Influence of Collectivistic and Individualistic Cultures on ADHD Treatment Preferences and Efficacy in Adults

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INFLUENCE OF COLLECTIVISTIC AND INDIVIDUALISTIC CULTURES ON ADHD TREATMENT PREFERENCES AND EFFICACY IN ADULTS

by

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SUBMITTED TO SCRIPPS COLLEGE IN PARTIAL FULFILLMENT OF THE DEGREE OF BACHELOR OF ARTS

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Abstract

This thesis investigates the influence of collectivistic and individualistic cultural values on the treatment preferences and efficacy for Attention-Deficit/Hyperactivity Disorder (ADHD) in adults. Drawing upon theories like Hofstede's Cultural Dimensions and Markus and Kitayama's concept of Independent and Interdependent Selves, it examines how cultural norms shape perceptions and management strategies for ADHD. The study uses a mixed-methods approach, incorporating quantitative surveys and qualitative interviews with a diverse sample of adults diagnosed with ADHD. We hypothesize that there will be a preference for Western medicine among individualistic cultures and traditional remedies among collectivistic cultures. It also expects to find that individuals from collectivistic cultures will demonstrate higher adherence to and effectiveness of traditional treatments and those from individualistic to Western treatments. The research underscores the role of cultural beliefs in shaping treatment outcomes and emphasizes the need for culturally sensitive approaches to managing ADHD. This study contributes to a deeper understanding of ADHD as a multifaceted condition, advocating for personalized treatment strategies that are culturally congruent and effective for adults globally.
Introduction

Attention-Deficit/Hyperactivity Disorder (ADHD) in adults is an increasingly recognised and critical aspect of global mental health. Characterized by symptoms such as inattention, hyperactivity, and impulsivity, ADHD in adults presents unique challenges, including difficulties in time management, organizational skills, goal setting, and maintaining personal and professional relationships (Barkley, Murphy & Fischer, 2008). These challenges often lead to significant implications in various life domains, including work performance, social interactions, and overall quality of life. The interpretation and management of ADHD, however, are not universal and are significantly influenced by cultural values and norms. Cultural influences play a pivotal role in how symptoms are perceived, the stigma associated with the disorder, and consequently, the preferred treatment approaches. Culture shapes the very fabric of mental health, influencing everything from symptom expression to treatment-seeking behaviours (Kirmayer and Minas, 2000). Understanding ethnicity, culture, and their fundamental dimensions (Jovchelovitch & Gervais, 1999), is crucial in comprehending how these elements shape individual health behaviours and treatment choices.

The dichotomy between collectivistic and individualistic cultures is particularly salient in the context of ADHD. Collectivistic cultures, which emphasize group harmony and interdependence, may perceive and manage ADHD differently compared to individualistic cultures, where independence and personal achievement are highly valued. This cultural variation leads to distinct preferences in ADHD treatment, ranging from pharmacological interventions to more holistic approaches (Hinshaw et al., 2011). Furthermore, the integration of neurodiversity and socio-emotional regulation perspectives enriches our understanding of ADHD. Neurodiversity, a concept popularized by Singer (1999), advocates for the acceptance of
neurological differences, including ADHD, as a natural variation in human cognition rather than a pathology. This perspective emphasizes the need for a more inclusive and diverse understanding of ADHD, one that transcends cultural boundaries. As posited by Graziano and Garcia (2016), socio-emotional skills, which include the ability to regulate emotions and behaviour, are crucial for coping with ADHD. However, the development and expression of these skills are deeply embedded in cultural practices and beliefs.

Additionally, the stigma associated with mental health disorders varies from culture to culture, impacting individuals’ willingness to seek treatment (Misra et al., 2021). In some societies, admitting to having a mental health condition like ADHD can lead to social ostracism (Robinson et al., 2012), while in others, there is growing advocacy and support for mental health awareness. This disparity in cultural attitudes towards ADHD underscores the importance of a culturally sensitive approach to understanding, diagnosing, and treating this condition.

In light of these considerations, this paper aims to critically examine how collectivistic and individualistic cultural values shape ADHD treatment preferences and efficacy in adults.

**Understanding Collectivistic and Individualistic Cultures**

The concepts of collectivism and individualism, popularized by prominent researchers like Geert Hofstede and Harry Triandis, describe the extent to which individuals in a society are integrated into groups or prioritize the self over the group, respectively.

In collectivistic cultures, where group harmony, community integration, and interdependence are highly valued (Markus & Kitayama, 1991), the perception and management of ADHD exhibit notable differences compared to individualistic cultures. In these societies, the understanding of ADHD is deeply intertwined with broader societal norms and expectations. In many collectivistic cultures, behaviours typically associated with ADHD, such as impulsivity or
inattention, may not be immediately pathologized. Instead, these behaviours might be seen within the broader context of an individual's social and familial environment. For instance, hyperactivity or inattentiveness might be attributed to factors like parenting style, educational environment, or even dietary habits, rather than being seen as symptoms of a neurological disorder.

In individualistic cultures, however, the approach to ADHD is largely shaped by a medical model that prioritizes clinical diagnosis and symptom management. This framework is deeply rooted in the cultural values of autonomy, individual rights, and personal achievements (Markus & Kitayama, 1991). A study by Jensen et al. (2002) provides insight into this perspective, highlighting the prevalent trend in Western countries towards diagnosing ADHD based on specific medical criteria and managing it primarily through pharmacological means. The focus in these cultures is on identifying and treating the disorder in a way that enhances the individual's ability to function independently in academic, occupational, and social settings.

**Common Treatments for ADHD**

ADHD is typically managed through a combination of medication and psychotherapy. The most commonly used pharmacological treatments for ADHD are stimulant medications which include Methylphenidate, found in medications like Ritalin, Concerta, and Daytrana, which is one of the most widely prescribed treatments for ADHD. It works by increasing the levels of dopamine and norepinephrine in the brain, which helps improve attention and focus while reducing hyperactive and impulsive behaviour. Another commonly prescribed class of medications are Amphetamines. This class includes medications such as Adderall, Vyvanse, and Dexedrine. Amphetamines function similarly to methylphenidate but have a different chemical structure. They increase the release of neurotransmitters in the brain, thereby enhancing focus
and attention and reducing impulsivity. Non-stimulant medications like atomoxetine, Guanfacine and Clonidine are also prescribed, especially for patients who do not respond well to stimulants or have certain co-existing conditions. Psychotherapy, including behavioural therapy, and cognitive-behavioural therapy (CBT) plays a crucial role in managing ADHD, especially in helping individuals develop coping strategies and social skills. Traditional or non-Western methods of treatments can include anything from acupuncture and ayurvedic medicines to meditation and dietary changes.

**Role of Cultural Beliefs in Treatment Choices**

Cultural beliefs significantly impact treatment choices. In individualistic cultures, there is a higher tendency to use medication as the first-line treatment. However, in many collectivistic cultures, there is a preference for non-pharmacological approaches, often due to concerns about medication side effects and a cultural emphasis on natural and holistic treatments.

The differences in how ADHD is perceived and managed in collectivistic versus individualistic cultures can be explained through several psychological theories and conceptual frameworks. These theories help us understand the cultural underpinnings of mental health perceptions and treatment preferences.

*Hofstede’s Cultural Dimensions Theory*

Hofstede's Cultural Dimensions Theory, particularly the Individualism-Collectivism dimension, provides a nuanced lens through which we can understand the varied approaches to ADHD in different cultural contexts. This theory delineates between individualistic cultures, where personal achievement and independence are highly valued, and collectivistic cultures, which prioritize group harmony and interdependence.
In individualistic cultures, there is a strong emphasis on individual autonomy and self-realization. In these societies, ADHD symptoms like inattention, hyperactivity, or impulsivity are often viewed as impediments to personal success and self-fulfilment. This perspective leads to a predominant reliance on the medical model for ADHD, focusing on diagnosis based on specific criteria and management primarily through medication and individual therapy. The approach is in line with the cultural emphasis on individual autonomy and self-help. In these cultures, the impact of ADHD on educational and occupational performance is a significant concern, given the high value placed on academic and career achievements. Additionally, there can be a stigma associated with ADHD, often perceived as a personal failing rather than a neurodevelopmental disorder, fostering a culture where individuals are expected to independently manage or overcome their symptoms.

Conversely, in collectivistic cultures, the understanding of mental health, including ADHD, is framed within the broader context of family and community. Here, behaviours associated with ADHD might not be immediately pathologized; instead, they are often understood in relation to social and familial dynamics. Collectivistic cultures tend to prefer holistic and adaptive strategies over medication, which may include family therapy, changes in the educational environment, and community support systems. The focus is less on medical diagnosis and more on maintaining group harmony, leading to a reduced emphasis on medical models of mental health. In these settings, ADHD behaviours might be seen as variations within the normal spectrum of behaviour rather than symptoms of a disorder. Furthermore, the stigma surrounding mental health disorders can be more pronounced in these cultures due to concerns about maintaining social harmony and preserving family reputation, which might lead to underdiagnosis or a reluctance to seek professional help. (Hofstede)
Markus and Kitayama's Theory of Independent and Interdependent Selves

Markus and Kitayama's theory of independent and interdependent selves offers a profound insight into how cultural contexts shape the understanding and management of ADHD. In individualistic cultures, where the 'independent self' is emphasized, the self is viewed as an autonomous, separate entity. This perspective significantly influences the perception of ADHD, aligning it with a medical model that treats the condition as an individual issue requiring individual treatment. In these cultures, ADHD is often seen as a personal neurological disorder that hinders individual abilities and achievements. The focus is on diagnosing and treating the individual, typically through medication and individual therapy, with an underlying aim to enable the individual to conform to societal norms and structures.

Conversely, the 'interdependent self' predominant in collectivistic cultures, perceives the self as fundamentally connected to others and defined by relationships within a group. In these contexts, ADHD is approached more holistically. Rather than viewing it solely as a medical condition of the individual, it is often considered in relation to the individual's roles and functioning within a family or community. This perspective leads to treatment and support approaches that are more community and family-oriented, focusing on creating supportive environments and adapting social structures to better accommodate the individual. This approach is less about changing the individual to fit into the environment and more about creating an environment that is more accommodating and supportive. (Markus and Kitayama, 1991)

Bronfenbrenner's Ecological Systems Theory

Urie Bronfenbrenner's Ecological Systems Theory provides a valuable framework for understanding the diverse approaches to ADHD in different cultural settings. This theory posits that an individual's development is influenced by various interrelated systems, ranging from
immediate surroundings to broader societal and cultural influences. Therefore reiterating the idea that in collectivistic cultures, ADHD behaviours are addressed within social systems leading to management strategies that involve family and community support, and in individualistic cultures where these behaviours are looked at with an emphasis on personal responsibility- a medical approach is preferred.

Bronfenbrenner's theory thus highlights the importance of considering the ecological context in understanding and managing ADHD. This understanding is crucial for developing culturally sensitive and effective ADHD management strategies that respect and align with the individual's broader social environment. (Bronfenbrenner, 1981)

**Role of Cultural Beliefs in Treatment Outcomes**

Cultural factors not only influence treatment choices but also affect outcomes. It is seen that when treatment aligns with cultural beliefs and practices, there is higher compliance and better overall outcomes (Slobodin & Masalha, 2020).

**Current Limitations in Research**

The existing literature on ADHD has primarily focused on populations in Western, individualistic societies. This focus has inadvertently led to a significant gap in understanding ADHD within culturally diverse contexts. Moreover, most current studies predominantly emphasize pharmacological treatment approaches, often overlooking culturally specific treatment methods or non-pharmacological interventions. This narrow focus fails to account for the cultural variability in healthcare beliefs and practices, which can significantly influence treatment acceptability, effectiveness and preferences.

Much of the existing ADHD research has been predominantly focused on children and adolescents. This focus leaves a gap in understanding how ADHD manifests and evolves in
While there is some understanding of pharmacological and behavioural therapies in Western contexts, there is limited knowledge about how these treatments are perceived and utilized in non-Western adult populations. Furthermore, the effectiveness of culturally specific treatments, traditional practices, and community-based interventions for adults with ADHD remains underexplored.

Given these limitations, there is a compelling need for research that offers a holistic and culturally sensitive perspective on ADHD. Such a study would not only aid in filling the existing gaps in knowledge but also enhance the understanding of ADHD as a global, multifaceted condition that transcends cultural boundaries. It would help in developing culturally sensitive treatment approaches that are more aligned with adult patients' needs and preferences. Furthermore, research into the efficacy of different treatment modalities for adult ADHD in diverse cultural settings is crucial. Such studies could lead to more effective and personalized treatment strategies, improving outcomes for adults with ADHD.

**Proposed Method**

**Participants**

This study will involve a diverse sample of adults diagnosed with ADHD, above the age of 18 years. Assuming a small effect size of 0.2, a significance level of 0.05, and a desired power level of 0.8, a sample of at least 394 participants is required. Ideally, this would have a distribution of individuals from various geographic and cultural backgrounds.

Participants will be recruited through various channels, including online platforms like social media sites, ADHD support groups (online and offline), and clinics. To further recruit participants, fliers will be left around public spaces like college campuses, gyms and community spaces with the specific demographic information required to participate in the study mentioned...
on them. Word-of-mouth can be a powerful tool, especially in closely-knit cultural groups and therefore we would want to encourage participants to refer others from their community. We will also ensure that recruitment materials (flyers, online posts, etc.) are available in multiple languages relevant to target populations to increase accessibility and inclusivity.

Given that the proposed method requires the participants to spend a considerable amount of dedication, they will be compensated between 50 and 350 dollars (or the equivalent amount depending on the country) depending on how much of the study they complete. This tiered compensation system is designed to fairly remunerate participants for their time and effort. For instance, participants who complete initial surveys might receive $50, while those who also participate in follow-up interviews or additional assessments could receive up to $350. This approach ensures that compensation is proportional to the level of involvement and commitment required at different stages of the study. The exact breakdown of compensation levels will be clearly communicated to participants beforehand, ensuring transparency and understanding of the compensation process.

Materials

*Online Surveys (Appendix A)*

This survey will include an informed consent form, and demographic questions regarding participants’ age, sex, race, ethnicity, and geographical location. The survey will also include questions regarding participants' diagnoses and treatment history for ADHD.

The online format provides a convenient and accessible platform for participants from various geographical locations and cultural backgrounds, allowing for a diverse and representative sample. It also allows participants to respond at their convenience, potentially increasing response rates. The surveys will include a mix of multiple-choice questions and rating
scales to capture a broad range of responses. Questions will be designed to ensure clarity and cultural sensitivity, avoiding any biases or assumptions. The surveys will be distributed through Qualtrics.

*Horizontal & Vertical Individualism & Collectivism I scale (Appendix B)*

The Horizontal & Vertical Individualism & Collectivism (I/C) Scale developed by Singelis et al. (1995) is a significant tool in cross-cultural psychology that can be used to quantify cultural orientations, in this case, individualism vs collectivism. This scale is designed to measure individualism and collectivism across two distinct axes: horizontal, which emphasizes equality, and vertical, which underscores hierarchy.

In research directed towards adults with ADHD, the Horizontal & Vertical I/C Scale can be useful in categorizing participants who display more individualistic or collectivistic tendencies into two groups, which will eventually aid in looking at correlations between cultural orientation (individualism vs collectivism) and their treatment preference and overall outlook of the condition.

*ADHD Treatment Preference Questionnaire (appendix C)*

Participants will be asked to indicate their preferred treatment method for ADHD, choosing between traditional remedies and Western medication.

Fiks et al. (2012) developed an instrument specifically aimed at measuring parents' preferences and goals for ADHD treatment. The questionnaire included items that addressed various aspects of treatment, such as medication, behavioural therapy, and alternative treatments, as well as goals like academic achievement, behavioural improvements, and social skills development. The utility of this instrument in cross-cultural research lies in its ability to discern how cultural backgrounds might shape preferences for ADHD treatment. For instance, in some
cultures, there may be a preference for more holistic or natural treatments, while in others, a greater reliance on medication might be observed.

Furthermore, the instrument’s design allows for adaptation and localization, making it suitable for use in diverse cultural contexts. Tailoring this questionnaire for cross-cultural research directed towards adults and their own treatment preferences can reveal how cultural factors influence these preferences for adults with ADHD.

**Beliefs about Medicines Questionnaire (Appendix D)**

The Beliefs about Medicines Questionnaire (BMQ) is a novel assessment tool developed by Horne, Weinman, and Hankins (1999), to understand patients' perceptions of medications. It consists of two sections: BMQ-Specific, which assesses beliefs about personal medication use, and BMQ-General, which evaluates general views on medicines. The BMQ-Specific includes factors for assessing the necessity of prescribed medication and concerns about its potential side effects and long-term impacts. The BMQ-General covers beliefs about the harmfulness and overuse of medications by doctors. The development of the BMQ involved thematic analysis from prior studies and patient interviews, resulting in an 18-item, four-factor structure.

In cross-cultural contexts, the BMQ can provide insights into how different cultural backgrounds influence beliefs about medication. This could reveal variations in how medications are perceived and utilized across cultural groups.

**Medication Adherence Report Scale (Appendix E)**

The Medication Adherence Report Scale (MARS) is a self-report questionnaire designed to assess patients' nonadherence behaviours, including forgetting to take medication, altering dosages, or stopping medication without consultation. In their research, Chan et al. (2020) focused on refining and validating MARS by using a 10-item version of MARS, of which five
items were retained. This process involved evaluating the scale's reliability and validity in capturing the nuances of medication adherence behaviours, which are critical for understanding patient compliance and designing interventions to improve adherence.

In cross-cultural contexts, MARS can be adapted to assess how cultural factors influence medication adherence. Different cultural backgrounds may influence beliefs and practices regarding medication usage, which in turn can affect adherence. For the purpose of this study, MARS will be adapted to the languages and culturally appropriate literacy levels of the countries participants are recruited from.

**Procedure**

All materials, including surveys, consent forms, informational brochures, and interview guides, will be translated into the primary languages of the participant groups. This process will ensure that the materials are not only linguistically accurate but also culturally adapted, respecting and reflecting the nuances of each language.

Translation in cross-cultural research is not just a linguistic process but also a cultural one which makes it crucial to ensure that translated materials are accurate and relevant. This requires an understanding of the cultural context and the experiences of the population being studied. Choi et al. (2012) emphasize the importance of involving bilingual and bicultural individuals in the translation process. These individuals can provide insights into the nuances of language and culture that are crucial for accurate translation.

To adapt materials culturally, not just translate them literally, might involve altering certain phrases or concepts to make them more culturally relevant and understandable to the target population. An effective technique for ensuring the accuracy of translations is the back-translation method (Cha et al., 2007). In this process, the material is first translated from
the source language to the target language and then back-translated to the original language by a different translator. A feedback mechanism will be incorporated here, where participants can review and validate the translated and interpreted versions of their responses known as member checking. This method can help in identifying any discrepancies or misunderstandings in the translation. This method will be used in our study where relevant.

*Treatment Preference Assessment Phase*

Once we gather a database of participants through the various recruiting forums, they will be sent a Qualtrics survey. At the onset of the survey, participants will be asked about their language preference for receiving materials and conducting interviews. This choice will be accommodated throughout the study to ensure participants' comfort and better expression of their experiences and perspectives. This survey will include the consent form, questions regarding demographic information, their history with ADHD, and the Horizontal & Vertical Individualism & Collectivism I scale. This will be followed by the ADHD Treatment Preference Questionnaire where participants will indicate their preferred treatment method for ADHD,

The HV/IC scale will be used to categorize participants based on their cultural orientation, which is crucial for understanding the influence of cultural factors on treatment preferences. This phase provides initial insights into how cultural backgrounds might shape individuals’ preferences for ADHD treatments, ranging from traditional remedies to Western medication.

Participants will then be given the option to partake in qualitative interviews, aiming to delve deeper into the reasons behind their treatment preferences, which could include cultural beliefs, stigma associated with ADHD, or personal experiences with various treatments. The analysis of qualitative interviews in the study will involve thematic analysis, where data is
transcribed, coded, and thematically categorized to identify key patterns and themes. Interviews will be conducted by bilingual or multilingual interviewers. These interviewers will be proficient in the participants’ languages. This approach ensures that participants can express themselves freely and authentically in their preferred language, thereby enhancing the depth of the data collected.

*Treatment Efficacy Monitoring Phase*

A subgroup of participants, particularly those new to ADHD medication or intending to start a new treatment plan, will be monitored over a 12-month period. Monthly surveys, incorporating scales such as the BMQ and MARS, will be administered to assess the effectiveness of their treatment and adherence patterns. By incorporating these scales in monthly surveys, the influence of beliefs and attitudes towards medication adherence patterns over time can be assessed. This will help correlate cultural orientation and treatment efficacy or belief/disbelief in a certain kind of treatment.

Consistent adherence (or lack thereof) also plays a significant role in treatment efficacy. Since the study includes participants from various cultural backgrounds, monitoring treatment efficacy across these groups can reveal important cultural influences on treatment outcomes. It allows the investigation of whether cultural factors play a role in how participants respond to ADHD medication over time. Therefore the study can explore how individuals from different cultural backgrounds adapt to and manage their ADHD treatment over an extended period. This might include shifts in treatment preferences, changes in beliefs about medication, or variations in adherence behaviours, all of which could be influenced by cultural factors.
To make sure we avoid biases and maintain the credibility of the study, researchers monitoring treatment efficacy will not be made aware of the cultural orientations of the participants. This approach may help prevent confirmation bias.

**Ethical Considerations**

The proposed study investigates the relationship between cultural influences and ADHD treatment preferences among adults, and the research is anchored in the ethical principle of beneficence, aiming to contribute valuable insights to the scholarly knowledge base on ADHD treatments, enhance understanding within the medical community, and potentially improve the quality of life for individuals with ADHD.

Voluntary participation is fundamental to the study's ethical approach, ensuring that individuals engage in the research willingly, without any pressure, and with a complete understanding of what their involvement entails. Each participant will be informed of the nature of the study, what is expected of them, and their right to withdraw at any point without any consequence. To protect participants' anonymity, all identifying information will be handled only by the research team, and stored securely. In the digital realm, encryption methods will safeguard information, preserving participant privacy and adhering to the highest standards of data protection. Risks associated with this study are considered minimal, not exceeding those encountered in daily life. Nonetheless, the research engages with sensitive topics such as personal health information, cultural backgrounds, and potentially stigmatizing views on ADHD. To minimize these risks, the study will implement a thorough informed consent process, detailing the content and aim of the research, and emphasizing participants' right to privacy and respectful treatment. Participants will be assured that their responses will be used solely for the purposes of academic inquiry, with no personal data disclosed in any reports or publications. In
scenarios where participants might experience discomfort when discussing personal experiences with ADHD and its treatment, they can be offered debriefings, support, and referrals to psychological services if necessary. This not only serves to alleviate any potential distress caused by participation but also provides an avenue for further assistance, thus offering a direct benefit to participants.

The research does not involve deception; all participants will be clearly informed of the study's aims and methods, except for the omission of specific hypotheses to avoid biased responses. This omission is not considered deceptive within the context of psychological research, as it preserves the integrity of the participants' natural and unbiased reactions. Special consideration is given to the possibility of involving individuals from protected or vulnerable populations. While the study does not target these groups exclusively, the diversity of the adult ADHD population necessitates sensitivity and respect for all cultural backgrounds. The ethical considerations of this study, therefore, are comprehensive, balancing the pursuit of knowledge with the imperative to protect and respect participants.

**Anticipated Results**

For the quantitative aspect of the study, which includes survey responses and treatment preference and efficacy data, statistical analyses will be used to identify patterns and correlations. Descriptive statistics will provide an overview of the demographic characteristics of the sample and basic trends in treatment preferences. For examining the relationship between cultural orientation (measured by the Horizontal & Vertical Individualism & Collectivism I scale) and treatment preferences, inferential statistics such as chi-square tests or logistic regression may be used, depending on the nature of the data. These tests will help in determining if there are statistically significant differences in treatment preferences across different cultural groups.
The Treatment Efficacy Monitoring phase will involve analyzing data from the Medication Adherence Report Scale (MARS) and the Beliefs About Medicines Questionnaire (BMQ). Here, repeated measures ANOVA or mixed-model ANOVA might be appropriate to assess changes in treatment efficacy and adherence over time and to compare these changes across different cultural groups. This approach allows for the examination of within-subject (over time) and between-subject (across cultures) effects.

For the qualitative component, thematic analysis will be used to analyze interview data. This will involve coding and quantifying the data to identify common themes related to cultural beliefs, stigma associated with ADHD, and personal treatment experiences. The qualitative analysis will provide depth and context to the quantitative findings, offering a better understanding of how cultural factors influence ADHD treatment experiences. The quantitative scores can be compared across cultural orientations and treatment preferences as well.

The study expects to find a preference for Western medication among participants from individualistic cultures. This trend is likely to emerge due to their more positive perceptions of modern pharmaceutical medications (Horne et al., 2004). Conversely, participants from collectivistic cultures are anticipated to show a stronger preference for traditional remedies. This inclination toward traditional remedies may stem from their cultural background influencing a more skeptical view of modern pharmaceutical medications (Horne et al., 2004) or a deeper trust in traditional healthcare practices and a reliance on community-shared healthcare wisdom and practices.

Furthermore, in terms of treatment adherence and perceived efficacy, the study hypothesizes that individuals from collectivistic cultures will demonstrate higher adherence to and effectiveness of traditional or “alternative” treatments for ADHD. This could be attributed to
the cultural congruence of these treatments within their societal norms and beliefs. On the other hand, participants from individualistic cultures are expected to exhibit greater adherence to and find more efficacy in Western treatments for ADHD, reflecting their cultural alignment with modern medical practices and the high value placed on individual health autonomy and decision-making.

**Scholarly Merit and Broader Impact**

The study investigating the influence of cultural values on ADHD treatment preferences among adults possesses both substantial scholarly merit and a broader impact that extends beyond the academic community. From a scholarly perspective, this research advances the cross-cultural understanding of ADHD. It addresses a notable gap in the existing literature, which has predominantly concentrated on ADHD within Western societies, thereby offering a more comprehensive view of this condition across diverse cultural backgrounds. Existing research also focuses largely on ADHD in children and this research hopes to shed some light on this area by specifically targeting adult populations. By examining ADHD in adults across various cultures, the study enriches the understanding of the condition's lifecycle and underscores the need for lifelong management strategies and support systems.

The broader impact of the study is multifaceted. Clinically, the findings can inform healthcare professionals about culturally sensitive approaches to ADHD treatment, leading to more personalized and culturally aware care. In the public health and policy arena, the insights can guide initiatives and policy-making to ensure that mental health services are culturally competent and accessible to diverse populations. The study also has empowering implications for individuals with ADHD, as it explores a range of treatment preferences since it validates a
variety of treatment approaches, potentially reducing the stigma associated with non-conventional treatments.

In summary, this research not only fills a critical gap in the academic understanding of adult ADHD but also has far-reaching implications for clinical practice, public health policy, education, and the empowerment of individuals with ADHD. It underscores the importance of considering cultural factors in mental health treatment and contributes to a more nuanced and comprehensive understanding of ADHD in the global context.

Future research could focus on expanding the understanding of ADHD within an even broader array of cultural contexts. Additionally, longitudinal studies could be valuable in understanding how cultural attitudes towards ADHD and treatment preferences evolve. Research could also delve deeper into the effectiveness of culturally specific treatments and their integration with conventional medical approaches. These research efforts will not only enhance the global understanding of ADHD but also contribute to the development of more effective, culturally sensitive treatment approaches.
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https://doi.org/10.1007/s00520-022-07411-w

Appendix A:

Qualtrics Survey

What language are you most comfortable in/ आप किस भाषा में सबसे अधिक सहज हैं/ Con qué idioma estas más cómodo/ ما هي اللغة التي تشعر براحة أكبر فيها/ Avec quelle langue es-tu le plus confortable/ আপনি কোন ভাষায় সবচেয়ে স্বাস্থ্যবোধ করেন/ На каком языке вам удобнее говорить/ Em qual idioma você se sente mais confortável/ ?

☐ English
☐ Hindi
☐ Spanish
☐ Arabic
☐ French
☐ Bengali
☐ Russian
☐ Portuguese
☐ Urdu
[Top ten most spoken languages in the world- Language selected by participants will be reflected in the rest of the surveys and interviews.]

**Consent Form**

Principal Investigator: Natasha Sethia

Email: nsethia0151@scrippscollege.edu

This research project is part of my Senior Thesis at Scripps College. You are invited to participate in a study exploring cultural backgrounds and ADHD. This document provides information to help you make an informed decision about your participation. Should you have any questions or concerns, please feel free to contact me via email.

Participants eligible for this study are adults (18 years or older) who have been diagnosed with ADHD. Participation will involve completing online surveys and may include follow-up interviews. The online surveys will take approximately 30-45 minutes to complete. For those participating in follow-up interviews, these are expected to last about 60 minutes and will delve deeper into your experiences and perspectives regarding ADHD treatment.

Participation in this study involves minimal risk, similar to everyday life experiences. While there may not be direct benefits to you, your participation will contribute valuable information to the field of ADHD treatment in diverse cultural contexts. It may also offer insights into your own treatment preferences and experiences. Your participation is entirely voluntary, and you may withdraw at any time without any negative consequences. All information collected will be kept confidential and used solely for research purposes. Identifiable information will be separated from your responses to ensure anonymity.
If you have any further questions about the study or your participation, please contact me at nsethia0151@scrippscollege.edu. Additionally, if you have any concerns about your rights as a research participant, you can contact the Scripps College Institutional Review Board at irb@scrippscollege.edu.

By proceeding with the survey, you acknowledge that you are at least 18 years old, have read and understood this consent form, and agree to participate in this research study.

- Consent Button: "I Agree to Participate"
- If not participating: "I Do Not Wish to Participate" – Option to Exit Survey

**Demographic Questionnaire**

Age:

[Enter your age here]

Gender:

- [] Male
- [] Female
- [] Other
- [] Prefer not to say

Race:

- [] White
- [] African American
☐ Native Hawaiian or Other Pacific Islander

☐ American Indian or Alaska Native

☐ South East Asian

☐ South Asian

☐ Other (Please specify)

Ethnicity: Commonalities such as race, national origin, tribal heritage, religion, language, and culture can describe someone’s ethnicity. Whereas someone might say their race is “White,” their ethnicity might be Italian or Irish

[Enter your ethnicity here]

Country of Residence :

[Enter location here]

Country you grew up in/spent majority time in (if different from the country of residence):

[Enter location here]

**ADHD Diagnosis and Treatment History**

Year of ADHD Diagnosis:

[Enter the year you were diagnosed]

☐ History of Treatments Used:

☐ Medication

☐ Behavioral Therapy

☐ Others (Please specify)
☐ None

☐ Current Treatment Status:

☐ On treatment

☐ Not currently in treatment

☐ Never had treatment

Appendix B:

**Horizontal & Vertical Individualism & Collectivism I Scale** (Adapted from Singelis et al., 1995)

Please rate each statement on a scale from 1 (never or definitely no) to 9 (always or definitely yes).

**Horizontal individualism (H-I)**

1. ___ I often do "my own thing"

2. ___ One should live one's life independently of others

3. ___ I like my privacy

4. ___ I prefer to be direct and forthright when discussing with people

5. ___ I am a unique individual

6. ___ What happens to me is my own doing

7. ___ When I succeed, it is usually because of my abilities

8. ___ I enjoy being unique and different from others in many ways

**Vertical individualism (V-I)**

1. ___ It annoys me when other people perform better than I do

2. ___ Competition is the law of nature
3. ___ When another person does better than I do, I get tense and aroused
4. ___ Without competition, it is not possible to have a good society
5. ___ Winning is everything
6. ___ It is important that I do my job better than others
7. ___ I enjoy working in situations involving competition with others
8. ___ Some people emphasize winning; I'm not one of them

**Horizontal collectivism (H-C)**

1. ___ The well-being of my co-workers is important to me
2. ___ If a co-worker gets a prize, I would feel proud
3. ___ If a relative were in financial difficulty, I would help within my means
4. ___ It is important to maintain harmony within my group
5. ___ I like sharing little things with my neighbours
6. ___ I feel good when I cooperate with others
7. ___ My happiness depends very much on the happiness of those around me
8. ___ To me, pleasure is spending time with others

**Vertical collectivism (V-C)**

1. ___ I would sacrifice an activity that I enjoy very much if my family did not approve of it
2. ___ I would do what would please my family, even if I detested that activity
3. ___ Before taking a major trip, I consult with most members of my family and many friends
4. ___ I usually sacrifice my self-interest for the benefit of my group
5. ___ Children should be taught to place duty before pleasure
6. ___ I hate to disagree with others in my group
7. ___ We should keep our aging parents with us at home

8. ___ Children should feel honored if their parents receive a distinguished award

Appendix C:

ADHD Treatment Preference Questionnaire (Adapted from Fiks et al., 2012)

A. Medication Treatment

Based on what you already know, please tell us how much you agree with the following statements about medication treatment for ADHD. Please rate each statement on a scale of 1 (strongly disagree) to 5 (strongly agree)

1. ___ Medication is a reasonable way to help my ADHD.

2. ___ I feel comfortable working with my doctor to find the right medicine for me.

3. ___ I would have trust in my doctor to treat my ADHD with medicine.

B. Behavior Therapy Preferences

Based on what you already know, please tell us how much you agree with the following statements about behavioural therapy for ADHD. Please rate each statement on a scale of 1 (strongly disagree) to 5 (strongly agree)

1. ___ Behavior therapy is a reasonable way to help my ADHD.

2. ___ I feel comfortable working with a counsellor/psychologist to help my ADHD.

3. ___ I would trust a counsellor/psychologist to help me.
C. Traditional Treatments

Traditional treatments could include anything from Ayurveda to Acupuncture. Based on what you already know, please tell us how much you agree with the following statements about traditional treatments for ADHD. Please rate each statement on a scale of 1 (strongly disagree) to 5 (strongly agree)

1. ___ Traditional treatments are a reasonable way to help my ADHD.
2. ___ I believe traditional treatments might be more effective in addressing the root causes of ADHD than some conventional methods.
3. ___ I believe that traditional treatments, when properly administered, can be safe and effective for ADHD.

Appendix D:

Beliefs about Medicines Questionnaire (Adapted from Horne et al., 1999)

Please rate each statement on a scale of 1 (strongly disagree) to 5 (strongly agree). Think of medicines in the context of ADHD medications.

Statements about prescribed medication (Specific)

1. ___ It is difficult for me to take my medicines in exactly the way my doctor told me
2. ___ My medicines disrupt my life
3. ___ Having to take medicines worries me
4. ___ I sometimes worry about becoming too dependent on my medicines
5. ___ My medicines are a mystery to me
6. ___ I sometimes worry about the long-term effects of my medicines

7. ___ My medicines are powerful

8. ___ I would like to change my present treatment

9. ___ My life would be impossible without my medicines

10. ___ My health in the future will depend on my medicines I can cope without my medicines

11. ___ Without my medicines I would be very ill

12. ___ I am in control of my medication

13. ___ My medicines protect me from becoming worse

14. ___ My medicines are effective

15. ___ My health, at present, depends on my medicines

Statements about medicines in general (General)

1. ___ Without medicines doctors would be less able to cure people

2. ___ Newer medicines are more effective than older ones

3. ___ Most medicines are addictive

4. ___ People who take medicines should stop their treatment for a while every now and again

5. ___ Medicines only work if they are taken regularly

6. ___ Medicines do more harm than good

7. ___ Medicines are not natural remedies

8. ___ All medicines are poisons

9. ___ It is better to do without medicines

10. ___ Natural remedies are safer than medicines
11. ___ Stronger medicines are more dangerous than weaker medicines
12. ___ Medicines are a necessary evil
13. ___ Doctors place too much trust in medicines
14. ___ If doctors had more time with patients they would prescribe fewer medicines
15. ___ There is a big difference between a medicine and a drug
16. ___ The medicine you get is more important than the doctor you see
17. ___ Doctors use too many medicines
18. ___ Most medicines are safe

Appendix E:

Medication Adherence Report Scale (MARS) (Adapted from Chan et al., 2020)

Rate the frequency with which you engage in each of these adherence-related behaviours on a five-point scale. [5 = never, 4 = rarely, 3 = sometimes, 2 = often and 1 = always] (Chan et al., 2020)

1. ___ I take less than instructed
2. ___ I stop taking it for a while
3. ___ I miss out on a dose
4. ___ I alter the dose
5. ___ I forget to take it
6. ___ I avoid taking it if I can
7. ___ I take it exactly as prescribed
8. ___ I take it regularly every day
9. ___ I take it only when I need it

10. ___ I take more than instructed