journal.pone.0076564
- Kivi, R., & Legg, T. (2016). Conduct disorder. *Healthline*. Retrieved from <http://www.healthline.com/health/conduct-disorder#Overview1>
- Lorber, M.F. (2004). Psychophysiology of aggression, psychopathy, and conduct problems: A Meta-Analysis. *Psychological Bulletin*. P. 53.
- Mental Health America. (2013, October 14). Conduct disorder. Retrieved from <http://www.mentalhealthamerica.net/conditions/conduct-disorder>

- National Institute of Mental Health. Anxiety Disorders. Retrieved from https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml#part_145338
- PERS, A. What do we know about risk factors/cause of conduct disorder? Retrieved from: <http://www.pers-project.com/index.php/what-do-we-know-about-risk-factors-cause-of-conduct-disorder/>
- Plomin, R., & Asbury, K. (2005). Nature and nurture: genetic and environmental influences on behavior. *The Annals of the American Academy of Political and Social Science*, 600, 86-98. Retrieved from <http://www.jstor.org.ezproxy.lib.calpoly.edu/stable/25046112>
- Schwartz, S. (1998). The role of values in the nature/nurture debate about psychiatric disorders. *Social Psychiatry & Psychiatric Epidemiology*, 33(8), 356.