

# Simplifying the Literature Review Journey — A comparative analysis of 5 AI summarization tools

## Author

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## Post Url

<https://www.enago.com/academy/best-ai-summarization-tools/>



Imagine having to skim through and read mountains of research papers and books, only to realize that most of the literature wasn't what you were looking for! Sounds scary, doesn't it? Why not use [summarization](#) tools to save time and help you decide if a particular reference is worth referring to or not!

With the growing development in Artificial Intelligence (AI), [summarization tools](#) have emerged as an indispensable aid for researchers in retrieving information from the vast sea of data. By harnessing the power of natural language processing (NLP) and advanced algorithms, these cutting-edge tools distill lengthy texts into concise and comprehensible summaries. Although AI [summarization](#) tools are not merely technological novelties, researchers find themselves puzzled about choosing a right tool which helps them to ease their referencing journey.

## What Are AI Summarization Tools

AI summarization tools are AI-powered technological aids that help in condensing complex information into a concise summary that covers all the major aspects and pertinent information from a reference. The generated summary can either be an entirely new text which conveys the key ideas of the text or extracts the main points of relevance from the text.

Here is an example of how an AI summarizer works.

ORIGINAL TEXT	SUMMARIZED TEXT
<p><b>Attention Scopus Users! Study Reveals 67 Hijacked Journals Prompting Concerns</b></p> <p>A recent study focused on indexjacking, warns that Scopus, a widely used scientific paper database operated by Elsevier, contains 67 "hijacked" journals as of September 2023. The analysis identifies 33 journals indexing unauthorized content, 23 compromising the homepage link, and 11 doing both. These journals from legitimate publications were taken over by unscrupulous operators to profit from author fees of up to \$1000 per paper. The study indicates that hijackers employ various methods, such as renewing internet addresses before legitimate owners, or manipulating Scopus to list a fake URL that redirects to the hijackers' website. These journals, although a small fraction of the total indexed, raise concerns about the corruption of the scholarly record. Some hijacked journals may contain legitimate work, but on analysis revealed instances of plagiarism, fabrication, or publication without peer review. Notably, nine of the hijacked journals are in the medical field, posing potential health risks.</p> <p><b>Elsevier Responds With a Thorough Investigation of the Identified Journals</b></p> <p>Elsevier is investigating the identified journals, and as of September 2023, 13 journal homepage links have been removed from Scopus. Scopus emphasizes the importance of maintaining integrity and claims to have been proactively addressing suspicious titles using technology and input from researchers and experts. However, the study's author questions the effectiveness of Scopus' measures, citing instances of continued listing of hijacked journal papers despite previous alerts.</p> <p><b>Counteract Hijacked Journals</b></p> <p>The study's author suggests that changes are needed within the scholarly publishing ecosystem to counteract hijacked journals, emphasizing the role of coordinated action by all stakeholders. Authors are advised to consult a list of hijacked journals and stay vigilant to prevent further infiltration into commercial bibliographic databases.</p>	<p>▼ <b>Elsevier Responds With A Thorough Investigation Of The Identified Journals</b></p> <p>Elsevier is currently investigating certain journals and has already removed 13 journal homepage links from Scopus as of September 2023. Scopus, a database, has been actively working to maintain integrity and has been using technology and input from researchers and experts to address suspicious titles. However, the author of a study raises concerns about the effectiveness of Scopus' measures, as there have been cases of hijacked journal papers still being listed despite previous alerts.</p> <p>▼ <b>Counteract Hijacked Journals</b></p> <p>Changes are recommended in the scholarly publishing ecosystem to address hijacked journals, according to the study's author. This involves coordinated action from all stakeholders. Authors are advised to remain vigilant and consult a list of hijacked journals to prevent further infiltration into commercial bibliographic databases.</p>

By collecting information from various sources, researchers can gain a holistic understanding of a topic, identify trends, and gather insights that may not be immediately apparent in individual documents.

## Importance of AI Summarization Tools

AI summarization tools are versatile toolkits in managing the vast pool of information. Furthermore, they facilitate quick comprehension of diverse topics, thereby expediting the research process. Some benefits of using summarization tools in research are as follows:

## 5 BENEFITS OF USING SUMMARIZATION TOOLS

01



Summarizes Important Findings

02



Identifies Key Concepts and Methodologies

03



Comprehends Diverse Topics

04



Optimizes Time

05



Streamlines Literature Review



Therefore, using summarization tools not only helps in adding depth to your research but also enables drawing connections to derive meaningful conclusions.

However, with so many tools around, researchers find themselves stuck choosing the right tool that helps them to generate summaries, with minimal loss of useful data.

## Comparative Analysis of 6 AI Tools for Summary Generation

With the growing amount of information, the quest for efficient and accurate summary generation tools has increased. The availability of diverse AI-driven solutions has

sparked a need for researchers to make an informed choice.

We did a comprehensive evaluation of 6 majorly used AI tools for summary generation by researchers. Based on the parameters such as affordability, user-friendliness, inclusion of diverse data sources (text, PDF, word documents, etc.), additional features, and the quality and accuracy of the summarized content, we analyzed these tools designed for summary generation.

Here is a comparative analysis of these tools to discern their effectiveness in summarizing information and facilitating a nuanced understanding of their respective strengths and limitations.



# AI SUMMARIZATION TOOLS

## A comparative analysis

	Enago Read	Sci-Summary	Scholarcy	Resoomer	ChatGPT
ESSENTIAL FEATURES					
User Friendly	✓	✓	✓	✓	✓
Accessibility	✓	✓	✓	✓	✓
High Summary Accuracy	✓	✓	✗	✗	✗
Offers Section-wise Summary	✓	✗	✗	✗	✗
RELATED FEATURES					
Accepts Different File Types	✗	✗	✓	✓	✗
Allows Asking Questions	✓	✓	✗	✗	✗
Generates Key Insights	✓	✗	✗	✗	✗
Provides Related Literature	✓	✓	✗	✗	✗

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enago.com/academy

### 1. Enago Read

[Enago Read](#) is an AI assistant which is specific for handling technical and specialized scientific content summarization and helps simplifying content from the literature. Furthermore, with the help of Copilot, it helps users to ask questions and simplify the process of literature analysis.

### **Recommended Users:**

Researchers, Students, Marketing Analysts, Industry Stakeholders, Policy-makers

### **Price:**

USD 0 to USD 4

### **Pros:**

- Enables free use
- User-friendly
- Generates accurate and section-wise summary
- Provides supportive arguments and possible research opportunities
- Recommends related literature
- Facilitates asking questions about the literature
- Extracts tables and figures

### **Cons:**

- Long processing time
- Accepts only PDF files/ URL

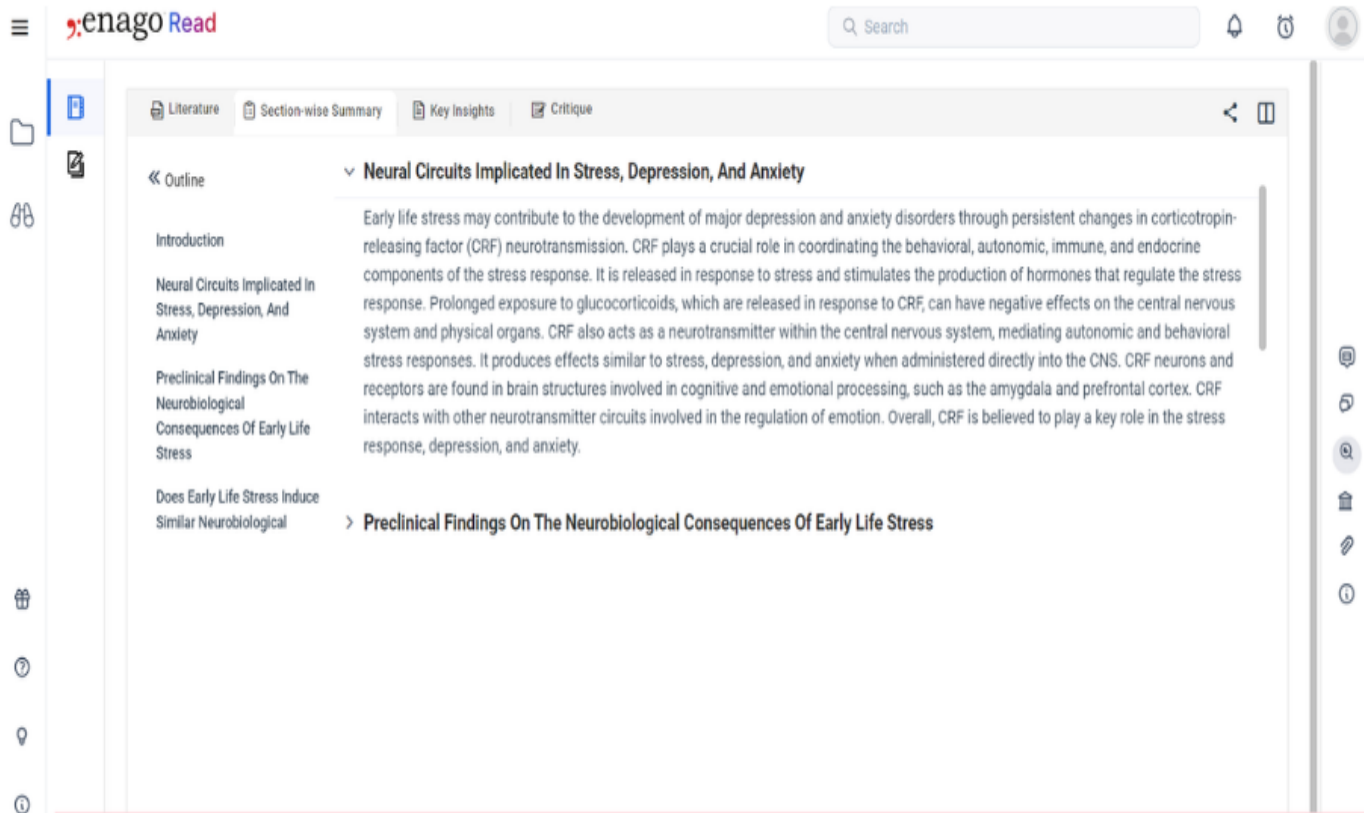
The screenshot displays the enago Read platform interface. At the top left is the enago Read logo. A search bar is located at the top right. Below the logo, there are navigation tabs: Literature, Section-wise Summary (highlighted with a red box), Key Insights, and Critique. The main content area shows a list of article sections with expandable arrows:

- Neural Circuits Implicated In Stress, Depression, And Anxiety > Introduction
- Preclinical Findings On The Neurobiological Consequences Of Early Life Stress > Neural Circuits Implicated In Stress, Depression, And Anxiety
- Does Early Life Stress Induce Similar Neurobiological Alterations In Humans? > Preclinical Findings On The Neurobiological Consequences Of Early Life Stress
- Studies In Children > Does Early Life Stress Induce Similar Neurobiological Alterations In Humans?
- Studies In Children > Studies In Children

On the right side, there is a Copilot sidebar. It features a 'Welcome to Copilot!' message and a description: 'Copilot enhances literature comprehension by answering your questions about the literature.' Below this, it asks the user to 'Ask below questions to get started' and provides three buttons:

- What is the research goal?
- What is the simplified abstract?
- What is the research outcome?

Below these buttons is an 'OR' separator and a prompt: 'Select text to get the explanation'. At the bottom of the sidebar is a text input field with the placeholder 'Type here, you have 10 free questions left...' and a send button.



## 2. SciSummary

[SciSummary](#) is an AI summarizer that help in summarizing single or multiple research papers. It combines and compares the summaries of the content from research papers, article links, etc.

### Recommended Users:

Students, Researchers, Marketing Analysts, Industry Stakeholders, Policy-makers

### Price:

USD 4.99 to USD 299.9

### Pros:

- Accepts article links
- Provides different types of summarization
- Simplifies the future area of research
- Allows adjusting the summary length
- Provides summary in different languages

**Cons:**

- The free version does not allow more than 10k words per month

Christine Heim and Charles B. Nemeroff

*Epidemiologic studies indicate that children exposed to early adverse experiences are at increased risk for the development of depression, anxiety disorders, or both. Persistent sensitization of central nervous system (CNS) circuits as a consequence of early life stress, which are integrally involved in the regulation of stress and emotion, may represent the underlying biological substrate of an increased vulnerability to subsequent stress as well as to the development of depression and anxiety. A number of preclinical studies suggest that early life stress induces long-lived hyperactivity of corticotropin-releasing factor (CRF) systems as well as alterations in other neurotransmitter systems, resulting in increased stress responsiveness. Many of the findings from these preclinical studies are comparable to findings in adult patients with mood and anxiety disorders. Emerging evidence from clinical studies suggests that exposure to early life stress is associated with neurobiological changes in children and adults, which may underlie the increased risk of psychopathology. Current research is focused on strategies to prevent or reverse the detrimental effects of early life stress on the CNS. The identification of the neurobiological substrates of early adverse experience is of paramount importance for the development of novel treatments for children, adolescents, and adults. Biol Psychiatry 2001;49:1023-1039 © 2001 Society of Biological Psychiatry*

**Key Words:** Stress, development, animal, human, depression, anxiety

**Introduction**

The past decades have witnessed an increasing societal awareness of the presence and high incidence of child maltreatment, which has now been pronounced a public health problem of epidemic dimensions (Margolis and

Gods 2000). According to the National Center of Child Abuse and Neglect, approximately 1.5 million verified cases of child maltreatment are reported annually in the United States; more than half of these cases represent instances of neglect, and about 700,000 cases are incidents of sexual, physical, or emotional abuse (Sedlitz and Broadhurst 1996). In addition to child maltreatment, large numbers of children experience the loss of a parent (Agid et al 2000) or live with a mentally ill parent likely unable of providing continuous parental care (Goodman and Gotlib 1999). In view of estimates that 5% to 10% of women are sexually or physically abused during pregnancy (Cekkanides et al 1999; Goodwin et al 2000; Hedin and Janson 2000; McFarlane et al 1998), it can also be assumed that a significant number of children are exposed to prenatal stress.

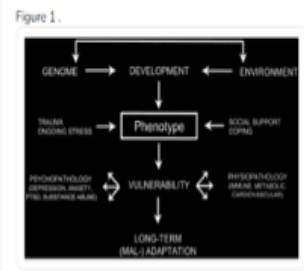
Compelling evidence from a variety of studies suggests that early life stress constitutes a major risk factor for the development and persistence of mental disorders. Increased rates of major depression, posttraumatic stress disorder (PTSD), attention-deficit/hyperactivity disorder, and other behavioral disorders have been reported for maltreated children (e.g., Finkelhor et al 1992; Pelcovitz et al 1994). Representative of many other studies, a community-based study of almost 2000 adult women revealed that those with a history of childhood sexual or physical abuse, but not adulthood rape or physical assault, exhibited more symptoms of depression and anxiety and had more frequently attempted suicide than women without a history of childhood abuse (McCusker et al 1997). Syndromal major depression and anxiety disorders, including panic disorder and PTSD, are frequent in adults with a history of childhood abuse (e.g., Felitti et al 1998; Mullen et al 1996; Saunders et al 1992; Stein et al 1996). Similar findings have been reported for other instances of early life stress. For example, early parental loss has been found to be related to unipolar and bipolar depression, as well as anxiety disorders, beyond familial or genetic factors (Agid et al 1999; Kendler et al 1992, 1993). Moreover, prenatal stressors have been related to an increased risk for anxiety

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Address reprint requests to Charles B. Nemeroff, MD, PhD, Department of Psychiatry and Behavioral Sciences, Emory University School of Medicine.

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Tags: (edit)

The paper summarizes the findings from preclinical and clinical studies on the impact of early life stress on the development of mental disorders such as depression and anxiety. The paper discusses the long-term consequences of early life stress on the sensitization of corticotropin-releasing factor (CRF) neurocircuits and other neurotransmitter systems, resulting in increased vulnerability to stress, depression, and anxiety. It emphasizes the need for future studies to further elucidate the role of predisposing factors, genetic vulnerability, ongoing stress, and potential gender differences in the manifestation of a vulnerable phenotype as a consequence of early life stress. The paper also discusses promising strategies for the prevention and reversal of the neurobiological and psychological maladaptation in children and adults with histories of early life stress, including the potential use of pharmacologic agents and improvement of parental or foster care. (1 12 2 7)



Feedback or concerns?

**3. Scholarcy**

Scholarcy is an online summarization tool that extracts the key highlights, figures, and data from the literature. However, it does not summarize the content from article links and can accept only text files or article DOI.

**Recommended Users:**

Students, Researchers, Marketing Analysts, Industry Stakeholders, Policy-makers

**Price:**

USD 0 to USD 410

**Pros:**

- Provides comparative analysis of the data





- Offers key highlights, abstract and synopsis of the input literature
- Provides a 3-4 lines snapshot of the entire content
- The generated summary can be downloaded

**Cons:**

- Does not accept article links
- Users with a free account can create only 3 summary flashcards per day

The screenshot shows the Scholarcy Article Summarizer interface. On the left is a dark purple sidebar with the Scholarcy logo and navigation options: LIBRARY (My Libraries), HELP (Help centre, Support), and MORE (Article Summarizer, Browser Extensions). At the bottom of the sidebar are 'Sign Up' and 'Log In' buttons. The main content area is titled 'Article Summarizer' and features a 'Export flashcard' button. The article title is 'The Role of Childhood Trauma in the Neurobiology of Mood and Anxiety Disorders: Preclinical and Clinical Studies'. Below the title is a 'Snapshot' section with a 'Save to library' button. A light blue box contains a key insight: 'An unacceptably large number of children in our society are subjected to early adverse experiences, exposing these children to an increased risk for the development of depression or anxiety disorders, as well as other disorders, that may persist throughout adulthood.' This insight is accompanied by a lightbulb icon and a 'Tweet' button. Below the insight are sections for 'Authors' (Christine Heim and Charles B. Nemeroff) and 'Results' (Preclinical Findings on the Neurobiological Consequences of Early Life Stress).

**scholarcy** Article Summarizer Export flashcard ▾

adulthood

**Authors**  
Christine Heim and Charles B. Nemeroff

**Results**  
**Preclinical Findings on the Neurobiological Consequences of Early Life Stress** Given the preclinical evidence for a role of CRF in the mediation of stress and emotion, it may be plausible that early adversities induce persistent changes in CRF neural circuits that are associated with the development of depression or certain anxiety disorders

Preclinical studies using rodents or nonhuman primates are indispensable to improve our understanding of the consequences of early life stress because experimental variation of early environment in humans is obviously precluded on ethical grounds

**Conclusion**  
Has summarized findings from preclinical and clinical studies suggesting that early life stress induces long-lived hyperactivity and sensitization of CNS CRF and other neurotransmitter systems, resulting in enhanced endocrine, autonomic, and behavioral stress responsiveness

With repeated exposure to life stress, this vulnerability may result in symptoms of depression and anxiety disorders, as well as in other physiologic abnormalities frequently observed in adult survivors of abuse

## 4. Resoomer

[Resoomer](#) generates summaries and can be used to paraphrase content. It accepts multiple files and provides a summary of the text.

### Recommended Users:

Students, Researchers and Marketing Analysts

### Price:

Euro 0 to Euro 9.90

### Pros:

- Provides different modes to generate summary
- Translates the summary to other languages
- Accepts links, multiple file types and YouTube videos
- Allows downloading the summarized text

### Cons

- Provides too long summary with unwanted details
- Does not provide the information from tables or figures

RESOOMER

Service Extensions How does it work? PRO Assistance Connexion    

Studies

Christine Heim and Charles B. Nemeroff

Epidemiologic studies indicate that children exposed to early adverse experiences are at increased risk for the development of depression, anxiety disorders, or both. Persistent sensitization of central nervous system (CNS) circuits as a consequence of early life stress, which are integrally involved in the regulation of stress and emotion, may represent the underlying biological substrate of an increased vulnerability to subsequent stress as well as to the development of depression and anxiety. A number of preclinical studies suggest that early life stress induces long-lived hyper(re)activity of corticotropin-releasing factor (CRF) systems as well as alterations in other neurotransmitter systems, resulting in increased stress responsiveness. Many of the findings from these preclinical studies are comparable to findings in adult patients with mood and anxiety disorders. Emerging evidence from clinical studies suggests that exposure to early life stress is associated with neurobiological changes in children and adults, which may underlie the increased risk of psychopathology. Current research is focused on strategies to prevent or reverse the detrimental effects of early life stress on the CNS. The identification of the neurobiological substrates of early adverse experience is of paramount importance for the development of novel treatments

Posed to maternal deprivation exhibit increased ACTH responses to restraint stress compared with rats not exposed to maternal separation . In a recent study, 6-month-old rhesus monkeys who were reared without their mothers but with peers showed increased cortisol responses to social separation compared with mother-reared rhesus monkeys, with cor-tisol increases predicting alcohol preference of these monkeys in young adulthood . Taken together, these findings suggest that intense neonatal stress induces immediate neurobiological changes, likely resulting in long-term maladaptations. More developmentally focused preclinical studies on the neurobiological impact of early life stress are strongly needed to elucidate the mechanisms of early-onset depression and other mental disorders after early life stress.

CSF, as well as increased CRF mRNA expression in the hypothalamic PVN and decreased pituitary CRF receptor binding under resting conditions compared with rats reared under normal animal facility conditions. Adult rats that were removed from their dams for 4 - 6 hours per day on pnd 2-21 also exhibited increased ACTH but notably normal corticosterone responses to foot-shock , suggesting that more severe or extended postnatal stress may promote adrenal dysfunction, which is also observed in other models of early life stress . Rats exposed to maternal separation for 180 min per day on pnd 2-14 also develop marked behavioral abnormalities, including reduced consumption of a sweetened solution reflecting anhedonia, as well as increased freezing in an open-field, decreased exploration of a novel environment, and increased acoustic startle responses, all indicative of fear .

How does it work? **PRO** Assistance Connexion    

With respect to other neurotransmitter systems, increased CRF receptor binding has been measured in the nuclei raphé . Indeed, adult rats separated from their dams for 180 min per day on pnd 2-14 exhibit decreases in serotonin cell firing in the raphé nuclei in response to increasing doses of the selective 5-HT reuptake inhibitor citalopram, suggesting persistent alterations in 5-HT trans-porter, 5-HT<sub>1A</sub> autoreceptors, or both after maternal separation . In addition, it has previously been shown that maternal separation is associated with a decrease in hippocampal GR, reflecting impaired feedback inhibition of the HPA axis. A recent study has evaluated GABAA and central benzodiazepine receptor levels in the brain of maternally separated rats .

Central benzodiazepine receptors are a component of the GABAA receptor and enhance the affinity of the GABAA receptor for GABA resulting in increased inhibition of fear and anxiety. Opposite to the long-term consequences of prolonged maternal separation, brief handling involving removal of rat pups from their dams for 15 min per day on pnd 2-14 results in a phenotype, which is less sensitive to stress, less fearful and thus better adapted compared with rats who were left undisturbed during the postnatal period . Pivotal to the understanding of the determinants involved in the mediation of the neurobiological consequences of early life stress in rodents are a series of findings showing that separation of rat pups from their dams results in alterations in maternal behavior. Compared with normal animal facility conditions, removal of pups from dams for 15 min/day has been shown to induce increased maternal care-giving behavior, as evidenced by increased licking, grooming, and arched-back nursing.

How does it work? **PRO** Assistance Connexion    

Several studies have assessed the neurobiological and behavioral adaptations to naturally occurring variations in maternal behavior, without actually removing the pups from their dams . Remarkably, these studies showed that increased licking, grooming, and arched-back nursing behavior is highly correlated with decreased pituitary-adrenal responses to stress, increased GR binding and enhanced synaptogenesis in the hippocampus, decreased CRF mRNA expression in the hypothalamus along with decreased CRF receptor and increased presynaptic  $\alpha_2$  receptor site binding, as well as increased CBZ receptors in the amygdala and LC. The causal role of variations in maternal caregiving behavior in shaping a phenotype more or less vulnerable to stress has impressively been proven in a series of cross-fostering studies demonstrating that maternal behavior determines stress reactivity in the offspring and, moreover, that individual differences in maternal behavior are passed on the next generation through nongenomic transmission . Similar to findings in rodents, adult nonhuman primates that have been maternally deprived during infancy exhibit increased pituitary-adrenal and behavioral responses to acute stress, as well as signs of behavioral despair .

Some studies on the long-term consequences of early life stress in nonhuman primates have also focused on variations in maternal behavior during infancy.

**VFD-reared primates further exhibit exaggerated behavioral responses to the administration of the selective**



In addition, VFD-reared nonhuman primates exhibit decreased behavioral

maltreated children (e.g., Ramuluro et al 1992; Heimovitz et al 1994). Representative of many other studies, a community-based study of almost 2000 adult women revealed that those with a history of childhood sexual or physical abuse, but not adulthood rape or physical assault, exhibited more symptoms of depression and anxiety and had more frequently attempted suicide than women without a history of childhood abuse (McCauley et al 1997). Syndromal major depression and anxiety disorders, including panic disorder and PTSD, are frequent in adults with a history of childhood abuse (e.g., Felitti et al 1998; Mullen et al 1996; Saunders et al 1992; Stein et al 1996). Similar findings have been reported for other instances of early life stress. For example, early parental loss has been found to be related to unipolar and bipolar depression, as well as anxiety disorders, beyond familial or genetic factors (Agid et al 1999; Kendler et al 1992, 1993). Moreover, prenatal stress has been related to an increased risk for major depression in adulthood (Hulshoff et al 2000). Early life

0006-3223/01/\$20.00  
PII S0006-3223(01)01157-X

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BIOL PSYCHIATRY  
2001;49:1023-1039

C. Heim and C.B. Nemeroff

**administration of the selective**

In addition, VFD-reared nonhuman primates exhibit decreased behavioral responsiveness to the 5-HT agonist meta-chlorophenylpiperazine, suggesting a dysfunctional 5-HT system after early life stress. Some of these changes may be altered by postnatal maternal caregiving. Taken together, there is considerable evidence from preclinical studies suggesting that an adverse early environment is associated with marked behavioral changes indicative of fear and anxiety, as well as with persistent alterations in CRF neural circuits, which may contribute to increased vulnerability for the development of depression or certain anxiety disorders.

The accumulating evidence from preclinical studies on early life stress suggesting persistent changes in brain regions pivotal to the mediation of stress and emotion has raised the question of whether patients suffering from depression or anxiety disorders exhibit similar neurobiological alterations. Although many of the long-term consequences of early life stress in animals bear significant similarities with the neurobiological changes observed in adult patients with depression and some anxiety disorders, preclinical studies on the consequences of early life stress appear to be a poor heuristic for the neurobiology of child or adolescent affective disorders. For example, disturbances of the HPA axis, such as hypercortisolemia or blunted ACTH responses to CRF stimulation or other indices of HPA axis hyperactivity, are rare in depressed children, contrasting findings in adult major depression. It may be that early life stress affects neurobiological function in children with other anxiety disorders as well, similar to findings in early-onset depression.

## 5. ChatGPT

[ChatGPT](#) is a free generative [AI tool](#) that can perform wide range of activities, including literature summarization. However, it is not reliable as compared to other tools as it requires correct prompts to generate a proper response and the summarized data may include irrelevant details and miss on the important information.

### Recommended Users:

Students and Marketing Analysts

### Price:

Free

### Pros:

- Free
- Easy to use
- Allows regenerating the summary multiple times

## Cons:

- Misses relevant points
- Does not accept links and files
- Requires proper prompts for better results
- Cannot summarize long literature

ChatGPT 3.5



You

Summarize the below literature:

The Role of Childhood Trauma in the Neurobiology of Mood and Anxiety Disorders: Preclinical and Clinical Studies

Christine Heim and Charles B. Nemeroff

Epidemiologic studies indicate that children exposed to early adverse experiences are at increased risk for the development of depression, anxiety disorders, or both. Persistent sensitization of central nervous system (CNS) circuits as a consequence of early life stress, which are integrally involved in the regulation of stress and emotion, may represent the underlying biological substrate of an increased vulnerability to subsequent stress as well as to the development of depression and anxiety. A number of preclinical studies suggest that early life stress induces long-lived hyper(re)activity of corticotropin-releasing factor (CRF) systems as well as alterations in other neurotransmitter systems, resulting in increased stress responsiveness. Many of the findings from these preclinical studies are comparable to findings in adult patients with mood and anxiety disorders. Emerging evidence from clinical studies suggests that exposure to early life stress is associated with neurobiological changes in children and adults, which may underlie the increased risk of psychopathology. Current research is focused on strategies to prevent or reverse the detrimental effects of early life stress on the CNS. The identification of the neurobiological substrates of early adverse experience is of paramount importance for the development of novel treatments for children, adolescents, and adults. *Biol Psychiatry* 2001;49:1023-1039 © 2001 Society of Biological Psychiatry

Key Words: Stress, development, animal, human, depression, anxiety

Introduction

There was an error generating a response

Regenerate

ChatGPT 3.5

stress. Thus, twin studies are needed for the prediction of neurobiological stress responsiveness as a function of genes, early life stress, and ongoing stress, among other factors. Although national epidemiologic studies suggest a similar incidence of childhood abuse in girls and boys, the role of gender in the development of neurobiological alterations after early life stress is a neglected area of research. And although the prevalence of early-onset depression is similar in girls and boys, adult women more often develop depression than men (Martin et al 2000). Gender differences in children's and adolescents' adaptation to sexual abuse have been reported (Feiring et al 1999), as well as differences in HPA axis reactivity in male and female healthy subjects and depressed adolescents (Dorn et al 1996; Kirschbaum et al 1990). Thus, future preclinical and clinical studies should evaluate the interaction between stress and gender in inducing neurobiological vulnerability to depression and anxiety. Taken together, a pivotal role of early environmental variation in the development of long-term (mal)adaptations to stress has been documented in an impressive series of studies. The current database suggests that early adverse experiences should be addressed in the clinical care of children, adolescents, and adults with psychiatric disorders, a need that is often unmet in clinical practice.

ChatGPT

The message you submitted was too long, please reload the conversation and submit something shorter.



There was an error generating a response

Regenerate

ChatGPT can make mistakes. Consider checking important information.

Although every tool has its own merits and demerits, using these tools in tandem can improve your experience. For example, a tool like Enago Read, which is highly trained for handling scientific content, can be used with tools like Scholarcy and Resoomer, which accepts data from diverse sources to improve your experience.

AI-summarization tools can revolutionize the research landscape by offering researchers unparalleled efficiency, speed, and versatility in information processing. These tools can accelerate the pace of [literature review](#) by helping the researchers to wrap up the tedious task of reviewing lengthy literature. Although these tools offer several advantages that help researchers in streamlining their research process, one must learn to use these tools properly. Moreover, researchers should limit the use of these tools to identifying appropriate references and must read the short-listed references properly to avoid missing out on the important details.

[Choosing a right literature review tool](#) not only reduces the burden of tedious literature review but also catalyzes the rapid generation of innovative ideas across diverse domains. Researchers equipped with these powerful tools are better poised to unlock the full potential of abundant data that defines the digital age.

What are you waiting for? Choose your summarization tool wisely and be the 'Super-researcher' who effortlessly selects 'the one' from dozens of references in mere hours! The time is now — choose wisely and embark on a journey of accelerated knowledge

acquisition!

### Cite this article

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