

Walters and Djokic Quantitative Analysis Factor Distortion Theory: Addressing Challenges to Validity and Reliability in Scientific Research, Examples of Junk Science Research on Climates Change, COVID-19, the United States Real Estate Market and Global Financial Crisis of 2007 and 2008

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ABSTRACT: *The distortion and politicization of quantitative data analysis have resulted in the common acceptance of junk science into the body of literature to promote the political agenda of many. There is a cost associated with data analysis lacking validity and credibility. The politicization of quantitative analysis has resulted in policies being adapted around the world based on COVID-19 research, climate change research, and economic research which amount to junk science. Today, low-income and moderately-income families are facing a looming housing crisis as a result of the misinformation that caused the Global Financial Crisis of 2007 and 2008 and the real estate market crash preceding the crisis. The misinformation threatened the entire financial system of the world, resulting in a debt crisis for a number of countries. Many American families are faced with economic hardship resulting from the increased cost of energy as a result of policies based on climate change research data analysis with no evidence or scientific foundation supporting the theory. COVID-19 policies adopted by the United States government destroyed many small businesses across the country which supported families for generations. Government policies in response to COVID-19 interjected bureaucrats with no medical training between doctors and the treatment provided to their patients. Recent peer-reviewed publication Walters (2020D) introduced Walters and Djokic Quantitative Analysis Factor Distortion Theory to address the problem of unreliable data analysis lacking validity and credibility, resulting in junk science being accepted into the literature as scientific research. Walters and Djokic Quantitative Analysis Factor Distortion Theory is an expansion of Eddison Walters Modern Economic Analysis Theory that was developed to address the changing factor of technology advancement which has been commonly ignored in error by researchers when analyzing economic data over extended periods. Walters and Djokic Quantitative Analysis Factor Distortion Theory raised significant concerns regarding unreliable data analysis due to changing factors assumed to be constant. Changing factors assumed to be constant have resulted in distorted data analysis, lacking credibility and reliability, which has recently become commonly accepted as scientific research in error. The assumption of, "all else being equal", has been commonly ignored in data analysis of research being accepted into the body of literature. Ignoring changing factors in data analysis to achieve a predetermined outcome is not scientific research and should not be accepted into the body of literature. Walters and Djokic Quantitative Analysis Factor Distortion Theory is a theory that is critical to restoring reliability and credibility to research accepted into the body of literature.*

KEY WORDS: Walters and Djokic Quantitative Analysis Factor Distortion Theory, Eddison Walters Modern Economic Analysis Theory, Walters Real Estate Bubble Impossibility Price Transparency Theory.

INTRODUCTION

In the world of big data today, the distortion and politicization of scientific research have resulted in the common use of junk science as justification to promote the political agenda of many. The politicization of scientific research has resulted in policies being adapted around the world to address economic issues, climate change, and COVID-19 which amounts to junk science. Walters (2020D) introduced Walters and Djokic Quantitative Analysis Factor Distortion Theory to address the politicization of quantitative analysis which have called into question the validity and reliability of academic research across the entire body of literature. There are several areas in research where data distortion has emerged as a significant problem resulting in conflicting research due to the quantitative research methods process today. The science behind data analysis has become a political issue significantly debated with no consensus on basic research principles on either side of the argument. As a result of the politicization of data analysis, steps must be taken to restore reliability and validity in scientific research data analysis.

The goal of Walters and Djokic Quantitative Analysis Factor Distortion Theory is to highlight the challenges to validity and reliability that have become a problem in quantitative research today. The current study addressed the error of changing factors assumed to be constant in quantitative research analysis that have led to the distortion of data analysis. The problem has become very prevalent in academic research today. Too often the problem has resulted in junk science being accepted as academic research. The introduction of Walters and Djokic Quantitative Analysis Factor Distortion Theory underscored the following three points.

1. It is a significant error to assume changing factors are constant in quantitative analysis.
2. The assumption of changing factors to be constant ignores a key principle of quantitative analysis on which conclusions from data analysis are based, "all else being equal".
3. Changing factors assumed to be constant in quantitative analysis result in significant data distortion and a lack of reliability and validity of findings in quantitative research.

The goal of the researchers in the current study, is to further develop Walters and Djokic Quantitative Analysis Factor Distortion Theory and establish specific rules for quantitative analysis in scientific research aimed at restoring reliability and validity to the body of literature. The new theory will force researchers to identify and address the issue of potential changing factors assumed to be constant, that have resulted in junk science commonly being accepted into the body of literature as scientific research.

Background of Study

The politicization of scientific research today has become a widespread problem with a significant negative impact on the body of literature. Standards for data analysis have become so polarized,

standards are no longer objective. Today it is common to find academic research in the literature that ignores potential factors that may not be favorable to the desired outcome of a study. As a result of the common error, significant data distortions amounting to junk science have become prevalent in the body of literature. As a result of politicization, reliability and validity in quantitative research today have been called into question. Steps must be taken to restore validity and reliability in scientific research. Steps to ensure political views have the least impact on the outcome of data analysis methods in scientific research will significantly enhance the body of literature.

Statement of the Problem

The lack of validity and reliability in research methods once considered to be based on sound scientific principles is a threat to the entire body of literature. Data analysis that is influenced by a political desired narrative of the researcher conducting the study have raised significant concerns about reliability and credibility of research accepted into the body of literature. There should be considerable debate in many areas of academic research, but the methods of conducting quantitative analysis should never become the topic of the debate. The current study considered measures that can be taken which can restore validity and reliability to academic research.

Purpose of Study

The purpose of the current study was to establish the principles outlined by Walters and Djokic Quantitative Analysis Factor Distortion Theory and suggest clear rules to address changing factors assumed to be constant or ignored with the potential to distort findings in quantitative research that is commonly accepted to the body of literature today as academic research. The establishment of standards for addressing changing factors assumed to be constant or completely ignored will restore reliability and validity to quantitative data analysis in scientific research. Establishing clear rules to address changing factors with the potential to distort findings in quantitative research will significantly contribute to the body of literature. The current study highlighted several areas that raised significant questions on the reliability and validity of data analysis that will benefit from clear rules for addressing changing factors often considered to be constant or completely ignored in quantitative research.

Research Questions

Is there a need to address significant concerns regarding changing factors that are assumed to be constant in data analysis which has been used as the bases of policy decisions, raising significant questions about the validity and credibility of research accepted into the body of literature as scientific and academic research today?

Hypothesis

Ho: The evidence suggested errors in data analysis regarding changing factors assumed to be constant in scientific research have not led to scientific research lacking reliability and validity.

Ha: The evidence suggested errors in data analysis regarding changing factors assumed to be constant in scientific research have led to scientific research lacking reliability and validity.

Nature of the Study

The current study was a qualitative investigation of the literature that presented evidence of the problem of changing factors assumed to be constant which are completely ignored, leading to junk science being presented as scientific research.

Scope and Limitations

The current study focused on understanding the problem of changing factors assumed to be constant or completely ignored in quantitative research analysis that have raised significant questions threatening the validity and reliability of academic research in the body of literature today. The current study suggested steps to address the problem.

Significance

The current study significantly contributed to the body of literature by identifying the problem of changing factors assumed to be constant or completely ignored in quantitative research analysis, resulting in significant data distortion. The current study suggested steps to restore validity and reliability in research accepted as scientific research into the body of literature.

LITERATURE REVIEW

The literature review focused on three areas of study in the literature that have commonly accepted research with data analysis lacking validity and credibility which can be attributed to changing factors being completely ignored due to the highly politicized nature of the area of research. Research on COVID-19 treatment and prevention, research on climate change, and economic analysis, specifically the Global Financial Crisis of 2007 and 2008 and the real estate crash that preceded the crisis, were the three areas that are the focus of the current research.

Policies mandating facial coverings were imposed by policymakers around the world despite overwhelming evidence indicating the lack of effectiveness. Evidence in the literature suggested changing factors that was completely ignored in the literature resulted in the spread of misinformation about the effectiveness of facial coverings in response to the COVID-19 pandemic. Guerra and Guerra (2021) research that analyzed data from the Centers for Disease Control and Prevention, along with data from Institute for Health Metrics and Evaluation concluded mandates that required the use of masks were not associated with a reduction in the spread of COVID-19 at

statewide-level during COVID-19 surges. The study evaluated the growth in COVID-19 cases post-mask mandate in non-mandate states compared to neighboring states with mask mandates. The study found no statistically significant difference in higher or lower transmission level growth rate of COVID-19 cases (Guerra & Guerra. 2021). Bae et al. (2020) researched the effectiveness of surgical and cotton masks for filtering SARA-CoV-2 in infected patients' coughs. The study concluded, that preventing COVID-19 dissemination to the external mask surface and into the environment during patient's coughs by using surgical and cotton masks was ineffective (Bae et al., 2020). MacIntyre et al. (2009) conducted a study including 286 adults and 143 households with exposure to clinical respiratory illness during the winter of 2006 and 2007. The study was conducted with three groups comparing a prospective cluster-randomized trial on the prevention of transmission of influenza-like illness in households (MacIntyre et al., 2009). The groups in the study included a group wearing surgical masks, a group wearing non-fit-tested P2 masks, and a group with no masks. The study concluded household mask the use was ineffective in controlling seasonal influenza-like illness (MacIntyre et al., 2009).

Despite evidence suggesting the safety and potential benefits from the use of Hydroxychloroquine for effective treatment of COVID-19, policies were adapted prohibiting the used of the drug for COVID-19 treatment. Evidence in the literature suggested changing factors that was completely ignored in the literature resulted in the spread of misinformation about treatment options such as Hydroxychloroquine, that were safe and effective. Based on the data analysis of three outpatient COVID-19 trials including 2795 participants, Lofgren et al. (2020) concluded common mild cases gastrointestinal were observed, and serious side effects from the use of Hydroxychloroquine were rare. Lofgren et al. (2020) also noted there was no death related to the use of Hydroxychloroquine in the trials. The use of Hydroxychloroquine in outpatient studies to determine efficacious for COVID-19 treatment was determined to be safe (Lofgren et al., 2020). Gasperetti et al. (2020) concluded, regardless of the clinical setting, Hydroxychloroquine used for the treatment of COVID-19 infection short-term was safe. The study concluded there could be modest side effects from the use of Hydroxychloroquine for the treatment of COVID-19. Gasperetti et al. (2020) concluded no death was directly related to the use of Hydroxychloroquine. The study was based on COVID-19 patients at seven institutions who received Hydroxychloroquine treatment (Gasperetti et al., 2020). Bernardini et al. (2020) conducted a study that included 112 COVID-19 patients. The study included three groups, COVID-19 patient groups. No treatment was given to one group. One group was treated with a combination of Hydroxychloroquine and Azithromycin, while the other group was treated with only Hydroxychloroquine. The use of the combination of Hydroxychloroquine and Azithromycin for treatment of COVID-19 treatment was found to have an increased risk of QT prolongation in older patients than the use of Hydroxychloroquine by itself. The study concluded treatment of COVID-19 patients using the drugs was safe showing low arrhythmic risk (Bernardini et al., 2020)

Evidence in the literature suggested, changes in the climate of Earth is significantly affected by gravitational interaction between the planets and other objects within the solar system which is a constantly changing factor (Atkinson, 1975; Schmude, 2008), yet changing factors are completely ignored in papers accepted as scientific research that attributes cause and effect to climate change.

The literature established the solar system is constantly changing. The literature also noted the orbit and rotational axis changes of the earth are based on gravitational interaction with planets and other objects in the solar system, resulting in a significant effect on the climate on Earth. Research and Schmude (2008) suggested the solar system is dynamic and constantly changing. The length of time the planet Neptune takes to orbit the sun is 165 years according to the literature (Greely, 1994; Schmude, 2008). The movement of the planets around the sun takes place in an elliptical manner (Wahr, 1981), which suggests the distance between planets and other objects and the effect of gravitational interaction in the solar system is constantly changing over the cycle of 165 years that it takes the planet Neptune to orbit the Sun (Schmude, 2008). Research by Tsuda, Shepherd, and Gopalswamy (2015) suggested the interaction of the Earth with the solar system can have a significant impact on the weather and climate of the Earth. Despite overwhelming evidence of the constant changes within the solar system that significantly affect changes in the climate on earth, changing factors are completely ignored in research on climate change accepted into the body of literature.

In the case of the Global Financial Crisis of 2007 and 2008 and the real estate crash preceding the crisis, there was overwhelming evidence that suggested advancement in technology was a changing factor that significantly impacted the rapid growth in home prices which was completely ignored resulting in unreliable data analysis being accepted in the literature. Walters 2018 concluded no financial bubble existed preceding the Global Financial Crisis of 2007 and 2008. The idea of an abundance of capital flowing into developed countries that led to a financial bubble which resulted in the creation of a real estate bubble was ruled to be unlikely based on data analysis in the study (Walters, 2018). Eddison Walters Risk Expectation Theory of The Global Financial Crisis of 207 and 2008 was presented as an alternative explanation for the cause of the financial crisis (Walters, 2018). The theory suggested increased risk expectation from misinformation of a real estate bubble caused the real estate market crash that led to the Global Financial Crisis of 2007 and 2008 (Walters, 2018). Walters and Djokic 2019, analyzed data that concluded no real estate bubble existed preceding 2008. Walters 2019 analyzed data that concluded the growth in home purchase prices preceding the year 2008 was the result of technological advancement. Walters 2020A presented Eddison Walters Modern Economic Analysis Theory to address the issue of the changing factor of technological advancement which is often not considered in economic research but is a significant changing factor that can distort economic data analysis over extended periods resulting in research that lack credibility. The theory concluded, it was an error to analyze economic data over extended periods without considering the impact of technological advancement on the data (Walters, 2020A). Walters 2020B presented evidence that supported the idea the entire Global Financial Crisis of 2007 and 2008, along with the real estate crash in the United States that led to the financial crisis was caused by misinformation. No real estate bubble existed preceding 2008. The literature presented evidence supporting Eddison Walters Risk Expectation Theory of The Global Financial Crisis of 2007 and 2008 (Walters, 2020B). Walters 2020C presented evidence that concluded, growth in consumer debt in the United States preceding 2008 was the result of increased access to lending from technology advancement. The findings in Walters 2020C underscored the importance of adapting Eddison Walters Modern Economic Theory when analyzing economic data over extended periods. The research concluded, consumer

debt increased because consumers had more access to borrowing as a result of technological advancement (Walters, 2020C). Walters 2020D expanded the research into the growth of real estate prices to fifteen developed countries around the world. The study included the countries of Canada, United Kingdom, Denmark, Finland, France, Italy, New Zealand, Sweden, Netherlands, Australia, Ireland, Belgium, Norway, Spain, and Portugal. The study concluded there was overwhelming evidence supporting the conclusion the growth in home prices in all fifteen developed countries preceding 2008 was the result of advancements in technology. No real estate bubble existed in any of the fifteen developed countries and the United States preceding 2008. Walters 2020D introduced Walters Real Estate Bubble Impossibility Price Transparency Theory based on the overwhelming evidence that the conclusion of the existence of a real estate bubble in the United State and the fifteen countries studied in Walters 2020D was a false conclusion. The study cited the Efficient Market Hypothesis as the foundation of the new theory that was introduced in Walters 2020D. The basic principles of Walters Real Estate Bubble Impossibility Price Transparency Theory noted, that real estate fraud has the potential to lead to distortion of real estate prices in isolated cases, but widespread real estate bubbles are impossible where real estate prices transparency exists (Walters, 2020D). Walters (2022) analyzed data on mortgage delinquency rates in the United States from 2001 Q1-2020 Q1. The study concluded mortgage delinquency rates significantly increased as a result of policies restricting subprime lending. The conclusion that subprime mortgage lending caused the real estate crash preceding the Global Financial Crisis of 2007 and 2008 was misinformation. The misinformation has resulted in significant risk of moderate-income families being priced out of the housing market due to rapidly increasing housing costs today (Walters, 2022). The result of the study suggested, lack of new construction for several years during and after the Global Financial Crisis of 2007 and 2008 led to a catastrophic shortage of affordable homes that put low and moderate-income families at risk of homelessness if steps are not taken by policymakers to address the problem (Walters, 2022). The potential homeless crisis is not limited to the United States but is a global challenge that must be addressed as home prices continue to skyrocket around the world. Ignoring the changing factor of advancement in technology has resulted in the acceptance of research that present a false narrative of the cause of the 2008 real estate crash, the Global Financial Crisis, and the Great Recession being accepted into the body of literature.

ANALYSIS AND DISCUSSION

The current study highlighted the acceptance of research to the body of literature with data analysis that ignores changing factors, resulting in a lack of reliability and credibility. The adaptation of politicalized policy decisions with significant economic and other cost to many is the result of unreliable data analysis. The adverse effect of politicalized policies discussed in the current paper were based on COVID-19 research, climate change research, and economic research which amounted to junk science, but extend far beyond the focus of the current study. Misinformation as a result of research that amounts to junk science which have been accepted into the body of literature with very little debate, have resulted in significant costs beyond the just economic cost. Adapting new standards suggested in the current paper is critical to restoring reliability and credibility to data analysis in scientific research.

The COVID-19 pandemic has highlighted the problem of misinformation and politicization in quantitative analysis. Small businesses suffered as a result of policies that favored big box-office and online retailers with no scientific evidence from data analysis presented in support of the policies. There is no doubt conflicting information resulting from the politicization of scientific research has led to a significant increase in the number of deaths along and significant economic destruction. Conflicting studies published in the literature about the effectiveness of Hydroxychloroquine failed to identify whether the treatment was administered early in the infection or later after the patient has developed complications from the virus. The stage of infection is a significant changing factor that may significantly impact the effectiveness of treatment, yet many researchers failed to consider the changing factors when analyzing data on effective treatment. Center for Disease Control (CDC) reported the potential benefits of the use of Hydroxychloroquine in combination with other drugs as a Covid-19 treatment did not outweigh the risks but made no distinction between treatment in the early stages or treatment after the patient experienced significant adverse effects from the virus.

CDC promoted the use of facial coverings as an effective practice to prevent the spread of COVID-19 while ignoring the impact of changes in the climate between different regions of the United States causing behaviors by individuals that had a significant impact on the number of COVID-19 in different states. An example of a significant error of ignoring changing factors was the comparison of the effectiveness of facial covering between the state of Florida where there was no facial covering mandates and the state of New York and that imposed facial covering mandates. Most researchers who drew conclusions based on a comparison of the number of COVID-19 cases ignored two key changing factors in human behavior that significantly distorted the findings of data analysis. First, during the winter months, the population of Florida significantly increased as residents from the Northeast United States and Canada migrated to Florida for the winter months. The second changing factor ignored by most researchers making the comparison of the numbers of COVID-19 cases between Florida and New York was the seasonal difference of flu-like infections due to behavior resulting from the differences in the climate. In the summer months, individuals spend more time indoors because the temperature is very hot and humid in Florida, which is the opposite for the state of New York, where individuals spend more time indoors during the winter months because of the extreme cold. Additionally, individuals who spend the winter months in Florida migrate back to the Northeast United States and Canada during the summer months, significantly reducing the population. Analyzing data that compared the spread of COVID-19 between the states of Florida and New York, while ignoring significant changing factors resulted in inaccurate findings on the effectiveness of facial coverings for reducing the spread of COVID-19. Many studies in the body of literature analyzed data that concluded facial covering was ineffective. What became quite clear, several changing factors that had a significant effect on the outcome of the COVID-19 treatment, and one size fits all policies for COVID-19 treatment as suggested by policies guidelines of CDC was a significant error.

Today many families face economic hardship resulting from higher energy cost resulting from policies adapted based on research with unreliable data analysis that fail to consider changing factor in data analysis. Constant changes in the solar system with a direct effect on the climate of

the Earth are most often excluded from climate-change research. Excluding changing factors in climate-change research is a significant error because data analysis is based on the principle of "all else being equal". The fact that we know, the climate of the Earth is affected by the interaction of the Earth with the solar system and the planet Neptune 165 years orbit around the Sun in an elliptical manner is completely ignored in most of the climate-change research is a significant error. The solar system operates in 165 years cycle of constant changes because of Neptune's relationship to other objects in the solar system. The effect of gravitational interaction between the planets and other objects in the solar system is a significant factor that has a significant effect on the climate over the 165-year cycle it takes Neptune to orbit the Sun. Based on the orbit of the planet Neptune, one can conclude there is only one reliable data point every 165 years where the standard "all else being equal" can be applied for data analysis due to the continually changing gravitational interaction. Research that attribute cause and effect to changes in the climate is not scientific research. For conducting scientific research with reliable data analysis that draw conclusions that suggest cause and effect on changes in the climate on Earth, researchers would have to collect data on changes in the climate over a period of approximately 1000 years to have 7 reliable data point due to the Neptune 165 year rotation cycle around the Sun. Studies that draw conclusions on cause and effect of climate change over a few decades lack scientific evidence and credibility because the research ignores the changing factor of the 165 year rotation cycle of Neptune around the Sun.

Many lower-income and moderate-income families are facing a housing crisis today which is the direct result of research that failed to consider the changing factor of technical advancement leading to policies to address a real estate bubble that never existed. At a time when technological advancement significantly transformed the real estate and mortgage industry, exponentially increasing the demand for homes that caused significant increase in home prices, policymakers accepted the theory of a real estate bubble with no scientific evidence supporting the theory. Policymakers adapted policies that restricted mortgage lending at a time when the biggest challenge facing the United States was a lack of mortgage lending. The misinformation resulted in a real estate crash in the United States that sidelined all new home construction for over six years, at a time when technological advancement had caused a rapid increase in the demand for homes. The shortage created as a result of accepting research that ignored the changing factor of technology advancement has caused the rise in home prices to accelerate even greater than the home price increase before 2008. The failure by policymakers to address the growing housing crisis means, significant economic hardship for many low and moderate-income families that are at risk of homelessness. The problem of the growing housing crisis for low and moderately-income families today has significantly worsened as a result of a growing immigration problem that have seen significant increases in the number of lower income migrants entering the United States who are also competing for the same affordable housing that is desperately needed to avoid an epidemic housing crisis across the country. Ignoring the changing factor of advancement in technology was a significant error that resulted in misinformation leading to the Global Financial Crisis of 2007 and 2008. The real estate crash preceding the crisis that threatened the entire financial system of the world causing a debt crisis for a number of countries and the Great Recession was the result of the same misinformation. Data analysis explained the increase in home prices in the United States

and fifteen other countries around the world was due to technological advancement. A real estate bubble is defined as an, ‘unexplained rapid increase in home prices over a short period’. Data analysis in research on the United States home price increase suggesting 99% of the increase in home price was attributed to advancement in technology explained away the real estate bubble as misinformation (Walters, 2019). The rapid increase in home prices in the United States real estate market preceding the Global Financial Crisis of 2007 and 2008 were real price increase based on fair market value and not a real estate bubble.

In all three areas of research which was the focus of the current study, changing factors that were ignored resulting in research with unreliable data analysis lacking credibility were accepted into the body of literature as scientific research. Steps must be taken to address the concerns raised in the current research based on the three areas highlighted by Walters and Djokic Quantitative Analysis Factor Distortion Theory. Recommendation to address the problem raised in the current research must be considered to address the three points underscore by Walters and Djokic Quantitative Analysis Factor Distortion Theory that are listed below.

1. It is a significant error to assume changing factors are constant in quantitative analysis.
2. The assumption of changing factors to be constant ignores a key principle of scientific research on which conclusions from data analysis are based, "all else being equal".
3. Changing factors assumed to be constant in scientific research result in significant data distortion and a lack of reliability and validity of findings in quantitative research analysis.

Hypothesis Test

Ho: The evidence suggested errors in data analysis regarding changing factors assumed to be constant in scientific research have not led to scientific research lacking reliability and validity.

Ha: The evidence suggested errors in data analysis regarding changing factors assumed to be constant in scientific research have led to scientific research lacking reliability and validity.

Based on the findings of the current study the researchers failed to reject Ha, and Ho was rejected.

Research Questions Answer

Is there a need to address significant concerns regarding changing factors that are assumed to be constant in data analysis which has been used as the bases of policy decisions, raising significant questions about the validity and credibility of research accepted into the body of literature as scientific and academic research today?

The researchers in the current study found, there is a need to address significant concerns regarding changing factor that is assumed to be constant in data analysis which has been used as the bases of policy decision raising significant questions about the validity and credibility of research accepted into the body of literature as scientific and academic research today.

Recommendation to Address the Problem Outlined in the Current Study

The current researchers recommend new standards for accepting peer-reviewed studies should be adapted to address changing factors often assumed to be constant in scientific research leading to unreliable data analysis lacking reliability and credibility. Researchers must be required to address changing factors that could significantly alter the findings of research in a section titled "Potential Changing Factors Effect on Findings". In the section of the research paper, potential changing factors that can significantly alter findings should be identified and the effect on the findings and conclusions of the study should also be explained. Based on the recommendations in the current study changing factors with the potential to significantly alter the finding of scientific research will no longer be ignored by researchers and validity and credibility can be restored in scientific research.

Significance of Study

The current study highlighted the need to establish specific rules to address potential changing factors that can significantly alter the results of quantitative data analysis that are completely ignored under the assumption of, "all else being equal" in research today. By focusing on three specific areas of research that have become highly politicized. The current study outlines the significant problem in quantitative data analysis today and makes recommendations to address the problem by calling for the adaptation of new standards to address concerns raised by Walters and Djokic Quantitative Analysis Factor Distortion Theory.

CONCLUSION

Quantitative data analysis methods once viewed as scientific research have become the topic of significant political debate. It is critical to take steps to address the problem of the politicization of scientific research. There must be clear standards in quantitative data analysis to restore credibility to academic research. The implementation of measures to restore validity and reliability in quantitative data research will address concerns raised by Walters and Djokic Quantitative Analysis Factor Distortion Theory.

Establishing specific rules to address potential changing factors in quantitative research is critical to restoring credibility to the body of literature. By focusing on three specific areas of research that have become highly politicized, the current study demonstrated the significant problem of changing factors that are ignored in data analysis. The focus on the topics of COVID-19, climate-change, and economic data analysis that have become so highly politicized today, demonstrated

the need to take steps to restore validity and credibility in quantitative data analysis of research accepted into the literature as scientific research. Walters and Djokic Quantitative Analysis Factor Distortion Theory can be a useful tool in restoring reliability and credibility to data analysis in today's highly politicized environment.

The assumption of, “all else being equal”, has been commonly ignored today in data analysis of research being accepted into the body of literature today. Ignoring changing factors in data analysis to achieve a predetermined outcome is not scientific research and should not be accepted into the body of literature. Walters and Djokic Quantitative Analysis Factor Distortion Theory is a theory that is critical to restoring reliability and credibility to research accepted into the body of literature. The goal of Walters and Djokic Quantitative Analysis Factor Distortion Theory was to identify the threat to the reliability and validity of scientific research and establish new standards for data analysis that restore the reliability and validity. The current study highlighted the importance of addressing issues raised by Walters and Djokic Quantitative Analysis Factor Distortion Theory which was introduced in (Walters 2020D). American Psychological Association (APA) must adopt additional standards for data analysis to restore validity and reliability in scientific research. Taking steps to address the problem of junk science being accepted as scientific research is critical to restoring credibility to the body of literature. Establishing a new section in all research papers entitled "Potential Changing Factors Effect on Findings" can address the problem. Requiring the new section in research papers will force researchers to identify changing factors and consider the implications of such factors that are not currently required. By adopting the new standards, reliability and validity in data analysis can significantly increase the credibility of research accepted into the body.

Reference

- Atkinson, R. d'E. (1975). On The Earth's Axes of Rotation and Figure, *Monthly Notices of the Royal Astronomical Society, Volume 171*, Issue 2, Pages 381–386, <https://doi.org/10.1093/mnras/171.2.381>
- Bernardini, A., Ciconte, G., Negro, G., Rondine, R., Mecarocci, V., Viva, T., Santini, F., de Innocentiis, C., Giannelli, L., Witkowska, E., Locati, E. T., Castelvechchio, S., Marrocco-Trischitta, M. M., Vicedomini, G., Menicanti, L., & Pappone, C. (2021). Assessing QT interval in COVID-19 patients: Safety of hydroxychloroquine-azithromycin combination regimen. *International journal of cardiology, 324*, 242–248. <https://doi.org/10.1016/j.ijcard.2020.09.038>
- Bae, S. Kim, M.-C., Kim, J., Cha, H., Seo, J., Jung, J., Kim, M.-J. Oh, D. K., Lee, M., Choi, S., Sung, M., Hong, S., Chung, J., Kim, S. (2020). Effectiveness of surgical and cotton masks in blocking SARS–CoV-2: A controlled comparison in 4 patients. *Annals of Internal 173(1):W22-W23* , <https://doi.org/10.7326/M20-1342>
- Gasperetti, A, Biffi, M., Duru, F., Schiavone, M., Ziacchi, M., Mitacchione, G., Lavalle, C., Saguner, A., Lanfranchi, A., Casalini, G., Tocci, M., Fabbricatore, D., Salghetti, F., Mariani, M V., Busana, M., Bellia, A., Cogliati, C.B., Viale, P., Antinori, S., Galli, M., Galiè, N., Tondo, C., Forleo, G.B., (2020). Arrhythmic safety of hydroxychloroquine in

- COVID-19 patients from different clinical settings, *EP Europace*, Vol. 22, No. 12, pp. 1855–1863, <https://doi.org/10.1093/europace/euaa216>
- Greely, R. (1994). *The Neptune System*. In: *Planetary Landscapes*. Springer, Boston, MA. https://doi.org/10.1007/978-1-4757-2293-2_11
- Guerra, D.D. & Guerra, D. J. (2021). Mask mandate and use efficacy in state-level COVID-19 containment. *MedRxiv*. <https://doi.org/10.1101/2021.05.18.21257385>
- Lofgren, S., Nicol, M. R., Bangdiwala, A. S., Pastick, K. A., Okafor, E. C., Skipper, C. P., Pullen, M. F., Engen, N. W., Abassi, M., Williams, D. A., Nascene, A. A., Axelrod, M. L., Lother, S. A., MacKenzie, L. J., Drobot, G., Marten, N., Cheng, M. P., Zarychanski, R., Schwartz, I. S., Silverman, M., Chagla, Z., Kelly, L. E., McDonald, E. G., Lee, T. C., Hullsiek, K.H., Boulware, D. R., Rajasingham, R., (2020). Safety of Hydroxychloroquine among outpatient clinical trial participants for COVID-19, *Open Forum Infectious Diseases*, 7(11), <https://doi.org/10.1093/ofid/ofaa500>
- MacIntyre, C. R., Cauchemez, S., Dwyer, D. E., Seale, H., Cheung, P., Browne, G., Fasher, M., Wood, J., Gao, Z., Booy, R., & Ferguson, N. (2009). Face mask use and control of respiratory virus transmission in households. *Emerging infectious diseases*, 15(2), 233–241. <https://doi.org/10.3201/eid1502.081167>
- Schmude, R.W. (2008). *The Neptune System*. In: *Uranus, Neptune, and Pluto and How to Observe Them*. *Astronomers' Observing Guides*. Springer, New York, NY. https://doi.org/10.1007/978-0-387-76602-7_2
- Tsuda, T., Shepherd, M. & Gopalswamy, N. (2015). Advancing the understanding of the Sun–Earth interaction—the Climate and Weather of the Sun–Earth System (CAWSES) II program. *Prog. in Earth and Planet. Sci.* 2, 28, <https://doi.org/10.1186/s40645-015-0059-0>
- Wahr, J.M. (1981). The forced nutations of an elliptical, rotating, elastic and oceanless earth, *Geophysical Journal International*, Volume 64, Issue 3, Pages 705–727, <https://doi.org/10.1111/j.1365-246X.1981.tb02691.x>
- Walters, E. (2022). Skyrocketing home prices, the global economic risk, false real estate bubble, attack on capitalism, COVID-19 misinformation: The destruction of subprime mortgage lending, sidelined new construct, global financial crisis fallout. *Journal of Management and Training for Industries*, Vol.9, No.1, pp21-39. <https://www2.ia-engineers.org/JMTI/index.php/jmti/article/view/912>
- Walters, E. T. (2018). Changes in FDI Inflows and Economic Growth and the Effect on Exports: The Aftermath of The Global Financial Crisis of 2007 and 2008 (Order No.10976977). Retrieved on August 1, 2021 from <https://search.proquest.com/docview/2135243535?accountid=35796>.
- Walters, E. T. (2019). Growth in Home Purchase Price Preceding Crisis Explained by Technology Advancement: Eddison Walters Risk Expectation Theory of The Global Financial Crisis of 2007 and 2008 Confirmed. *Journal of International Business and Economics*, Vol. 7, No. 2, pp. 140-153. Published American Research Institute for Policy Development. <https://doi.org/10.15640/jibe.v7n2a15>.

- Walters, E. T. (2020A). Eddison Walters Modern Economic Analysis Theory: Building on the Eddison Walters Risk Expectation Theory of The Global Financial Crisis of 2007 and 2008. *Archives of Business Research*, Vol. 8, No. 6, pp. 118-126. <https://doi.org/10.14738/abr.86.8399>
- Walters, E. T. (2020B). Impact of Advancement in Technology, False Conclusion of Real Estate Bubble, Record Low Mortgage Delinquency Irresponsible Media, U.S. Economic Policy Disaster: Evidence Supporting Eddison Walters Risk Expectation Theory of The Global Financial Crisis of 2007 and 2008. *International Business Research*, Vol. 13, No. 7, pp. 224-235. <https://doi.org/10.5539/ibr.v13n7p224>.
- Walters, E. T. (2020C). Increase in Consumer Debt Preceding Crisis due to Advancement in Technology, Further Evidence Supporting the Idea No Real Estate Bubble Existed Preceding Crisis Presented by Eddison Walters Risk Expectation Theory of The Global Financial Crisis of 2007 and 2008: The case for Eddison Walters Modern Economic Analysis Theory. *International Business Research*, Vol. 13, No. 9, pp. 122-122. <https://doi.org/10.5539/ibr.v13n9p122>.
- Walters, E. T. (2020D). Evidence from Data Analysis, Fifteen Developed Countries and the United States Home Prices Increase between 1990 to 2006 Result of Advancement in Technology, Worldwide Economic Collapse and Great Recession Result of False Information by Media and Economic Policy Failures: Walters Real Estate Bubble Impossibility Price Transparency Theory, Real Estate Bubble is Impossible, An End to Economic Policies Based on False Information. *International Business Research*, Vol. 13, No. 11, pp. 114-136. <https://doi.org/10.5539/ibr.v13n11p114>.
- Walters, E. & Djokic, B. (2019). No Real Estate Bubble Preceding Global Financial Crisis: Eddison Walters Risk Expectation Theory of The Global Financial Crisis of 2007 and 2008. *Journal of International Business and Economics*, Vol. 7, No. 2, pp. 1-11. Published by American Research Institute for Policy Development. <https://doi.org/10.15640/jibe.v7n2a1>