

Assessment of Pragmatic Language Skills in Children

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ABSTRACT

Pragmatic Language taps aspects of human communication which varies in accordance to the situation. As there is a lack of awareness on what exactly are Pragmatic Language Skills, thorough literature is presented on the nature of language skills and the measures that have been used to assess these skills. The purpose of this research is to bring light to this aspect and to construct a new Pragmatic Language task in Hindi in order to accurately tap several of its markers in Indian children of the age group 5 to 10 years focusing on eliciting the communication skills that they use in everyday context. The task we constructed in contrast to the previous tools conducts interviews directly with the targeted child involving the use of specifically designed test which focus on two components, Judgment and Expression. Narration of Hindi stories and on that basis asking questions help in the elicitation of specific culture friendly pragmatics marker that are relevant to children in the 5-to-10-year age group belonging to Indian families of urban middle class households. These markers are categorised in a checklist and based on their performance children are ranked. First order and second order Theory of Mind test was used with pictures and narration of false belief stories along with that parent/teacher report was collected by a well validated and reliable scale, Pragmatic Abilities Questionnaire by Jafari et al. (2019) to ascertain positive correlation with the newly developed task and establish concurrent validity. Face Validity was stabilised by subject matter experts and Inter-rater reliability was defined. The task proved to a good measure for assessing Pragmatic Language skills. The implications of this research are in the development of the social language intervention programs and will make a significant contribution in benefiting the population with atypical development.

Keywords: Pragmatic Language Skills, Assessment, Hindi Task Development, Children, Reliability and Validity

Adjusting speech in a way to tailor utterances as per the communicative needs of interlocutors is Pragmatic Language. It entails rules which apply in communicative social participation (Mctear and Conti Ramsden, 1991). Verbal responses like initiating and maintaining a conversation, accurate turn-taking (Phelps-Teraski and Phelps-Gunn, 1992) and nonverbal responses like making eye contact, maintaining proper social distance, appropriate body posture even displaying correct emotions and feelings in a conversation are included in pragmatics (Astington and Jenkins, 1999; Horton and Gerrig, 2002).

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Major aspect of pragmatics includes Deixis, Anaphora, Presupposition, Coherence, Reference and Inference. Deixis is pointing at something through language. It's the use of signs that not only have meanings in themselves, but whose meaning are enriched through relations of opposition and contrast with other elements of the system (Hanks, W. F. 1992). Anaphora means the use of a word referring back to a word used earlier in a text or conversation to avoid repetition. For example, Jawed came late from work yesterday, He will not be waking up early today. In the same line is the word cataphora which means the use of a word or phrase that refers to or stands for a later word or phrase in a reverse order to anaphora. Presupposition relates to sensitivity to contextual requirements; and discourse, including conversational interactions and narrative organization (Duchan, 2004; Gallagher, 1990). Coherence is the ability to sequence ideas for building a theme into discourse. Reference is an ability to provide information for the listener to be able to establish what being talked about. The function of inferences is to 'fill in' information that is not explicitly provided in order to enable comprehension of discourse.

Pragmatic Language also involves reading the intentions by articulating the mental states of the other person which is a part of the broader phenomenon called Theory of mind (TOM) an aspect of social cognition which serves as an important predictor of social competence. Hence it is understood that children require good TOM skills to be able to understand other persons belief which in turn directly predisposes them to have good pragmatic skills. Carotenuto et al., (2018) in reported that TOM task was related to pragmatic skills. Despite this obvious link the research investigating the statistical relation between pragmatic skills and TOM tasks has been scarce or has not been systematically conducted this needs to be further examined in future studies.

We need to remember that characteristics of pragmatic communication are influenced by factors such as culture, gender, race, languages spoken, relative socioeconomic status of speakers, psychosocial adjustment and interpersonal relationships (Eva and Chambers, 1995). Gender difference can be found in gaze pattern, females are reported to look less towards their conversational partner face while speaking as compared to the male counterparts. (Marcelle, 1976). The assessment of pragmatic language requires sampling and analysis of behaviours some of which are overt/explicit, some of which must be inferred and some which represent a synthesis of different levels of processing. For all of these reasons it becomes complicated to accurately measure Pragmatic language skills (Johnson-Laird, 1983; Sperber & Wilson, 1986).

Developmental Milestones

Typically developing pre-school children can adopt various styles of speaking, adjust their voice tone and language for interacting with children at different developmental levels (Guralnick MJ, 1989). They can make up stories related to what's on their mind (Preece A. 1987). For this age group, the sampling method of choice is observation of play with family, siblings or peers through an observational checklist that taps pragmatic markers.

At 3 years communication for appropriate interaction begins to form. 4-year-olds are sensitive to ambiguity from another addressee perspective (Nilsen, 2008) they are capable of using gestural irony such as eye rolls, smirks, tongue out and understand metaphorical meanings (Ozcaliskan, 2005). 5-year-old are sensitive to discourse context and accordingly can use imitative strategy (Song and Fisher, 2007). Prosodic cues help 6-year-old to identify ironic utterances they can grasp incongruity between word and speaker meaning (Collins, Lockton, & Adams, 2014; Karmiloff-Smith, 1986) and understand that sarcastic comments

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lessen the intensity of the negative impact of criticism. 7-year-old children can produce ironic reactions to someone else's ironic utterance said Creusere, M. A in 1999). For 8-year old's metaphor understanding depends upon predictability of test story's endings. At 9 years of age children start creating novel utterances with new information (Filippova, E., 2014). By 10 years of age, they have a metaphorical understanding which is close to adult. At 11-years the speech act of commissive such as promising emerge. Acquisition of idioms lasts until the age of 17 (Spector, 1996). One of the major changes that occurs as a child becomes older is the frequency with which a specific language form is used appropriately (Brown, 1973). In order to confirm whether these research results also coincide with the development norms of Indian children and to confirm consistency with the above-mentioned literature a new culture friendly task is to be constructed.

Instruments for Pragmatic Language

Since the “pragmatic revolution” in 1970s the focus of research has been on its naturalistic assessment (Duchan, 1984). As Pragmatics is subtle in nature it is specifically difficult to assess. Even if assessment is precise there is no guarantee that the observer will observe all the pragmatic language skills a child is capable of producing (Roth & Spekman, 1984). There are handicapping declarations like the one made by Bishop (2000) that there is no good method for identifying pragmatics other than the subjective measures. Nevertheless, Tetnowski and Franklin (2003) raise three points on how an assessment should collect information on behaviours that is by exhibiting contextual facts, providing descriptions of those behaviours and examining the relationship.

Chapman (1981) stated assessment of pragmatic skills can be done using statements that can benefit in eliciting a response. For example, the utterance. “Hey Jim, find the red ball. okay?” contains a request for attention, action, and information to comply similarly "gee, that ice cream looks good" has personal need and is a covert, implicit or indirect request by the speaker wanting to eat the ice cream. To demonstrate improvements in pragmatic skills technique conversational analysis which focuses on inductive approach or narrative assessment which require the subject to retell a story can be used as ecologically valid tools.

Attempts made to measure Pragmatic language skills have been targeted towards capturing the context and to make judgements on how good the subject could match the message with it. Indulging the child in an informal conversation Prutting and Kirchner (1983) observed and marked the speech acts, nonverbal and paralinguistic skills in the communicative interaction on the Prutting's Pragmatic Protocol which has been classified as one of the most influential works in language pragmatics assessment and is of use with a wide range of paediatric clients. Prutting & Kirchner (1987) stated a clear limitation that one cannot assume that if a behaviour does not occur in such a context that the child is not capable of producing it.

Comprehensive Assessment of Spoken Language (CASL) an oral language standardized pragmatic assessment tool in which children read aloud vignettes describing situations. understanding the actors' intent, adjusting responses depending on actors and using appropriate emotions and desires. Its major limitation being the inability to be used for younger children. To assess the use of communicative functions Dewart and Summers (2015) developed the “Pragmatics Profile of Everyday Communication Skills in Children” which only used parental judgment in order to gain information about a range of pre-schoolers intentional communication. A culture specific assessment for Arabic-Speaking Children designed at Cairo University in Egypt by Norbury and Bishop assesses the child's

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ability to describe pictures arranged in sequential order and provide explanations for protagonist actions, which was critiqued to be demanding. Using a conversational coding system called Analysis of Language Impaired Children's Conversation (ALICC), Adams and Bishop (2002) quantitatively assessed pragmatic. The aim of the task is to promote a dyadic exchange however it was proved to be time-consuming.

Test of Pragmatic language (TOPL) developed by Phelps Terasaki and Phelps Gunn in 1922 consist of pictures of cartoon having dyadic interaction with a story told by the interviewer on the basis of which questions are asked. An updated version TOPL 2 is now available. However, TOPL have some serious limitations like its rigid as a tool does not reflect individual's ability to adjust according to context, it is not sensitive enough to reveal child's pragmatic language in dynamic context and dependent communicative exchanges, it is unable to differentiate between higher level skills.

Clinical assessment of pragmatics (CAPS) by Adriana Lavi in 2016 has components like Pragmatic judgement, Performance, Paralinguistic language, Core pragmatic language composite and is based on real time social communication-based video with actors in different challenging scenarios asks 3 main questions including Was there anything wrong? What was wrong? and What would you do? The video was modelled by a similar aged peer actors keeping gender, race, location and socio-economic status in consideration. Limitation of the tool lies in the ability to use it with children from different cultural background as scripts of the video are appropriate only for western culture and its questions have been critiqued to be moralistic in nature.

Another widely used, popular tool is the Children's Communication Checklist (CCC) a qualitative scale derived from a series of teacher rated behaviours with good validity and reliability by Bishop (1998) which assess pragmatics using nine subscales like speech, syntax, inappropriate initiation, coherence, stereotyped conversation, context, social interests. However, the CCC is a diagnostic tool which asks parents to report their children's social communication which can be inconsistent. In this way numerous tools tap a very one-dimensional aspect of pragmatic language that completely ignore the subject in the picture and instead ask a parent or a teacher about their Pragmatic language skills.

The persistent paradox exists of assessing language pragmatics that some aspects simply have as much variation as individual personalities and styles of interaction. The challenge for researchers is to find a sampling method which allows for a degree of spontaneity but which remains realistically measurable is repeatable and which allows enough opportunity for observations of specific behaviours. There is no single current method which meets these criteria. Self-designing a pragmatic language skills task will allow us to adopt some necessary modifications to surpass these limitations.

We worked on creating a Hindi, culture specific and context friendly task which is very much adaptable in nature to measure pragmatic language skills and suited for the children of 5-to-10-year age group growing up in an Indian environment.

Research Questions:

- What is the theoretical knowledge that we have on Pragmatic language Skills in the western culture?
- What kind of work have the researches done on the Indian culture around Pragmatic Language Skills?

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- What are the psychometrically sound tools that have been constructed to assess Pragmatic Language Skills in children and what are their limitations?
- What would be the process to design and construct a standardized, culture friendly age-appropriate task for the assessment of Pragmatic Language Skills in the age group of 5 to 10 years?
- What is the nature of relationship between Pragmatics skill and the construct Theory of Mind?

MATERIALS AND METHOD

Objective

- To assess Hindi Pragmatic language skills of children in the age group of 5 to 10 years with respect to the Indian context using a newly constructed psychometrically sound pragmatics task.
- To test whether this novel task has the expected association with the concept of Theory of Mind as has been proved by prior research.
- To test whether this novel task has the expected association with the standardized questionnaire developed by Jafari et al. (2019) to assess Pragmatic Language Skills by asking children's primary care giver.

Variables: Pragmatic Language Skills, Theory of Mind.

Hypothesis:

1. We predicted that the newly constructed Hindi pragmatic language task will have good psychometric properties of being a valid and reliable tool with sufficient Internal consistency among the items.
2. We predicted that the newly constructed Hindi Pragmatic Language Task will have a statistically significant positive correlation with Pragmatic Abilities Questionnaire by Jafari et al. (2019) and the Theory of Mind tasks.
3. We predicted that the milestones of Pragmatic Language Skills achieved by children as assessed by the newly constructed Hindi Pragmatic language skills task will increase in number and complexity gets high as their age rises from 5 to 10 years.

Participants

The criteria for subject selection included typically developing Hindi speaking children in the age group of 5 to 10 years. Following a gap of 1-year five groups were made that each had 10 children in them residing in Delhi, N.C.R region studying in age-appropriate grade of a Private English medium school. The sample was inquired about number of members in the family and total monthly income following B.G. Prasad's (1970) classification system families belonging to higher middle class socio-economic status were selected. Children had one standard dominant language spoken in the home and had normal hearing with no history of speech and language problems. The sample was recruited on the basis of convenience sampling with children who were contacted in parks and schools near the researcher. The researcher established strong criteria for confidentiality and went through rigorous process of academic and identity document verification for requesting schools to provide permission for data collection.

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Table 1 Sociodemographic Characteristics of Participants

Characteristics	n	%
AGE 5 to 10 years	50	100
GENDER Male Female	25 25	50 50
GRADE 1 st to 6 th standard	50	100
Family Type Joint with shared area Joint with separate area	27 23	54 46
Socio-Economic Status Higher middle	50	100

Participants were on average 6.5 years old and were controlled for Socio-Economic Status.

Measures:

Hindi Pragmatic Language Task (Newly constructed):

The newly constructed task was used on children for direct assessment of their pragmatic language skills while making use of two activities one is judgement task another is an expression task. The Judgment task is a story comprehension task here the narrated story focuses on the stimulation of several different pragmatic language markers by mentioning the protagonist in diverse situations and contexts. The questions are either inferential type that seek information which is beyond the picture with “Why” questions that are functionally and conceptually complex and demand high levels of inferencing or the questions are descriptive in nature which along with testing attention and memory also target the child's ability to grasp the context with “What” questions. The Expression task is a role-playing task which involves 10 short scenarios that places the protagonist in different moods encountering a situation. it involves 'make-believe' in which the child participant is asked to take the role of one of the characters in the scenario by acting like him or her and impersonating all characteristics and is perceived to be surrounded by an imaginary place as narrated. A table of short-listed Pragmatic Language Markers that are being assessed amongst all identified from the western English literature with operational definitions and their Hindi parallel term are in table number 2. The most significant markers were decided to be kept and were attempted to be elicited through the use of Judgement and Expression task.

Theory of Mind Task:

Using tasks modified by Urvakhsh M. et al., in 2011 for the Social Cognition Rating Tools in Indian Setting (SOCRATIS) battery based on the paradigm of Wimmer and Perner (1983, 1985) consisting of first and second-order false-belief tasks data on theory of mind construct was collected. False beliefs depicting stories are meant to examine a participant's ability to understand that someone else's behaviour may be a result of a false belief, children with normal intelligence pass the second order tasks at about 6 years of age. First order and second order theory of mind false belief tasks were administered to ascertain a positive relationship with the newly constructed Hindi Pragmatic language task.

Pragmatic Abilities Questionnaire by Jafari et al. (2019):

To measure criterion validity of the newly developed task, permission was procured to get rights for using a well validated and reliable scale, Pragmatic Abilities Questionnaire by Jafari et al. (2019) developed in Department of Counselling, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran to get rating from child's primary care taker. This

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scale was developed through four main sources including a literature review of the theoretical basis of pragmatic abilities, looking at the available pragmatic measures, interviews with experts and the mothers of children with neurodevelopmental disorders about pragmatic abilities, the observation of their children, and finally the Rasch model. Rasch analysis is based on the probability theory and is a powerful tool for evaluating construct validity by which researchers can evaluate the validity and reliability of a measurement more thoroughly compared to the traditional analysis. PAQ has a person measure reliability of 0.97 with a separation of 6.03 and an item measure reliability of 0.99.

Procedure

For Task Creation:

The script development for the judgement task unravelled in various steps. First the naturalistic observation of the children in the age group of 5 to 10 years brought an awareness of their environment and the way in which pragmatic language skill markers operate in their world. To get a better knowledge and built a scientific understanding of the existence of pragmatic language markers in children's literature a text analysis was carried of the most popular and well-read Hindi story books for children in this age group that are available in the school curriculum, at the bookstores or are recommended by the NCERT. Line by line by minimum two Hindi story books for each of the 5-age group were read and the pragmatic language markers that appeared were highlighted.

Various other sources were referred for the creation of scripts for the stories like most watched children's Hindi cartoons, most streamed children's Hindi YouTube video that they consume on a daily basis were analysed for understanding of the content that the children are consuming all for the establishment of the story narration task. Initially the stories that were selected were very specifically short listed based on the content and clarity of pragmatic language markers that were suitable for the children in the age group of 5 to 10 years. However, despite that there were certain stories that were deleted from the task.

Pragmatic language story narration task as they were either not accurate in assessing the said skills or certain terms in them were too intense to be introduced in the child's world. The stories were to be such that they fit perfectly in already set schema of the child, it was made sure that the content is relatable for the children. They were created keeping in mind that none of these stories would scare or frighten the child or unnecessarily raise concerns of political nature or any social issue which deviate from the aim of the study. Finally, 10 stories were short listed to elicit Pragmatic language skills in children.

Children mostly in the age bracket of 10 to 15 years were the ones who were photographed for the pictures that were demonstrated along with the story narration. For photography the child actors were explained the story in detail and then were shown what facial expressions were to be made and how the body gestures and postures should be in order for them to successfully show case the said Pragmatic language skills for assessment. Then along with the consent of their parent's pictures were taken keeping children's costumes and the back ground in check to portray varied context. The images were then sent for labelling to numerous research scholars currently pursuing Ph D. post which back labelling of the facial expressions and body language was carried out.

For procurement of the Subject Matter Experts Rating:

How feedback from the rater was procured on the entire pragmatic language assessment task?

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The subject matter experts were short listed first on the basis of their experience in the field of psychology with a minimum of a Ph.D. in the field of psychology and second on the basis of them having a very good grasp on the Hindi language. They were contacted and first on the basis of request a face-to-face meeting was fixed in which a thorough introduction of the research scholar was provided to them along with details of bachelors and masters specialisation further proceeding with detailed information on the pursued Ph.D. topic with its aim, objectives, hypothesis and the followed methodology giving special attention to the procedure for data collection was explained. Only after the explanation of the aims of research the permission to send the subject matter expert the form to establish inter rater reliability was taken. After form distribution the subject matter expert were followed and enquired if they had any difficulty in giving their responses on the form and in this way, rating was accumulated. The instruction for filling the form were as follows: The link that has been provided will open a google form in which there are 10 stories with 2 questions each which essentially enquire whether a particular story is appropriate for this age group and culture post which there are 15 short statements assigned for role play in which you can recommend changes followed by one question to rate them respectively on whether they are able to elicit Pragmatic language skills are displayed. Read the questions kindly rate them on a scale of 1 to 3 where 1 means that the said task is weak in the assessment of pragmatic language skills and 3 means that it has strong ability to measure what it claims to measure. After the scale with rating that is to be provided on questions that are framed for each story and script individually there are 5 questions that enquire on a broad basis about the entire tasks ability to measure Pragmatic language skills. The questions are mentioned in table 3 under the heading of face validity in results.

For Administration of novel Hindi Pragmatic Language Task:

The Judgment task involves 10 stories with 3 pictures each that depict diverse facial expressions and body postures, gestures of characters in diverse situations belonging to different ages and gender that display varied emotions, narration was done with changes in voice tone and pitch in a 1-minute time frame after which each of the child answers several pre designed questions which are Knowledge, Prediction, Justification and based on inference. All of the stories along with the pictures are given in the appendix.

The descriptive type consists of characteristic questions while the inferential type enquires what has happened before and what is likely to happen next? Children are also asked to justify their answers (Why is that?' 'How can you tell that?) If the reasoning matches the available evidence the answer is marked 5 for strong. If not, then the answer is deemed 1 for weak. If the child is not able to give a coherent or any reason, this will also be categorised as weak.

Pragmatic Language skills which are somewhat easier to define objectively. They include those that disrupt a conversation or where no attempt is made to meet the expectations of one's communication partner, Hyter and Dodd (1999). In the expression task the child is asked to role play by being a character in 15 scripts that are told to him or her. The child has to listen, understand and then enact being a character, adopting the appropriate expressions and tone that the protagonist would hold in given context. Yardley (1982) described 'as-if in role playing. Instructor says "You are this person." here." Children had to give a response that was both factually and functionally correct. The assessment was concluded with clear terminations of role play, and parent, child debriefings. Audio, video recording was done for deeper analysis and to pay attention to micro-features.

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This methodological proposal focuses on the stimulation of the child's language. After thorough analysis of the interview each child's performance was ranked on a checklist which targets on 50 pragmatic language aspects represented in a form of markers categorised in nonverbal, verbal, displayed behaviour based and comprehension-based classes these along with their operational definitions are present in table number 2 below. Each child's score on a range of 1 (weak) to 5 (strong) was marked against these specific pragmatic language aspects.

**Table 2 Checklist of Pragmatic Markers Assessed
NON-VERBAL**

Markers	Operational Definitions	Hindi	1.Weak Moderate Strong	2. 3.
Body language	Foot leg hand arm shoulders movement, Physical proximity	शरीर की भाषा		
Body Posture	Turning the head or body toward the listener	शरीर मुद्रा		
Hand gestures	Pointing; showing; physically guiding; demonstrating.	हाथ के इशारे		
Nod/shrug	Nodding head.	सिर हिलाना/		
Facial Expressions	Expression conveying appropriate emotion Positive emotions (e.g., smiling), Negative emotions (frowning when angry).	चेहरे के भाव		
Eye Expressions	Squinting eyes for questioning, eye rolling for sarcasm.	आंखों के भाव		
Tone of voice	Modulation of voice based on character requirements.	आवाज़ का लहज़ा		

VERBAL

Markers	Operational Definitions	Hindi	1.Weak Moderate Strong	2. 3.
Displayed Behavioral Markers				
Turn Taking	Adheres to listener and speaker roles back and forth.	बारी लेना		
Positive affect	Understanding warm tone of voice which gives a sense of approval, compassion, sympathy	सकारात्मक असर		
Negative affect	Understanding negative emotions like anger, fear, disgust, nervousness	नकारात्मक असर		
Indirect Request	Grasps implicit expression of a desire	अप्रत्यक्ष अनुरोध		
Sarcasm	Saying words opposite to what is really felt	कटाक्ष/व्यंग-कथ		
Humour	Sensitive to comic mood	हास्य		
Politeness	Praise or compliment, greetings, and apologies.	विनम्रता		
Lies	Detecting false information	झूठ		
Threats	Statements used to give warnings	धमकी		
Instruction		निर्देश		

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Askes questions	Queries, Permission, requests	प्रश्न पूछने की क्रिया	
Answer questions	Responding to a direct question by the speaker	सवाल के जवाब देने	
Additional inputs	Making additions to dialogues based on characters feelings	अतिरिक्त आदानों	
Request clarification	Requesting clarification of information presented by speaker, revision of a previous utterance	स्पष्टीकरण का अनुरोध करें	
Feedback to speaker	Responding with positive or negative opinions	स्पीकर क प्रतिक्रिया	
Agreement	Statements of approval	समझौता	
Disagreement	Statements which communicate disapproval, criticism	बहस	
Stylistic Variation/ Dramatic play	Adopting different styles according to roles. Different emotions despite same dialogue/ Adopts a different role or responds to a role	शैलीगत भिन्नता/ नाटकीय खेल	
Interruptions	Abruptly breaking an ongoing conversation	व्यवधान	

Comprehension Based			
Communicative Intent	Understanding the intention of the speaker for saying something.	संचारी आशय/ इरादा/ नीयत	
Literal Meaning	Understanding whats literally meant	शाब्दिक अर्थ	
Insight of Time	Awareness of current, past, or future time lines	समय की अंतर्दृष्टि	
Presupposition	Understanding Knowledge assumed to be known beforehand between speaker and hearer. Knowledge of previous utterance.	पूर्वधारणा	
Reasoning	the action of thinking about something in a logical, sensible way.	विचार	
Context	the circumstances that form the setting for an event, statement, or idea, and in terms of which it can be fully understood.	संदर्भ	
Reference	the action of mentioning or alluding to something.	संदर्भ	
Inferencing	a conclusion reached on the basis of evidence and reasoning.	अनुमान लगाना	
Error full inferencing	Incorrect conclusion despite evidence	त्रुटिपूर्ण अनुमान	
Inappropriate Presupposition	Incorrect Belief about common ground prior knowledge between speaker and hearer	अनुपयुक्त पूर्वधारणा	

For Theory of Mind Task:

First-order false-belief tasks consist of Sally, Anne and marble task that involves attribution about other's false belief with regard to real events; whereas, second-order false-belief

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consists of Ice-cream man task which are related with what people think about other people's thoughts. The administration process with the child using the cartoon pictures was as demonstrated in SOCRATIS battery.

For Pragmatic Abilities Questionnaire by Jafari ethical al. (2019):

In this parent/teacher report each item is measuring a pragmatic marker. it is unidimensional, like the item "She/He requests more information when not understanding the topic" measures pragmatic marker of asking for clarification on which parent can rate their child from 0 (never) to 5 (always). The data on the Questionnaire was collected by either handing over the form to the parents, by forwarding them a link of the online google form or by the researcher asking the questions and getting scores on them face to face. The parents were also explained the ethical standpoint of the research.

RESULTS

The results depicted that when tested for several different types of validity and reliability the Hindi Pragmatic Language assessment task was a good measure to assess Pragmatic language skills. It was tested against the Pragmatic Abilities Questionnaire by Jafari et al. (2019) to test whether there exist concurrent validity and ToM task to confirm of its positive relationship with the same.

Table 3 Face Validity (Summary of the responses of 10 judges to the Hindi Pragmatic Language Task.)

To what degree does the task accomplish the following?	Weak, n (%)	Good, n (%)	Excellent, n (%)
It tests the ability of the child to understand different paralinguistic skills (Nonverbal skills, conversational skills ?)	0	7 (70)	3 (30)
It tests the ability of the child understand different aspects of inference like sarcasm, metaphor, irony?	0	3 (30)	7 (70)
It tests the ability of the child comprehend story sequences told him/her?	1 (10)	2 (20)	7 (70)
It tests the ability of the child to answer different "WH" questions?	0	2 (20)	8 (80)
It gives a general idea about the child's pragmatic skills at this targeted age?	1 (10)	3 (30)	6 (60)

Table 4 Correlation between Variables

	Mean	Theory of Mind	Pragmatic Abilities Questionnaire by Jafari et al. (2019)	Hindi Pragmatic Language Task
Theory of Mind	1.5	1.000	.879**	.864**
Pragmatic Abilities Questionnaire by Jafari et al. (2019)	4	.879**	1.000	.857**
Hindi Pragmatic Language Task	2	.864**	.857**	1.000

* $p < .05$. ** $p < .01$.

Internal consistency of individual items of task was explored by establishing correlations amongst items. All individual Item scores correlated significantly with each other. Correlations ranged from .227 to .669 and all correlations were significant at the .05 level (one-tailed) using Spearman's Rho indicating good internal consistency. The test-retest

reliability of the various subtests was excellent. Individual ICC values for the various subtests ranged between 0.91 and 0.98. Cohen's kappa of .71, indicating substantial inter-rater agreement (Landis & Koch, 1977).

DISCUSSIONS

This research was undertaken considering the gap identified in the literature. An unawareness was developed post doing a thorough review that demanded a light to be thrown at the topic of Pragmatic language skills. After discovering the tremendous need of constructing an Indian culture specific Hindi tool for the assessment of Pragmatic language skills the following study was undertaken.

The concept of Pragmatic Language was not very well known by the population, there was a major lack that was experienced for its literature in Indian context and finally the western tools were found to be limited in a variety of ways. From considering all of these points a need emerged to construct a culture specific Hindi task for the assessment of Pragmatic language skills in Indian context and to use this task in order to map the developmental milestones of Pragmatic language skills achieved by children in the age group of 5 to 10 years. One of the goals was also to establish that this novel task has the expected association with the concept of Theory of Mind as has been proved by prior research.

The implications of using this Hindi Pragmatic Language Task for typically developing children lies in the fact that it builds norms which can prove beneficial in determining what are the correct age-related milestones for developing each of the Pragmatic Language Skills among the list of markers that are being targeted. And for atypically developing children like children with autism and specific language impairment or social communication disorder as mentioned in DSM 5 of the APA, the task can be used first for the purpose of comparison with the typically developing population and once deficits are found in the former group of children the same task can be used after being sculpted in the form of a training module for the right development of pragmatic language skills.

The Indian culture is unique in its ways and Hindi language beautifully carries within it a variety of grammatical complexes that cannot be compared to any other language. In the Indian culture diverse ethnic contexts fit and make sense, the Hindi language is rich in its wide variety of irony, metaphors, idiom, sarcasm used by elder family members at home and by the teachers in the school are unlike that of any other culture. From the detailed explanation in the literature section, it is believed that none of the existing pragmatic language tool is perfect each has its disadvantages and none of them from the researcher's point of view could be used for the assessment of these skills in Hindi for the Indian Culture. Hence the case is that in order to get a complete picture of pragmatic language the researcher decided to develop a Hindi Pragmatic language data collection task which is sensitive to the Indian culture. The results demonstrate that the newly constructed Hindi Pragmatic Language task stands strong on the tests of Validity and Reliability. That it can be used with children in the age group of 5 to 10 years in the Indian culture and tap the developmental milestones of pragmatic language skills informing us that sarcasm, idioms and irony are some speech acts that typically developing children still struggle with at the age of 10 and could be developing at later stages which need to be studied. There is still scope for the development of a more real-life based assessment perhaps a video tool for the accurate mapping of Pragmatics Language Skills which is being worked on by the researchers.

CONCLUSIONS

Once the need for developing Pragmatics language skills task for data collection was identified the literature was explored for the identification of the pragmatic language markers and the child participants were rated on the same. Analysis suggests that developed task is a sensitive and a valid measure of assessment of Pragmatic Language skills for children in the age group of 5 to 10 years which can be used and scored reliably by other assessors. This study has shown that it has face validity in terms of acceptability to communication professionals and to child participants along with concurrent validity and also satisfactory interrater reliability.

This Hindi Pragmatics Language task can be relevant in generating norms for typical children so that children can become better adapted in the society where they function to the best of their potential and are more sensitized to the appropriate behaviour in a particular context. The newly constructed culturally specific task can be used for training of social communication in the schools. This research can bring about significant positive change by timely intervening atypically developing children's social communication skills and create clarity in the theory of mind relationship with Pragmatic language skills which will not only help us better understand the mental states of each other but also can aid to better communicate among ourselves.

Limitations and Directions for Future Research

Pragmatics assessment, in its naturalistic form, should not and cannot be repeated without loss of real interaction. There will therefore always be limited confidence in reliability. The best advice must be to control as many extraneous variables from one assessment occasion to the next and to avoid topics which are unfamiliar. The research result cannot be applied to all sections of the population as it was carried out on very specific population of children belonging to a certain socio-economic status and schooling background in the future it is possible that a broader sample type is taken to have insights that can be implied to the larger general population. More empirical research into the development of inferential comprehension, topic management and coherence in particular is required to support the development of better instruments. It will be necessary in future research to show the effects of adding layers of additional complex language processing.

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Conflict of Interest

The author declared no conflict of interest.

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