

Gestating Comprehensive Approaches for the Modelling of Inter-Personal and Cross-Cultural Interactions: An Approach with Vast Benefits for the Social Sciences

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Publication Date: 2025/08/16

Abstract: The objective of this paper is to conceptualize and gestate comprehensive approaches for the modeling of interpersonal and cross-cultural interactions. We begin this paper by defining the terms inter-personal and cross-cultural, and discussing the history of studies in this context, and different perspectives and schools of thought. The terms social, cultural and socio-cultural are also discussed and debated, along with a study of social, cultural and sociocultural variables. We then proceed to the core essence of this paper, and discuss what social, cultural, and sociocultural models are, besides discussing other types of models in general. We also then discuss the concepts of predictive modeling, behavioural modeling, psychological modeling, and relationship modeling. We also had proposed deep emic and deep etic approaches besides extended emic and extended etic approaches for modeling interpersonal and cross-cultural relationships, and we carry forward the same concepts into this paper. The various steps of our approach are also delineated and carefully examined, along with nomothetic approaches and generalization techniques. We hope and expect therefore, that our paper will become a critical cog in the wheel of twenty-first century social sciences.

How to Cite: Sujay Rao Mandavilli (2025) Gestating Comprehensive Approaches for the Modelling of Inter-Personal and Cross-Cultural Interactions: An Approach with Vast Benefits for the Social Sciences. *International Journal of Innovative Science and Research Technology*, 10(8), 404-414. <https://doi.org/10.38124/ijisrt/25aug337>

I. INTRODUCTION

"Out beyond our ideas of right and wrong, there is a field, I'll meet you there" – Rumi

"Mediation is not just a bridge between conflict and resolution, but a pathway towards understanding, empathy, and lasting harmony" – Unknown

The objective of this paper is to conceptualize and gestate comprehensive approaches for the modeling of interpersonal and cross-cultural interactions. We begin this paper by defining the terms inter-personal and cross-cultural, and discussing the history of studies in this context, and different perspectives and schools of thought. The terms social, cultural and socio-cultural are also discussed and debated, along with a study of social, cultural and sociocultural variables. We then proceed to the core essence of this paper, and discuss what social, cultural, and sociocultural models are, besides discussing other types of models in general. We also then discuss the concepts of predictive modeling, behavioural modeling, psychological modeling, and relationship modeling. We also had proposed deep emic and deep etic approaches besides extended emic and extended etic approaches for modeling interpersonal and

cross-cultural relationships, and we carry forward the same concepts into this paper. The various steps of our approach are also delineated and carefully examined, along with nomothetic approaches and generalization techniques. We hope and expect therefore, that our paper will become a critical cog in the wheel of twenty-first century social sciences.

➤ What is Meant by Interpersonal Studies?

Interpersonal refers to a relationship involving, or occurring among two or more people, or different groups of people. In the important field of social psychology, an interpersonal relation, which is also sometimes known as an interpersonal relationship, describes an often long-lasting and deep-rooted social association, connection, or partnership between two or more people. It may also refer to a successful execution of interpersonal tasks, leading to an improvement of social and cultural relationships. These may widely vary in terms of intention, intensity, duration and reciprocity, and the term may refer to a wide variety of interaction types. The term is also closely related to the concept of social relations, which form the basis of social structures, and even shape individuation and identity formation. A social structure, within the realm of psychology, refers to an organized pattern of deep-rooted

and significantly meaningful relationships and interactions within the framework of a formal and informal society, and one that encompasses social groups, social roles, social norms, etiquette, mores, and social institutions. It is therefore represented by an overarching framework that determines patterns of conduct and behavior. They may also refer to social institutions such as marriage and institutions, but may also represent, or be represented by less formal ones such as friendship, and other informal entities. Interpersonal relationship may also be governed and regulated by laws, canons, customs, or other unwritten regulations. A study of relationships is often accomplished and executed through the mechanism of interdisciplinary including diverse fields of the social sciences such as social and cultural studies, anthropology and linguistics. This includes communication studies, social skills, family dynamics, and relationship dynamics as well.

Interpersonal studies have a long and a complex history. Marriage and parenting began to be formally studied in the 1930's, when the National Council of Family Relations was instituted, and several journals such as the Journal of marriage and family established. Kurt Lewin and others influenced the development of social psychology during this period, and this impacted the work of Leon Festinger, Fritz Heider, Carl Hovland, and others in the 1950's and the 1960's. In the 1950's, researchers such as John Bowlby, Robert Hinde, Harry Harlow, Reuben Hill, and Mary Ainsworth carried out studies on closely-knit fields. Other concepts such as symbolic interactionism, the social comparison theory, dissonance theory, the social judgment theory, and the social exchange theory also began to be developed. Interpersonal psychotherapy was firmly established in the 1980's, and this field probed the dynamics between communication and mental health. A much more deep-rooted study was performed in the 1990's by Ellen Berscheid and Elaine Hatfield, and the field is now known as relationship science. This field involves the participation of clinical and social psychologists, among others. However, a cross-cultural slant is lacking given the fact that most researchers tend to adopt a western-centric stance, and this is something we must seek to rectify and remediate. The famous American diplomat Henry Kissinger once famously stated that America had no permanent friends and enemies, only interests; This statement is both cruel and unfair, and comes across as a gross misrepresentation given the fact that the USA has contributed enormously to science, and many other nations lack critical infrastructure to perform research. However, this observation still does not override the fact that vested interests need to be isolated, countered, and nipped in the bud.^{1 2 3}

¹ Darwin, C. (1874). *The Descent of Man and Selection in Relation to Sex* (2nd ed.). New York: Rand McNally

² Gangestad, S., & Haselton, M. (2015). Human estrus: implications for relationship science. *Current opinion in psychology*, 1, 45-51.

³ Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*, 12(1), 1-49

➤ What is Meant by Interpersonal Communication?

The term "communication" as we understand it in common and everyday parlance refers to the transmission of information between two or more parties, or across a wider and a larger audience. The precise definition of the term is disputed, and may be called into question, given the fact that there are disagreements about the different types of communications involved, and the status of failed communications. Models of communication provide simplified and easily understandable overviews of its main components and their interactions, and include components such as the sender, receiver, message, channel or encoding technology, encryption, feedback, decryption, and noise. Of late, communication has even included information exchanged between two or more computers, or between humans and computers. Therefore, some of the underlying concepts behind communication have changed with the arrival of new technology such as the printing press (developed by Gutenberg), radio and wireless, (developed by Marconi and others), television (John Logie Baird and others), while some others have remained the same. Communication may even be verbal or non-verbal, or linguistic and non-linguistic. Gestures and gesticulations such as body language, mannerisms, and facial expressions may also count, and are non-linguistic communication just like primate and other animal communication. The latter have been researched by the English zoologist and primatologist Jane Goodall and others. Intrapersonal communication is yet another interesting variant of communication, and refers to communication with oneself. Communicative competence is the ability to communicate proficiently and competently, and dealing efficiently with a wide range of technologies involved. This is sometimes acquired informally, or may need to be taught informally in some cases, in order to reduce friction, noise and overcome other barriers and roadblocks such as human-related ones. Cross-cultural communication began to be formally studied during the Cold War, and became much more prominent in the post-globalized era when cross-cultural teams became much more common in the workplace. However, the field is yet to reach critical mass or intellectual maturity, hence this paper which proposes richer, thicker and deeper perspectives, besides of course, culture neutral ones.^{4 5 6 7 8 9 10}

⁴ Li, Hong Ling (September 2007). "From Shannon-Weaver to Boisot: A Review on the Research of Knowledge Transfer Model". *2007 International Conference on Wireless Communications, Networking and Mobile Computing*. IEEE. pp. 5434-5437

⁵ Baldwin, Ian T.; Schultz, Jack C. (1983). "Rapid Changes in Tree Leaf Chemistry Induced by Damage: Evidence for Communication Between Plants". *Science*. **221** (4607): 277-279

⁶ Establishing the theory of win-win paradigms as a central tenet in twenty-first century social sciences: An approach with wide implications for many fields of study Sujay Rao Mandavilli SSRN, August 2025

⁷ Identifying tools and techniques for picking out cultural bottlenecks: Another crucial component of the symbiotic

➤ *Conflicts and Rivalries within an Individual*

Conflicts within an individual, which are also known as intrapersonal conflicts, refer to internal struggles that people tend to experience with their own interests, goals, ideologies, aspirations, values, urges, ideals, motivations, morals, or requirements. These may manifest themselves as conflicts between different action plans, battles between deeply-held values and manifested actions, or even struggles to reconcile expectations with reality. This may lead to stress, internal strife, and may even throw up dissatisfaction, and ultimately cognitive dissonance. For example, individuals may not be able to decide whether he wants to advance his career goals or academic goals, or to spend more time with his family or for relaxation. He may also be torn between setting up a polluting unit and providing employment opportunities to unemployed youth, and a concern for the environment. Consequences of individual conflict may include stress, trauma, anxiety, and lowered self-esteem, and a feeling of worthlessness. To solve these issues, individuals may indulge in better inter-personal communication, may seek out third-party intervention or aid, such as professional help, skilled support, etc. we may model intrapersonal conflicts non-statistically, non-mathematically (at best quasi-statistically) based on the principles enshrined in this paper. This would at best be a protracted and long-drawn qualitative analysis. There are no easy answers to life's complex questions.¹¹

Individuals may also add consonant cognitions or extraneous stabilizers; they may also additionally mentally reduce the importance of the conflict to provide a semblance of mental stability, etc. They may also subconsciously or unconsciously try to rationalize or justify the behavior. Cognitive dissonance refers to a mental discomfort that is felt or experienced whenever an individual holds conflicting cognitions, beliefs, ideals, values, ideas or manifested behaviors. This leads to psychological tension and unease

which then leads or goads individuals into reducing the level of discomfort by altering or modifying one or more of the conflicting elements that are present in his thought worlds or psyche. Cognitive dissonance as a psychological theory was first developed by Leon Festinger. There are also many other types of cognitive dissonance that are experienced by an individual during the course of his or own lifetime, and these must be understood in relation to various aspects of his own culture typically represented in the form of a cultural taxonomy, though this may not always be the case. For example, we may invoke for the purposes of a better and more coherent understanding, his own upbringing and enculturation patterns, peer influences and pressure, the various typical cultural norms and more that are typically and canonically associated with his parent culture, the cultural norms that are typically associated with the other cultures he comes into contact with, etc.

In a paper that we had published a couple of years ago, we had proposed several types of cognitive dissonance that were observable at the level of an individual. To put these down in brief, they were as follows: a) Individual-level cognitive dissonance: This is arguably and quite possibly the simplest type of individual-level cognitive dissonance and is represented by a friction between an individual's own value sets or belief systems that arise from incompatibilities in thought processes or the existence of unresolved issues. This would quite obviously lead to a confused and rattled individual who has a feeling of frustration and disturbance. b) Individual-level temporal cognitive dissonance: These are the second type of individual-level cognitive dissonance, and represent to a clash between an individual's own values or value systems arising from alterations or modifications to his own thought processes (due to various internal or extraneous inducements) over a period in time. c) We may thirdly have conflicts between an individual's deeply ingrained or cherished value systems and the values of his close network or endo system, namely his parents, siblings, friends and peers, children etc. This often occur as a result of varying speeds in cultural adaptation and social adaptation. d) We may then also have clashes and friction between an individual's value systems and the value systems of his own parent culture (or sub-culture) that arise due to inherent and latent differences in perception or varying rates of change in cultural norms. Therefore, an individual may lag behind the society's ever-changing values or norms or may steam right ahead of them. e) At times, an individual's values (or the values of a group of individuals) may be at permanent variance with the society's norms. Such individuals could either be geniuses, prodigies, mavericks, misfits or even outcasts. (This may be referred to as "Permanent cognitive dissonance"). Such individual-level cognitive dissonance can occur, for example, when an individual's enculturation patterns, early childhood experiences or even early peer-influences are at complete odds with what is expected from society. f) Multilevel cognitive dissonance: Multilevel cognitive dissonance may be said to occur when a person is repeatedly exposed to multiple paradoxes in many different phases of his life. This may be due to "personality-altering" or "belief-altering" experiences which lead to a burning "flash-point" as well.

approach to socio-cultural change IJISRT, October 2024
Sujay Rao Mandavilli

⁸ Delineating "Cultural limits" and "Anthropological limits" as central theorems in the social sciences: Some more useful and practicable techniques for social sciences research Sujay Rao Mandavilli This paper is based on my paper on Anthropological economics and has been published directly in Social Sciences Research Network (SSRN) in July 2024

⁹ Aligning theorization and hypothesis-building with cultural and cross-cultural frames of reference: A heuristic aid to better theorization and hypothesis-building Sujay Rao Mandavilli IJISRT June 2024

¹⁰ Conceptualizing 'Cultural Frames of Reference' and 'Crosscultural Frames of Reference' for various cultures and societies: Employing these concepts to bring about social and cultural change in different societies Sujay Rao Mandavilli IJISRT, September 2023

¹¹ Articulating comprehensive frameworks on socio-cultural change: Perceptions of social and cultural change in contemporary Twenty-first century Anthropology from a 'Neo-centrist' perspective Published in ELK Asia Pacific Journal of Social Sciences Volume 3, Number 4 (July 2017 – September 2017) Sujay Rao Mandavilli

This may either lead to negative outcomes in some cases, but may also lead to creative thinking in many other cases, bringing about inventive solutions. However, cognitive dissonance can exist within well-defined limits (these may be known as thresholds). These may not only be inevitable, but also in some sense be desirable. Cognitive dissonance within a reasonable limit may be inevitable because perfection may sometimes be seen as a fantasy, and also because there are still too many unresolved paradoxes in science and society. People may also want to comply with societal norms, thereby making their own interests subservient to them. g) Multilevel cognitive dissonance may at times lead to mass mobilization and a manifestation of pent-up demands for social change: Multilevel cognitive dissonance may also lead to a manifested disenchantment with the current state of affairs, inspire mass mobilization efforts, and eventually usher in the desired social change sooner than later. h) At times, cognitive dissonance may also arise due to proactive and consciously-enacted (externally-induced or self-motivated) individual re-orientation arising from either training or self-developmental programs or both, as this can trigger friction with the larger society particularly when there is an incompatibility between the individual after his accomplished re-orientation and the larger and the wider society. i) We may also attempt a broad categorization of individual level cognitive dissonance into two categories, namely, structured cognitive dissonance and unstructured cognitive dissonance. In case of the former, the individual carries out some form of a structured mental analysis of his cognitive dissonance regardless of whether they are in formal, semi-formal, informal, oral or written forms. In case of the latter, a structured mental analysis may not be carried out, yet it may be adequate to induce displeasure or goad him into some kind of action.

We may also want to review mental illnesses, and its various forms here. Mental illnesses, which are also sometimes called mental health disorders, may be associated with distress and anxiety, and may encompass a wide variety of mental health conditions — disorders that affect people's moods, behavioral patterns, perception, thinking and behavior. Examples of mental illness might include depression, compulsive obsessive disorders, bipolar disorders, neurological disorders, anxiety disorders, schizophrenia, eating disorders and addictive behaviors. Schizophrenia, for which there is currently no cure, refers to a severe and a chronic mental disorder that impacts how a person thinks, feels, acts, and behaves, and is also additionally characterized by severe disruptions to rational thought processes, rational perceptions, emotions, and social interactions. People with schizophrenia have included many geniuses of the likes of the mathematician John Forbes Nash, and Eduard Einstein, the son of Albert Einstein. Such individuals may often seek out external cures and embrocations, but often in vain.^{12 13 14 15}

¹² Oshikawa S (January 1972). "The Measurement of Cognitive Dissonance: Some Experimental Findings". *Journal of Marketing*. **36** (1): 64–67

➤ *Conflicts and Rivalries between Individuals within the Same Culture*

Interpersonal conflict refers to a clash, misunderstanding, or a disagreement between two or more individuals, in this case, belonging to the same culture, and sharing common ideals. Such conflicts might often stem from differing goals, perceptions, values, or perspectives. Such conflicts and rivalries may manifest themselves in various forms, such as friction in personal relationships, workplace conflicts, and sparring in social media and social groups. While conflict is an integral part of human interaction, even a concomitant for progress, unresolved or badly managed conflicts may negatively impact social relationships, cultural productivity, and the overall well-being of society. Such conflicts may also be subdivided into task conflict and relationship conflict; in the case of the former, conflicts are temporary, ephemeral and fleeting, while in the case of the latter, they are more lasting, and may strain or cause long-lasting damages to relationships. We may also refer to such relationships as intracultural relationships. Intracultural communication refers to communication between people who share the same dominant or overarching culture. This form of communication is far simpler and generally more robust and hassle-free because individuals share common cultural norms, values, and communication styles. This greatly diminishes or reduces the scope for "noise" or misunderstanding. This stands in stark contrast with intercultural communication, where interactions between people belonging to different cultural backgrounds are involved.^{16 17 18}

➤ *Conflicts and Rivalries between Individuals across Cultures*

Conflicts and rivalries may occur between individuals across cultures, and this is a common type of conflict, and a typical source of misunderstanding or conflict. Intercultural communication is greatly bettered and enhanced when there is a deep-rooted and deep-seated understanding and respect for other third-party cultures, and the ability to look at issues from different perspectives and points of view. International communication is indeed required in today's world as it becomes increasingly globalized, and political and cultural

¹³ Boring EG (August 1964). "Cognitive Dissonance: Its Use in Science: A scientist, like any other human being, frequently holds views that are inconsistent with one another". *Science*. **145** (3633): 680–685

¹⁴ Harmon-Jones, Eddie, ed. (2019). *Cognitive Dissonance: Reexamining a Pivotal Theory in Psychology* (2nd ed.). Washington, DC: American Psychological Association

¹⁵ Kuhn R, Cahn CH (September 2004). "Eugen Bleuler's concepts of psychopathology". *History of Psychiatry*. **15** (59 Pt 3): 361–366

¹⁶ Michael Brecher (May 26, 2016). *The world of protracted conflicts*. Lanham, Maryland. p. 11

¹⁷ Tony Mason; Eliza Riedi (2010), *Sport and the Military: The British Armed Forces 1880–1960*, p. 17

¹⁸ "Interservice rivalry". *The Oxford Essential Dictionary of the U.S. Military*. Berkley Books. 2001 – via Oxford Reference Online.

barriers and boundaries disappear. It in a sense brings about harmony and a semblance of underlying unity in a semblance of chaos and diversity. This extends to business, professional and political relationships too, as different countries and different economies trade with each other, putting business exigencies above everything else. Such relationships require the ability to navigate differences in values, perceptions, expectations, communication styles, and communicate effectively and freely. Mutual respect, empathy, and tolerance are also naturally required in such cases. We will attempt to model such relationships in our paper.¹⁹

Cross-cultural relationships may therefore prove to be complex, challenging and difficult in many cases, and must be tackled with tact, diplomacy and care. Cross-cultural studies, also less commonly known as holocultural studies or comparative studies, is a highly specialized subfield and subdiscipline in social and cultural anthropology and other related fields such as sociology, economics, psychology, and political science that uses field data from diverse cultures and societies through comparative research in order to discuss and examine the scope of human behavior and develop and test different types of hypotheses pertaining to human behavior and human culture. Such studies may draw heavily upon cases studies, but may also draw generalizations as required. For all this, of course, a sufficiently large sample of individuals and cultures is required. Early cross-cultural studies were pioneered by EB Tylor and Lewis Henry Morgan, with smaller contributions from other individuals. Sir Francis Galton also attempted to draw inferences from cross-cultural data. This approach and technique is somewhat outdated and obsolete today, as the boundaries and dividing lines between different cultures becomes increasingly hazy and blurred.

Each culture may comprise of different types of individuals too, and the concept of national character which was common and popular around the time of the second world war, is somewhat obsolete. This field was birthed and gestated by Ralph Linton, Abram Kardiner, Cora du Bois, Edward Sapir, and Ruth Benedict, among others who developed approaches such as the configurationalist approach and the modal personality approach. There may be many different types of cross-cultural studies involved; for example, we may have studies between different individuals across cultures, studies between subcultures of a single parent culture, interactions between distinct cultures, etc. in this context, social refers to something pertaining to a society, while culture refers to something that refers to a culture as a whole. A combination of the two is referred to as sociocultural.^{20 21}

¹⁹ Combining hierarchical analysis with hypothesis building: An approach with immense benefits for diverse forms of research in the social sciences Sujay Rao Mandavilli Published in SSRN, July 2025

²⁰ un, Warren (2016). *The Chinese National Character: From Nationhood to Individuality: From Nationhood to Individuality*. London: Routledge

➤ *What are Sociocultural Variables? How are they used in this Analysis?*

Let us begin this section by discussing what variables are. A variable in general refers to a symbol that represents a value or quantity that is subject to change throughout the context of the problem. The concept is pivotal, central and vital to many different fields of science and inquiry such as mathematics, computer science, social science, and statistics. Variables are widely used to store, to represent, and to manipulate data, making it easier to conceive and analyze complex information. A variable must be differentiated from a constant whose value does not change during the course of a problem. We had discussed different types of variables previously, and these included discrete variables, continuous variables, categorical variables, ordinal variables, cardinal variables, etc. Social variables refer to attributes or characteristics of individuals or groups of individuals in a society that can vary, and can be measured as well. These are widely used in social science research, and are extremely important and crucial from the point of view of this paper. These must be contrasted from cultural variables which represent the attributes and the characteristics of the culture itself. We may also have psychological variables which may be taken to represent states of mind of an individual or his behavioural patterns. These must be contrasted from behavioural variables itself, which represent a more direct observation.

Many of these variables can also be intrinsically be used for cross-cultural modeling, and to study the impact one variable manifested in one individual may have on another variable manifested in another individual. A combination of social and cultural variables are referred to as sociocultural variables, and we may have socioeconomic variables as well, which are less important from our perspective. Sociocultural variables and socioeconomic variables are extremely crucial and pivotal for the purposes of this study because, these must be defined and measured appropriately for the entire duration of the study; these include independent and dependant variables; causation and effect variables as well, plus all the different types of variables we had discussed previously, and in several of our earlier papers. Readers may also wish to accomplish a quick recap for themselves from any reliable sources. We must also adopt a quasi-statistical approach, with statistical data and statistical approaches used only as necessary; we must use grounded theory and data-driven approaches as well, with quantification techniques thrown into the mix, or at least to the extent circumstances and situations will allow for them. We also believe in post-positivism and anti-positivism. These have enormous implications for the social sciences as social sciences are not as exact and precise as the physical sciences.^{22 23}

²¹ Turner, John C. (1999). "Social Identity Theory: Where Are We Now?". In Ellemers, Naomi; Spears, Russell; Doosje, Bertjan (eds.). *Social Identity: Context, Commitment, Content*. Wiley-Blackwell. pp. 6–34

²² Clagett, Marshall. 1999. *Ancient Egyptian Science: A Source Book*. Volume 3: *Ancient Egyptian Mathematics*.

➤ What is Modeling?

The term modeling has many different and distinct meanings and connotations in different fields of study. It is however, the scientific perspective that we are most concerned about here. In science, modeling refers to a structured and formal or semi-formal process of creating simplified and easy-to-understand representations and depictions of real-world objects, systems, or components so as to better grasp, predict, model, or simulate their patterns of behavior. These models may either be physical, conceptual, mathematical, statistical, or computational, which can help researchers better grasp complex ideas and simulate how things work in the real-world. Other types of models are used in a specialized sense, and these may include financial models, weather and temperature models, molecular models, and environmental models. Modeling is indeed required because direct experimentation may be costly, time-consuming, dangerous, or simply not possible within a specified cost budget or a timeframe. Social modeling refers to a modeling of often abstract and complex social concepts, while cultural modeling refers to a modeling of often abstract and complex cultural concepts. Sociocultural modeling makes use of both social and cultural concepts typically in one model. We believe that the last three are extremely important, but their potential has barely been realized until this point in time.^{24 25}

II. TYPES OF MODELS

There are indeed many different types of models that are widely used in science, and we present a few of them below. A physical model or a prototype represents concrete objects, and this must be distinguished from a conceptual model, which may not always exist as a physical entity. A physical model typically exists in the form of an object or a system, and the object being modeled may be either extremely small or extremely large, and may vary in size from an atom to a solar system. In a few cases, the model may be exactly life size. The ratio between the size of the model and the actual size of the entity is referred to as the scale. There should ideally be no distortion, though in some cases, there may be. A few physical models embody mechanical features as well, and these are referred to as mechanical models. Conceptual models on the other hand, represent or depict concepts or ideas, and is a theoretical representation of a system showing either all the features, or the more important ones as the case may be. Models with abstractions are common in many fields of science, and are dispensable to many fields of scientific activity. We then also have systems models which are simplified

representations of systems. The act or process of modeling systems is known as systems modeling. Sometimes, processes are also represented as a series of sequential steps, and this is known as process modeling. Sometimes, symbols, notations, and the interactions between them are also modeled, and these are referred to as symbolic interactionist models. Another related variant is a schematic model, and in such a case, a graphical representation is resorted to. Often, mathematical and statistical models may be used, and of late, computer-based models and computer simulation are becoming increasingly common through the use of CAD/CAM tools and other system-based tools. Predictive modeling and prescriptive modeling are also used at times. From our perspective however, behavioural modeling, psychological modeling and relationship modeling are the most important, and these determine how humans interact with each other dynamically, and in a wide set of scenarios. Inputs are often referred to as stimuli, and these may lead to reactions in other individuals. The latter may be either proportional or non-proportional, and rational or non-rational.^{26 27 28}

➤ Game Theory and the use of Game Theory in this Approach

The underpinnings of game theory are often traced and attributed to work carried out by a French philosopher and economist by name Augustine Cournot in the 1830's. However, the field came of age when John Von Neumann and Morgenstern revolutionized it with a 1944 paper entitled "Theory of games and economic behavior". John Forbes Nash eventually came up with a concept called Nash equilibrium. The concept and general idea of Nash equilibrium in economics and game theory refers to an inherently stable state of a system with multiple participants, where no participant can unilaterally gain by changing a strategy assuming that the strategies of other players remain unaltered. Game theory is nowadays widely used to model a wide variety of social, cultural, economic and political scenarios and settings. Complex strategic situations can therefore be easily portrayed in a simplistic setting through the use of appropriate mathematical models. Some of the vital concepts of game theory are important for the understanding of this paper, given that the former can aid in a thorough and meticulous understanding of the concepts of this paper.^{29 30 31}

²⁶ E. Winsberg, *Science in the Age of Computer Simulation*. Chicago: University of Chicago Press, 2010

²⁷ P. Humphreys, *Extending Ourselves: Computational Science, Empiricism, and Scientific Method*. Oxford

²⁸ Desa, W. L. H. M., Kamaruddin, S., & Nawawi, M. K. M. (2012). Modeling of Aircraft Composite Parts Using Simulation. *Advanced Material Research*, 591–593, 557–560

²⁹ Varian, H. R. (2010). *Intermediate Microeconomics: A modern approach* (8th ed.). New York: W.W. Norton & Co.

³⁰ Gibbons, R. (1992). *Game Theory for Applied Economists*. Princeton, New Jersey: Princeton University Press.

³¹ Nicholson & Snyder. *Intermediate Microeconomics and its Application* (11th ed.). South-Western Cengage Learning

Memoirs of the American Philosophical Society 232. Philadelphia: American Philosophical Society.

²³ A History of Greek Mathematics: From Aristarchus to Diophantus. By Sir Thomas Little Heath. Pg 456

²⁴ Richard Sorabji, (2005), *The Philosophy of the Commentators, 200–600 AD: Psychology (with Ethics and Religion)*, page 11. Cornell University Press

²⁵ Radha Kumud Mookerji (2nd ed. 1951; reprint 1989). *Ancient Indian Education: Brahmanical and Buddhist* (pp. 478–489). Motilal Banarsidass Publ

A game is therefore represented by the players or the actors playing the game, strategies or the sets of actions available to the players, and payoffs, which are the returns players get towards the end of the game. We also have cooperative and non-cooperative games. In the first case, players get together and reach an arrangement which is in the best interests of all the players. In the second case, all players are primarily by self-interest, and all other players are seen as rivals and adversaries. Some games are also played on the basis of complete information of rivals, adversaries, strategies and payoffs, while some others are not. In case of a zero sum game, the gain of one player comes at the expense of another, and both cancel each other out exactly. In case of simultaneous moves each player takes a move simultaneously without knowing the other parties actions, while in the case of sequential models, moves are made sequentially. In the case of game theory, dominant strategy refers to a superior strategy adopted by one of the players of a game, and one which overrides all other strategies. Sometimes, games are extensively represented using a game tree. In such a case, all the possible game states are represented along with the decisions made by each of the players.

➤ Other Related Concepts

We may also discuss a few other important concepts at this juncture. We also have concepts such as response latency which refers to the time taken by the party to react. This term is often used in communications, and in the context of computer networks, though the term “lag” is often used in gaming circles. Latency refers to the time gap between the action taken by an actor, and the response received. This is often measured in seconds or milliseconds, though some other metrics may often be used. Timing imbalance refers to a less-than-ideal response time frame, and one that represents, or leads to other undue delays. We may also identify lead indicators – akin to canaries in a coalmine – or early warning indicators that something bad or unpleasant is about to happen. Lag indicators are post-mortem indicators, and manifest themselves after an even has occurred or happened. Sometimes, imbalances are represented in the form of a duck curve, and these take their name from a duck, whose shape it closely resembles. Some of these concepts may also be extended to cover interpersonal relationships. Concepts such as enculturation, acculturation, transculturation, massculturation, emic and etic perspectives also need to be borne in mind from the point of view of this paper, given the fact that they profoundly shape how humans think, act and behave.³²

Enculturation as proposed by Harry Collins and others, refers to the process by which individuals acquire the characteristics of their surrounding culture and the acquire values, beliefs, etiquette, and norms that are intrinsic to that culture and its worldviews. Acculturation on the other hand involves an interaction or interplay between two or more cultures, and the host or the dominant culture, and the guest

culture are involved here. Therefore, a blended or a hybrid culture often takes shape. Deculturation, on the other hand, leads to the loss of elements or essentials of one's own culture over time. Transculturation, as explained by Fernando Ortiz, refers to a dynamic process of cultural interchange between two or more cultures. In addition, we had proposed the term massculturation, and this term would be relevant in today's globalized world. A cultural taxonomy is used to classify and categorize cultures based on their shared or common characteristics and patterns, and is useful in modeling cross-cultural transactions. This concept is similar to the biological taxonomy proposed by Carl Linnaeus. We also have several useful theories such as Geert Hofstede's dimensions theory which speaks about dimensions like power distance, individualism vs. collectivism, masculinity vs. femininity, uncertainty avoidance, long-term orientation, and indulgence vs. restraint. Similar concepts have been put forth by the GLOBE project and Kluckhohn and Strodtbeck's value orientations theory.^{33 34}

We had also developed and proposed several concepts in our papers relating to the symbiotic approach to sociocultural change. Among these were the concept of thought worlds – the internalized thoughts that an individual fills himself up with in a non-temporary fashion, externalized worldviews, mindspace – this is more temporary, mind orientation, cultural orientation, etc. We had also spoken about ethnography of enculturation which can be used to plot and model how enculturation takes place through the mechanism and medium of ethnography. We may also propose “Personality composition analysis”, and “Cultural composition analysis” here. We had also spoke about emic and etic perspectives (Helfrich, 1999) of various types, and these included representative emic and etic, non-representative emic and etic, diverse emic and etic, typical emic and etic, non-typical emic and etic, near emic, among several others. (Cheung, Van de Vijver, and Leong, 2011) We may also introduce other concepts such as deep emic and deep etic, (combination with a thick analysis) wide emic and wide etic or extended emic and extended etic, etc. These names would of course be by and large self-explanatory. Every human is born with a tabula rasa or a blank slate. He picks up thoughts and ideas through the principle and process of associationism from the endoenvironment, the mesoenvironment, and the exoenvironment.

We must also Interface all this with theories of cultural change, of which there are dime a dozen, most of which are however antiquated and obsolete. We also believe that theories of cultural symbiosis would be the most up-to-date and recent, and we had proposed a symbiotic theory of

³² *Foundations of Data Intensive Applications Large Scale Data Analytics Under the Hood. 2021. ISBN 9781119713012.*

³³ Berlin, Brent (1972) "Speculations on the growth of ethnobotanical nomenclature", *Language in Society*, 1, 51–86.

³⁴ Bailenson, J.N., M.S. Shum, S. Atran, D.L. Medin, & J.D. Coley (2002) "A bird's eye view: biological categorization and reasoning within and across cultures". *Cognition* 84:1–53

cultural change as well. A hierarchical analysis would also stand us in good stead, and we had dedicated and devoted two entire papers to this concept. This would throw and yield vital insights and clues into how humans think, act, believe and operate. We may also use the case study method here. The case study method is a research technique which requires an in-depth, and a very detailed examination of a particular case in a real-world context which may be a critical, unique or a revelatory case. We must also identify patterns of human behavior and all our multiple papers and publications would lead us towards this singular objective or goal. Nomothetic approaches may be used to discern patterns, and nomological approaches may be thrown into the mix as well. These must be contrasted with idiographic approaches or stand alone approaches where no kind of pattern identification is possible or necessary. For example, if we are to analyze the behaviour of a certain American president, a combination of all the above techniques would become necessary, of course including deep emic approaches and a thick analysis.

We must also describe concepts such as manifested behavior, observed behavior, unmanifested behavior, and Inferred behavior. Manifested behavior in this case, refers to actions, behaviour or conduct that evidently reveals an underlying or deeply-hidden personality trait, attitude, emotion, or intention. This must be contrasted with unmanifested behavior which leaves no external traces. Observed behavior refers to behavior that is systematically and methodologically observed by a researcher, often with an objective in mind. Behavior may also lead to inferences, and these represent conclusions reached on the basis of logic or reasoning. Sometimes, we may not be able to draw inferences clearly, leave along generalizations. For example, in case of the famous Schrodinger's cat scenario in quantum mechanics, we do not know if the cat was alive or dead until it was observed by opening the box.^{35 36}

➤ Differing Logic and Reasoning

Differing logic and reasoning we believe, is a very important basis for this paper. This essential feature and characteristic we believe would set the social sciences apart from the non-social sciences. In the social sciences, we would argue, logic and reasoning would be relatively inexact and open to interpretation unlike the physical sciences where they would be relatively unambiguous and exact. Logic as we may recall at this juncture, refers the study of reasoning, and the process of exploration of the principles that govern the making valid inferences and arguments, both formal and informal. Therefore, the science of logic helps us distinguish between sound and unsound reasoning. For example, in some cultures it may be argued that meat-eating is sanctioned by divinity- various practices such as Kosher and Halal are also at variance with one

another. Other cultures may abhor meat-eating as a cardinal sin. There are varying attitudes towards veganism too, and in India, the practice of veganism is virtually unknown. Meat consumption increases green house gas release into the atmosphere too, and most individuals may not be aware of this. Others simply could not even bother or care. There would be systemic or non-systemic variations on the basis of individual or culture here, and this was what our hierarchical analysis was all about. Likewise, there are wide variations in parenting techniques too. Some may swear by Victorian parenting techniques, while others may prefer more liberal techniques, such as those seen in the east.

Different schools of thought have widely varying population projections as far as Amaravati, the proposed capital of Andhra Pradesh is concerned. To set the record straight, we must bear in mind the concepts of urban dynamics. People must be as rational and as logical as possible in this aspects, and techniques such as conditional causation and probabilistic causation used for modeling. Another analogy: Some animals may be colour blind. Some animals can see only some colour. There are variations between canines, bovines, felines and equines here. We may then ask the question: Can humans see colours realistically? Is it just an illusion or an aberration? Are there colours that humans cannot see, but still exist? In addition to all this, we may adopt dialectical approaches, and cross-cultural research design too. We will be unraveling a rose petal in the process. We will be opening up an intellectual powerhouse in the process. To sum it all up, no two individuals or cultures think alike; we must build all of these aspects into interpersonal and intercultural modeling.^{37 38 39}

➤ Key Concepts of Our Approach

We now review and visit the key concepts of our approach in this section, and explain how and why these can be used to model interpersonal and intercultural relationships. Most of these would naturally be logical and self-explanatory, and we would hope, expect, and anticipate that other researchers and intellectuals would build upon them as well, in due course.

➤ Cooperation and Collaboration

Cooperation is said to take place when a group of individuals or entities work or act together for the collective benefit of a group as opposed to primarily working for self-centric individual benefit alone. Collaboration is similar to cooperation, but it is far more structured and embodies a shared purpose and a goal too. In case of cooperation, tasks may be different or distinct, while in the case of collaboration, they are most often the same. In

³⁵ Carnap, Rudolf; Jeffrey, Richard C., eds. (1971). *Studies in Inductive Logic and Probability*. Vol. 1. The University of California Press

³⁶ Angluin, Dana (1976). *An Application of the Theory of Computational Complexity to the Study of Inductive Inference (Ph.D.)*. University of California at Berkeley.

³⁷ Kulik, Boris; Fridman, Alexander (30 November 2017). *N-ary Relations for Logical Analysis of Data and Knowledge*. IGI Global. p. 74

³⁸ Lepore, Ernest; Cumming, Sam (14 September 2012). *Meaning and Argument: An Introduction to Logic Through Language*. John Wiley & Sons. p. 5

³⁹ Linsky, Bernard (2011). *The Evolution of Principia Mathematica: Bertrand Russell's Manuscripts and Notes* (2nd ed.). Cambridge University Press. p. 4

the context of this paper, we may have personal cooperation or cultural cooperation; we may also have cultural non-cooperation or personal non-cooperation. The same concepts may be extended to collaboration too. We cannot straitjacket behavioural patterns into these two extremes. These may be several delicate shades and textures in between. This must what we must be prepared for, in case of a behavioural analysis. we must also accept the fact that humans will be humans. Their behavioral patterns can also change over time, either wrought by internal inducements, or extraneously-generated changes.^{40 41}

➤ *Pivot or Axis*

Pivot or axis is the main plane or axis around with interactions revolve; this is at least so from the perspective and the point of view of this paper. From the point of view of physics and physical concepts, a pivot refers typically to a central point, anchor, or shaft around which a mechanism or an object turns, rotates or oscillates. An axis on the other hand, refers to an imaginary line around which an object is anchored, and rotates. A pivot generally refers to a point, while an axis commonly refers to an entire line around which something rotates. These concepts are mostly used in mechanics and in modeling, though sometimes in anatomy and visualization as well. They are also important from our perspective. Here, we refer to it as an ideal (and perhaps non-existent) line around which interactions revolved. This perfect position or point of equilibrium is almost never attained or reached in the real-world, and as such is idealized or idealistic. A fulcrum is however something which plays a central or a crucial role in the attainment of objectives, and cannot be dispensed with. A lever also amplifies force and momentum, and leads to smooth operations for all parties concerned. This is similar to a chain mechanism in a bicycle.⁴²

➤ *Stimuli*

A stimulus (plural stimuli) usually refers to something (often a situation or an event) that evokes a specific reaction in an individual, (often another individual) thereby leading to a physical or a behavioural change. The term is widely used in both biology and psychology. In psychology, where the term stimulus has a specialized meaning, a stimulus may be anything that triggers a physical or behavioral response in an organism, whether it be an event, object, occurrence, or factor that influences how a person behaves, reacts, or processes information. Stimuli are primarily of two types namely internal and external stimuli.

⁴⁰ Echavarria, Martin (2015). *Enabling Collaboration – Achieving Success Through Strategic Alliances and Partnerships*. LID Publishing Inc

⁴¹ Min, Soonhong; Roath, Anthony S.; Daugherty, Patricia J.; Genchev, Stefan E.; Chen, Haozhe; Arndt, Aaron D.; Richey, R. Glenn (2005). "Supply Chain Collaboration: What's Really Happening". *International Journal of Logistic Management*. **16** (2): 237–256

⁴² Stanley, Autumn (1983). "'Women Hold Up Two-Thirds of the Sky: Notes for a Revised History of Technology.'" In Rothschild, Joan (ed.). *Machina Ex Dea: Feminist Perspectives on Technology*. Pergamon Press.

Internal stimuli can be external (such as light, sound, shockwave, or touch) or internal (such as thoughts or emotions). An inducement refers to the act of persuading someone to do something, and an example of this is a carrot and stick approach whereby a carrot is dangled in front of a hare. Stimuli and inducements are usually subtle from our perspective, and how the other party reacts or behaves is unknown or open to question. This is akin to a trigger which initiates a process or a reaction.⁴³

➤ *Reaction and Response*

A reaction is something that is essentially done, felt, or thought out in response to a given situation or event. It may be planned and thought out, or it may be off the cuff and impromptu. Both scenarios are indeed possible. A response is a verbal or written answer, and a result or a reaction to something. We may have anticipated reactions and responses which may or may not be wholly predictable. This may also of course vary with the actual response received. We may also have different types of reactions such as proportional reaction, non-proportional reaction, rational reaction, non-rational reaction, impromptu reaction (on the spur of the moment), belated reaction positive reaction, negative reaction, mutual adjustment, etc. All these need to be considered in any behavioural analysis. we cannot purport to cover every possible and every conceivable step here; these need to be identified through inductive methods and case study techniques; perhaps, these will keep researchers busy for decades.

➤ *Friction*

The term friction may be widely used in both behavioural science and in physics. Friction in a simple, and in a crude definition of the term, is nothing but the force that opposes motion when two surfaces are in physical contact with each other, and are sliding or rubbing against each other. Friction slows down or prevents movement, and friction can be reduced if not entirely eliminated through measures such as greasing and lubrication. Likewise, in behavioural science, friction impedes or hinders a smooth and a cordial relationship between individuals. Removing friction is an important requirement for establishing and maintaining productive and mutually beneficial relationships between individuals. From our perspective, deep emic and deep etic perspectives and wide emic or wide etic perspective approaches are required. (i.e. extended emic and extended etic approaches). This is why and this is how the expertise of a social scientist becomes important or comes into the picture. A deep historical analysis may also be performed on the lines we had recommended earlier, and all this will add meat and substance to our approach.

➤ *Noise and Misunderstanding*

In communication studies, noise may be taken to mean any interference that interferes with the accurate dispatch or interpretation of a message. Noise is often of

⁴³ Genderson, M.R., Schonfeld, I.S., Kaplan, M.S., & Lyons, M.J. (2009). Suicide associated with military service. *Newsletter of the Society for Occupational Health Psychology*, 6, 5–7.

many types, and may be physical, mental, or linguistic, and may come from either internal and external sources or both. Noise has the unfortunate potential to disrupt or derail the entire communication process and throw it out of gear, also leading to misunderstandings and wider communication breakdowns. Noise is also sometimes closely equated with misunderstandings which occur frequently in the communication process. These may be either personal misunderstandings or cultural misunderstandings. These must be quantified and mapped as necessary, and this must become one of the essential duties of a social sciences researcher. This may also lead to personal alienation, cultural alienation, antagonization, or polarization as the case may be. Throughout the entire process, rational behavior and non-rational behavior must be mapped and taken into consideration, though this may be easier said than done.

➤ *Domination or Oppression*

Domination refers to the exercise of power or influence over another individual or culture, or the state of being controlled by another power of authority. There may be many different causes for domination, and these may include among other things, asymmetric power structures, and hierarchical power structures to name a few. Domination may be long-lasting (even intergenerational or perpetual) or it may be transactional or episodic. There may be various scenarios involved in the social sciences, and no one size fits all approach is possible in the social sciences. Oppression refers to a prolonged cruel or unjust treatment or exercise of authority. Simply put, oppression is a more extreme form of domination. All these stem from unbalanced or unequal power structures, inherent or non-inherent, but remediation may be far from easy in some cases. In some cases, reversed scenarios may result as the subjugated entity takes to seek vengeance, or make good for lost time.^{44 45}

➤ *Compromise, Conciliation or Reconciliation*

A compromise is nothing but a way of reaching an agreement in which each person or group gives up something that he or she wanted, desired or cherished in order to put an end to an argument or a dispute. This may require mutual sacrifice or mutual adjustment, and may or may not lead to an overall greater loss. Another related concept is conciliation or reconciliation which leads to individuals making up, or making amends. This is akin to solving a long-standing, long-pending or a vexatious dispute for the mutual benefit of all parties involved. Appeasement is said to occur when one party or an individual panders or caters heavily to the whims or ego of another. These are but

a few concepts that we have proposed. There could be many, many more. For all this we need a thorough and a deep inquiry and investigation.

For example, we may need to investigate ideologies too. One is reminded of the book 1984 by George Orwell. Looking back from 2025, we never saw the dominance of communism and we never saw the perpetuation of the cold war. However, George Orwell saw a dystopian future in the 1940's. According to him the second half of the twenty-first century would be a monumental tragedy and a colossal and epic failure. Oceania would come to be dominated by Big Brother and INGSOC which stood for English socialism. It had the inner party, the outer party and the proles or everyone else. According to him, in the early 1950's world war three would break out, and the United Kingdom would be bombed. By 1984, the world was divided into three nations, Oceania, Eurasia and East Asia. The area of warfare was the Equatorial front in Asia – East and South Asia. The three slogans were, "War is peace, freedom is slavery, and ignorance is strength", and Winston Smith fabricates historical records persistently and continually.

In case of the novella "Animal farm" by the same author – George Orwell, the animals in a farm shoo away their owner and try to run the farm by themselves. The eventual tagline is "four legs good, two legs bad" The pigs eventually take over, and eventually we see the tag line, "All pigs are equal, but some pigs are more equal". These are not just comical and amusing; they determine and dictate how individuals behave and rationalize too. We must also bear in mind identity theory to which we had dedicated two entire papers. Another important work is "The clash of civilization" by Samuel Huntington which envisages a post-cold war world whose order was primarily determined by cultural and religious ideologies. An extended version of this was envisaged by Minhaz Merchant with more Asia-centric paradigms.^{46 47}

➤ *Cultural Mediation and Cultural Brokerage*

Cultural mediation involves facilitating better communication and deeper and often more permanent understanding between individuals or cultural groups from diverse cultural backgrounds. Cultural mediation is a vital bridge that helps to navigate and resolve cultural differences, dichotomies and chasms, and lead to mutual understanding, trust, rapport and global harmony. Cultural mediation may often involve language translation and interpretation, cultural interpretation, mediation, and conflict management techniques besides of course attaining an appreciation for different cultures. Cultural brokerage is

⁴⁴ Generic Identity Theory for the Twenty-first Century: Towards grand unified approaches in identity formation, identity transformation and identity dilution or neutralization Sujay Rao Mandavilli Elk Asia Pacific Journal of Social Sciences Volume 5, Issue 3, 2019

⁴⁵ Formulating 'Extended identity theory' for twenty-first century social sciences research: Modeling extended identity in relation to real-world observations and data Sujay Rao Mandavilli IJISRT, July 2023

⁴⁶ Henderson, E. A., & Tucker, R. (2001). Clear and Present Strangers: The Clash of Civilizations and International Conflict. *International Studies Quarterly*, 45, pp. 317-338

⁴⁷ Mungiu-Pippidi, A., & Mindruta, D. (2002). Was Huntington Right? Testing Cultural Legacies and the Civilization Border. *International Politics*, 39(2), pp. 193-213.

another closely allied concept. It refers to the process of allowing for better cross-cultural communication and understanding by bridging cultural distances and divides too in a model of mutual camaraderie and bonhomie.

➤ *Fault Identification and Analysis*

Fault identification refers to a systematic process of identifying, detecting and locating the cause of a malfunction or issue within a system or process. However, it may or may not be possible to identify faults in a social sciences scenario with precision, as there may often be a great deal of ambiguity involved in the process. Therefore, this step may be skipped as necessary as rule-based interpretations may not be ideal.

➤ *Conflict Management*

Conflict management is another step of our process, and is vital to the success of our initiative. Conflict management refers to the process of handling and managing disputes and disagreements in such a way that negative outcomes are minimized and positive outcomes are maximized. As a part of this process, we must identify, analyze, and resolve conflicts through strategies that are designed to foster healthy communication, and institute better and more harmonious relationships. This entire exercise also may also require root cause analysis, and conflict management techniques as necessary. Conflict management styles include avoidance, competition, accommodation, compromise, and collaboration.

Types of analysis may include analysis at an individual level, analysis at a group level, analysis at a cultural level, cross-cultural analysis etc. We may also merge and mesh this with synchronic diachronic analysis, and initialize and measure different types of variables as necessary. We also remember time and distance problems from school. Distance is no longer a major problem nowadays as distances have been bridged through humongous leaps in technology. We all remember the novel “Around the world in eighty days” by Jules Verne, but that is obsolete too. We also know the “Theory of cultural lag”, but cultural differences need to be satisfactorily bridged and resolved as far as possible by social sciences researchers. We also are aware of the concept of thought experiments, but let us present an interesting thought experiment here; Let us hypothetically attempt to delink from other cultures momentarily though completely. This would furnish and yield a test of complete cultural independence, as researchers can then weigh and evaluate whether cultures can exist in a complete state of independence without borrowing anything from other cultures. We can also use this approach as a platform for development of new concepts; for example, we may want to test hubris, and non-scientific perspectives. We may also want to test hypothesis such as, “Do people with a superiority complex tend to put on airs?”, “Do people with an inferiority complex tend to show off more?”, “Do people with a persecution complex tend to become belligerent, bellicose and aggressive?”. We could evaluate these, and a whole lot more. Quite literally, the sky is the limit here, if researchers would only better themselves more.

III. CONCLUSION

The objective of this paper was to conceptualize and gestate comprehensive approaches for the modeling of interpersonal and cross-cultural interactions. We therefore began this paper by defining the terms inter-personal and cross-cultural, and discussing the history of studies in this context, and different perspectives and schools of thought. The terms social, cultural and socio-cultural were also discussed and debated, along with a study of social, cultural and sociocultural variables. We then proceeded to the core essence of this paper, and discussed what social, cultural, and sociocultural models were, besides discussing other types of models in general. We also then discussed the concepts of predictive modeling, behavioural modeling, psychological modeling, and relationship modeling. We also had proposed deep emic and deep etic approaches besides extended emic and extended etic approaches for modeling interpersonal and cross-cultural relationships in an earlier paper, and we suitably carried forward the same concepts into this paper. The various steps of our approach were also delineated and carefully examined, along with nomothetic approaches and generalization techniques. We hope and expect therefore, that our paper will become a critical cog in the wheel of twenty-first century social sciences, as it is a paper with enormous potential.