Resilience in Girlhood: An Analysis of the Social Determinants of Anxiety Disorders for Adolescent Girls

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Resilience in Girlhood: An Analysis of the Social Determinants of Anxiety Disorders for Adolescent Girls

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Abstract

Anxiety disorders affect twice as many women as men and often begin in adolescence or young adulthood, which is a unique period of accelerated development and identity formation. Evidence points to social determinants of health (SDH) such as adverse childhood experiences (ACEs), socioeconomic status (SES), education, social media, and resilience that lead to this discrepancy. Girlhood is a distinct adolescence because girls face the effects of more ACEs, self-objectification, internalization of academic stress, and predisposition to low SES. This thesis summarizes research on the social determinants of anxiety for adolescent girls, utilizing a socio-ecological model and feminist research methods to describe the reasons why girls lack resilience to stress.
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Contents

Resilience in Girlhood: An Analysis of the Social Determinants of Anxiety Disorders for Adolescent Girls 5
Gender Differences in Mental Health 6
Methodology and Framework 11
   A Socio-Ecological Model 11
   Feminist Research Methods 12
Background 19
   Anxiety Disorders 20
   “Flight or Flight” and the HPA Axis 22
   Allostatic Load 24
   Cognitive Appraisal 26
   “Tend and Befriend” 27
Life Course Approach 27
   Adolescence 28
   Girlhood Studies 33
Social Determinants of Mental Health 37
Adverse Childhood Experiences 39
   Gender Differences 41
Socioeconomic Status 43
   Social Causation, Social Drift, and Socioeconomic Gradients 43
   Measuring SES 45
   Childhood SES and Mental Illness 47
Education 50
   Smart Girlhood 53
   Academic Stress 55
Social Media 59
   Social Media and Mental Health 61
   Self-Objectification 62
Resilience 67
Discussion 71
   Limitations 75
   Suggestions for Future Research 77
   Conclusion 77
References 79
Resilience in Girlhood: An Analysis of the Social Determinants of Anxiety Disorders for Adolescent Girls

Anxiety disorders are the most common mental disorders and the sixth leading cause of disability in the world, affecting twice as many women as men and often beginning in adolescence or young adulthood. A recent TRAILS (TRacking Adolescents’s Individual Lives Survey) report examined risk factors for anxiety disorders in adolescents that included sex, socioeconomic status (SES), parental anxiety and depression, childhood adversity, temperament, body mass index, heart rate, blood pressure, and cortisol (Narmandakh et al, 2021). Cortisol is a hormone that is directly related to stress level. They specifically looked at risk factors before adolescence and examined onset of anxiety disorders in late adolescence. The strongest predictor was female sex. When excluding adolescents who developed an anxiety disorder before adolescence, the only statistically significant predictor of an anxiety disorder in adulthood was female sex.

Researchers predicted that this is due to a combination of biological/hormonal and socio-cultural factors. They hypothesized that females may be more sensitive to psychological stress, more likely to seek help, and more prone to emotional vulnerability. Despite female sex being the largest predictor, men and women are treated and assessed equally for anxiety disorders, and there is not a great amount of research surrounding the reasons for this health disparity (Narmandakh et al, 2021). Adolescence is a period when individuals usually spend less time with family and more time with their peers, accelerating their independence and development. Many psychological disorders are prevalent in adolescence and onset of these disorders often begins during adolescence. Having some form of anxiety or subthreshold anxiety in adolescence is a strong predictor of anxiety in adulthood (Ohannessian et al, 2017). However,
the gender differences in factors in adolescence that lead to these disorders are not well understood.

In support of the present thesis, researchers Lewinsohn et al (1998) believe that psychosocial factors can explain why anxiety disorders are found at a much greater rate in females. They found that “at age 6, females are already twice as likely to have experienced an anxiety disorder than are males” (Lewinsohn et al, 1998). Gender differences in anxiety disorders based on adolescence and girlhood have not been thoroughly researched, and evidence points to social determinants of health (SDH) such as adverse childhood experiences (ACEs), SES, education, social media, and resilience. This thesis reviews these social determinants of anxiety disorders for adolescent girls, informed by a framework of a socio-ecological model of mental health and feminist research methods.

**Gender Differences in Mental Health**

Mental health promotion can be examined through a gender lens, as there are gender discrepancies in psychiatric disorders and the social determinants that lead to mental illness. The importance of this thesis is apparent when examining gender differences in mental health. For example, men are twice as likely to commit suicide, while women are more likely to develop anxiety and depression (Bolea-Alamanac, 2017). While alcohol abuse rates are higher among men, women begin to use alcohol later in life, but have a more rapid progression to alcoholism. Eating disorders are ten times more likely in adolescent girls and young adult women than in men, and self-harm is more common in girls. In women, suicide and self-harm are seen as attention-seeking behaviors, although there is no research showing a difference in intent between men and women (Fisher et al, 2013). Prevalence estimates of mental health are diverse due to different sampling measures, populations, as well as tools used in research. However, the
“lifetime prevalence of major depression is 1.6 to 2.6 times higher among women” (Fisher et al, 2013), while the prevalence of anxiety, panic disorder, and phobias is three times higher in women.

One reason for differences in mental health is that women face greater roles and responsibilities in society, such as household chores and childcare in addition to a career and keeping a family healthy and out of poverty. Women are often assigned primarily as caregivers and therefore are often left in charge of household tasks and chores. These tasks typically go unnoticed and are a form of unpaid labor, similar to the burden of caring for children or ill family members. From a young age, many girls are taught to value motherhood and being a wife above anything else, and from a young age girls fantasize about being a wife and mother because it is highly valued in society (Yakushko, 2021). However, these burdens change their experiences and therefore their health outcomes, as the increased stress and pressure of additional labor are related to poor health.

Women have fewer opportunities and less income in the workforce, although paid employment is known to decrease the risk of depression. An analysis of gender and the determinants of health by Ballantyne (1999) describes how although marriage is known to increase health, feelings of dependence on a spouse are associated with a lower quality health status. Women also have greater mortality rates in areas where they hold less value and status in society. It is often assumed men and women live in an identical world, but gender differences create institutional differences that produce different experiences for women and men in the same context. Stigma related to marriage, having children, and women who do not conform to these standards face rejection and discrimination in society. Treatment for mental illness and
women should include gender-sensitive services, focused on empowerment and autonomy, as well as efforts to collaborate with an entire family (Fisher et al, 2013).

Despite the extra tasks and additional labor, women occupy lower SES positions than men, which is a risk factor for mental illness (Fisher et al, 2013). Health and illness are affected by economic and social resources, which have been extensively studied as SDH. Women are more affected than men by poverty, negative life events, and the expectation to take a passive role in their culture. These low standings in poverty and life events increase the likelihood women will feel trapped or victimized in society, leading them to be at an increased risk for mental illness (Jacobson & Popovich, 1983). Due to low SES, women are also more likely to face barriers related to cost. In developing countries, poverty is a factor that reduces accessibility to resources (Bolea-Alamanac, 2017). Social networks, integration, and support are also all positive influences on decreasing mortality and morbidity. A society with greater social integration and investment in social capital has lower population mortality overall. However, this ignores the fact that women occupy social positions with lower SES in most societies. Gender certainly mediates the complex relationship between SES and social status, leading to adverse health outcomes for women (Ballantyne, 1999).

Similar to SES, mental health services appear on a social gradient, as they are closest to advantaged women in urban areas and farthest from disadvantaged women in rural areas (Fisher et al, 2013). Many mental health sites are centralized in urban areas and require transportation to access, as well as skilled professionals and effective promotion. Negative perceptions of mental illness are the greatest barrier to accessing mental health services across the globe. Generally, research has found women are more likely to seek these resources (Bolea-Alamanac, 2017). However, Albizu-Garcia et al (2001) found that men and women in a low SES area in Puerto
Rico use mental health resources in almost equal proportions over two distinct two-year periods. This study included a variety of resources, including a psychiatrist, psychologist, social worker, counselor, mental health center, out-patient clinic, the Veterans Administration hospital, a drug treatment center, or a psychological services agency. These results are contradictory to other studies, potentially due to the inclusion of so many mental health resources. Both perspectives are valuable to the present study, as higher rates of anxiety in women could be due to greater utilization of resources, or this factor could be a determinant that is no longer relevant. Further research is needed.

As seen in accessing mental health resources, roles in society to find opportunities and access resources are intrinsically gendered. This is also true in terms of policy, since there is no equality in reproductive justice or personal safety for women. Rights to reproductive and sexual health are human rights, but they are not universally recognized. In some countries, there is even a cultural preference for sons over daughters, such as in China, India, Korea, and Pakistan (Fisher et al, 2013). Adverse mental health impacts are seen when reproductive rights are taken away from women. Researchers found “Women who lived in states in which female political participation was high, reproductive rights recognized, and employment and economic autonomy assured had significantly lower average levels of depression symptoms” (Fisher et al, 2013). Despite this statistic, reproductive justice is often not recognized.

Gender-based violence serves as another explanation for disproportionately higher reports of anxiety-related disorders among women compared to men. Types of gender-based violence may include interpersonal violence, selective abortion of female fetuses, trafficking, sexual harassment, sexual assault/rape, female genital mutilation, stalking, and more (Publi.Coe.Int, 2023). The effect of child sexual abuse on mental illness is extensively studied and more severe
and frequent sexual abuse is directly related to severity of mental illness in adulthood (Tsutsumi et al, 2008, Anderson et al, 1993) In New Zealand, one-third of randomly selected women stated that they had at least one unwanted sexual experience before the age of 16 (Anderson et al, 1993). Unwanted sexual behaviors often occur by a perpetrator who the individual already knows. There are multiple levels of sexual violence, as women who are exposed to unwanted sexual acts are often stigmatized and face great levels of societal discrimination and shame. Gender-based violence happens in all societies and is more frequent in cultures with rigid gender roles, as well as neighborhood violence, which both increase the risk of mental disorders. In a study in Nepal, 97.7% of women forced into sex work experience anxiety symptoms (Tsutsumi et al, 2008).

Women who experience violence and physical assault are also at risk for experiencing numbness, withdrawal, dissociation, panic, and mood changes which may all exacerbate into clinical manifestations of anxiety, post-traumatic stress disorder (PTSD), or depression. Sexual abuse in childhood and adulthood is highly correlated to mental illness and cognitive issues. Important areas in mental health services for victims of sexual or physical assaults are safe atmospheres, appropriate diagnosis, and treatment. Women and society often blame the female victim in these scenarios, and services should be able to take an interdisciplinary approach to encourage and support women without placing any blame whatsoever. These women are also more likely to suffer a second abuse, so following up with them is important (Bolea-Alamanac, 2017). The relationship between gender-based violence and mental illness is clear, as violence in childhood or adulthood is far too common and relates to a wide variety of mental problems.

It is important to have a background in the adult gender differences in mental health, gender-based violence, SES, and access to care because many of these differences begin
manifesting during girlhood and adolescence, and the changes that occur then will become
differences between men and women in adulthood. The environment and social conditions in
which a girl grows up will determine her mental well-being in her adult life, which is one reason
why the present thesis is useful and necessary.

Methodology and Framework

A Socio-Ecological Model

Michaels et al (2022) developed a socio-ecological model of mental health and
well-being, which will serve as a framework for the inclusion of different SDH in this thesis.
This socio-ecological model is seen in Figure 1 and shows how individuals, relationships,
organizations, communities, policy, and society all influence mental health and well-being. These
researchers propose this model to show how individuals are impacted by a wide range of
complex and interconnected influences through social interactions and the wider environment.
Based on this model, on the individual level, aspects such as biological differences, development,
coping skills, stress response, and adaptability (resilience) are reviewed. At the relationship level
- social roles, family, peers, family mental health, and social connections are analyzed. On an
organizational and community level, educational opportunities, community engagement, access
to resources, housing, and neighborhoods are discussed. Finally, on a policy and society level,
research and reporting gaps, policies, economic conditions, poverty, technology, and media
messaging are covered in this thesis. All of these variables can be found in the socio-ecological
model in Figure 1, showing how each level impacts mental health and wellness. There is a need
to discuss each level, since this model shows how they are all related and interact to create a
system that affects men and women differently. The SDH discussed in this thesis - ACEs, SES,
education, social media, and resilience - are all affected by multiple levels of the socio-ecological model.

**Figure 1:**

*A Socio-Ecological Model of Mental Health and Well-Being*


**Feminist Research Methods**

Since the present thesis discusses women and girls at length, feminist research methods and the ways girls and women are typically presented in society and research must be discussed.

Often in science, subjects relevant to women are seen as taboo, such as domestic violence, rape, and reproductive health (Riger, 2002). Society, the people participating, and therefore the science...
we create is typically androcentric (male-centered), often leaving out marginalized groups such as women, people of color, and individuals who identify as queer. What does the lack of women in science do to research and literature being produced? Historically, women have not been included in drug trials and clinical trials to the same extent as men. This is harmful as there are inherent biological differences between the sexes that lead to different health outcomes. For example, heart disease presents different symptoms in male versus female bodies (Liu & Mager, 2016). Assuming male and female bodies are the same by excluding women from clinical trials is harmful to female physical and psychological health. Therefore, literature produced will be skewed to benefit men. This may lead to misdiagnosis since research dominantly on male populations assumes men and women will respond the same to diagnostic and treatment measures.

In many societies, science can be used as a form of social control. Science is often polarizing and can influence how people think about research and women. Some science serves sexist, racist, homophobic, and classist social projects through reproduction, labor, and more. The history of eugenics has been minimized, although it is highly linked with sexism and racism. Eugenics is a science by radicals who strive to ‘better’ the human race. There are themes of eugenics still seen in society today (Yakushko, 2021). For example, at least 57 Latin American women in the Irwin County ICE detention center were forcibly sterilized in 2020. Women in this detention center were given hysterectomies, tubal ligations, and dangerous birth control injections unknowingly or violently. No consent was given for these procedures and many of the women were deported after, but this facility is still used today to hold Latin American immigrants (Palomo et al, 2021). This is just one example in recent history where marginalized women were abused to serve the anti-immigrant eugenics agenda of someone more powerful.
Historically, the field of psychology has played a role in promoting eugenics. Textbooks from the 1970s and 1980s hypothesized women are inherently more emotional and therefore will exaggerate their symptoms, so physicians would not give them the diagnosis or treatment they needed. Psychological distress was thought to be a component of illness in only women and therefore was not treated since it was “all in their head” (Dusenbery, 2018). This pushes an agenda of eugenics because it promotes the idea that women are lesser people and do not deserve the same autonomy in their healthcare that men do. Today, hormonal differences and cycles in a woman’s life are still blamed for some mental health outcomes. Although hormones certainly influence mental well-being, this is not a reason to ignore the social determinants that are just as influential. Women are still stereotypically assumed to be more neurotic, emotional, and worrisome, which is an oversimplification of female vulnerability to mental health. This can lead to a greater diagnosis of women with anxiety disorders when the same diagnoses would not be made if the same symptoms presented in a man (Fisher et al, 2013).

The phenomenon of treating men’s and women’s health in a male-centered way dates back to early Western medicine texts, which describe “hysteria” as a disease related to a range of physical and psychological symptoms such as menstrual pain or a sense of suffocation, all due to a “wandering uterus” in the body, since all diseases were thought to come from the womb. Treatments offered were marriage, prayer, or exorcism, as it was believed this disease was also related to some sort of possession or devilish influence (Dusenbery, 2018). The beginning of blaming women for their psychological suffering is deep-rooted in society and medical practices.

As seen historically in research, most writing on psychology is done by Western scholars and often suppresses other views. Feminist science studies help us to think through why science is done, how it is done, who is doing it, and whose agenda it is serving. Feminist critiques of
science also include equity studies, which have shown the discrimination preventing women from opportunities in education and jobs in science and research equal to that of a man. In an androcentric society, science revolves around a patriarchal idea of research, which generally benefits men more than women (Harding, 1986).

Scholars also argue scientific literature is full of sexist metaphors, gendered words and politics, and masculine terminology. One example of gendered words in science is the way reproductive science is described and taught. In describing the interaction between an egg and sperm during reproduction, the female’s egg is described passively, passing to the fallopian tube to await the sperm. The man’s sperm, however, is described as strong and penetrating powerful - entering the vagina powerfully, ambushing the egg. The female reproductive system and menstruation are described as wasteful, as a woman sheds “debris” and each menstrual cycle, leaving the ovary as a “scarred, battered organ” (Martin, 1991). Male reproductive systems are described as “remarkable” and praised in science, while female reproductive systems are devalued. In reality, trillions of sperm are produced and wasted by each man while a woman is born with all the eggs she will ever have, and releases only one per menstrual cycle (Martin, 1991). This is just one example of science and terminology in society praising men and putting down women in a way that is not discussed or even recognized until pointed out by feminist researchers. An epistemological approach to feminist research will be described later, which is a way to decipher what knowledge is “true” and how to put it into an appropriate context (Harding, 1986). A feminist scientist must have the skills to distinguish science without a discriminatory agenda and to recognize inherent biases in all research.

While analyzing the framework of feminist research, it is important to keep in mind the reason for research on women in the first place, which is to “search for answers to questions that
affect women’s lives and promote social change for women” (Hesse-Biber, 2014). The goal of feminist research is to center arguments around gender, both in the topic of research as well as research methods. Feminist researchers use reflexivity to gauge their own inherent biases, as well as intersectionality to gain a holistic understanding rather than an understanding of only one type of woman. Reflexivity is a way to pay attention to this by noticing how personal standpoints and social positions may influence the thinking of yourself and others, while positionality is considering your position in the world, with intersecting identities that experience both privilege and marginalization (Hesse-Biber, 2014). Intersectionality theory says identities are not separate but coexisting, as identities such as race, ethnicity, gender, sexuality, and many more, function not alone but rather together. All three of these terms are important in research for the researchers to understand both their own social and personal positions in the world but also to recognize the positions and intersecting identities of research participants or subjects (Zerbe Enns et al, 2021).

Power structures and ideologies influence research methods, so it is important to focus on the voices of marginalized groups who do not often have a voice in research. Being in an oppressed group gives someone a more valuable perspective on oppression, while a privileged individual may not be able to see oppression due to their distance from the oppressed group. In her essay on privilege, Peggy McIntosh (2019) describes how certain characteristics may lead someone to have greater opportunities, resources, or tools due to their privilege. She describes how as a White person she can easily find company with people of her same race, as well as posters, books, and neighborhoods with people who share her identity. While being a woman puts her at a disadvantage in society, being White, middle-class, and heterosexual gives her certain privileges (McIntosh, 2019). Women today make up the majority of people who face
sexual harassment, poverty, interpersonal violence, and mental illness. Research avoiding androcentrism and historical focus on men is done by attending to reflexivity, intersectionality, and a focus on the lived experience of women specifically, which the present thesis will focus on.

Epistemology, the study of knowledge and knowledge production, influences the methodology individuals take in their research methods, which changes who may benefit or be disadvantaged by the outcome of the research. Feminist methodology uncovers the validity of different methods and the truth of statements made in research by using a gender lens. Empiricism is a theory that all knowledge comes from lived, sensory experiences, and is both observable and measurable. The theory of positivism says knowledge is only valid if it can be proven experimentally and if it is value neutral and wholly free from bias. Feminist empiricism asserts positivist assumptions fail to understand unmarked androcentrism and no knowledge can be produced in a bias-free environment. What is needed instead is to assess the social contexts and the environments involved in research, and to pay attention to how biases appear in traditional forms of research.

Feminist standpoint theory emerged from critiques that feminist empiricism does not go far enough in addressing bias in research by aiming to center the voices of women in research and reject the domination of patriarchy and colonialism in society. Many feminist scholars believe standpoint theory must be taken within the context of social situations. The identity of any woman is formed in society, and therefore society cannot be removed from the conversation in feminist research practices (Hesse-Biber, 2014). Categories such as “man” and “woman” along with other gender and sexuality categories are created and determined by social expectations and roles. These frameworks reveal the importance of language in research and the power terminology can hold in research. The present thesis is drawing on standpoint theory,
focusing on the lived experience of girls in the context of society, to challenge positivism and androcentrism in studies on anxiety.

Since gender and anxiety are not variables that can be manipulated, a lot of the literature will be reviewed in this thesis has been done via survey. Survey research has been a resource for feminist social change, and much of the literature being assessed in the present thesis is based on surveys of women. Using this data is a reminder that “bridging the disciplines of women’s studies and psychology, we see ourselves as social justice scholars who come from a feminist perspective, striving to use survey research as a vehicle for advancing the feminist agenda” (Hesse-Biber, 2014). Surveys have brought to light how issues such as poverty, employment, physical abuse, and mental illness present at greater rates in women compared to men. However, sampling marginalized groups leads to the possibility of encountering inherent biases, such as body language or terms that lead a participant to respond in a particular way. This occurs partially because bias in the individual researchers influences a study, whether beliefs they hold or inherent biases they are unaware of holding. Feminist research holds the researcher accountable for the biases and stereotypes they are reinforcing with reflexivity and positionality (Riger, 2002).

Feminist survey research advocates that to be unbiased in a survey, objectivity should also be upheld so research can be seen from multiple perspectives rather than just one. Campbell & Waco (2000) used a framework of feminist empiricism and proposed that scientific researchers should examine research questions for sexism and look for gender stereotypes that may be perpetuated. They propose researchers should find a representative sample rather than one only used for convenience, and then not generalize results but discuss them as related to the sample used. For example, studies on only male participants or only adults cannot be generalized to be
true for women or children (Campbell & Wasco, 2000). One other critique of survey research is that it ignores the experiences of the individual and reduces people to a number, which is why research outcomes must be put into perspective and a particular context. However, numbers are important, and they have meaningful implications (Hesse-Biber, 2014). In this thesis, survey research will be examined with a feminist lens and will be discussed for implications and meaning.

**Background**

The definition of mental health has changed in recent decades. Mental health used to be defined as the absence of any mental illness, as well as an overall positive affect and engagement in community. However, this definition is too restrictive, as even individuals with good mental health will at times feel sadness, anger, and general distaste for their surroundings or community. There are also people who may not meet the criteria for a diagnosis but are suffering nonetheless. Especially for adolescents, puberty is a time of changing psychology as well as physiology that may lead to symptoms of poor mental health, when in reality the adolescents are experiencing a standard range of emotions (Galderisi et al, 2015).

A more comprehensive definition of mental health as lying on a continuum and fluctuating depending on individual circumstances has emerged as a result of studying SDH for mental health. Mental illness is a condition defined by clinical diagnostic measures, based on behavioral, social, and emotional debilitation. Illness is one end of the spectrum of mental health, the opposite of good or ideal mental health. Even mental illness is found on a continuum, with some mental illnesses being classified as more or less severe. People with mental illness have notoriously been scrutinized and outcasted in past decades, but a more comprehensive definition of mental health brings awareness to the understanding of people living with mental illness.
(Manderscheid et al, 2009). In the present study, mental health will be discussed as a spectrum, rather than the presence or absence of a psychiatric diagnosis.

**Anxiety Disorders**

In this thesis, an anxiety disorder is recognized as a mental illness, but the general stress and everyday feelings of anxiety in girls will also be discussed. Discussion will surround these everyday feelings in girlhood and how they lead to high rates of anxiety disorders in adult women. Anxiety disorders are characterized by worry, fears, and stress that are uncontrollable and often affect everyday situations and experiences. Other symptoms may include restlessness, a sense of impending doom, rapid breath and heart rate, fatigue, insomnia, and avoidance behaviors. Individuals with an anxiety disorder may avoid specific situations or places, leading to interference in their daily life and common activities. Fears and worries may be rational or irrational, but the individual is unable to cope with the feeling of anxiety that is produced. Examples of anxiety disorders include generalized anxiety disorder (GAD), social anxiety disorder (SAD), specific phobias, separation anxiety disorder, agoraphobia, and panic disorder (PD) (Mayo Clinic, 2022). Anxiety is also a symptom of other mental illnesses, including PTSD, obsessive-compulsive disorder (OCD), and eating disorders which also disproportionately impact women. Anxiety disorders have high comorbidity with depressive disorders, other anxiety disorders, substance use, and suicidal ideation. All anxiety disorders occur more in females than males (Beesdo et al, 2009).

The lifetime prevalence of any anxiety disorder for children and adolescents is 15-20%. Anxiety disorders are the most common mental disorder in childhood and adolescence, and therefore the pathology is most seen early in a life course. Epidemiological studies indicate separation anxiety and some specific phobias develop the earliest, with onset reported before 12
years of age. Social phobia onset is commonly reported in late childhood, and then panic disorder, agoraphobia, and GAD in later adolescence (Beesdo et al, 2009). Improved early recognition is important to intervene at an early age. In addition to diagnosable individuals with psychiatric illnesses, many people experience subthreshold mental disorders, indicating they are struggling with their mental health at a level that nearly reaches the threshold for a clinical diagnosis (Allen et al, 2014).

Children experience and describe anxiety and fears differently than adults, so it may be difficult to tell the difference between normal and pathological manifestations (Beesdo et al, 2009). This presents challenges in diagnosing children, which the DSM generally does not take into account. This adds another challenge for diagnosing adolescents as they may more accurately fit the criteria for a child or adolescent depending on their developmental stages. In younger children, diagnosis may rely on accounts from a parent or guardian who cannot accurately describe the feelings experienced by the patient. Demographics may also affect diagnosis and treatment as education, financial situation, sex, parenting style, and childhood adversities are all predictors of mental illness. Diagnostic measures are a critical problem for anxiety disorders in children and adolescents, as certain measures may over- or under-estimate the severity and chronicity of certain diagnoses (Beesdo et al, 2009). These factors should and will be considered when discussing the prevalence of anxiety disorders.

Ohannessian and colleagues (2017) sought to define a trajectory basis for different anxiety disorders, beginning in middle to late adolescence. They investigated gender differences in prevalence, symptoms severity, and trajectory of GAD, PD, and SAD. Girls reported greater symptoms of all three anxiety disorders overall. These researchers found girls tended to have high initial symptoms of GAD, PD, and SAD, decreasing over time, while boys’ symptoms
remained. Risk factors identified in this study that exist for GAD and SAD are low SES, family history of anxiety, behavioral inhibition, emotional reactivity, and inability to cope with negative events and emotions (Ohannessian et al, 2017). For 6-11 year-olds, boys are diagnosed with anxiety and depression at a greater rate than girls, although this relationship flips in adolescence and adulthood. The reasons for this are not well-researched or understood and show a need for more research on pediatric psychiatric disorders (Zare et al, 2018).

Understanding the onset and trajectory of anxiety disorders can lead to the development of more effective interventions and treatments for adolescents. Prevention programs targeting these risk factors during late adolescence could be helpful in reducing or limiting the development of anxiety disorders (Ohannessian et al, 2017). The gender differences in anxiety disorders and worrying that persist in both adolescence and adulthood are another reason for the necessity of the present thesis.

“Flight or Flight” and the HPA Axis

Activation of the stress response is the biological component that leads to the physiological feeling of anxiety, and greater stress response activation may lead to an anxiety disorder (Lähdepuro et al, 2019). The stress response is a cascade of hormones that cause physiological changes in the body such as quickened heart rate and breathing, sweating, and tense muscles. This is due to the sympathetic nervous system, which is responsible for the “fight-or-flight” response to stress. The hypothalamus is alerted to a stressor and sends the distress signal to the sympathetic nervous system, which sends signals to the adrenal glands to release epinephrine, which causes the physical symptoms of stress. As epinephrine is released, the hypothalamus also sends signals to the pituitary gland, which releases hormones that prompt the adrenal glands to produce cortisol, which keeps the body in a state of physiological stress.
After the event, cortisol levels decline as the individual calms. This system of stress hormones is known as the hypothalamic-pituitary-adrenal (HPA) axis, and chronic activation of the HPA axis leads to negative effects on both physiological and mental health (Harvard Health, 2011).

During adolescence, activity in the HPA axis changes due to pubertal hormones. The duration of the hormonal stress responses may be longer and result in greater surging hormone levels in adolescents compared to adults. The reasons for this correlation are not well understood, but there is evidence that adolescence is a period of increasing perceived stress. This is likely due to increased responsibility and social pressures combined with these hormonal changes. Prolonged exposure to stress may lead to increased sensitivity to life stressors, and therefore a heightened response each time stress occurs. Hormonal differences may be one explanation for differing stress levels in men and women. Testosterone, typically found in males often decreases hormonal stress responsiveness, while typically female hormones such as estrogen enhance the stress response (Romeo, 2013).

During adolescence, most females begin their menstrual cycle and experience a great increase in the sex hormones estrogen and progesterone. Estrogen and progesterone have an inverse relationship in naturally cycling women and tend to modulate opposite symptoms at different points in the menstrual cycle. Each is necessary for the other in a feedback loop mechanism (Prior, 2020). A 2016 review of hormonal differences in anxiety disorders found that estrogen and progesterone play a role in stress. Extinction recall is dysregulated in many anxiety disorders, leading to problems recalling memories. In the review, it was found that women in a high-estrogen menstrual phase have greater extinction recall compared to women in a low-estrogen phase. Low estrogen also is related to more fear responses, and greater intrusive memories. High progesterone levels lead to greater cortisol levels, and greater memory recall for
negative images. The data from this review suggests that the rise and fall of sex hormones may have an impact on the experience of stress, dysregulating memory, fear, and stress responses (Maeng & Milad, 2016). These findings may have implications for treatments using hormones for natural cycling women versus women on hormonal birth control. The rise and fall of estrogen and progesterone affect a woman’s stress response in a continuous cycle. It may also serve as one possible explanation for why women tend to experience symptoms of anxiety at a higher degree and have a greater likelihood of developing comorbidity with other mental disorders, along with the social factors that women encounter more than men.

**Allostatic Load**

One way to measure chronic stress and hormonal responses to stress is allostatic load, which is the cost of continued activation of the sympathetic nervous system and HPA axis due to repeated stressful events or situations. Allostatic load is influenced by environmental stressors, or by a lack of adaptability or coping skills. Individuals with a low SES, low educational attainment, and minority groups usually have a higher allostatic load. ACEs, living conditions, psychological resilience, and general well-being all influence allostatic load in any population. Medical diagnoses such as cardiovascular diseases, hypertension, and psychiatric disorders are increased with greater allostatic load, as well as general physical and mental decline in older adults (Waehrer et al, 2020, Guidi et al, 2021).

Guidi et al (2021) suggested that a clinical diagnosis or measure of allostatic load may be a useful tool in healthcare for assessing general risk. A 2022 review found that allostatic load is measured most often with ten biomarkers. The first four biomarkers are cortisol, noradrenaline (norepinephrine), adrenaline (epinephrine), and dehydroepiandrosterone (DHEA), which are all hormones responsible for triggering the HPA axis and therefore the cascades of the stress
response. The other six are immune cells and metabolic factors that are secondary to the stress response. They are systolic blood pressure (SBP), diastolic blood pressure (DBP), waist-to-hip ratio (WHR), high-density lipoprotein (HDL), total cholesterol (TC), and glycosylated hemoglobin (HgbA1C). These biomarkers together are reflective of symptoms related to chronic activation of the stress response (Beese et al, 2022).

Levels of allostatic load are generally found to be higher in individuals with mental illness or elevated levels of psychological distress. Psychiatric emergency services (PES) are used when individuals are at the breaking point or experiencing a crisis with a mental illness. In a 2018 study to determine if individuals presenting at PES have an increased allostatic load, patients using PES were compared to hospital workers from the same institution. It was found that allostatic load was greater in patients using PES compared to hospital workers. Allostatic load was also greater in people diagnosed with a mood or anxiety disorder compared to a personality disorder, measured by predetermined biomarkers. Signs of a mental health crisis are all associated with chronic stress, and this study suggests that measuring levels of allostatic load may be a predictor of mental illness distress. This research also noted that although substance use was higher in individuals using PES, the levels were not correlated to allostatic load levels (Juster et al, 2018).

In a study by Berg et al (2017) examining the relationship between stress in adolescents and adulthood health outcomes using allostatic load, it was found that greater childhood and adolescent stress was significantly related to higher levels of allostatic load in adulthood, independent of adult stress, including adult socioeconomic hardship. These researchers postulated that stress in adolescence permanently dysregulates the stress response, which is consistent with other research findings (Guidi et al, 2021, Juster et al, 2018), leading to a
constant elevated level of allostatic load and feelings of stress throughout adulthood. Adults who suffered from significant hardship in childhood or adolescence will feel the effects as greater allostatic load, poorer health, and more perceived stress (Berg et al, 2017). Factors such as physical trauma, emotional trauma, low familial SES, and parental divorce are related to an increase in anxiety symptoms in adolescents. Many of these adverse circumstances in childhood also increase the risk of the same or other disadvantageous life circumstances in adulthood.

Lähdepuro et al. (2019) found that any two substantial stressful events in childhood are related to a significantly greater likelihood of developing a clinically significant anxiety disorder in adulthood (Lähdepuro et al, 2019). All of these factors are also related to a greater allostatic load, mediating the relationship between allostatic load and anxiety disorders. The findings in this section culminate in the knowledge that changes and experiences in adolescence may lead to chronic stress and dysregulation of the HPA axis, correlating to an increased allostatic load and the potential risk for developing an anxiety disorder as a child or an adult.

Cognitive Appraisal

One model for the stress response is the transactional model, which is based on cognitive appraisal. This model says that when a challenge is presented, an individual evaluates their coping resources and evaluates the challenge as stressful or not. This transaction between the challenge and coping skills can lead individuals to evaluate different environments as stressful or not stressful. The evaluation is a cognitive appraisal, which may or may not lead to stress (Straub, 2014). This is important because there may be gender differences in cognitive appraisals, leading girls or women to evaluate environmental challenges and stress that boys and men would not. Or, increased stressors may then lead to greater allostatic load because of a
difference in social circumstances that lead women to be forced to make more cognitive appraisals due to being in more adverse circumstances than men.

“Tend and Befriend”

Another theoretical model for the stress response is “tend and befriend,” which was created as a different form of “fight or flight.” This was created based on the fact that “fight or flight” was created based on research mostly using males, specifically male rates. “Tend and befriend” is a model of the female stress response, which theorizes that women are more likely to try to take care of others, fit into their environment, and make connections to maximize resources in response to stress (Taylor et al, 2000). This is based on the evolutionary theory that women have adapted to protect their offspring and to form advantageous social connections. Threats still trigger the HPA axis in women, but the hormone oxytocin may be more implicated in female stress since it is related to tending to others (Straub, 2014). This theory is important in this thesis because girls may biologically react to stress differently than boys, leading them to place more emphasis on social interactions and to internalize their stress rather than react by “fight or flight.” It may also lead to greater cognitive appraisals due to the inherent need to fit in and evaluate situations for advantageous social connections.

Life Course Approach

Disadvantages and social outcomes are often determined before birth and accumulate throughout life, so it is important to take a “life course approach” in recognizing the social determinants of mental health. A life-course approach focuses on the long-term effects of exposure to environmental factors that influence mental health, as there is evidence that certain conditions in childhood, adolescence, and adulthood will impact long and short-term mental health (Li et al, 2021). The socio-ecological model is related to a life-course approach, since an
individual is born into a particular SES, neighborhood, family, and more, which affects each level from individual to society. Individuals are exposed to particular opportunities based on circumstance and gather SDH during different periods of their life. It is important to study the key social determinants of mental illness throughout life to determine the action that can be taken to decrease rates of poor mental health (Allen et al, 2014). This approach emphasizes the importance of the present thesis and the need for research on young girls who are exposed to environments that lead to greater rates of anxiety in both adolescence and adulthood. Adolescence and girlhood studies will be described as a background in the ways that this period is unique for girls, which is relevant to a socio-ecological model of mental health.

**Adolescence**

The present thesis will define adolescence as a unique period from ages 10 to 19 when males and females experience changes in physical, social, emotional, and behavioral patterns. During this time adolescents will experience varying degrees of puberty and physical development. Puberty consists of an increase in hormones, most notably testosterone in men and estrogen in women. These hormones lead to changes that cause the development of secondary sex characteristics, as well as the beginning of menstrual cycling in women. It is usually associated with physical changes such as increased body hair, greater body fat, and overall physical growth (Blakemore et al, 2010).

Since adolescence is a critical time for development, major stressors will affect adult psychological, behavioral, and social patterns. Hormonal changes and adverse experiences have a lasting effect on the body mentally and physically. Many changes above can lead to an increased vulnerability to poor mental health during adolescence, or psychiatric disorders in adulthood. Globally, about 20% of adolescents are diagnosed with mental health problems.
Psychiatric symptoms often begin at a young age and continue into adulthood (Crocetti et al., 2015). Depression, anxiety, eating disorder, substance abuse, and psychosis all appear before the age of 24 (Blakemore, 2019). Therefore, when defining adolescence as a unique period for development, adolescent mental health during this time is unique as well. Interventions that target puberty and adolescent changes could be effective at preventing psychiatric disorders. However, diagnostic criteria as well as treatment are often generalized to adults. Clinical research on adults is also often generalized to young adults, adolescents, and children. More specific research is needed on psychiatric disorders during adolescence (Jaworska & MacQueen, 2015). This is one reason which calls for the analysis in the present thesis.

During adolescence, individuals strive for more independence and responsibility. This often leads to expanding their social circles - relationships with peers and family, and social roles - taking on more responsibilities. This may include joining more communities and groups to find a sense of identity. Supervision from parents usually decreases, and time with peers typically increases. Having social support is important for development, and adolescents may also seek their first romantic relationships (Lang et al., 2022).

Adolescents often seek a sense of belonging in peer groups by trying to conform, act, and dress in certain ways. This may lead to negative peer pressure in terms of risky behaviors with sexual activity and experimentation with drugs and alcohol. Experimentation and risk-taking usually increase during adolescence. Adolescents tend to model those around them, so peers have a great influence on attitudes and choices in behavior (Lang et al., 2022). Peer pressure can also be beneficial when it promotes conflict resolution and participation in sports or other community groups. It is important in adolescence to build strong relationships with peers and
family as it is also a time to learn behavioral skills including empathy, assertive communication, and boundaries (HHS Office of Population Affairs, 2022).

Since adolescents are experiencing many changes in physiology, physical appearance, social circles, and behavior, emotional changes are also bound to occur. Bodily changes may lead to self-consciousness in appearance or increased comparison between peers. Hormonal changes sometimes cause extreme emotions, mood swings, appetite changes, and abnormal sleep patterns which may be difficult for parents or peers to navigate (Healthdirect Australia, 2023). However, adolescence also brings a greater sense of identity and purpose in life, which will influence values, attitudes, and behaviors later in life (HHS Office of Population Affairs, 2022).

Adolescence is a period of transition from early childhood to adulthood when the brain is transitioning to a more mature life in education, relationships, health behaviors, and much more. However, research on SDH for children has largely been on early childhood, entirely neglecting the unique developmental period of adolescence.

Female adolescence is unique in terms of self-esteem, body changes, sexual behavior, and relationships. The following paragraphs on Female Adolescence are created largely from summarizing the book *Beyond Appearance: A New Look At Adolescent Girls*, by Roberts et al (1999). Self-esteem drops in adolescence for both boys and girls, but the decrease is much more severe in girlhood (Roberts et al, 1999). One of the many factors that contribute to this is societal expectations, which provoke a standard of unattainable slim physique, leading to negative emotions about one’s female body in adolescence. For some girls, this can even lead to eating disorders, which typically begin in early adolescence (Klump, 2013). As girls emerge into adolescence, they take on more structured gender roles, becoming more aware of their physicality and sexual attractiveness. This leads to a drop in self-esteem, so adolescent girls are
more likely than their male peers to experience stress, depression, body dissatisfaction, and eating disorders (Choukas-Bradley et al, 2022, Wilhsson et al, 2017). Self-esteem is also partially determined by acquired expectations based on gender stereotyping in different activities. Girls are expected to excel in academic and social settings while boys are expected to have confidence in sports. However, boys and girls are typically equally confident in their success in leadership, independence, and future careers (Roberts et al, 1999).

Close friendships in adolescence can be a source of both positive and negative impacts on girls. Peers can be negative as they provoke feelings of popularity, leading to power relations, rumor spreading, and the desire to be feminine in appearance. However, close friendships can also provide a sense of stability, confidence, and social support. Tahir et al (2015) found that increased family support and peer support were significantly related to higher self-esteem in adolescent girls, showing the importance of healthy relationships during adolescence.

Adolescents are at higher risk for sexual assault than any other group. LGBTQ girls often face bullying and harassment in schools. All girls are at risk for sexual harassment, which has high reporting rates across the U.S. in high schools. The majority of assaults occur in dating relationships, leading the majority of cases to go unreported. Assault by someone known leads to greater psychological damage, including flashbacks, sexual dysfunction, and greater PTSD than assault by a stranger (Roberts et al, 1999). Policymaking regarding sexual behavior also affects adolescent girls. Policies should provide reproductive health services, education, and autonomy over decision-making. Failure in these avenues leads to higher rates of teen pregnancies and STDS in adolescents. “Over the next 5 years, the federal government will spend more on abstinence education that it has on adolescent health services and pregnancy prevention legislation over the past 20 years” (Roberts et al, 1999). This is a concerning thought, as
adolescent health services, especially mental health, are necessary for greater satisfaction and well-being, while abstinence education has been largely discredited ("Abstinence-Only-Until-Marriage Policies and Programs," 2017). Between 2011 and 2021, federal funding for abstinence education has increased by 50 million dollars, even though abstinence-only programs result in a higher incidence of adolescent pregnancy and birth (Guttmacher Institute, 2021).

As stated previously, this thesis will discuss not only clinical anxiety but also day-to-day feelings of stress, anxiety, and worry. Worrying is uncontrollable thoughts of negative thoughts, images, and outcomes. Adolescence is a key period of increased worry due to the development of new responsibilities and identities. Some worries are personal while others are about global or large-scale events. Adolescents worry about both of these, but studies on how this relates to mental health are limited.

Anttila et al (2000) study examined the relationship between adolescent worrying and psychological outcomes among girls. They found that worrying begins at a young age, with studies stating that over 88 percent of fourth through eighth graders worry. Questionnaires were used to gain a sense of personal future to examine if the girl thought they anticipated having a meaningful and fascinating future or not. Questionnaires were also used to gain data on anxiety and worry. Researchers studied environmental and personal worries separately; environmental worrying included items such as pollution and thinning of the ozone layer, while personal items were unemployment, personal survival, and more. High environmental worrying was related to a high sense of personal future, while lower environmental worrying was related to a lack of negative life events. Greater personal worrying was related to anxiety for girls. This increase in anxiety was related to feeling more worry and threat at a personal level. Adolescent girls were
also profoundly worried about environmental and global threats, especially when they had great optimism for their future. These findings show that girls are worrying about personal as well as greater dangers to a great extent and that these worries may be leading to poor psychological outcomes. This may also suggest that allowing adolescent girls to participate in activism may decrease their worrying about the global future.

**Girlhood Studies**

While adolescence is important as a unique period for mental and physical changes, girlhood distinctly describes what it means to grow up as a girl, utilizing a background in feminist research. Research and movements about female youth, as well as the field of girlhood studies did not exist until around 1990. In the early 1990s, there was a dramatic increase in books and research publications about girlhood and the culture of girls in the US. Before this point, and in some cases to this day, studies about girls were focused on development into a woman or adult rather than experiences during childhood and adolescence as a girl. Male researchers dominate research, and patriarchal ideals about academia excluded girls from the conversation. Much of the previous research on girlhood reinforced stereotypes about young girls and diminished their experiences. Even feminist research was focused on adults and only addressed girls as an individual with the potential of developing into an adult (Kearney, 2009). The term ‘girlhood’ is used in literature because it encompasses the upbringing of a girl which includes social conditioning that leads to norms for girls and predefined gender roles. Girlhood refers to the patterns in culture and society that affect girls differently from boys, taught by gender socialization (Kumar, 2017).

Girlhood studies are one way to analyze the perspectives, positions, and marginalization of girls. One definition states that “Girlhood studies is a rights-based approach to research and
activism that aims to achieve gender equality for girls of all ages” (Mitchell & Rentschler, 2016). This activism strives to give girls a voice in research processes as well as community participation. When using female adolescent participants in research, there is a power imbalance and bias which requires reflexivity to analyze with care. As a researcher, there is a responsibility to pay attention to the voices of marginalized communities and specifically women. Research is notoriously inclusive to some and exclusive to others, and reflexivity calls for acknowledgment of this difference in ability, resources, and privileges. Girls’ voices have notoriously been silenced in decisions made in public policy and media. For example, the media hypersexualizes adolescents while schools and policies simultaneously shame girls through school dress codes and reproductive rights (Pomerantz, 2007). This hypersexuality is intersectional, leading to different effects depending on race, class, and sexual orientation identities.

Some researchers offer that girlhood can be theorized as an enterprise for femininity. They analyze girlhood as a form of femininity that is commodified for profit. Hegemonic masculinity refers to the attitudes and practices typically associated with men that perpetuate gender stereotypes and inequality, such as asserting power over women, showing little vulnerability or empathy, and the use of violence (Jewkes et al, 2015). Girls are highly visible in pop culture and girlhood is presented not only for young women but as the opposite of hegemonic masculinity, made for anyone to participate in with weakness, vulnerability, and overall girliness (Alexandersson & Kalonaityte, 2021). Some feminists, “difference feminists,” supported domestic training of young girls to create better mothers and caregivers. “Equality feminists” believed that girls should be educated the same as male counterparts and rejected the notion of domestic training, as it reinforces stereotypes and discourages girls from seeking outside opportunities. However, girls began to enter more spaces as they have been exposed to
opportunities to gain education, work, and activities that foster both independence and femininity. Poststructural feminists challenge traditional ideas and remind researchers that intersectionality is important in girlhood studies and that the experience of every girl is unique and should not be minimized to one universal culture or society. Girlhood also usually means white, middle-class, able-bodied, non-queer experiences. There is a need to be more thoughtful about deconstructing the idea of "girl" and attending to intersectionality in different experiences of living as a girl because girls with intersecting identities experience greater marginalization (Seng et al, 2012). This is highly relevant to the present thesis, as girls who identify with more marginalized groups are at greater risk of poor overall mental health and anxiety disorders.

In the 1990s, there was a great increase in marketing and consumerism targeting young girls, as well as a presence of girls entering online spaces. This led to an increase in visibility surrounding female youth, such as prominence in social media and advertising culture, and feminists agreed that female youth had previously been excluded from feminist literature and research (Kearney, 2009). One outcome from the beginning of girlhood studies was research on education, such as gender bias in teachers and materials, sexual harassment, and the experiences of girls of color, disabled girls, and queer girls. Other fields have examined girls' relation to mental health, as well as girlhood present in the media (Roberts et al, 1999, Tiggemann & Slater, 2015, Whitaker et al, 2021). Although strides have been made in research on girlhood, this field has not become diverse, and greater intersectional research is needed. girlhood studies have the potential to reveal the unique experience of being and growing up a girl, and the ways we can support and encourage the girls in our lives.

Since the field of girlhood studies is relatively new, research on SDH and anxiety disorders is slim, and research on the social circumstances of girls and adult women with anxiety
disorders will primarily be used to attempt to bridge the gap from girlhood to adulthood. There has been some discussion regarding girlhood and mental health in the form of self-help books. For example, the 1994 book *Reviving Ophelia: Saving the Selves of Adolescent Girls* by U.S. psychologist Mary Pipher was a popular non-fiction book about self-esteem in girls. Critics of *Reviving Ophelia* argued that Pipher presents girls as fragile and vulnerable rather than giving agency to the girl. They pointed out that it centered the experiences of White, upper-class, heterosexual girls. Although this book does describe social circumstances, environments, and anxiety in adolescent girls, it does not approach these topics through a feminist lens (Gonick, 2006).

There is not one single type of girl to study in girlhood studies, nor is there one “place” where all girls are found. “Place” refers to where girls “work, live, play, and organize” (Mitchell & Rentschler, 2016), and the various places are related to all the SDH that adolescent girls face. Young women occupy certain places throughout their development, such as home and school, as well as various places in society, such as media, research, and more. Other researchers discuss third-wave feminism and how the “girl” has become a distinct feminist identity. In their chapter in the book *All About the Girl*, researchers Baumgardner and Richards (2014) discuss how there is a lot of hypocrisy in the promotion of feminist ideals surrounding girlhood. Girls are told that they can play sports, excel in careers, and remain tough and strong. These ideas are good and true, but they are masculine ideals projected onto girls. Rather than embracing girliness as being powerful and fulfilling, girls are taught to conform to patriarchal ideals. In regards to playing sports and conforming to being boy-like, girls may say “If we can play sports, why don’t we? In other words, why be a girl if you don’t have to?” (Baumgardner & Richards, 2014). There has
been an overarching idea that being a successful woman and feminist is related to conforming to masculine traits and rejecting feminine things such as nail polish, heels, and pink.

Girlhood is not confined to an age but is represented in the lives of all women as a state of youthful, carefree, and girly. This should not be rejected but valued as equal to masculine traits such as strength, toughness, and domination. Both should be valued equally and neither should be frowned upon in young girls. Society often neglects that, “Girls might have the potential to be powerful, but girl things assuredly do not” (Baumgardner & Richards, 2014). These researchers admit that this idea has limitations when taking a global perspective and should be analyzed within a framework of intersectionality, but in its similitude, the idea that girly traits should be valuable is important. Teaching girls to be like boys and to value masculine ideals is nearly equivalent to teaching them to only conform to girly and feminine traits (Baumgardner & Richards, 2004). Girls are a unique demographic, and there are so many ways to be a girl.

**Social Determinants of Mental Health**

According to the World Health Organization (2022), SDH are “non-medical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems.” Medical care can only improve symptoms to a certain extent when an individual is born into an environment or acquires circumstances that disadvantage their health outcomes. It is also important to study SDH to understand social etiology, research interventions, and the variation in health. Some researchers define distal and proximal determinants as different. Distal factors are those structures in the country that lead to
large-scale stratification, such as - wealth, education, gender norms, and ethnic groups. Proximal factors include experiences in daily life, such as - family and peer relationships, food, housing, recreation, culture, and religion (Lund & Cois, 2018). Changes in sanitation and nutrition have been the largest contributor to significant increases in health and life expectancy since the 19th century. However, the disparities in healthcare between high and low socioeconomic classes have only increased. This creates SDH which affects every aspect of psychological and physiological health and wellness for all individuals depending on their specific life course.

Studies demonstrate that determinants such as race, education, and social status may explain mortality as much as any common infection, cancer, or disease (Braveman & Gottlieb, 2014, Ballantyne, 1999, Viner et al, 2012). Other aspects such as exposure to violence, alcohol, poor sleep, availability of fresh produce, and access to physical activities can all influence health outcomes. These factors accumulate into a greater allostatic load. In adulthood, an individual occupational class, work schedule, and partner violence have strong implications for health. These social factors call for public health officials and clinicians to consider these many causes of health and how accessibility and policies can change to create improved health outcomes (Braveman & Gottlieb, 2014).

Just like physical health, mental health is influenced by where we live, work, and play. Social factors are just as important as biological factors to understand, and literature is revealing more and more about the social determinants of mental health. Compton and Shim (2015) describe eight “core” determinants of mental health in Western society: unemployment, food insecurity, poorly built environment, housing insecurity, adverse early life experiences, discrimination/social exclusion, education, and poverty. Public policy and social norms together contribute to an unequal distribution of resources, power, money, and who is given a voice in
society. These structures favor certain individuals based on the status and identities which they are born into and acquired over time. SES will be also used in the present thesis as a general term to describe employment status, physical environment, neighborhoods and housing, income, education, and more.

Access to medical care is a determinant of mental illness, as people in rural areas may be less likely to seek help due to a lack of proximity to health care. A report by the WHO states that “Young children in households in receipt of a social grant in rural areas showed significant improvements in language development” (Lund et al, 2013). Interventions in the nutrition, emotional development, and skills of children in rural areas are important for the best possible health outcomes. Parents in rural areas are less likely to seek medical treatment and may influence their children to refrain from seeking medical attention for both physical and mental illnesses. Primary care doctors are the main source of health care for those with a low income, so teaching clinicians to recognize barriers to accessing mental health services is of the utmost importance (Allen et al, 2014). SES and occupational status also influence insurance coverage, and lack of insurance may be a barrier to healthcare for some families.

In the present study, SDH will be assessed for adolescent girls, specifically: ACEs, SES, education, social media, and resilience. These social determinants of mental health were chosen for this thesis because they involve all levels of the socio-ecological model. Additionally, gender differences in adolescence are not well documented for these SDH, especially when analyzed through a lens of feminist theory, adolescence, and girlhood.

**Adverse Childhood Experiences**

One major influence on adolescents is the complex relationship between parents, families, and households during their childhood. Parenting styles, living conditions, health of the
parent, emotional and social support all affect childhood mental health. Additionally, community
factors such as neighborhood, violence/crime, natural environment, healthcare services,
sanitation, discrimination, and social inclusivity all affect the well-being and mental state of
children. In childhood, the emotional support of parents, building strong relationships,
community violence/alcohol/drug use, and self-esteem all contribute to the development and
future mental health of children (Allen et al, 2014). Across demographics, these ACEs are a
strong determinant of mental illness (Lund et al, 2013). The influence of experiences in
childhood is well documented, and can have a severe impact on mental health (Lund et al, 2013).

ACEs are events that occur in childhood such as abuse, neglect, domestic violence,
parental substance use, incarceration, divorce, discrimination, and more. Exposure to ACEs
correlates to higher rates of smoking, drinking, and obesity in adulthood, and is an overall
predictor of poorer health and less upward mobility in life and less life satisfaction
(Mosley-Johnson et al, 2019). A common way to measure ACEs is the Adverse Childhood
Experiences Scale, created by Felitti et al (1998), which is a questionnaire that asks about
different adverse experiences.

ACEs increase the allostatic load on children and lead to chronic activation of the stress
response, leading to dysregulation of the hormones involved. It is related to other consequences
such as bad health outcomes, sexual risk-taking, and poor mental health (Waehrer et al, 2020). A
2020 study found that those reporting four or more ACEs were significantly more likely to be
female. Those exposed to four or more ACEs were also less likely to obtain a college degree and
more likely to drop out of high school, as well as having 400% higher odds of depression. As the
number of ACEs by age five increases, both internalizing and externalizing psychological
distress increases in children (Jones et al, 2022). Screening for ACEs is extremely important to
intervene and prevent adverse outcomes. This can be done in primary care offices as well as schools to manage the stress on the child and give them a greater likelihood of success in health and educational opportunities (Waehrer et al, 2020).

Researchers predict that ACEs are related to mental illness through alterations in the HPA axis and an increase in allostatic load, which dysregulates the stress response. The sensitization hypothesis says that exposure to traumatic events in childhood leads individuals to respond more intensely to future stressors. Specifically, childhood abuse may lead to hypervigilance and anxiety about perceived threats. Parental psychiatric disorders in a household also contribute to poor psychological outcomes in children due to dysfunctional parenting skills that lead to poor coping skills in both the parent and child. More intense reactions to stressors and less resilience are debilitating to daily life and potentially manifest as a mood or anxiety disorder. Therefore, more ACEs will likely lead to a heightened stress response and therefore an increased risk of psychiatric disorders (Sachs-Ericsson et al, 2017).

ACEs are known to lead to greater rates of psychiatric disorders in adults but also affect the mental health of children as they live through traumatic experiences. Children are diagnosed with anxiety at a greater rate than depression and are at greater risk when exposed to more ACEs. Particularly economic hardship, violence, discrimination, and living with someone who is mentally ill are risk factors for childhood depression and anxiety (Zare et al, 2018).

Gender Differences

There are gender differences that exist for ACEs and ACEs related to mental health. For example, university students are impacted psychologically by traumatic events in childhood. A 2022 study on ACEs at the University of East London found that 79% of first-years experienced at least one childhood adversity, 51% experienced three or more ACEs, and 20% experienced six
or more ACEs, with women and Black students reporting the greatest rates overall. Female students faced more sexual abuse and discrimination than males. The study then assessed well-being and GAD symptoms in these students and found that more ACEs are strongly correlated to symptoms of anxiety disorders and poor quality of life. Overall, 37% of the students met the criteria for generalized anxiety disorder, which was also higher in female first-years (Davies et al, 2022). This study confirms that females face greater adversity and that the traumatic experiences in childhood can manifest in greater rates of anxiety in university-ages students, transcending into adulthood.

In a study on Chinese adolescents, 35.09% of adolescents had experienced at least one ACE, which makes ACEs less common in Chinese children compared to studies done in the US or UK. Researchers hypothesized that this may be due to cultural differences, as Chinese families may be more acclimated to strict parenting and resilience to adversities. Additionally, the study found the same trend as many other countries, that ACE scores are higher for girls. Girls were more likely to have experienced isolation, emotional abuse, and neglect. The study also looked at a relationship between depression and anxiety, stating that the risk of mental disorders increases with greater ACEs, and hypothesizing that this is due to the increase in allostatic load during childhood. It was found that isolation and neglect were key ACEs that correlated to depression and anxiety, which are found at the greatest rates in adolescent girls. Overall, girls in this study were the most susceptible to depression and anxiety due to ACEs, as seen in similar studies (Jiang et al, 2022). Despite the smaller rates of ACEs overall in this study, a gender discrepancy still existed.

Using previously reported data, a 2021 study used statistical analysis to see if ACEs and gender are risk factors that work synergistically to lead to major depression and anxiety
disorders. Synergistically refers to a relationship where the risk of the two factors combined is even greater than each factor independently. They found evidence that ACEs and being female are synergistic risk factors for both major depression and anxiety disorders. The implications of this study are profound, indicating that exposure to ACEs is riskier for girls than boys, and potentially a reason for the greater rates of major depression and anxiety disorders in females (Whitaker et al, 2021). A reduction in ACEs for adolescent girls could have a large impact on the outcomes of adult women and anxiety disorders.

**Socioeconomic Status**

**Social Causation, Social Drift, and Socioeconomic Gradients**

A common debate with social determinants of mental health asks - does poor SES lead to poor health outcomes, or does poor health lead to lower SES? The social drift hypothesis refers to the latter, while the social causation hypothesis refers to the former. The health and SES relationship is twofold, as poor results in one area can lead to poor outcomes in the other, and vice versa. Low SES and reduction in income are associated with anxiety disorders in women but not for men, and women are more often found in a low SES group (Mwinyi et al, 2017). These findings suggest that low SES may lead to the development of an anxiety disorder rather than anxiety disorders leading to a low SES, since a significant reduction in income was related to the development of an anxiety disorder. However, it is generally accepted that social causation and social drift can both be true (Lund & Cois, 2018).

It is important to remember that “the burden and determinants of the morbidity of mental disorders carried by women differ consistently from those experienced by men” (Fisher et al, 2013). The social causation hypothesis suggests that social positions occupied by women are risk factors for poor mental health. Both structural positions such as employment status and
community involvement as well as everyday roles such as mother, wife, and caretaker, create stress that may lead to a decline in mental wellness. Due to social expectations and gendered roles, women are given fewer opportunities for development and upward mobility. They are typically assigned more passive roles in life rather than being seen as a leader or powerful individual. Women also face more controlling social influences regarding goals in appearance - body weight, shape, and possession of material items, compared to men. This puts additional pressure on social roles, and leads to an increased mental burden as well as a standard to have money and to value materialism (Fisher et al, 2013). Women are also underrepresented in research, and research surrounding men versus women in mental health promotion has only recently been done.

Pickett & Wilkinson (2010) found that increased income inequality is associated with greater rates of mental illness as well as drug misuse in wealthy societies. A common misconception is that richer countries lower rates of mental illness than poor countries. In reality, rich and poor do not determine mental illness, but more unequal societies with extremely rich and extremely poor are related to prevalence - a large socioeconomic gradient. The percentage of anxiety disorders is significantly greater in more unequal countries, and gender differences persist in unequal societies. This may be because these countries have values that correlate to material possessions and appearance, leading to more emotional and mental distress depending on finance. Therefore, these individuals feel that their worth is determined by status and material possessions, leading to greater distress due to finances. This is an example of a social gradient in health (Pickett & Wilkinson, 2010).
Measuring SES

Living and working conditions, income, neighborhood, race/ethnicity, and sex all affect health outcomes. A growing socioeconomic gradient in the U.S. (Marmot et al, 1991) is indicative of increasing health disparities, leading to a risk of mortality, infection, diseases, and psychiatric diagnoses. However, analysis of the relationship between SES and health is often not cohesive and research rarely justifies the measures being used. Many different terms describe socioeconomic factors, such as “socioeconomic status” and “socioeconomic position,” although these terms are arbitrary and researchers generally should define the meaning and value of a term when used in literature (Krieger et al, 1997). With this in mind, it is important to remember that SES in the present study has been defined by many different researchers.

Measurement of SES is not universal and could mean many different things depending on the study. There is controversy regarding defining SES, so it is important to give clarity regarding the variables being measured as SES in research as well as why they are necessary or relevant to the study. For example, social class is used as a parameter but is not universally defined, as it is related to property, ownership, and labor, and depends on the relationships between corporations and individuals. Wealth is also used as a category sometimes considered equivalent to income, but researchers argue that income is not always a proxy for wealth. While income is the amount of earnings made through employment, wealth is the sum of all savings, including generational money, retirement savings, and assets (Atske, 2021). Therefore, two individuals with the same income could have very different levels of wealth Categories such as prestige, skills, social influence, and power are used in European studies more than U.S. studies, and the definition and measures of each of these are not universal (P. A. Braveman et al, 2005). Occupation is another measure and generally includes both income and education. However,
there are implications for the subjectivity of “low” and “high” grade employment and the damage that extremist labeling can do (Ruiz & Prather, 2012).

Measuring the SES of a child or adolescent is especially difficult. Childhood SES is complex as it may affect adult health regardless of adult SES. This is rarely accounted for in SES studies, although a high SES does not take into account the risk due to a low childhood SES (Braveman et al, 2005). Occupational-based measures also do not account for groups outside of the norm, such as children and retired adults. Many SES measures do not take into account the autonomy of children and the adverse conditions that occur in childhood which affects health later in life. The well-being of children has been studied to correlate to household education level, but generally this measure of SES is not always included in studies on children or adolescents (Krieger et al, 1997). Additionally, income only encompasses monetary resources and does often predict health outcomes. However, this excludes adolescents or predicts their health based on their parent’s income. It does not account for adults who were raised in one income level and experience a different one in adulthood. Education is often used to characterize SES because it begins and remains stable after adolescence, however there is little variance in education levels and it does not always predict income (Ruiz & Prather, 2012). Overall, SES measures are not interchangeable for adults and children, and research should be more considerate in describing accurate and meaningful measures of SES.

Ethnic/racial differences also influence SES, and results of studies including race/ethnicity will change depending on if income, education, or both are used. For example, looking at income appeared to severely disadvantage the health of Mexican Americans, but when education was included instead, the risk of poor health was more equal between racial categories. This leads to the conclusion that both income and education should be considered as factors
since excluding either is inaccurate. Literature treats SES as a variable that encompasses diverse factors, such as economic resources, power, and prestige. However, it is important to remember that these factors also interact with racial/ethnic characteristics, sex, and other characteristics. This leads to confusion in using SES as a variable and a lack of consistency across literature addressing SES, as some studies do not justify their measure nor do they explain the variables included and how it was created (Braveman et al, 2005). All of this literature points to the need to strive for consistency across research in a multi-dimensional measure for SES.

**Childhood SES and Mental Illness**

There are many ways that SES may influence mental wellness. Anxiety is 2.5 times higher among youths aged 10 to 15 with low SES than among youths with high SES (Allen et al, 2014). Additionally, there is research that in childhood, poor SES is related to risk of psychiatric disorders in childhood and depressive symptoms in adulthood (Lund et al, 2013). However, gender differences are not well understood for adolescent SES. Low SES leads to stressors in families related to money, employment, and health. Children in these families are more likely to have less education and engagement with their peers or community due to financial barriers and are more likely to suffer from health problems, including mental illness. “Children and adolescents with low SES are two to three times more likely to develop mental illness than their peers with high SES” (Reiss et al, 2019).

The burden of lower SES leads to more everyday stress and worry as well as negative life events that can manifest as mental illness later in life. Families with low SES also face social stigmas, disadvantages, and segregation from families with the ability to take on more opportunities due to a higher SES (Reiss et al, 2019). In addition to the stressors from low SES, low SES is also related to environmental risks such as greater exposure to toxins, crowding,
violence, and ambient noise, which can lead to psychological and physical health problems. Children in low SES families are exposed to this burden as well as stress from their parents and therefore have fewer skills to deal with their emotions and personal distress (Pérez-Marfil et al, 2020). Since adolescence is a critical time for development, the added stress and emotionality could lead to problems in social skills, feelings of insecurity, and therefore risk of mental health issues.

In a study to investigate the association between SES and stressful life events in adolescents, it was found that although parental education was the strongest predictor of poor mental health, parental occupation did not have a significant impact. Children who had mothers with less education had significantly greater rates of mental illness than those with mothers with high education. Women with high levels of education also report less stress in life, more control over their daily activities, and greater coping strategies. Stressful life events are also associated with greater mental health problems in adolescents. Mental illness from low SES to stressful life events often persists long into adulthood (Reiss et al, 2019). Although most studies regarding SES and mental illness are conducted in developed countries, researchers found that the correlation between low SES and poor mental health remains true in developing nations (Pérez-Marfil et al, 2020). One study found that low SES was correlated specifically to increasing levels of adolescent anxiety disorders, measured as average household income. For girls, a low-income household is related to greater social anxiety (Vine et al, 2012).

Additionally, it is shown that employment in adolescence can be a protective factor for mental health outcomes, suicide, and violence-related mortality. Education has also been identified as a determinant, as “Improved education of women has substantial benefits for the
health of children worldwide” (Viner et al, 1644). A greater number of youths in education decreased mortality rate and injury levels in both sexes (Viner et al, 2012).

A 2015 study by Crocetti, et al examined GAD in adolescence cross-culturally to determine the differences in the prevalence and persistence of GAD in different countries using self-report measures of GAD symptoms and identity. Mental health is often assumed to be generalizable, but many outcomes and symptoms are not universal globally. They studied Bulgaria, Italy, the Netherlands, Kenya, China, and the Philippines for different socioeconomic and cultural differences that may explain anxiety trends in adolescents. Common trends found were that cultures that valued individuality had greater wealth and better mental health outcomes. In general, wealth allows for autonomy and freedom that increases mental wellness. Adolescents in this study had better mental health when in an individualist society that had low power distance. For example, the lowest overall GAD was seen in the Netherlands, an individualistic society, and the highest was seen in the Philippines, a collectivist society. Girls were found to have greater rates of GAD in every country except Kenya. In Kenya, boys and girls had comparable levels of anxiety. The researchers did not expect this finding, and it suggests that more research is needed on Kenya and the variables that mediate more equal mental health outcomes (Crocetti et al, 2015).

Social support protects adolescents from health risks through building self-esteem, safe health practices, and behavioral guidance. Greater social support in childhood and adolescence leads to better physical and psychological health outcomes (Geckova, 2003). In low SES families, the importance of social support is even greater to buffer the effects of additional stressors and less access to resources for health. In a 2003 study comparing gender differences for social support in different SES groups, girls reported greater social support and still poorer
health. It was found that boys received more material and rational support while girls received emotional and informational support. Greater social support was found in higher SES groups for males and females. Overall, social support was related to improved health outcomes for males and females in every SES group. It was also hypothesized based on the data that the socioeconomics of the mother are more important than the socioeconomics of the father for improved health outcomes (Geckova, 2003), supporting the importance of educating adolescent females and paying working women to provide for better health outcomes.

Low SES is related to increased stress and worsening health outcomes in adolescents, possibly due to scarcity in the environment that leads to a lack of coping skills. In a study on adolescents, SES, and coping, it was found that coping is especially important for adolescent girls responding to stress compared to males in any SES. It was also found that optimism is associated with greater mental health and coping and that adolescents with low SES are less likely to be optimistic (Finkelstein et al, 2007).

Too little research exists on how male and female adolescents cope with SES to determine how SES affects genders differently, nor sufficient research exists on SES as a risk factor for anxiety disorders in adulthood specifically. Girls have poorer mental health outcomes in adolescence as well as in adulthood (Lewinsohn et al, 1998, Fisher et al, 2013), and the existing literature does not provide enough meaningful data on this discrepancy related to SES. One hypothesis is that SES does not affect genders differently and that a low SES will impact any adolescent.

**Education**

From childhood to young adulthood, education is another large, influential part of growing up. It is a determinant of mental health for the profound impact education makes, and is
also used sometimes as a measure of SES. Educational opportunities can teach emotional resilience and opportunities for employment later in life, which both significantly improve mental health outcomes. Education can also provide knowledge about informed decisions regarding drug and alcohol abuse, as well as diet, exercise, and general well-being that all increase overall health in the future (Allen et al, 2014).

Education takes place in an academic institution and involves gaining skills and knowledge formally or informally. Informal education is acquired without formalities and may be acquired through friends, family, and society with no specific conscious aims. Formal education involves a strict curriculum, instructor, and specific aims. Schooling, on the other hand, is the process of being trained at an academic institution and is always a formal process (Chukwuwemeka, 2022). In the present thesis, the terms school and education will be used interchangeably. But, the definition of informal education is what is being referred to most often, as the social skills, peer relationships, and stress that adolescents gain from school are not always directly taught in a classroom. Education is one place where girls socialize and learn certain norms and societal expectations, such as academic perfectionism, particular fashion and makeup expectations, and seeking attention (Kumar, 2017). Adolescents spend a great deal of time in school and for some, school may have the most substantial impact on their behavior and development.

Socialization is the process of learning how to behave as socially acceptable in society, based on the behavior of other people. Formal socialization occurs at school, where adolescents learn specific rules and obligations. Informal socialization can also occur at school, which teaches attitudes, values, and behaviors, and can be acquired through peers, family, and society. Also occurring in and out of school is gender socialization, which is the process of learning
behaviors and attitudes that correspond to gender norms of masculinity and femininity (Crisogen, 2015). Socialization is a key component of adolescence because personal time is spent more often with peers and with less adult supervision. More intimate relationships and friend groups may form, socializing individuals to act more similarly to those around them and gaining values based on the people with whom they spend time. This can lead to risky behavior and learning of stereotypes, but can also lead to greater social support or positive values (Smetana et al, 2023).

In the following sections, many of the relationships reported between education, gender, and mental health are influenced by processes of socialization during adolescence.

School is one of the most prominent places where girls and boys are socialized and learn stereotypical gender roles. Gender socialization is also taught by social media, family, religion, movies, and television. Typical roles in and out of the classroom produce cultural norms and instill dynamics in people from a young age. For example, female teachers may be more gentle and helpful, which leads girls to think they are supposed to be calm and caring. Male teachers may emphasize power, toughness, and physical strength, leading boys to believe that they should have these characteristics (Carter et al, 2011, Ngigi, 2014, Viner et al, 2012).

In a study on gender socialization at Kenyan schools, Ngigi (2014), interviewed students, principals, teachers, parents, and education officers to describe masculinity and femininity in the context of school. The majority of respondents agreed that boys are competitive, aggressive, strong, violent, and not emotional or affectionate. The majority of respondents also agreed that girls are shy, timid, and conscious of their physical appearance. These stereotypes lead to girls being more aware of beauty standards, which often affects their concentration and performance during school. Additionally, at home boys typically learn that they should offer money and security to a family, while girls are taught to learn caretaking and domestic tasks. Roles such as
these taught at a young age prevent boys or girls from engaging in activities that are ascribed to the opposite gender. Girls in school struggle with the contradiction that they are meant to succeed academically greater than male peers while remaining timid, domesticated, and feminine in appearance (Ngigi, 2014). The effects of this contradiction are great in adolescence, causing girls to internalize thoughts and stress related to stereotypes and peer pressure.

**Smart Girlhood**

Girls often have trouble finding autonomy and belonging when occupying specific spaces such as school. Smart girlhood, a concept from girlhood studies, looks at the landscape of academic success for girls and engagement with identity and popularity in academics. This engagement largely depends on the culture of both the school and neighborhood which girls occupy, which changes the positionality girls may take as well as their interactions with academia. Academic success and girlhood can be analyzed by “the limits of reputation, the impact of school culture, consistent challenges, and intersectionality” (Mitchell & Rentschler, 2016).

A study of self-identified “smart girls” from Canada examined the relationship between reputation and satisfaction in school by interviewing each girl. This study identified that there may be a power imbalance between the smart girl and the researcher and allowed them a choice to be interviewed individually or with another participant. 23 interviews were conducted individually, six in pairs, and one a trio, for a total of 51 participants. Reputation was defined as being known for excellence in academics, athletics, or both. Girls from four types of schools were compared - an expensive private school with a high reputation, an inner-city school with a poor reputation, a public school with the highest reputation, and a catholic school with a high reputation. In this study, reputation was often the factor that drew a girl to attend a school and
was related to overall school satisfaction. However, an ‘underdog’ status can help girls feel a
sense of academic community, and reputation doesn’t necessarily correlate to satisfaction. Girls
at a school with a reputation for academic achievement were less likely to discuss looks,
popularity, and boyhood while being more likely to state that being smart is good. Girls at a
catholic school were more likely to discuss the importance of looks and the prevalence of sexism
rather than academic achievement, and to mention girls ‘dumbing down’ for popularity (Mitchell
& Rentschler, 2016). Girls are affected by social expectations and the reputation of a school,
which influences how they act, achieve academically, and how they are socialized. Smartness is
not valued everywhere for girls as a unique demographic, which changes how girls perceive
academic stress and success.

Different schools encourage different presentations of masculinity and femininity,
allowing for different social lives and academic perceptions of success. At every one of the four
schools in the Mitchell & Rentschler (2016) study with “smart girls,” girls discussed the concept
of ‘dumbing down’ for attraction or popularity in school, showing how gender and different
presentations of academia in schools are important to the culture and well-being of girls.
Intersectionality is important here because gender presentations are also correlated to race, class,
religion, sexuality, and more. Certain stereotypes appear when analyzing intersecting identities
such as the ‘smart Asian’ or ‘dumb blonde.’ The support of parents is additionally important, as
different parents will view academic success differently. Depending on education, income, and
class, parents may place more or less value on school. Overall, smart girls are not thriving in
every circumstance, and there is not one school, culture, or parenting style that is necessarily
perfect, but certain adjustments can contribute to the enhanced performance of adolescent girls in
academia (Mitchell & Rentschler, 2016).
Academic Stress

According to a study by the WHO (2016), in 29 countries it was observed that 11-year-old girls like school more and perceive greater school performance than their male peers. However, at 13 and 15 years old, girls are also more likely to report feeling pressured by school work in most countries (WHO. Regional Office for Europe, 2016). Girls are reported to have greater levels of stress as well as greater flexibility in coping skills during adolescence. School is a major stressor for adolescents, including academic achievement, concerns about transitioning to adulthood, and social expectations brought on by peers. These demands often have a greater effect on girls than boys in adolescence, and these stressors may lead to worsening health; better health is related to greater school success.

Girls experience more pressure and higher demands at school, reporting faster burnout, greater responsibility, and higher grades than boys. Some researchers postulate that social constructions of gender roles also have led to a hierarchy that lends girls to feeling inferior to their male counterparts and searching for attention, which has led to the additional stress of social pressure and gender norms (Wilhsson et al, 2017). A 2015 study in Sweden analyzed adolescent boys and girls for perceived stress and cortisol to see if there is a gender difference. This study found a greater reporting rate of stress and higher cortisol levels in females than males during adolescence. This study also stated that girls reported greater stress about academic performance, and primarily used hard work as the primary coping mechanism to counteract the feelings of stress. Researchers also confirmed other findings that girls are more likely to internalize challenges in life and that Western ideals of individualism may negatively influence girls at a greater rate than boys (Östberg et al, 2015).
In a 2012 study on older adolescents and self-reported health complaints, it was found that school caused high-pressure demands for 63.6% of girls and 38.5% of boys. More than twice as many girls than boys complained of health complaints such as tiredness and headache due to school. This gap in health and school pressure has not been explained well in any literature, especially not regarding adolescent girls (Wiklund et al, 2012). One possible explanation for education as a social determinant of anxiety disorders in young females is the likelihood of girls internalizing their problems. The learning and acquisition of gender roles during adolescence play a role in symptoms of anxiety. Females are more likely to use internalizing behaviors in response to stress while boys use externalizing behaviors such as violence or substance use (World Health Organization. Regional Office for Europe, 2016). Internalization of feelings and stress increases allostatic load and therefore the risk of an anxiety disorder (Jiang et al, 2022). Gender socialization leads to the internalization of norms and roles that typically become deeply ingrained in daily life, but may also unknowingly cause stress in adolescent girls.

A 2018 study by Östberg et al (2018) investigated gender differences in school-related stress coping mechanisms in Swedish adolescents aged 14-16 years old. Coping resources and perceived school stress were both measured with the use of a subjective rating scale. These researchers found that overall stress and school stress had a greater health impact on young girls compared to boys. They noted the contradiction that girls succeed more academically but also experience more demands and stress related to school, and they noted that this may be because women need to work harder to be seen as equal for employment, or that boys and girls have different expectations of success in school. Additionally, this can be explained by the finding that boys had greater coping resources than girls, so girls may be managing their stress in maladaptive ways (Östberg et al, 2018).
The perspective of teachers is very valuable in assessing the state of mental health advocacy in school systems. Most schools are not organized to facilitate mental health services, and the teachers may have only a little or no training on mental health in children. However, these teachers report dealing with disruptive behaviors, hyperactivity, defiance, anxiety, and depression problems in their students. Teachers can recognize these issues but feel that the practice of counteracting them is within the expertise of a school psychologist or counselor. They also agree that schools should be involved in mental health advocacy, but the majority feel that they do not have the resources and knowledge to do this themselves. There is an insufficient number of professionals in schools with the training to implement mental health services. In addition, teachers need more structured training on classroom management, behavioral interventions for reactive children, and awareness about evidence-based practices (Reinke et al, 2011). School counselors, nurses, and psychologists who are trained in mental health advocacy are often underpaid, underfunded, and needed in greater numbers than they currently exist (Teich et al, 2007). Mental-health educators and teachers are valuable for adolescents, but only if they are valued and utilized properly.

In a study by Wilhsson et al (2017) on 14-15 year-olds and school-related stress, specific coping mechanisms were found for boys versus girls. Girls had greater overall stress related to the future and chose to prioritize activities that will enable success, while boys dealt with stress by choosing activities for their well-being and focusing on the present. This can lead to girls spending more time on extracurriculars and studying while boys prioritize seeing friends and physical activity. Girls escape from their stress more often in solitary activities while boys tend to congregate with other friends. Both boys and girls also cope by finding private spaces to relax, typically a room at their home, watching a tv series, or relaxing in their bed. Boys and girls alike
also enjoy being with friends and family to de-stress, although girls are more likely to relax with family and boys are more likely to do something active. Girls especially mentioned using family time as a way to be themselves, suggesting that girls do not feel that they can be themselves at school. Overall, adolescents tend to find activities, places, or people to use to escape from academic pressure (Wilhsson et al, 2017).

A literature review done in Sweden points out many important connections between education and mental health. One point is a gap in research, where most researchers point out that poor mental illness leads to poor academic performance, but fail to describe how the stressors and pressure at school may be a cause of poor self-esteem and declining mental health in adolescents. They also found relationships with students who utilize internalizing versus externalizing behavior. In academia, internalizing behavior may include negative feelings about academic competence, self-worth, and feelings of unimportance while externalizing behaviors include physical exertion, violence, or substance use. Internalizing problems also predict failure in school and increase feelings of worry, stress, and anxiety. Those who receive negative feedback in school will usually react externally and repeated externalizing reactions are a predictor of beginning internalizing behaviors, which may be causal to the development of an anxiety disorder. Puberty and the development of feminine traits are related to negative emotions and avoidance behaviors, leading to the internalization of symptoms and a greater risk of developing an anxiety disorder (Carter et al, 2011).

The well-being and identity of an adolescent are also highly related to individual academic achievements. Academic perfectionism has only recently been studied in terms of identity development, as many researchers have found the relationship complex as greater academic achievement sets up an adolescent for further success, but unrealistic standards will
lead to stress in school that is maladaptive (Negru-Subtirica et al, 2023). Peer relationships can protect against poor academic achievement and internalizing symptoms when peers are motivated in school. However, peers may also lead to a comparison of achievements, and peers who disregard school may hurt school performance. High academic achievement leads to an increased sense of personal control and also increased self-esteem. Gender differences in mental illness begin to emerge during adolescence, and academic performance is a strong determinant of mental health in girls (Gustafsson et al, 2010). Trying to treat boys and girls with the same results in terms of education ignores the inherent differences in their experiences and treatment during school (Kumar, 2017).

**Social Media**

One of the most effective agents of socialization and the development of gender norms in adolescence is mass media. The time that adolescents spend using technology is often on social media apps. In 2018, 95% of teens reported access to a smartphone, with the most popular social media apps including Snapchat, YouTube, and Instagram. Additionally, 45% of these teens reported that they are online “near-constantly” (Anderson, 2018). Celebrities portrayed in the media advertise a lavish, expensive lifestyle and set ideals for body type, fashion, and more. The idealization and following of celebrities in the media leads to the glamorization of their lifestyle and sets the standard for what is “trendy.” Mass media and social media may also portray violence and sexual behavior, leading adolescents to determine if these actions are acceptable in society, to the extent that they may believe that those behaviors are norms in society (Ngigi, 2014). Interactions with peers are a key part of adolescent development, and social media is a key landscape for peer interaction. Cyberbullying, or being bullied via an online platform, is related to an increase in rates of self-harm, suicidal thoughts, and internalizing problems.
Adolescents may also be influenced to engage in risky behavior through television or peers, or be at risk to face or be the cause of social exclusion, online drama, and social comparison. These risks and negative effects of social media are related to poor mental health, including depressive and anxiety disorders (Nesi, 2020).

Young girls must navigate their identity during adolescence, and this often includes navigating feminist ideals. In an online world, girls hold a certain identity and the construction of their identity is influenced by the comments and personal characteristics that they hold online. In a study with a background in girlhood studies, girls created online avatars, and many girls used an online platform to create an ‘ideal’ avatar for themselves, often adhering to conformity to seek belonging and popularity. The study participants were ten Canadian girls from ages 13 to 16, and they were welcome to meet anonymously online to share the avatars that they created while the researchers facilitated discussion questions. This included clothing, hair, and accessories, as girlhood culture teaches girls to value these standards of femininity to make friends.

The discussion revealed that higher social status is awarded to girls with more trendy clothing or popular accessories and excessive material possessions. This higher status is related to wealth and the ability to spend money on an abundance of possessions. Some girls noted that by creating an online avatar they were not able to share other aspects of their identity, such as interests in sports or arts. Girls taking up online space put them forward to be critiqued and criticized by peers, adults, and the norms in girlhood culture. Socially and culturally constructed girlhood is found not only online but everywhere around us, influencing girls and both the formation and presentation of their identity. In this study with avatars, girls found that they could not represent themselves accurately, indicating that online spaces are not an accurate representation of an individual or their identity (Mitchell & Rentschler, 2016).
Social Media and Mental Health

Greater social media use daily is related to increased symptoms of anxiety and the likelihood of developing an anxiety disorder in adults (Nesi, 2020). This may be due to negative feedback received on social media, increased stress due to overwhelming negative information, and internalization of pressures to sustain successful social media platforms. Social comparison is also a major component of social media and is linked to increased anxiety symptoms, as anxious individuals may seek validation through social media use (Vannucci et al, 2017). Adolescents tend to spend even more time on social media than adults and have more vulnerable developing brains and identities, leading to the likelihood that the risk of anxiety disorders would be even greater during adolescence.

In a 2020 study, a correlation was found between time spent, activity, investment, and addiction to social media to increases in depression, anxiety, and overall psychological distress (Keles et al, 2020). Studies have found that adolescents who use social media more frequently have lower self-esteem and higher levels of anxiety and depression (Woods & Scott, 2016). Self-esteem is typically defined as positive or negative feelings about oneself. Self-esteem is lower in women compared to men, with the greatest difference at age 16, during adolescence. There is also a drop in self-esteem for women during adolescence that does not appear for men (Clay et al, 2005).

In a study to gain perspectives about social media usage from adolescents and mental health practitioners, researchers collected opinions from teens regarding their social media use. Teens stated that social media may have positives as it connects them to their peers and allows for communication from distances or even when they are alone. However, they also recognized that there is pressure to receive likes and comments on photos, as well as bullying that takes
place on the app, and that they feel depressed when they see “skinny models on the television” (O’Reilly, 203). They also said that social media has taught them low self-esteem, and poor sleep habits, and that bullies may even “caused deaths of people being like targeted on social media, and then end up committing suicide” (O’Reilly, 203).

Over-usage of social media can lead to severe negative thoughts and images, to the extent of causing adolescents to feel anxious and depressed mentally, leading to self-harm. A 2020 study by O’Reilly (2020) stated that mental health practitioners felt strongly that social media was harmful to adolescents, but acknowledged that it is not going away any time soon. Many of these practitioners suggested that restrictions should be used on social media, and enforced by parents. Research has shown that rising rates of mental illness have correlated with rising social media use for adolescents (Woods & Scott, 2016, Nesi, 2020) but adolescents feel that they require autonomy and that social media can be good, bad, and ugly at the same time (O’Reilly, 2020). Bridging the gap between adolescents and practitioners is necessary to find a balance between social media usage and mental well-being.

**Self-Objectification**

Sexual objectification is very prominent in personal encounters as well as all forms of media in Western culture and reduces people to a sum of their body parts or sexual identity. One definition is that “sexual objectification occurs when a person’s body, body parts, or sexual functions are separated from his or her identity, reduced to the status of mere instruments, or otherwise regarded as if they were capable of representing him or her” (Fredrickson & Harrison, 2003). This type of objectification is mainly targeted at females, representing girls and women as bodies or as sexual beings only. Objectification theory claims that sexual objectification is used to socialize girls to teach them to objectify themselves by evaluating themselves based on their
physical appearance. This is known as self-objectification, or viewing oneself and one’s worth in society based on appearance. Differences between women in self-objectifying lead to differences in behavior and emotional well-being.

One consequence of self-objectification is lowered self-esteem and greater self-consciousness. Giving greater attention and time to thinking about one’s body leads to less time spent on other activities that would be much more beneficial and less damaging to health. This leads to greater opportunities for feelings of worry, anxiety, and shame, and fewer feelings of accomplishment, enjoyment, and confidence. These consequences lead to an increased risk of eating disorders and mental illnesses such as anxiety and depression. Objectification theory also says that women are most targeted during reproductive years, which typically begin in early adolescence. Media is a major route of sexual objectification, meaning that girls and women are taught self-objectification in part through the consumption of media (Fredrickson & Harrison, 2005).

As adolescence is a critical time for bodily development, it is also a period of rising concerns about body image and self-objectification for adolescent girls. A theoretical review by Choukas-Bradley, et al (2022) used a developmental-sociocultural perspective to describe the relationship between social media and body image in girls. They concluded that body dissatisfaction is the greatest predictor of an eating disorder, and is related to poor mental health. Social media provides a platform for adolescent girls to focus on the appearance of peers, themselves, and celebrities. Photos and videos posted on social media are usually curated and edited to perfection, showing off an idealized version of one’s life and appearance. Constant checking of social media apps leads to comparison that causes girls to describe their worth based on appearance, exacerbating self-objectification (Choukas-Bradley et al, 2022).
Body image influences the self-esteem of girls and may be a factor in lowered rates in women compared to men. Specifically, media such as TV, magazines, films, and social apps depict unrealistic standards for the female body and beauty. A study that used magazines with ultra-thin versus average-sized women presented these magazines to adolescent girls 11-16 years-old and found a decrease in self-esteem due to body dissatisfaction when girls viewed any magazine. There was not a significant difference between viewing the ultra-thin or average-sized models, which may mean that girls are affected by any depiction of glamourized and traditionally attractive women in media (Clay et al, 2005). Viewing idealized models in the media leads to social comparison and over-valuing of appearance for girls, and directly leads to self-objectification.

Standards for beauty and appearance are based on Western or European-centered (Eurocentric) ideals such as fair-skin, thin, toned bodies that do not allow room for cultural differences in skin color, hair texture, or body size. Advertising often perpetuated this norm, using European-looking models rather than ethnically or culturally diverse individuals, leading young girls to view Eurocentric beauty as the norm and standard for beauty (Mckay et al, 2018). This leads to the internalization of harmful stereotypes, especially for Black women who have skin colors and hair types that do not conform to Eurocentric beauty standards. It also created inherent racism in society as whiteness and Eurocentric ideals are seen as superior due to images in the media. Clark & Clark (1947) conducted a study on 253 Black children from public schools given the choice of two identical dolls, one Black and one White. They reported that approximately two-thirds of the children chose the White doll, regardless of their own skin color. From a young age, the superiority of European beauty is taught to children (Clark & Clark, 1947).
More recently, Sekayi (2003) conducted a study, asking college-aged Black women about their ideas on Eurocentric beauty norms and standards of beauty. The researchers utilized interviews, focus groups, and surveys. The participants majority agreed that a Eurocentric beauty standard is still present and that they often struggled with their appearance due to preconceived notions of beauty (Sekayi, 2003). The pressure to conform for women who are not European-looking may lead to self-hate, distorted body image, and feelings of inadequacy. The internalization of this self-objectification and shame can lead to a greater risk of depression and anxiety (Bryant, 2013). Eurocentric beauty norms are highly relevant to mental health in adolescent girls, as they consume media that may perpetuate certain stereotypes that can lead to racism and poor mental health.

Sexual objectification is prevalent in the media and likely affects all women and girls to some degree, teaching self-objectification that can lead to anxiety. The fear or general knowledge that one’s body may be judged at any time is greater for women, leading to the phenomenon of appearance anxiety. This leads to constant monitoring and adjusting clothing or makeup, especially when women’s fashion often involves high heels, short bottoms, and low-necked or cropped tops. This may lead to feeling uncomfortable and on display, while also facing the judgemental standard that some women show “too much skin” or dress “unprofessionally” (Fredrickson & Roberts, 1997). In a 2017 study on appearance anxiety, it was found that appearance-contingent self-worth was related to greater self-objectification, and that self-objectification was the cause of appearance anxiety that led to lowered self-worth and self-esteem (Adams et al, 2017). This shows empirically that self-worth for many women is contingent on their appearance, and that this relationship leads to greater feelings of anxiety.
Feelings of appearance anxiety may lead to safety anxiety, which is the fear of sexual assault, harassment, or victimization due to physical appearance. It has even been demonstrated in a study that more attractive victims of rape are assigned greater blame for their rape (Jacobson & Popovich, 1983). The degree to which women face these double standards varies, but nearly all women feel safety anxiety at some point in their lives due to sexual objectification. In a 1997 study, after asking a mixed-gender group of students about personal safety, the male students were shocked to realize that women use many strategies to protect their safety throughout the day, such as carrying keys between fingers, staying in after dark, and checking that their car is locked and empty. Women face daily anxiety due to their safety while men are unaware of this psychological burden of safety vigilance (Fredrickson & Roberts, 1997).

In 2007, the American Psychological Association formed the “Task Force on the Sexualization of Girls” in response to girls being sexually objectified in the media - valued only for their sexual appeal and physical attractiveness (APA, 2023). This leads to self-objectification during adolescence which affects development due to feelings of shame and bodily anxiety. In a study based on objectification theory and adolescence, it was found that self-objectification is related to shame, dieting, and depressive symptoms. It was also found that media consumption - including television, magazines, and time spent on the Internet - is related to self-objectification. Girls who engaged in the most conversations with peers regarding appearance also faced greater self-objectification, which may be due to girls discussing what they see or read in the media (Tiggemann & Slater, 2015). During adolescence, girls experience a drop in self-esteem and an onslaught of bodily changes. The combination of these changes and the perpetuation of Eurocentric beauty norms increases the rate of self-objectification rapidly during this time and leads to greater stressors for girls compared to boys due to the newfound safety anxiety and
appearance anxiety in daily life. Objectification is a key component of anxiety for many women, and the standards for appearance, as well as fear of sexual objectification or assault, first emerge in adolescence, and largely in the media (Fredrickson & Roberts, 1997). Chronic attentiveness to physical appearance and safety leads to the internalization of harsh feelings as well as stress and anxiety that increase overall allostatic load.

**Resilience**

Teenagers now more than ever are internalizing their thoughts and feelings, leading to great levels of anxiety (Denizet-Lewis, 2017). Some reasons for this are valuing perfectionism in school and fear of failure. Another reason is the great increase of teenagers in cyberspace leading to obsessions with social media. Teachers and professors are facing an issue of how to deal with so many anxious students in a classroom, and to wonder why this is happening. Many claim that today’s teens lack “resilience” - that teenagers are not equipped to deal with even minor setbacks (Denizet-Lewis, 2017). According to the APA, resilience is “the process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioral flexibility and adjustment to external and internal demands” (APA, 2023).

Researchers Connor & Davison (2003) have developed a new scale for resilience, the Connor-Davison Resilience Scale (CD-RISC), with the hopes of using it to target the treatment of anxiety and depression, as well as to measure stress reactions. This scale uses 25 items such as “I am able to handle unpleasant or painful feelings like sadness, fear, and anger,” and others related to stress and coping skills to define resilience. These researchers found that an increased resilience score on the CD-RISC correlates to clinical improvement, showing how resilience can directly lead to improved psychiatric outcomes (Connor & Davidson, 2003).
Campbell-Sills et al (2006) used the CD-RISC to test the relationship between personality, coping, and psychiatric symptoms. They found that resilience was related to less neuroticism and coping, inferring that greater resilience is related to positive emotions and coping skills. Resilience was also related to greater extraversion and conscientiousness, which are related to greater social interaction. Finally, low resilience was related to greater psychiatric symptoms in adulthood after facing adverse experiences in adolescence (Campbell-Sills et al, 2006). These findings affirm the importance of positive emotions and social interactions for building resilience and that these factors will decrease the risk or symptoms of anxiety in adolescents who experienced ACEs. Other studies have confirmed the findings that resilience is a key component of well-being for children and adolescents who grew up experiencing trauma or disadvantage (Masten, 2001).

A study by Askeland et al (2020) examined the connections between depression, negative life events, and resilience in adolescents. The risk of mental illness is greater when adolescents encounter many stressful life events. Protective factors help individuals cope with stress and protect against developing a mental illness. This coping is an example of resilience - when an individual can move through negative events with a positive outcome. Researchers investigated protective factors including goal orientation, self-confidence, social competence, social support, and family cohesion, which are all related to greater resilience. Resilient adolescents show greater self-esteem, relationships, and optimism. Greater resilience is related to overall greater psychological well-being while a lack of resilience leads to poor self-esteem, poor tolerance of negative events, and risk for psychiatric disorders (Haddadi & Besharat, 2010). There are gender differences in resilience as girls have greater social competence while boys have greater self-confidence and self-esteem. Peer relationships are more likely to protect boys while family
relationships are more likely to protect girls. Haddadi & Besharat (2010) found that more negative life events were correlated to depressive symptoms, while resilience was associated with reduced depression symptoms in adolescents, using the CD-RISC. The effects of resilience were greater for girls, suggesting that they could be especially beneficial for interventions involving adolescent girls (Askeland et al, 2020).

Since resilience is the ability to cope with negative life events, adaptively providing girls with opportunities to become more resilient can be very helpful in decreasing the risk of mental illness. Whittington & Aspelmeier (2018) analyzed how resilience in girls changed after a variety of programs - adventure education, experiential education, traditional camp, and mixed camp. These activities used problem-solving, physical tasks, peer connection, and other activities in an environment free from judgment outside of their comfort zone. These provided skills such as self-regulation, optimism, and feelings of accomplishment. In the lives of girls, resilience can be developed through positive familial and peer relationships, community, adequate food, healthcare, and safety. Resilience was measured using a 34-item scale created by the researchers for adolescent girls. Girls who participated in programs developed greater resilience, though on some small scales. Adventure education showed the greatest improvement; this program focused on improving self-efficacy, sense of identity, and interpersonal skills. The researchers predicted that this may be because adventure education also included “small group sizes and physically and mentally challenging tasks that require trust and cooperation with others” (Whittington & Aspelmeier, 2018).

Building resilience in adolescence is important to mitigate the risk of anxiety and depression in adolescence, particularly in girls due to their increased risk. This includes different strategies for self-care and stress relief, as well as skill development and community building. On
recommendation from the APA (2023), teens can build resilience through a few different avenues. One way is by being connected to their community; relating to peers and engaging in the greater community can build a support system to express themselves with people of similar identities. Adolescents can also find escapes from stress, such as hobbies, exercise, and dedicated time to relax. This may be improved by sticking to a schedule, which can relieve daily worries. A common feeling with anxiety is a loss of control, so remembering what is in and out of personal control may relieve worries by putting things into perspective (APA, 2023). For girls, resilience especially is necessary because girls are often found in subordinate or objectifying positions, so programs to build the confidence of girls, especially marginalized girls, will help build resilience.

Even within feminist movements, women of color have notoriously been marginalized. There is a severe lack of research on the psychology and development of girls of color. This is partially due to convenience in sampling procedures and participation in research studies, which largely include affluent white adolescent girls. Ethnic minorities in the U.S. experience greater challenges and barriers in adolescence, which affects their socialization and development (Respress et al, 2013). Resilience should be built in these groups, as having a strong ethnic identity and positive cultural values leads to greater self-esteem. This resilience can be developed through a clear identity, familial relationships, positive affirmations, athletic participation, feminist ideas, and female role models (Roberts et al, 1999). Being a minority student also leads to an increased risk of discrimination and bullying in schools, which can have a severe impact on psychological well-being.

A gendered approach to resilience centers the lives of girls, understanding their roles and expectations in society, as well as what makes them vulnerable, such as discrimination against minority girls (Masson, 2023). Another example of a resilience program for adolescent girls is
the Girls First Resilience Curriculum (RC) (CorStone, 2023). This program is designed for marginalized girls in low-income areas and includes interactive discussions, activities, and projects during school hours. It uses female facilitators and strives to strengthen coping skills, adaptability, social skills, and community involvement. Leventhal et al (2015) found that the RC improved emotional resilience based on the CD-RISC, self-efficacy based on the General Self-Efficacy Scale (GSES), and socio-emotional assets based on the Child and Youth Resilience Measure (CYRM-R) significantly for adolescent girls. Researchers report that these benefits will extend to other aspects of adolescent girls’ lives, and likely into adulthood (Leventhal et al, 2015). In the long-term, benefits from resilience programs could decrease rates of anxiety disorders by intervening and building strong skills during adolescence.

Discussion

The present thesis arose from the literature from Narmandakh et al (2021) that the only statistically significant predictor of an anxiety disorder in adulthood is female sex, as well as that knowledge that having anxiety or subthreshold anxiety during adolescence is highly related to anxiety disorders in adulthood (Ohannessian et al, 2017). Why is being female such a strong predictor of anxiety? Aside from biological differences, social determinants for mental illness can help explain the relationship between anxiety and gender (Allen et al, 2014), as it is known that events in childhood lead to a significantly greater likelihood of developing a clinically significant anxiety disorder in adulthood (Lähdepuro et al, 2019). The purpose of this thesis was to gain a better understanding of the SDH for anxiety disorders in adolescent girls, including ACEs, SES, education, social media, and resilience, based on a socio-ecological model of mental health. A background in feminist research methods and girlhood studies was used to ensure that intersectionality, positionality, and reflexivity were taken into account.
In adulthood, women are more affected by poverty, negative life events, lower occupations, victimization, violence, and passive gender roles (Bolea-Alamanac, 2017). These gender differences create institutional differences that produce different experiences for women and men, such as women completing unpaid labor and responsibility for the majority of caretaking (Ballantyne, 1999). Women with intersecting identities experience greater marginalization and adversity that leads to anxiety (Seng et al, 2012), such as the Latin American women in the Irwin County ICE detention center who were forcibly sterilized in 2020 (Palomo et al, 2021). Events and lessons learned during adolescence may lead to many of these poor results and gender differences.

During adolescence, individuals strive for independence, more responsibility, and greater social support (Lang et al, 2022). They also experience physical changes (Blakemore et al, 2010), emotional changes, hormonal changes (Australia, 2023), and engage in more risky behaviors and experimentation, and their peers have a great influence on them (Lang et al, 2022). Adolescence for females is a time of learning gender roles, such as valuing physicality and sexual attractiveness, and girls often experience a dramatic drop in self-esteem (Roberts et al, 1999). Female adolescence is related to negative emotions and avoidance behaviors, leading to the internalization of symptoms and a greater risk of developing an anxiety disorder (Carter et al, 2011). Greater adolescent stress is related to internalization of feelings and stress, which increases allostatic load and the therefore risk of an anxiety disorder (Berg et al, 2017, Jiang et al, 2022).

The first exposure that adolescent girls have to stress is any ACEs they face, which correlate to higher rates of smoking, drinking, and obesity in adulthood, as well as poorer health and less upward mobility in life (Mosley-Johnson et al, 2019). Individuals who report many
ACEs are significantly more likely to be female (Jones et al, 2022). Greater exposure to ACEs leads to chronic activation of the stress response and poor mental health (Waehrer et al, 2020). This relationship between gender, ACES, and mental health is well established.

Adolescents with low SES are also more likely to develop a mental illness due to worrying and segregation from families with more financial opportunities (Reiss et al, 2019). Low SES is directly related to increasing levels of adolescent anxiety disorders (Vine et al, 2012). A larger socioeconomic gradient in a country is related to anxiety disorders, and gender differences persist in large and small scale gradients (Pickett & Wilkinson, 2010). Although the relationship between SES and poor mental and physical health is well researched, gender differences in adolescence that manifest in adulthood are not clear, and more research is needed in this area.

Informal education is also a critical time when girls experience socialization, particularly gender socialization (Kumar, 2017, Crisogen, 2015). Overall, girls reported greater stress about academic performance, internalizing emotions, and the use of hard work as a primary coping mechanism (Östberg et al, 2015). Internalizing behavior usually includes negative feelings about self-worth and feelings of unimportance, which leads to increased feelings of worry, stress, and anxiety (Carter et al, 2011). Girls also report greater burnout, responsibility, and higher grades - likely due to a hierarchy in gender roles, causing girls to feel inferior to males and experience additional stress, leading to a risk of anxiety (Wilhsson et al, 2017).

Another source of gender socialization and pressure to conform is social media. The time that adolescents spend using technology is often on social media apps, and teens report that they are online “near-constantly” (Anderson, 2018). The media plays a part in body image and self-esteem, as hegemonic masculinity (Jewkes et al, 2015) and hypersexualization of girls
are perpetuated. Girls are highly visible in the media, and girlhood is presented in opposition to hegemonic masculinity, showing girls as tokens of weakness and vulnerability (Alexandersson & Kalonaityte, 2021). Greater social media use is related to increased anxiety and the likelihood of developing an anxiety disorder in adulthood (Nesi, 2020, Keles et al, 2020). Social media apps lead to comparison that causes girls to value based on appearance and exacerbates self-objectification (Choukas-Bradley et al, 2022, Vannucci et al, 2017), even though online spaces are not an accurate representation of identity (Mitchell & Rentschler, 2016). Self-objectification increases self-consciousness, anxiety, shame, and increases the risk of eating disorders and mental illnesses in adolescence (Fredrickson & Harrison, 2005). Eurocentric beauty is also perpetuated in the media and leads to harmful stereotypes and racism, especially creating a risk of mental illness for Black women (Mckay et al, 2018). Objectification is a key component of anxiety for many women, and the standards for appearance, as well as fear of sexual objectification or assault, first emerge in adolescence, and largely in the media (Fredrickson & Roberts, 1997), which relate to lower self-esteem and higher levels of anxiety and depression (Woods & Scott, 2016).

Resilience, the ability to deal with setbacks, can decrease the risk of mental illness (Denizet-Lewis, 2017). Resilient adolescents show greater self-esteem, healthy relationships, and optimism, while a lack of resilience leads to poor self-esteem and risk for psychiatric disorders (Haddadi & Besharat, 2010). Girls have greater social competence in resilience while boys have greater self-confidence (Askeland et al, 2020). Resilience can be developed for girls through positive relationships, community engagement, adequate food and SES, healthcare, and safety (Whittington & Aspelmeier, 2018). Resilience is a key component of well-being for children and adolescents who grew up experiencing trauma or disadvantage (Masten, 2001), and the benefits
extend to other aspects of the adolescent girl's lives, and likely into adulthood (Leventhal et al., 2015).

Taken together, these findings indicate that ACEs, SES, education, social media, and resilience all contain gender differences in adolescence that manifest as greater rates and risk of anxiety disorders in adult women. Key risk factors found in this thesis that affect girls at a greater rate than boys are greater social comparison, self-objectification, and internalizing behaviors. The stress of ACEs and SES increase allostatic load while education and social media perpetuate self-objectification. All of this decreases resilience in girls, predisposing them to anxiety disorders as adults. The present research, therefore, contributes to a growing body of evidence suggesting that SDH for anxiety disorders in adolescent girls include SES, education, social media, ACEs, and resilience.

**Limitations**

A number of limitations are present in the present thesis. One limitation is the literature available and the demographics of those who participate in research. It should be noted that most of these studies examine participants in Western high-income countries, primarily the U.S. This is a limitation of psychological research and of the present study because it assumes that the same results would be obtained if applied to participants from other and low/middle-income countries, but that may or may not be true. Studies from other countries are mentioned but not to the extent that this thesis could be considered a transnational or global approach. To look transnationally is to examine gendered experiences in both the Global North and South, looking at the similarities and differences and ways they have influenced each other. It is important to shift and straddle borders when looking at feminism and the experiences of diverse women. It is common to view the Global South as an unfortunate or underprivileged area that needs the
influence and teaching by the Global North. While the poverty and marginalized should be addressed, it is also important to note that perspectives from the Global South should be seen as valuable. We tend to listen to who we believe is deemed an expert, which is the scientists of the Global North. However, centralizing marginalized voices can create a space for those impacted by sexism. In most research, only one demographic from the world is typically represented, called the WEIRD (western, educated, industrialized, rich, democratic) countries and people. These countries and populations make up 80% of psychology research participants; however, this is not representative of the globe whatsoever as this 80% only makes up 12% of the world population (Zerbe Enns et al, 2021). It is a limitation that this thesis is not generalizable to a greater audience.

The lack of literature available on adolescent girls is also a limitation. For example, relationships between SES and adolescent girls are not often recorded in the available literature. Studies focused on girlhood and the day-to-day experience of being an adolescent girl relating to stress and anxiety are difficult to find. It was difficult for each social determinant to locate research centered around girls and their unique experiences. Girls and research on girls are not valued enough in society, which is both a problem based on the present thesis and a limitation. Additionally, gender is not a variable that can be experimented with and manipulated, so studies are often correlational rather than experimental. Correlations are useful but do not show a cause-and-effect relationship.

This thesis was also written in a limited time frame and with a limited scope. The present thesis was researched and written over a time period of eight months. A greater amount of time would have allowed for greater depth, such as research on other social determinants that are not covered. For example, athletic teams are a large portion of the lives of many adolescent girls, but
gender differences in sports were not covered in this thesis. Additionally, an in-depth analysis of ethnically and racially minority girls, LGBTQIIA+ girls, and generally a more comprehensive analysis of demographics besides gender would reveal more about social determinants of anxiety disorders in women. A greater amount of time would have allowed for a more detailed analysis and broader implications.

**Suggestions for Future Research**

In terms of future research, it would be useful to extend the current findings by examining resilience programs for adolescent girls that target specifically social comparison, self-objectification, and internalizing behaviors. The present research suggests that a program with these aspects could decrease the risk of girls developing anxiety disorders in adulthood. More research on how anxiety disorders present between adolescence and adulthood and the factors that may lead to the presentation would also enhance understanding of how social determinants in adolescence lead to adult anxiety. Research on female young adulthood would also contribute to an understanding of how experiences and psychology in adolescence manifest as differences later in life. Future research is also needed on more ethnic, racial, LGBTQIIA+, low-income countries, and other diverse groups of girls so that results are not generalized to other types of girls or cultures.

**Conclusion**

This research can be seen as a first step towards integrating a few lines of research - girlhood, SDH, and anxiety - that, to the best of my knowledge, have not been directly linked. Girls experience pressure and stress from many aspects of their life, and changes are needed to decrease the gender gap that doubles the risk of anxiety disorders. This thesis is a call for action in decreasing the adverse experiences, discrimination, and additional stress experienced by
adolescent girls presently. Many women are robbed of their girlhood due to societal expectations and stress that lead to the pressure to take on more responsibility than their male counterparts. As Taylor Swift would say, “give me back my girlhood, it was mine first” (Swift, 2022).
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