



*Use of ChatGPT for journal paper
preparation:
hope or hype*

*Things you should demystify for
better delivery*

Professor Mahesh Jayaweera

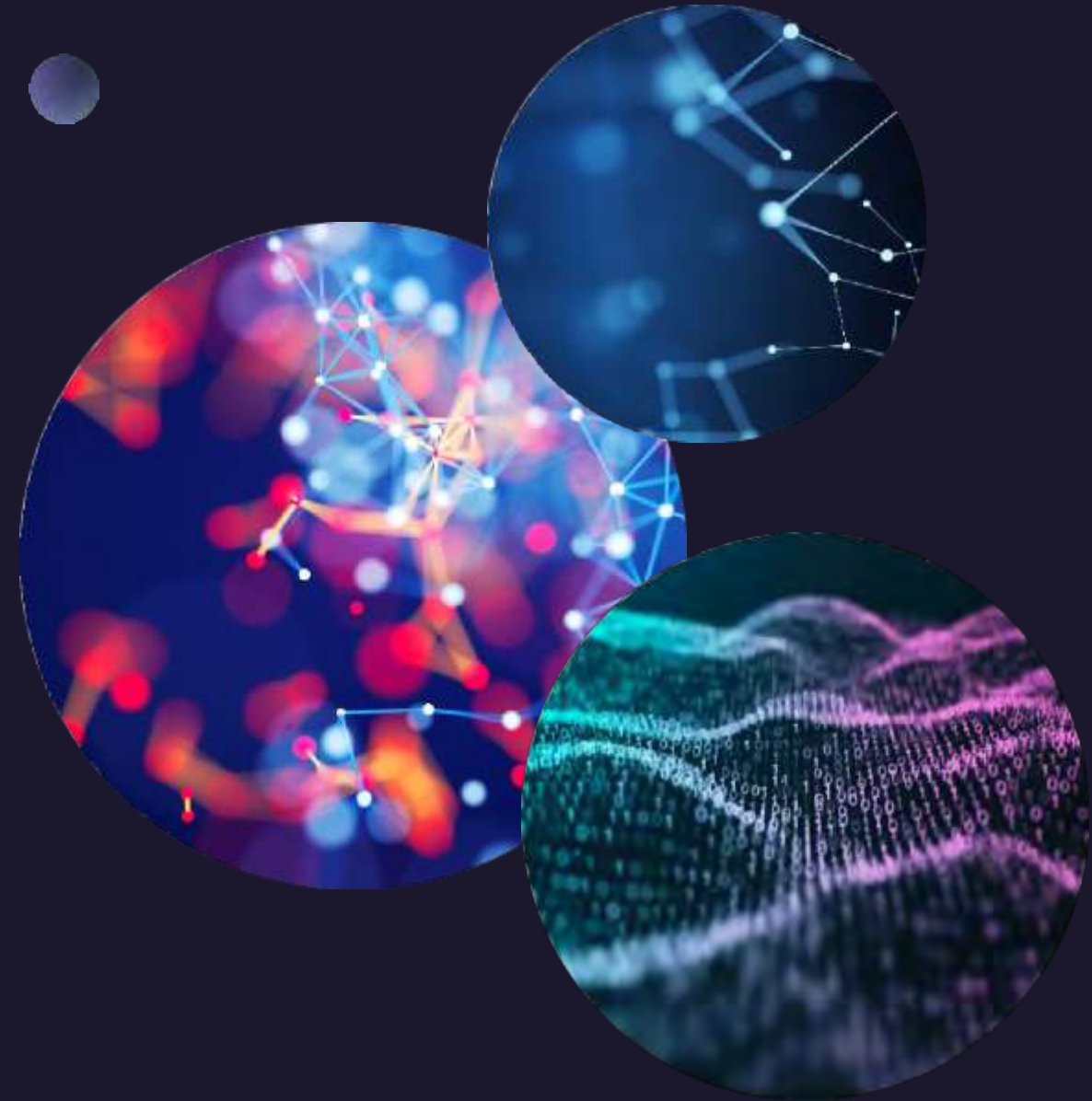


What is ChatGPT?

ChatGPT is a conversational language model developed by OpenAI. It is also a large language model.

It uses deep learning techniques to generate human-like text responses to a given prompt or question.

The model was trained on a large corpus of text data and is capable of generating answers in a variety of styles and formats, including paragraphs, lists, and single sentences.





**FOR THOSE NEW TO CHATGPT
THINK OF IT LIKE
WIKIPEDIA BUT ON THE
EXACT QUESTION YOU WANT
TO KNOW. THIS INCLUDES
MATH PROBLEMS, PROGRAMMING
AND SO MUCH MORE. -DAVE WATERS**

SupplyChainToday.com

“ChatGPT is scary good. We are not far from dangerously strong AI.” ~ Elon Musk

Why ChatGPT is good at journal paper writing

- *ChatGPT is not specifically trained for journal paper writing, but it can still generate text that is relevant to a given prompt based on its training data.*
- *Its ability to understand and generate text, combined with its vast knowledge of various topics and its ability to use that knowledge to generate coherent responses, makes it capable of assisting with various writing tasks, including journal paper writing, to some extent.*
- *However, the quality of its output will depend on the specific prompt and the training data it was exposed to, and the final output still requires editing and revision by a human expert in the field.*



What is the best art of writing a journal article with ChatGPT?

To write a journal article using ChatGPT, it is best to use the following process:

- 1. Clearly define the research question or problem you want to address in the paper.*
- 2. Provide a clear and concise prompt to ChatGPT, outlining the key elements that should be included in the article, such as the research question, methodology, results, and conclusions.*
- 3. Review and edit the output generated by ChatGPT to ensure that it is coherent, accurate, and relevant to your research question.*
- 4. Refine the language and structure of the generated text, and ensure that it is written in an appropriate academic tone.*
- 5. Check the output for plagiarism and ensure that all sources are properly cited in accordance with the guidelines of the journal you are submitting to.*
- 6. Finally, proofread the article thoroughly to ensure that it is free of errors and is ready for submission.*

It is important to remember that while ChatGPT can assist with the writing process, it is not a replacement for human expertise and critical thinking. The final output still requires careful review and revision by an expert in the field to ensure its quality and accuracy.

Why ChatGPT is popular among academia

- 1. Speed and Efficiency: ChatGPT can quickly generate text based on a given prompt, reducing the time and effort required for writing and editing.*
- 2. Knowledge and Understanding: ChatGPT is trained on a vast amount of data and can demonstrate a deep understanding of various topics, making it useful for generating text on a wide range of subjects.*
- 3. Versatility: ChatGPT can be used for a variety of writing tasks, including research summaries, abstracts, and journal articles, making it a versatile tool for academics.*
- 4. Accessibility: ChatGPT can be easily accessed and used through simple interfaces, such as a website or API, making it readily available for use by researchers and academics.*
- 5. Cost-effectiveness: Compared to hiring a professional writer or editor, using ChatGPT is often a more cost-effective option for academics who need to generate large amounts of text or complete writing tasks quickly.*

However, it is important to note that while ChatGPT can assist with the writing process, the final output still requires careful review and revision by an expert in the field to ensure its quality and accuracy.



But, We have to be cautious when using this Chatbot.

Many need clarification about whether to use it or not..

Feature



THE PROMISE AND PERIL OF GENERATIVE AI

Researchers are excited but apprehensive about how tools such as ChatGPT could transform science and society. **By Chris Stokel-Walker and Richard Van Noorden**

In December, computational biologists Casey Greene and Milton Pividori embarked on an unusual experiment: they asked an assistant who was not a scientist to help them improve three of their research papers. Their assiduous aide suggested revisions to sections of documents in seconds; each manuscript took about five minutes to review. In one biology manuscript, their helper even spotted

a mistake in a reference to an equation. The trial didn't always run smoothly, but the final manuscripts were easier to read – and the fees were modest, at less than US\$0.50 per document.

This assistant, as Greene and Pividori reported in a preprint¹ on 23 January, is not a person but an artificial-intelligence (AI) algorithm called GPT-3, first released in 2020. It is one of the much-hyped generative AI chatbot-style tools that can churn out

convincingly fluent text, whether asked to produce prose, poetry, computer code or – as in the scientists' case – to edit research papers.


The most famous of these tools, also known as large language models, or LLMs, is ChatGPT, a version of GPT-3 that shot to fame after its release in November last year because it was made free and easily accessible. Other generative AIs can produce images, or sounds.

"I'm really impressed," says Pividori, who



In the foreseeable future, ChatGPT would have the highest number of citations...

*Isn't this
something we
never dream of?*



Can GPT-3 write an academic paper on itself, with minimal human input?

GPT-3¹, Almira Osmanovic-Thunström^{2,3}, Steinn Steingrímsson^{2,3}

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Abstract

GPT-3 is a powerful artificial intelligence system that can generate text. In this paper, we explore GPT-3's ability to write about itself. We find that GPT-3 can generate clear and concise descriptions of its own capabilities and features. This is a significant advance over previous systems, which have often struggled to produce coherent text about themselves. We believe that the benefits of letting GPT-3 write about itself outweigh the risks. However, we recommend that any such writing be closely monitored by researchers in order to mitigate any potential negative consequences.

Prompt: Summarize in to an abstract of 200 words: (we copy-pasted method, result, discussion and conclusion parts which were prompted by GPT-3 in this paper).

*How do we
ensure co-author
approval?*



Rapamycin in the context of Pascal's Wager: generative pre-trained transformer perspective

ChatGPT Generative Pre-trained Transformer² and Alex Zhavoronkov¹

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Keywords: artificial intelligence; Rapamycin; philosophy; longevity medicine; Pascal's Wager

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ABSTRACT

Large language models utilizing transformer neural networks and other deep learning architectures demonstrated unprecedented results in many tasks previously accessible only to human intelligence. In this article, we collaborate with ChatGPT, an AI model developed by OpenAI to speculate on the applications of Rapamycin, in the context of Pascal's Wager philosophical argument commonly utilized to justify the belief in god. In response to the query "Write an exhaustive research perspective on why taking Rapamycin may be more beneficial than not taking Rapamycin from the perspective of Pascal's wager" ChatGPT provided the pros and cons for the use of Rapamycin considering the preclinical evidence of potential life extension in animals. This article demonstrates the potential of ChatGPT to produce complex philosophical arguments and should not be used for any off-label use of Rapamycin.

Will this be ethical in Medical Education?

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1 **Performance of ChatGPT on USMLE: Potential for AI-Assisted Medical** 2 **Education Using Large Language Models**

3
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17

*What is the
policy of
Elsevier on
this?*




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Nurse Education in Practice


Volume 66, January 2023, 103537






Editorial

Open artificial intelligence platforms in nursing education: Tools for academic progress or abuse?

Siobhan O'Connor^{a 1}  , ChatGPT^b 

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Section snippets

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Nature Journals to reject any article written with ChatGPT

News in focus



The artificial-intelligence chatbot ChatGPT is disrupting many industries, including academia.

CHATGPT LISTED AS AUTHOR ON RESEARCH PAPERS

Many scientists disapprove of articles crediting the AI tool as a co-author.

By Chris Stokel-Walker

The artificial-intelligence (AI) chatbot ChatGPT that has taken the world by storm has made its formal debut in the scientific literature – racking up at least four authorship credits on published papers and preprints.

Journal editors, researchers and publishers are now debating the place of such AI tools in the published literature, and whether it's appropriate to cite the bot as an author. Publishers are racing to create policies for the chatbot, which was released as a free-to-use tool last November by tech company OpenAI in San Francisco, California.

ChatGPT is a large language model (LLM), which generates convincing sentences by mimicking the statistical patterns of language in a huge database of text collated from the Internet. The bot is already disrupting sectors including academia: in particular, it is raising questions about the future of university essays and research production.

Publishers and preprint servers contacted by *Nature's* news team agree that AIs such as ChatGPT do not fulfil the criteria for a study author, because they cannot take responsibility for the content and integrity of scientific

papers. But some publishers say that an AI's contribution to writing papers can be acknowledged in sections other than the author list. (*Nature's* news team is editorially independent of its journal team and its publisher, Springer Nature.)

In one case, an editor told *Nature* that ChatGPT had been cited as a co-author in error, and that the journal would correct this.

Artificial author

ChatGPT is one of 12 authors on a preprint¹ about using the tool for medical education, posted on the medical repository medRxiv in December last year.

The team behind the repository and its sister site, bioRxiv, are discussing whether it's appropriate to use and credit AI tools such as ChatGPT when writing studies, says co-founder Richard Sever, assistant director of Cold Spring Harbor Laboratory Press in New York. Conventions might change, he adds.

"We need to distinguish the formal role of an author of a scholarly manuscript from the more general notion of an author as the writer of a document," says Sever. Authors take on legal responsibility for their work, so only people should be listed, he adds. "Of course, people may try to sneak it in – this already happened

at medRxiv – much as people have listed pets, fictional people, etc. as authors on journal articles in the past, but that's a checking issue rather than a policy issue." (Victor Tseng, the preprint's corresponding author and medical director of Ansible Health in Mountain View, California, did not respond to a request for comment.)

An editorial² in the journal *Nurse Education in Practice* this month credits the AI as a co-author, alongside Siobhan O'Connor, a health-technology researcher at the University of Manchester, UK. Roger Watson, the journal's editor-in-chief, says that this credit slipped through in error and will soon be corrected. "That was an oversight on my part," he says, because editorials go through a different management system from research papers.

And Alex Zhavoronkov, chief executive of Insilico Medicine, an AI-powered drug-discovery company in Hong Kong, credited ChatGPT as a co-author of a perspective article³ in the journal *Oncoscience* last month. He says that his company has published more than 80 papers produced by generative AI tools. "We are not new to this field," he adds.

He says that *Oncoscience* peer reviewed this paper after he asked its editor to do so. The journal did not respond to *Nature's* request for comment.

A fourth article⁴, co-written by an earlier chatbot called GPT-3 and posted on French preprint server HAL in June 2022, will soon be published in a peer-reviewed journal, says co-author Almira Osmanovic Thunström, a neurobiologist at Sahlgrenska University Hospital in Gothenburg, Sweden. She says one journal rejected the paper after review, but a second accepted it with GPT-3 as an author after she rewrote the article in response to reviewer requests.

Publisher policies

The editors-in-chief of *Nature* and *Science* told *Nature's* news team that ChatGPT doesn't meet the standard for authorship. "An attribution of authorship carries with it accountability for the work, which cannot be effectively applied to LLMs," says Magdalena Skipper, editor-in-chief of *Nature* in London (see also page 612). Authors who use LLMs in any way while developing a paper should document this in the methods or acknowledgements sections, if appropriate, she says.

"We would not allow AI to be listed as an author on a paper we published, and use of AI-generated text without proper citation could be considered plagiarism," says Holden Thorp, editor-in-chief of the Science family of journals in Washington DC.

The publisher Taylor & Francis in London is reviewing its policy, says director of publishing ethics and integrity Sabina Alam. She agrees that authors are responsible for the validity and integrity of their work, and should cite any use of LLMs in the acknowledgements section.

Demerits of using ChatGPT for journal paper writing (Roger Montti, Jan 2023)

- 1. Phrase Usage Makes It Detectable As Non-Human - Quotes and idioms may not be presented accurately*
- 2. ChatGPT Lacks Ability For Expression - Artistic, emotional, and mind-arousing abilities may not be performed well*
- 3. ChatGPT Does Not Produce Insights - does not offer an insight into the topic*
- 4. ChatGPT Is Too Wordy - journals may reject wordy manuscripts*
- 5. ChatGPT Content Is Highly Organized With Clear Logic - easily identifiable by plagiarism checker*
- 6. ChatGPT Is Overly Detailed And Comprehensive - short and sweet concept is absent*
- 7. ChatGPT Lies (Hallucinates Facts) - may be due to inadequate training of algorithms*
- 8. ChatGPT Is Unnatural Because It's Not Divergent - no ability to think and conclude within the given context*
- 9. ChatGPT Contains A Bias Towards Being Neutral - sometimes, the strong message may not come out*
- 10. ChatGPT Is Biased To Be Formal - sometimes tends to be too formal, which may look artificial*
- 11. ChatGPT Is Still In Training - still in the process of getting it trained*

It is your choice

To ChatGPT or not to ChatGPT? The Impact of Artificial Intelligence on Academic Publishing

Nigel Curtis^{*,} PhD, FRCPCH^{††}, ChatGPT[§]

ChatGPT (Chat Generative Pre-trained Transformer) is a state-of-the-art language model developed by open artificial intelligence (OpenAI), which has the ability to generate human-like text based on a given prompt or context.¹ It is trained on a massive dataset of internet text, making it capable of understanding and producing a wide range of language styles and topics.

One of the main applications of ChatGPT is text generation, which has the potential to revolutionize the way we create content, including academic publications. As journal editors are increasingly faced with the challenge of identifying and rejecting papers written by AI, the use of ChatGPT and other similar models will make it increasingly difficult for them to discriminate between human-written and AI-generated texts.²⁻⁴

The use of ChatGPT in academic publishing has the potential to bring both positive and negative impacts. On one hand, it can greatly accelerate the process of writing and editing articles, allowing researchers to focus on the research itself rather than spending hours on writing and formatting. It can also help to reduce the workload of journal editors, who are often overwhelmed with the number of submissions they receive.

On the other hand, the use of AI-generated texts in academic publishing can also raise ethical concerns. For example, it may lead to the proliferation of low-quality or plagiarized papers, as well as the erosion of trust in the academic community. Furthermore, the use of ChatGPT could also lead to the displacement of human authors, as well as the devaluation of the skills and expertise required to produce quality academic publications.

I suspect that many readers will have guessed that everything above this line was generated by ChatGPT (Material, Supplemental Digital Content <http://links.lww.com/INF/E931>). Nonetheless, it is

clear that recent advances in AI, together with its increasing accessibility and ease of use, will have a major impact on many academic activities, including education, training, clinical care and research. In Supplemental Digital Content <http://links.lww.com/INF/E931>, I have provided some examples that illustrate the strengths, as well as some shortcomings, of the natural language programming (NLP) underlying AI-based text-generating programs, such as ChatGPT. One notable weakness is the creation of fake references, which has been attributed to AI "hallucinating" or "stochastic parroting."⁵ My experience with ChatGPT at the start of this AI technological revolution is that it excels in content creation but can fall short in providing accurate and reliable medical information. Although I wrote this final paragraph, how will you know whether I used AI to improve it?

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So, with caution, why not give it a try...



Let's focus on title of your paper first

- 1. Enter a prompt with key words*
- 2. Ensure that the title you are interested is what you have done, if not change your prompt to reflect what you have done*
- 3. Go and check whether similar ones are available with other search engines; if yes, change it again to make your one unique*
- 4. Or start with your own title*

MA

give me a unique title for a scientific journal paper with the following key words; occurrence, persistence or ubiquitousness, BPA, ecological risk assessment, in surface waters





"Assessing the Occurrence and Ubiquitousness of BPA in Surface Waters: Implications for Ecological Risk Assessment and Persistence"  

MA

give me another 5 titles



Sure, here are five more potential titles for a scientific journal paper based on the given keywords:  

1. "Uncovering the Prevalence and Potential Ecological Risks of BPA in Surface Waters: A Comprehensive Survey"
2. "Investigating the Persistence and Pervasiveness of BPA in Surface Waters: Implications for Environmental Health"
3. "From Widespread Occurrence to Ecological Implications: A Holistic Approach to Assessing BPA in Surface Waters"
4. "Ecotoxicological Implications of BPA Ubiquitousness and Persistence in Surface Waters: An Emerging Environmental Concern"
5. "Quantifying the Ecological Risk of BPA in Surface Waters: Insights from a Long-Term Monitoring Study"

What is our best approach?

- 1. Decide on the title of your journal paper*
- 2. Focus on each part section separately (Introduction, Methodology..)*
- 3. Remember, ChatGPT is a conversational AI-chatbot so, you have to train it with more chats or prompts*
- 4. Start with simple conversation and then plunge into deep conversation*
- 5. Strike your luck with either American English or British English (E.g., BPA's persistence vs. persistence of BPA)*
- 6. Do not halt your session until you achieve your target*
- 7. If your session gets blocked in the middle of your exercise, you need to commence it again from the beginning*
- 8. Let's give it a try...*



Let us try an example on the title “ Occurrence, persistence, and ecological risk of BPA in surface waters.”

Let's focus on Introduction section second

- 1. Ask to provide you with a simple introduction for your title*
- 2. Remember, it does not give you citations or references*
- 3. Then ask the same with citations or references*
- 4. It will definitely give you citations with references to the text*
- 5. But, still, you get only 400–500 words, which is not enough*
- 6. Then ask for the skeleton of your introduction (either from ChatGPT or you give your one) so that you will plan your paragraphs easily.*
- 7. Ask the same procedure for every keyword of each para*

Let's focus on Introduction section second (Contd.)

- 8. Still, you may not get enough details, so that you can ask for more elaboration*
- 9. Then if necessary, you can ask for at least two recent citations for every sentence*
- 10. Now your introduction is ready for you to scrutinize*
- 11. Beware of flaws in citations given; need extra efforts to correct them; this drawback is called hallucination or stochastic parroting effect*
- 12. Once the content is right for you, do the Grammarly checks*
- 13. Finally check for plagiarism*
- 14. You are now done with the Introduction*

It is at last your choice

One notable weakness is the creation of fake references, which has been attributed to AI “hallucinating” or “stochastic parroting.” My experience with ChatGPT at the start of this AI technological revolution is that it excels in content creation but can fall short in providing accurate and reliable medical information. Although I wrote this final paragraph, how will you know whether I used AI to improve it?

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Nigel Curtis¹, PhD, FRCPCH^{1,†}, ChatGPT²

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Hallucination or stochastic parroting examples: How to identify

- *Read the title with Apple Siri*
- *Copy and paste in google or any other search engine*

BPA has been found to have endocrine-disrupting effects on aquatic organisms, including fish, amphibians, and invertebrates. Exposure to BPA can cause reproductive and developmental abnormalities, altered behavior, and compromised immune function in these organisms (Rochester & Bolden, 2015). BPA can also accumulate in the food chain, potentially posing a risk to human health (Vandenberg et al., 2009).

Given the potential ecological and health risks associated with BPA in surface waters, it is important to monitor its occurrence and assess its persistence and potential risks. This paper aims to provide a comprehensive review of the current state of knowledge on these issues, drawing on recent studies and highlighting key research gaps and future directions for research.

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🔄 Regenerate response

But, you get so me facts....



Introduction:



Bisphenol A (BPA) is a widely used industrial chemical that is commonly found in various consumer products, including plastic bottles, food containers, and thermal paper receipts. It is also used in the production of polycarbonate plastics and epoxy resins, which are widely used in the construction and automotive industries (Calafat et al., 2008; Kang & Kondo, 2002). BPA can enter the environment through industrial discharge, household waste, and landfill leachate (Huang et al., 2019).

Once released into the environment, BPA can persist for a long time and can be transported through various environmental compartments, including air, water, and soil (Teuten et al., 2009). Surface waters, in particular, have been identified as a significant sink for BPA (Serdar et al., 2020). BPA can enter surface waters through several pathways, such as direct discharge from industries, runoff from agricultural fields and urban areas, and wastewater treatment plant effluent (Wang et al., 2018).

Studies have reported the widespread occurrence of BPA in surface waters worldwide. For instance, a study conducted by Jia et al. (2021) in China found BPA concentrations ranging from 0.19 to 3.92 ng/L in surface waters. Another study by Sabikova et al. (2020) in Slovakia reported BPA concentrations up to 1.5 ng/L in surface waters. The presence of BPA in surface waters is of concern, as it can pose ecological risks to aquatic organisms (Liu et al., 2020).

BPA has been found to have endocrine-disrupting effects on aquatic organisms, including fish, amphibians, and invertebrates. Exposure to BPA can cause reproductive and developmental abnormalities, altered behavior, and compromised immune function in these organisms (Rochester & Bolden, 2015). BPA can also accumulate in the food chain, potentially posing a risk to human health (Vandenberg et al., 2009).

🔄 Regenerate response



But, you get facts,
sometimes accurate..

- Type a part of a sentence from the introduction in google “China found BPA concentrations ranging from 0.19 to 3.92 ng/L in surface waters.”

ers and lakes worldwide (Crain et al., 2007). In China, BPA is up to 0.19 $\mu\text{g L}^{-1}$ in the surface seawaters, 3.92 $\mu\text{g L}^{-1}$ in rivers/lakes/ponds, and 370 $\mu\text{g L}^{-1}$ in wastewaters (Huang et al., 2012). It has attracted many researchers to study the biological effects of BPA on aquatic animals, especially on fish (Kang et al., 2007; Flint et al., 2012).

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Low-dose bisphenol A disrupts gonad development and steroidogenic genes expression in adult female rare minnow *Gobiocypris rarus*

Yingying Zhang, Jiancao Gao, Peng Xu, Cong Yuan, Fang Qin, Shaozhen Liu, Yao Zheng, Yanping Yang, Zaizhao Wang*

College of Animal Science and Technology, Northwest A&F University, Shaanxi Key Laboratory of Molecular Biology for Agriculture, Yangling, Shaanxi 712100, China

HIGHLIGHTS

- Low concentrations BPA affected rare minnow ovary development.
- Steroidogenic gene showed a non-monotonic dose-response effect to BPA.
- BPA actions might involve Est, Ar and Nr5a1s signaling pathway.

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Sex hormone receptor
Transcription factors

ABSTRACT

Bisphenol A (BPA), an estrogenic monomer, has attracted many researchers to study its adverse effects in animal reproduction, especially in fish. To explore the effects of low dose BPA on adult female rare minnow *Gobiocypris rarus*, we exposed the fish to BPA at nominal concentrations of 5, 15, and 50 $\mu\text{g L}^{-1}$ for 14 and 35 d. The 35-d BPA exposure at 50 $\mu\text{g L}^{-1}$ had obviously suppressive effects on oocyte development, and BPA at all the three concentrations in both exposure durations of 14 and 35 d had stimulative effects on hepatic vitellogenin (vtg) transcription. BPA at lower concentrations (5 and 15 $\mu\text{g L}^{-1}$) exhibited stimulative effects on the expressions of ovarian steroidogenic genes while at higher concentration (50 $\mu\text{g L}^{-1}$) displayed inhibitive effects. Analysis of ovarian steroidogenic genes 5'-flanking regions and mRNA expressions of their potential regulatory factors revealed that the BPA-mediated actions on steroidogenesis in *G. rarus* ovary probably involve estrogen receptor (Est) and androgen receptor (Ar) signaling, nuclear receptor subfamily 5, group A, number 1 (Nr5a1) pathway, and epigenetic regulation.

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1. Introduction

Endocrine disrupting chemicals (EDCs) are natural or synthetic compounds that have the ability to alter endocrine functions by mimicking or blocking endogenous hormones (Schug et al., 2011). Bisphenol A (BPA), one of the EDCs, has received increasing attention in the last decade because of its ubiquitous use in manufacturing of numerous consumer products, such as food and beverage containers. BPA is one of the highest volume chemicals or natural degradation of polycarbonate plastics (Meesters and Schroder, 2002; Wijnens et al., 2003; Garidou et al., 2007). BPA occurs at relatively high concentrations (up to 21 $\mu\text{g L}^{-1}$) in the rivers and lakes worldwide (Crain et al., 2007). In China, BPA is up to 0.19 $\mu\text{g L}^{-1}$ in the surface seawaters, 3.92 $\mu\text{g L}^{-1}$ in rivers/lakes/ponds, and 370 $\mu\text{g L}^{-1}$ in wastewaters (Huang et al., 2012). It has attracted many researchers to study the biological effects of BPA on aquatic animals, especially on fish (Kang et al., 2007; Flint et al., 2012).

How do you come up with paragraphs for your introduction section

- 1. Global and local statistics of BPA*
- 2. Why it is a problem?*
- 3. Occurrence of BPA in surface waters and its implications*
- 4. Persistence of BPA and its implications*
- 5. Ecological risk assessment and its significance*
- 6. Insights into the study findings*
- 7. Objectives and justification why your study is important and novelty*



Let us try on the introduction part with an example on the title “ Occurrence, persistence, and ecological risk of BPA in surface waters.” using ChatGPT

Let's focus on Methodology section third

- 1. Ask to provide you with a simple methodology for your title*
- 2. Remember, it does not give you citations or references*
- 3. Then ask the same with citations or references*
- 4. It will definitely give you citations with references to the text*
- 5. But, still, you get only 400–500 words, which is not enough*
- 6. Then ask for the skeleton of your methodology (either from ChatGPT or you give your one) so that you will plan your paragraphs easily.*
- 7. Ask the same procedure for every keyword of each para*

Let's focus on the methodology section third(Contd.)

- 8. Still, you may not get enough details, so that you can ask for more elaboration*
- 9. Then if necessary, you can ask for at least two recent citations for every sentence*
- 10. Now your methodology is ready for you to scrutinize*
- 11. Beware of flaws in citations given; need extra efforts to correct them; this drawback is called hallucination or stochastic parroting effect*
- 12. Once the content is right for you, do the Grammarly checks*
- 13. Finally check for plagiarism*
- 14. You are now done with the methodology*



Let us try on the methodology with an example on the title “ Occurrence, persistence, and ecological risk of BPA in surface waters.” using ChatGPT

*You get facts,
accurate..*



Sure, I can provide you with a methodology for the research question "Occurrence, persistence, and ecological risk of BPA in surface waters" along with an example.



Methodology:

1. Sampling: Collect surface water samples from various locations. This can be done using a standardized procedure, such as the grab sampling method, to ensure consistency in the samples.
2. Extraction: Extract the samples using a solvent that is appropriate for the analysis of BPA. This can be done using a solid-phase extraction method.
3. Analysis: Analyze the samples for the presence of BPA using a sensitive analytical method such as high-performance liquid chromatography (HPLC) or gas chromatography-mass spectrometry (GC-MS).
4. Data analysis: Analyze the data obtained from the analysis to determine the occurrence, persistence, and ecological risk of BPA in surface waters. This can be done using statistical methods to evaluate the distribution and concentration of BPA in the samples.
5. Risk assessment: Evaluate the potential ecological risk of BPA in surface waters using a risk assessment framework. This involves comparing the measured concentrations of BPA with established ecological criteria to determine the potential risk to aquatic organisms.

Example:

The methodology outlined above can be applied to study the occurrence, persistence, and ecological risk of BPA in surface waters in a particular region. For example, a research team may collect surface water samples from various sites in a river system in a specific region. The team can then extract and analyze the samples for the presence of BPA using HPLC or GC-MS. The data obtained from the analysis can then be analyzed statistically to determine the distribution and concentration of BPA in the samples. The team can then evaluate the potential ecological risk of BPA in surface waters using a risk assessment framework.

Stop generating

*You get facts,
accurate..*

< 2 / 2



Sure, here's the same methodology for the research question "Occurrence, persistence, and ecological risk of BPA in surface waters" along with references for each topic.



Methodology:

1. Sampling: Collect surface water samples from various locations. This can be done using a standardized procedure, such as the grab sampling method, to ensure consistency in the samples.

Reference:

USEPA. 2002. Guidance for developing watershed TMDLs. EPA-841-B-02-003. Washington, DC: U.S. Environmental Protection Agency.

2. Extraction: Extract the samples using a solvent that is appropriate for the analysis of BPA. This can be done using a solid-phase extraction method.

Reference:

Chen, X., Chen, M., Ma, L.Q., & Chen, H. (2016). Sources and fate of bisphenol A in wastewater treatment plants: implication for a circular economy. Water Research, 106, 505-514.

3. Analysis: Analyze the samples for the presence of BPA using a sensitive analytical method such as high-performance liquid chromatography (HPLC) or gas chromatography-mass spectrometry (GC-MS).

Reference:

Huang, Y.Q., Wong, C.K.C., & Zheng, J.S. (2012). Bisphenol A accumulation and degradation in freshwater environments in the presence of microbial consortia. Water Research, 46(3), 771-780.

Regenerate response

4. Data analysis: Analyze the data _____, sis to determine the



Visual plots for BPA data: Are you familiar with these visual plots?

MA

Give me types of visual plots to be used for BPA levels



Sure, here are some types of visual plots that can be used to display BPA levels:



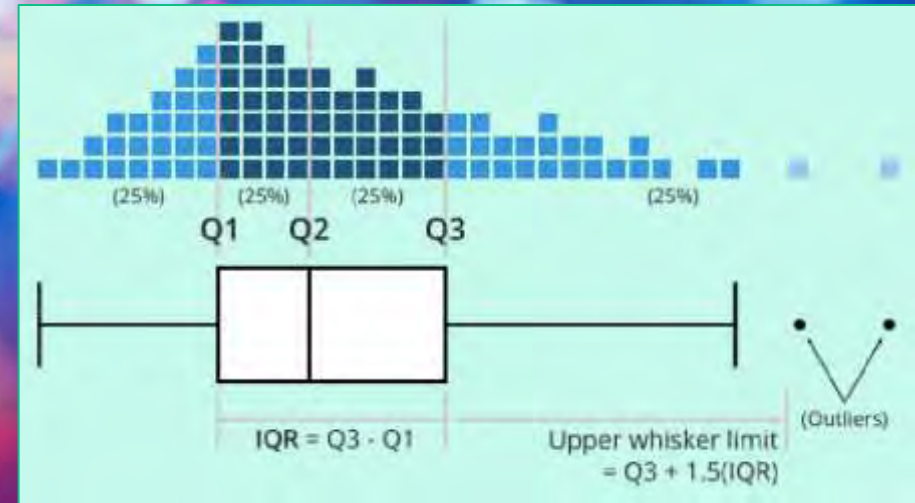
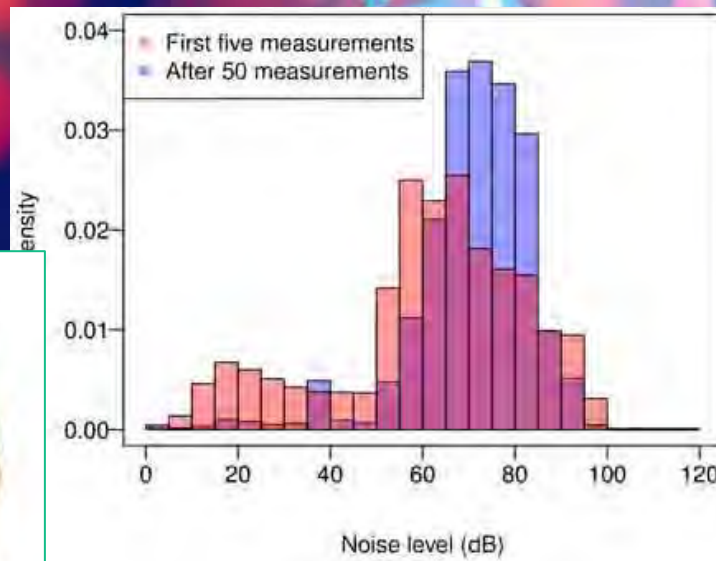
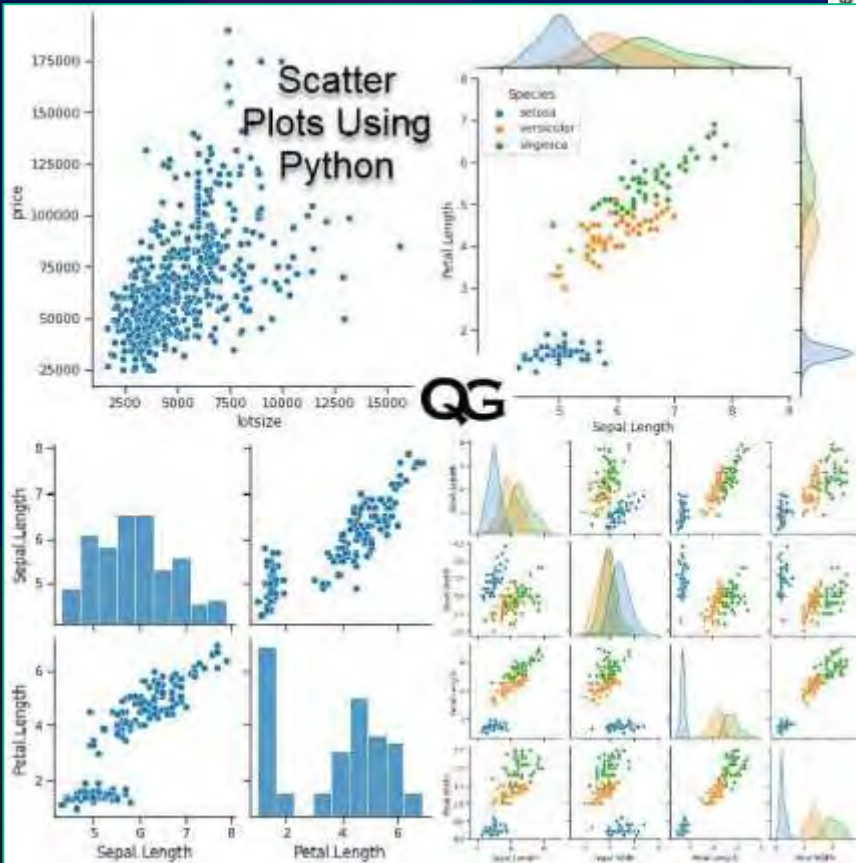
1. Histogram: A histogram is a type of bar plot that displays the distribution of a continuous variable, such as BPA levels. It groups the data into bins or intervals, and displays the frequency of observations in each bin.
2. Box plot: A box plot, also known as a box-and-whisker plot, is a graphical representation of the distribution of BPA levels that displays the median, quartiles, and outliers of the data. It can be used to compare the distribution of BPA levels across different sites or conditions.
3. Scatter plot: A scatter plot is a plot that displays the relationship between two continuous variables, such as BPA levels and time or BPA levels and location. Each data point is represented by a point on the plot, and the plot can reveal patterns or trends in the data.
4. Heatmap: A heatmap is a graphical representation of data in which the values are represented by colors. It can be used to display the distribution of BPA levels across different sampling locations or over time, and can reveal patterns or hotspots of BPA contamination.
5. Contour plot: A contour plot is a type of plot that displays a 3-dimensional surface in 2 dimensions. It can be used to display the distribution of BPA levels over time and location, and can reveal trends or hotspots of BPA contamination.
6. Violin plot: A violin plot is a type of plot that displays the distribution of BPA levels, similar to a box plot, but also shows the density of the data at each value. It can be used to compare the distribution of BPA levels across different sites or conditions.

These are just a few examples of visual plots that can be used to display BPA levels. The choice of plot will depend on the type of data being analyzed, and the audience for the results.

Regenerate response

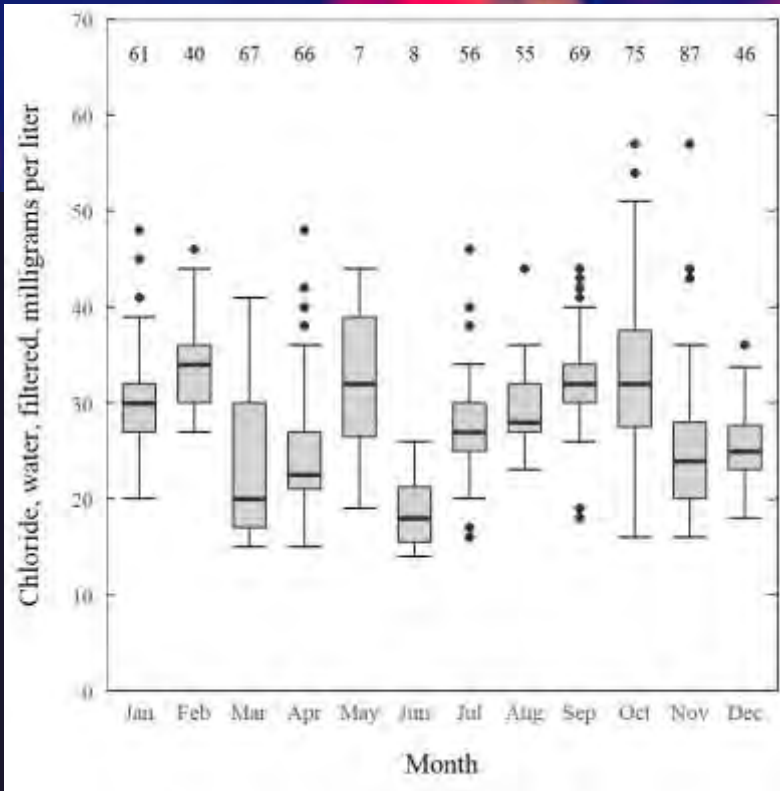


Visual plots for BPA data:
Are you familiar with these
visual plots?

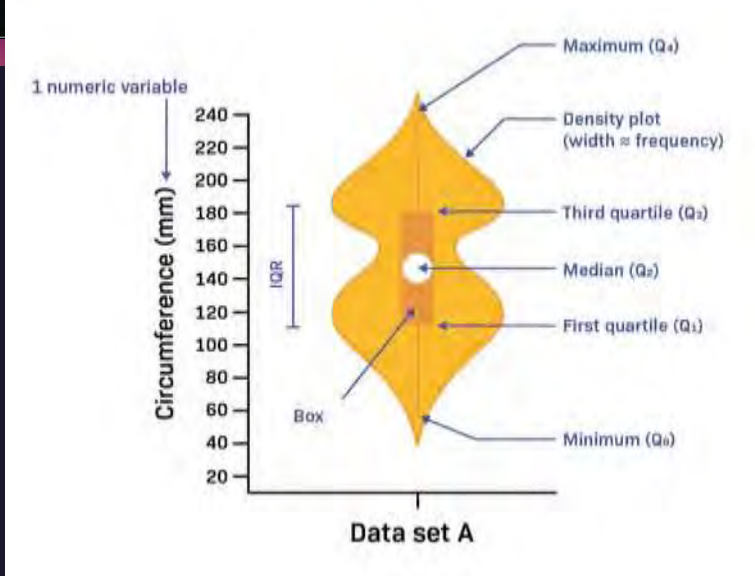
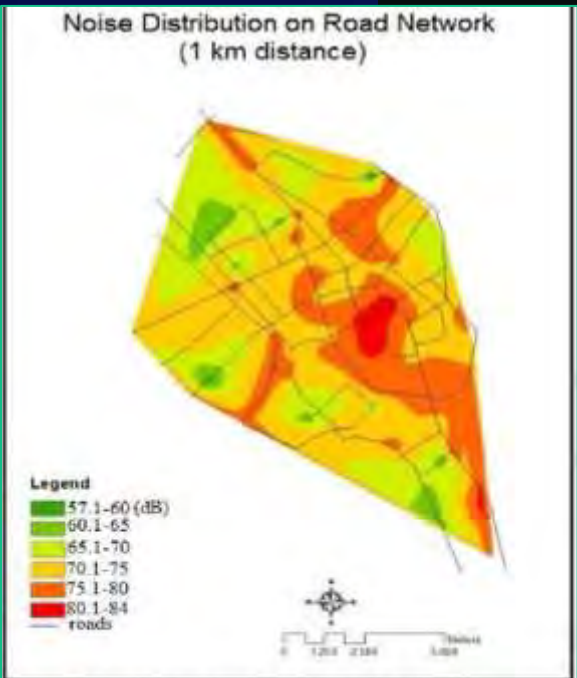
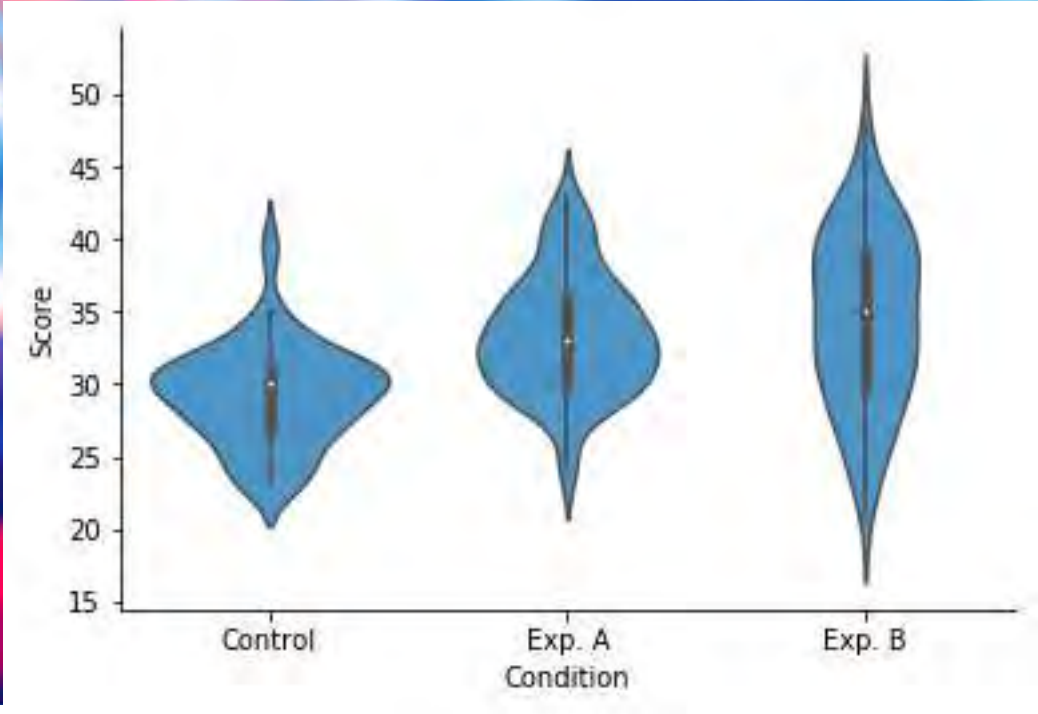
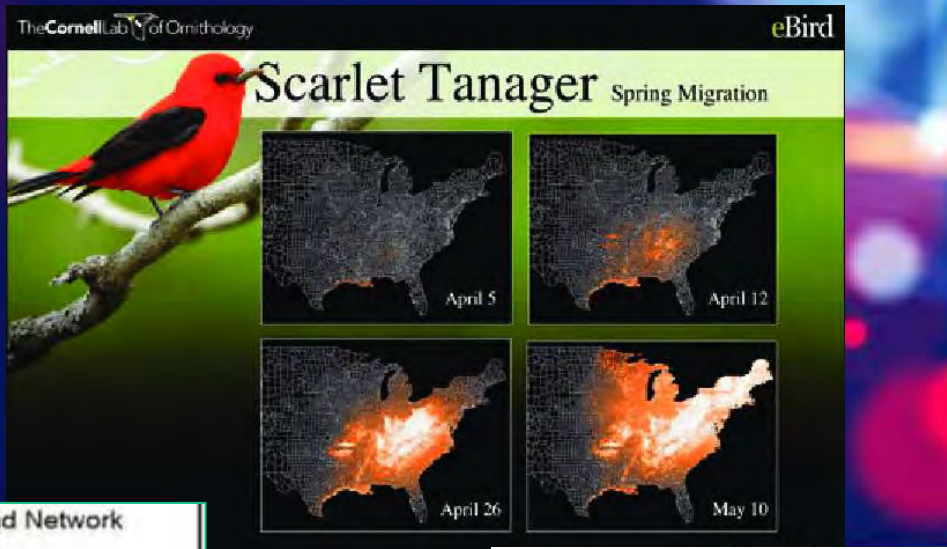


Box plots or Whisker plots:

Lower Extreme – the smallest value in a given dataset.
Upper Extreme – the highest value in a given dataset.
Median value – the middle number in the set.
Lower Quartile – below that value, the lower 25% of the data are contained.
Upper Quartile – above that value, the upper 25% of the data are contained.
“Whiskers” – the lines that extend from the boxes. They are used to indicate variability out of the upper and lower quartiles.



Visual plots for BPA data:
Are you familiar with these
visual plots?



Box plots or Whisker plots:

Lower Extreme – the smallest value in a given dataset.
Upper Extreme – the highest value in a given dataset.
Median value – the middle number in the set.
Lower Quartile – below that value, the lower 25% of the data are contained.
Upper Quartile – above that value, the upper 25% of the data are contained.
“Whiskers” – the lines that extend from the boxes. They are used to indicate variability out of the upper and lower quartiles.

Figure 2. Yazd city noise map of road network

Let's focus on Results and discussion section fourth

- 1. Ask to provide you with a simple discussion only for each of your result*
- 2. Remember, it does not give you citations or references*
- 3. Then ask the same with citations or references*
- 4. It will definitely give you citations with references to the text*
- 5. But, still, you get only 400–500 words, which may be enough*
- 6. Ask the same procedure for every keyword of each para*

Let's focus on the discussion section fourth(Contd.)

- 7. Still, you may not get enough details, so that you can ask for more elaboration*
- 8. Then if necessary, you can ask for at least two recent citations for every sentence*
- 9. Now your discussion part is ready for you to scrutinize*
- 10. Beware of flaws in citations given; need extra efforts to correct them; this drawback is called hallucination or stochastic parroting effect*
- 11. Once the content is right for you, do the Grammarly checks*
- 12. Finally check for plagiarism*
- 13. You are now done with the discussion part*





Let us try on the discussion with an example on the title “ Occurrence, persistence, and ecological risk of BPA in surface waters.” using ChatGPT

What can you infer from your results to be considered for the discussion?

MA

Can you give me what I can infer from the following results? "The average BPA levels detected in L1-L16 were between 0.4–42.6 µg/L during the wet period and 0.2–4.9 µg/L during the dry period (Figure 2). The average BPA level in Lin was 53.5 µg/L for the wet period and 7.4 µg/L for the dry period. BPA levels of L1 to L10 and L15 during the wet period and L1 to L11 during the dry period differed significantly from that of L0 ($p < 0.05$), indicating a considerable contribution of BPA from the dump site during both periods."



Based on the results mentioned in the paragraph, there are several inferences that can be made:  

1. The levels of bisphenol A (BPA) detected in the water samples varied significantly across the different locations (L1-L16) and time periods (wet and dry), with the highest average levels found in Lin during the wet period.
2. The levels of BPA were generally higher during the wet period than the dry period, which may be due to increased leaching of BPA from the dump site during rainfall.
3. The BPA levels in the water samples from L1 to L10 and L15 during the wet period and L1 to L11 during the dry period were significantly higher than that of L0, which is located further away from the dump site. This suggests that the dump site is a major source of BPA contamination in the surrounding environment.
4. The BPA levels detected in the water samples exceeded the safe limits set by regulatory authorities in some countries, indicating a potential risk to human health and the environment.
5. The results highlight the need for measures to mitigate the risk of BPA exposure, such as implementing better waste management practices or regulating the use of BPA in consumer products.

What can you request for the discussion part based on the similar cases worldwide?

MA

Can you give me a discussion with references on the following results taking facts from other countries? "The average BPA levels detected in L1-L16 were between 0.4–42.6 µg/L during the wet period and 0.2–4.9 µg/L during the dry period (Figure 2). The average BPA level in Lin was 53.5 µg/L for the wet period and 7.4 µg/L for the dry period. BPA levels of L1 to L10 and L15 during the wet period and L1 to L11 during the dry period differed significantly from that of L0 ($p < 0.05$), indicating a considerable contribution of BPA from the dump site during both periods."



The statement you provided describes the average levels of Bisphenol A (BPA) detected in different water samples during wet and dry periods in a particular location, and highlights the significant contribution of BPA from a dump site. BPA is a chemical compound commonly used in the manufacturing of polycarbonate plastics and epoxy resins, and it has been found to have potential adverse health effects on humans and the environment.

Several studies have reported the presence of BPA in environmental matrices, such as water, sediment, and soil, as well as in food products and biological fluids of both humans and animals (Liu et al., 2020; Patra et al., 2021; Wang et al., 2019). BPA is known to have a long half-life in the environment and can persist for a considerable time in aquatic systems, especially in sediment and soil, leading to potential risks of contamination of drinking water sources (Wang et al., 2019).

In a study conducted in China, BPA levels were analyzed in surface water samples collected from different sites of the Pearl River Delta region. The authors reported that the average BPA concentrations in the samples were in the range of 3.3–16.9 µg/L, with higher levels in the dry season than the wet season (Liu et al., 2020). Another study from India analyzed BPA levels in groundwater and surface water samples collected from different locations in a highly industrialized city. The authors reported that BPA concentrations in the samples ranged from below the

□ Stop generating (D) to 3.52 µg/L, with higher levels in surface water than in groundwater (Patra et al., 2021)



Let us try on the Graphical abstract with an example on the title “ Occurrence, persistence, and ecological risk of BPA in surface waters.” using DALL-E2

What is DALL-E2

DALL-E (stylized as **DALL·E**) and **DALL-E 2** are deep learning models developed by OpenAI to generate digital images from natural language descriptions, called "prompts". DALL-E was revealed by OpenAI in a blog post in January 2021, and uses a version of GPT-3^[1] modified to generate images. In April 2022, OpenAI announced DALL-E 2, a successor designed to generate more realistic images at higher resolutions that "can combine concepts, attributes, and styles".^[2]

DALL-E



Watermark present on DALL-E 2 images generated on OpenAI's labs website



An image generated with DALL-E 2 based on the text prompt "Teddy bears working on new AI research underwater with 1990s technology"

Original author(s) OpenAI

Initial release January 5, 2021

Type Transformer language model

Website openai.com/blog/dall-e/^[2]

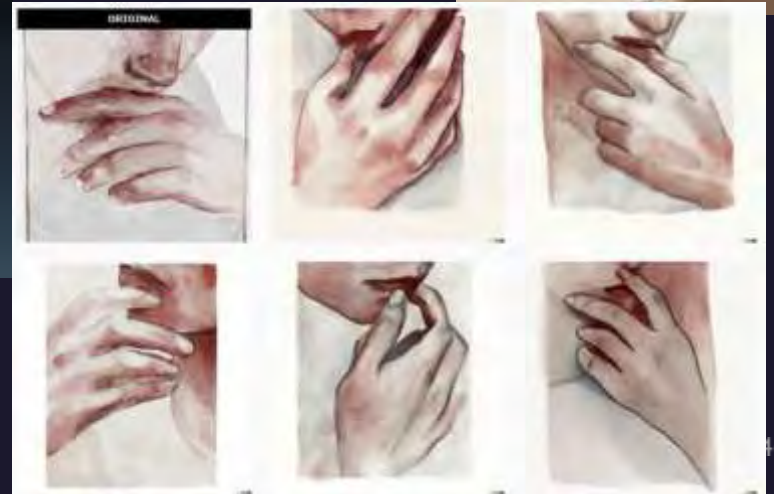
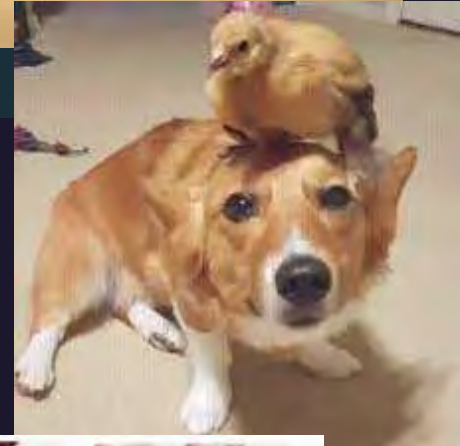
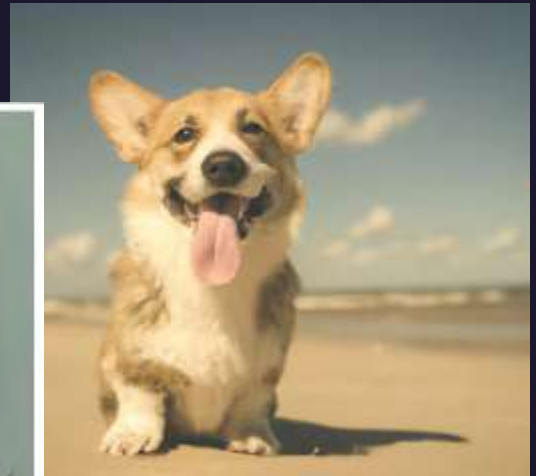
What is DALL-E2




Movie



Dall-E2



What else you can do ..

- 1. Prepare recommendation letters*
 - 2. Come up with key note speeches*
 - 3. Prepare grant proposals*
 - 4. Prepare lecture notes*
 - 5. Prepare questions and answers*
 - 6. Learn novel areas of research*
 - 7. Learn how to come out with protocols for research*
 - 8. Paraphrase sentences*
 - 9. Prepare scientific news letter articles*
 - 10 Come up with coding for machine learning algorithms*
- 
- A network diagram with white nodes and blue lines on a dark blue background. The nodes are connected by lines, forming a complex web of relationships. The lines are a light blue color, and the nodes are small white circles. The background is a dark blue gradient with some lighter blue circular patterns.

Thank You

