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Validation Of The Pupil Control Ideology Scale In The Indian Context

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Abstract
The present paper was an attempt to adopt and validate the Scale of Pupil Control Ideology (PCI) for Middle school teachers. The scale has created to gauge an instructor's pupil control attitude along the continuum between humanistic and custodial practices. The scale has been regularly used to assess both teacher ideology and school atmosphere. In this study scale was modified to make it culturally suitable in the Indian context. An exploratory factor analysis with IBM SPSS 22 was employed on a random sample of 200 middle school teachers and AMOS 21 was conducted for CFA on randomly selected 175 middle school teachers of J& K (UT).The results supported the original scale that PCI is a single-factor, 11-item, unidimensional scale found to be valid and reliable with r=.829 in the Indian context.

Keywords: Pupil Control Ideology , Humanistic , Custodial Exploratory factor analysis, Confirmatory factor analysis

1. INTRODUCTION

This validation study showed that in 21st century still, there are two types of controlling ideology i.e. Humanistic and Custodial adopted by school teachers in all over the world. The same scale (Wayne.k.Hoy, 1967) has used in many countries but in Indian context it found more valid with 11 items that is the uniqueness of the study. The researcher used Varimax and Oblimin method for reliability but in the previous studies the split half method was employed. Therefore without using split half method the validation results are better than the previous studies. The previous validation studies showed retention of fewer items than in this paper. The researcher also followed all steps of validation honestly.

The early 20th century work of educational psychologist Edward Lee Thorndike is where the notion of student control first emerged. Thorndike thought that the goal of education was to help people become better problem-solvers and that the best way to do this was through individualised teaching. Thorndike's theories were explored further by a team of educational psychologists under the direction of Edward Chace Tolman and Robert M. Gagné in the 1920s and 1930s, and this work became called as the "pupil control ideology." The strategy promoted students' unique differences value and a more student-centered approach to education.

Pupil control concept has its roots in traditional Indian educational institutions like the Gurukul and Ashram systems. These systems placed a strong emphasis on the value of the teacher-student bond and the teacher's role in helping students develop their personalities and social skills. In the Gurukul system, a type of residential education, both the instructor and the pupil resided in a hermitage. Along with academic instruction, the instructor also had to guide the student morally and spiritually. The student's life was entirely under the teacher's supervision, including their nutrition, daily schedule, and behaviour. Another style of schooling that was common in ancient India was the Ashram system. In this system, the instructor was also in charge of the student's whole development, which included their mental, physical, and spiritual development. The student was subject to a rigid set of rules and regulations, and the instructor had total authority over the student's life. These prehistoric educational systems placed a strong emphasis on the value of the teacher-student connection and the role of

instructors in influencing and moulding the character and behaviour of the pupil. These antiquated educational institutions, which saw the teacher as the key character in the educational process and the student as a passive recipient of information and instruction, are where the philosophy of pupil control originated in India.

Educational scientists Louise Adler and Raymond E. Wesson initially introduced the idea of Pupil Control Ideology (PCI) in 1970. According to this notion, instructors' teaching methods are influenced by their attitudes towards their students' (pupils') personalities and methods of control. The humanistic-democratic and custodial subtypes of PCI are considered to be the two primary subtypes. The Humanistic-Democratic PCI places a strong emphasis on democratic values, critical thinking, and student autonomy. Custodial PCI, in contrast, places a strong emphasis on control, submission, and adherence to authority.

Martin Haberman's research "The Development of Pupil Control Ideology" from 1971 explores how instructors' ideologies about controlling their students change over time. According to Haberman, interactions between instructors and administrators as well as a teacher's experiences as a student influence their ideologies towards student management.

Eidell, T. L. [1] investigated and tracked down the need of an instrument to gauge control philosophy of staff individuals. He fostered an instrument with the transformation of hypothesis of control belief system. The understudy control philosophy scale was then made at Pennsylvania, first and foremost, State College in New York with Humanistic and Custodial sorts of control belief system [1].

Gaffney, P. V., & Byrd-Gaffney, S. [2] upheld the ampleness of the instrument for use in research on educator ideology [2]. Custodial instructors seemed to be impacted by students' actions, according to Gnanarajan, A. H., Kengatharan, & Velnampy,T. [3] despite Pupil Control Ideology (PCI) having no moderating influence [3]. As per the literature review of Graham, S., Halpin, G., Harris, K. R., & Benson, J. [4] there was no factor analysis study has published [4]. Hoy, W. K. [5] described the origin and evolution of the Pupil Control Ideology scale and found that it is an important scale for behavior analysis in school organizations in 21st century [5].

Gilbert and Levenson [6] initial two American specialist presented two inverse terms custodialism and humanism as attitude- orientation models to care mentally ill patients [6]. Goldenberg, R. E. [7] recognized that teacher-student relationship and pupil control ideology influences behavior the students in the classroom and also in their accomplishment i.e. students achievement [7]. A. C. Savas and M. Karakus [8] more humanistic attitudes towards their students are developed by instructors as a result of increased levels of trust [8].

According to Herron, J. P., and Hennessey, M. N. [9] although participants in the limited resource condition did not, Significantly more custodial PCI was present among individuals in the low time group compared to those in the control condition [9]. Halpin, G., Halpin, G., & Harris, K. [10] the educators who were humanistically inclined tended to be emotionally steady, practical, upbeat, inventive, daring, extroverted, calm, have a strong self-concept and self-assured. The authoritarian instructors had a poor self-concept, were serious, sober, and realistic, as well as more emotionally sensitive [10].

The characteristics of epistemological views known as there was a relatively positive correlation between PCI and the beliefs that learning is tied to talent (BLTT), right way to learn (BRWL) and these beliefs., according to AYTAC, A. [11]. The BRWL and BLTT dimensions were identified to substantially predict student control ideology. According to Barfield, V., and Burlingame [12], instructors in medium SES or upper SES schools tended to be less custodial towards student control than instructors in lower SES schools, and teachers with lower feelings of efficacy tended to see control of students as being more custodial than teachers with higher or average senses of effectiveness [12].

Brame, M. M. (2007). "An Examination of the Pupil Control Ideology of Teachers and Its Relationship or impact to Student Achievement" [13] explores the connection between teacher's PCI and their pupils' academic achievement. The authors discovered that more humanistic instructors likely to have pupils who perform better academically with more engagement than more custodial ones [13].

Jacob Kounin's [14] research "Teacher Expectations and Pupil Control Ideology" examines the connection between a teacher's expectations and their pupil control ideology [14]. According to Kounin, maintaining order in the classroom and encouraging student autonomy and self-direction require a teacher to strike a balance between these two competing forces.

Statistical significant connections between teachers PCI and pupil's perceptions of the quality of life in schools was demonstrated by Lee, J. S., & Bowen, N. K [15]. Teachers who regarded themselves as being more burnt out were more likely to have a custodial orientation towards maintaining control over their charges,

according to Lunenburg, C., and Cadavid [16].

L. J. Schmidt [17] shown that genuinely huge connections exist between instructor pupil control belief system and the nature of school life as seen by understudies. These associations seem, by all accounts, to be genuine theoretically [17]. Lunenburg, F. C., & Schmidt, L. J. [18] showed that the more humanistic (less custodial) the control philosophy of the personnel, the more sure the positive nature of school life for students with regards to attitudes toward school and obligation or commitment to class work and educators [18].

2. RESEARCH METHOD

2.1. Subjects

The PCI scale was developed by a foreign author (Hoy, W. K., [19] in English version [19]. Gilbert and Levenson's [6] research served as the basis for the PCI Scale (PCI, Willower et al., [20], [21], an instrument that was updated. PCI was the measure used to assess teacher pupil control attitude. The Likert-5 type scale was used to create 20 items on this test, and the results range from 20 to 100. The person is seen to be more custodial the higher the score. Prior research relied on principals' assessments of some of their teachers' pupil management ideologies to determine the validity of the PCI Scale (Willower et al., [20]. Three hundred seventy-five teachers from different schools of district Rajouri, Reasi, Udhampur, (J & K) participated in the study. There were 150 female teachers and 225 male teachers. The teachers were from Government Middle (Elementary) schools.

2.2. Procedure

To assess teachers' student control ideologies along a continuum of humanistic custodial practices, Willower, Eidell, and Hoy [20], [21] prepared the Scale of PCI, Pupil Control Ideology. To adapt and use the scale in Indian context the researcher firstly modified it to make more easy and understandable for Indian teachers. The modified items of the scale were checked by Experts of English and Education department university professors. After the finalization of the scale by the experts the questionnaire was circulated among all teachers and asks them to fill it honestly. The researcher also told them that all their responses will be used for research and will be kept confidential. The researcher followed the procedures outlined by original authors of the scale, [20] – [23] and the researcher done the scoring accordingly [20] – [23]. The scoring method for PCI scale is given in table 1.

Table 1: Scoring Method for Pupil Control Ideology (PCI) scale

Statement/ Item Number	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1,2,3,4,6,7,8,9,10,11,12,13,14, 16, 18,19 & 20.	5	4	3	2	1
5 & 13.	1	2	3	4	5

3. RESULTS AND DISCUSSION

To analyze the data the researchers used a two-stage approach. A psychological evaluation instrument called PCI is employed to gauge instructors' behavior towards how to manage pupils' behaviour in the classroom. Two statistical methods that are frequently used to examine the underlying structure of evaluation instruments like the PCI Scale are factor analysis and confirmatory factor analysis.

A component analysis is a statistical technique employed to identify the underlying causes of the patterns of correlations between a groups of observable variables. Factor analysis might be used to pinpoint the main characteristics or components that underpin instructors' perceptions of student control in the context of the PCI Scale. A factor analysis might be performed, for instance, to determine whether instructors' perceptions of student control can be divided into categories like "autonomy," "structure," or "negotiation."

A more focused version of component analysis called confirmatory factor analysis (CFA) examines a predetermined factor structure. CFA might be used to support the factor structure proposed by an earlier factor analysis or theoretical model in the instance of the PCI Scale. For instance, if a prior PCI Scale factor analysis revealed that factors like "autonomy," "structure," and "negotiation" might be used to categorise instructors' ideas

about pupil control, a CFA could be used to see if this factor structure is supported by the data.

3.1. Bartlett's Sphericity Test Result

In order to assess if factor analysis is acceptable and to ensure that the data are significant, valid, and adequate, Bartlett's Test of Sphericity [24] is also employed as a measure of sample adequacy. Therefore, the statistic of the Bartlett's Test of Sphericity for this tool is 0.000, demonstrating that the value is significant and shown in table 2.

Table 2. : KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.829
Bartlett's Test of Sphericity	Approx. Chi-Square	490.127
	Df	78
	Sig.	.000

3.2. Exploratory Factor Analysis

Exploratory factor analysis (EFA) is one of the methods of statistics that is used to determine the underlying causes of the link between observed variables. There are two common rotation techniques used in EFA: Varimax and Oblimin.

Varimax rotation is an orthogonal rotation technique that aims to produce components that are as independent from one another as feasible by maximise the variance of each factor's squared loadings. When obtaining interpretable and simple-to-understand components, this rotation approach is frequently utilised. Oblimin rotation, on the other hand, is an oblique rotation technique that enables the components to be connected with one another. When a component is anticipated to be associated, like in psychological constructs where elements are frequently connected, this rotation approach is frequently utilised.

For EFA 200 middle school teachers responses were analyses through IBM SPSS 22. Factors with Eigen value 01 or greater were rotated for principal factor analysis to generate factor matrix. Firstly Varimax rotation method and then Oblique rotation method were employed for factor analysis to find the best fit. For EFA Oblique method rotation with factor loading value below 0.40 or greater than 0.40 were used and it fits the best for EFA than Varimax. If the KMO value is larger than 0.6 or near to 1.0 and the significant value of the BTS is less than 0.05, the sample size is considered adequate (Tabachnick and Fidell, [25]; Hair et al., [26]. The KMO value in this situation is 0.789, while the BTS value is 0.000. It gives table of Communalities in which item no 01 showed low communality value .221. On the basis of low communality value item no 01 deleted by Graham, et al., [4].

- In the Component matrix total 07 items (1, 5, 6, 9, 13, 14 & 16) were deleted from the scale.
- PCI 01 was deleted due to low communality value as well as low factor loading.
- Item no. 13 was deleted due to low factor loading i.e. less than .40 factor loading value.
- Item no 14 deleted due to single item in one factor or component.
- Item no. 5 & 9 also deleted due to two items only in one factors.
- Lastly item no. 16 & 6 were deleted due to cross loading and less items in one factor falls.
- Therefore, there were 13 items remained after CFA of PCI scale.

After deleting 07 items the researcher got the following final Component Matrix with four components found in which there was one item i.e. item no. 12 showed cross loading and higher values in other component instead of component 01. But the researcher retained it and for Confirmation we check CFA by SPSS AMOS 21. The final 13 items from EFA result along with factor loadings are mention in the table 3.

Table 3: Final 13 items retained in EFA with Principal Component Analysis

	Component			
	1	2	3	4
PCIQ7	.678			
PCIQ4	.617			
PCIQ3	.607			
PCIQ2	.567			-.463
PCIQ11	.552			
PCIQ17	.531	.441		
PCIQ20	.528	-.437		
PCIQ18	.526			.454
PCIQ15	.501			
PCIQ19	.490	-.409		
PCIQ10	.483			-.406
PCIQ8	.480			-.415
PCIQ12	.465	.455	.502	

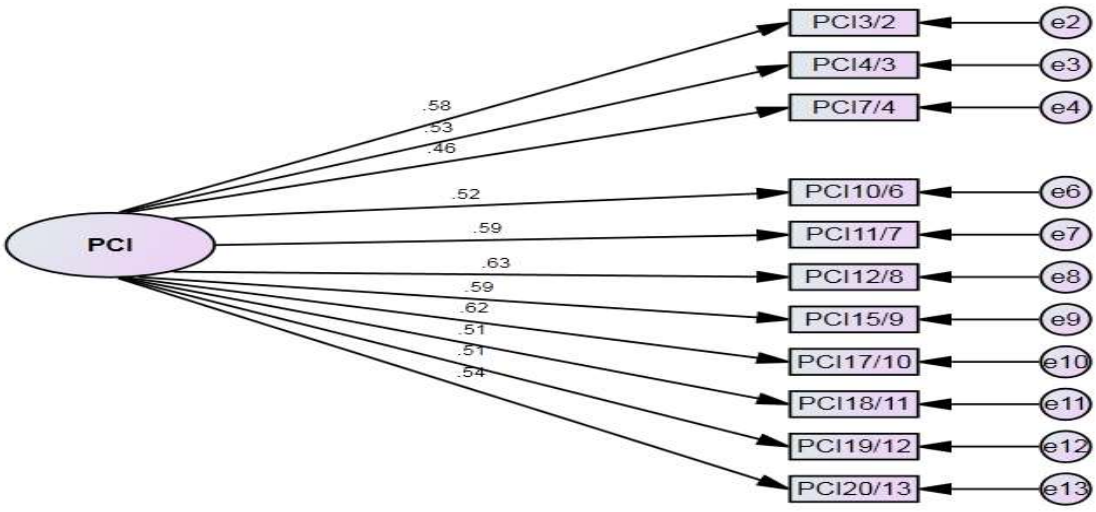
Extraction Method: Principal Component Analysis.
a. 4 components extracted.

3.3. Confirmatory Factor Analysis

To validate the results obtained from EFA, there are different methods and the researcher used AMOS 21 and Composite reliability to verify the results. **As** CFA on 13 items with sample of 175. An Item no. 2 & 8 showed low loading i.e. .44 and .34 respectively. The researcher deleted item PCI 8/5 due to very low factor loading and run CFA that resulted in 12 items in which PCI 2/1 showed .44 factor loading and PCI 7/4showed .49 factor loading. The researcher checked Model fit values and found that the CMIN/DF value greater than 3 i.e. 3.025 and RMSEA = .108 that is also greater than the required value. Hence the item PCI 2/1 decided to delete and again run CFA with 11 items of the scale.

After deleting item PCI 2/1 the CFA results showed that the factor loading value of PCI 7/4 has dropped down from .49 to .46. Then the researcher again checked the Model fit values with the following 11 items and it was found that the value of CMIN/DF= 2.755 & RMSEA= .100 i.e. both values are acceptable and for further verification of the data the Composite Reliability of these 11 items checked.

CFA Fig.1 Path Diagram of Pupil Control Ideology Scale



Using the IBM SPSS version 22 computer programme, Coefficient Alpha, Cronbach [27] was determined using a sample size of 175 to determine entire scale "internal consistency". A result showed that

coefficient alpha of the whole scale was 0.828, which was regarded as an acceptable result Table 4 presents the findings.

Table 4: Reliability Statistics showing Cronbach's Alpha value for the scale

Cronbach's Alpha	Cronbach's Alpha Based on standardized items	Number of items
0.826	0.828	11

Raykov [28] the Composite Reliability (CR) of the scale was calculated with the help of www.thestatisticalmind.com. Website and the CR of the scale was 0.829 that is very good value of consistency as per Kohli, et al. [29]. The derived measures of fit are shown in Table, which illustrates the model's acceptable fitness shown in the following table 5.

Table 5: Model Fit values of the Pupil Control Ideology (PCI) scale

Measures	P value	CMIN/DF	RMR	RMSEA	NFI	RFI	TLI	IFI	CFI	GFI
Result	0.000	2.75	0.06	0.1	0.766	0.708	0.792	0.837	0.83	0.90

S.NO.	Name of the study	Author Name	Targeted Population and when validated	No. of items deleted	Deleted items	Present study tool matched	Item No.s deleted in the present study
1	A factor analysis of the pupil control ideology scale. *The Journal of Experimental Education*, *53*(4), 202-206.	Graham, S., Halpin, G., Harris, K. R., & Benson, J. [4].	Unv. Students (1985)	10-items	1,2,3,7,&8 due to communality less than .2 Item no. 6 due low factor loading.e. less than .40 Item no. 4,5,15 & 18 due to unfit for PCI model in CFA	Item no.1 matched with same reason i.e. less communality value .2 Item no. 05	7 Items (1, 13, 14,5, 9,16 & 6.) deleted during EFA.
2	Factorial structure of the Pupil Control Ideology scale: a West Indian perspective. *Research in Education*, *40*(1), 11-17.	Payne, M. A., & Richardson, A. G. [30].	Primary and secondary teachers. Graduate and under graduate students (1988)	10-items	-Do-	Do	do

Table 6: Table of supporting studies for the PCI scale validation results

3.4. Interpretation of the Results:

It is crucial for teachers to be aware of the pupil control methods they employ and their effects on the learning environment. Understanding whether their approach is more authoritarian or supportive can significantly impact student engagement, behavior, and overall academic success. By reflecting on and adjusting their control strategies, teachers can create a more positive and effective learning atmosphere that fosters student motivation and personal growth. Awareness and adaptability in pupil control methods enable educators to better meet the diverse needs of their students and enhance the overall educational experience. Our study suggests that 11 items scale may benefit to study the pupil control ideology of teachers in relation to other factors affecting teaching learning process. The results of the previous validation studies in different countries are also shown in the Table 6 that cleared that our study
has given better results.

3.5. Limitations of the study

This study explored a comprehensive range of pupil control ideologies and their impacts. However, it is not without limitations. The study's scope may be restricted by its sample size or specific educational settings, which can limit the generalizability of its findings. Moreover, the target of the study was to validate scale in Indian setting. The research was limited to selected schools of 03 different districts namely- Reasi, Udhampur and Rajouri of Jammu and Kashmir UT. The data was collected from 375 government teachers with random sampling technique. The scale was validated but the validation was limited to the education field only and it cannot be generalized to other professional and non professional employees in different occupational fields. On the basis of this scale further correlation studies can be conducted especially in India and other developing countries. Additionally, it may not fully capture the complex, context-dependent interactions between control methods and diverse student needs. These limitations suggest that while the study offers valuable insights, further in depth studies may be needed to confirm and expand upon its conclusions in varied and broader educational contexts especially in different geographical area.

3.6. Implications for future research

Our study demonstrated that PCI scale is highly valid and reliable than the previous studies done in different countries. Future research on pupil control ideology should aim to refine and broaden the scope of existing scales to capture a more nuanced understanding of control methods and their effects. Expanding studies to diverse educational settings and larger, more varied sample populations can enhance the generalizability of findings. Additionally, incorporating longitudinal and mixed-method approaches could provide deeper insights into the long-term impacts of different control ideologies on student outcomes. These advancements can help develop more effective strategies and tools for educators, ultimately improving the educational environment and student success.

3.7. Summary of the study

The validation study was completed with the help of IBM 22 (SPSS) and AMOS 21 version for exploratory factor analysis and confirmatory factor analysis respectively. We found that the scale is highly reliable and valid in Indian context. The scale is unidimensional and defined two types of the control ideology (Humanistic and Custodial) that can be adopted by the teachers during teaching learning process. The proposed learning method in this study tended to have an inordinately higher proportion of custodial or humanistic depends upon the cumulative scores. If a teacher shows less cumulative frequency score then the teacher will be more Humanistic and the teachers having more and more scores that show custodial nature of the teachers.

4. CONCLUSION

The pupil control ideology adopted by educators significantly shapes the teaching-learning process. When teachers lean towards a more custodial approach, emphasizing strict control and compliance, students may experience a more rigid, less engaging environment, potentially stifling creativity and intrinsic motivation. Conversely, a more humanistic ideology which prioritizes understanding and fostering student autonomy, can lead towards more dynamic and responsive learning atmosphere, encouraging deeper engagement and personal growth. The underlying philosophy of how control is exercised thus profoundly impacts both the classroom environment and the effectiveness of educational outcomes.

The majority of students' classroom behaviors are influenced by the educators' comments and thoughts which structure their strategies for way to deal with the students or as such their capacity to control (Willower, Eidell and Hoy [20]. The humanistic and custodial subscales make up the two components of the PCI scale. The custodial subscale assesses teachers' attitudes towards keeping strict control over their pupils' behaviour, whereas the humanistic subscale assesses instructors' attitudes towards the value of student autonomy and self-direction. The PCI scale is frequently used in educational research to examine the link between instructors' perceptions of student control and outcomes including academic performance, motivation, and behaviour. It has been utilized in a variety of cultural situations and has been translated into other languages.

The "custodial" teacher ideology holds that students can be disciplined by enforcing and controlling stringent disciplinary rules. These instructors have prejudgments about understudies' ways of behaving, mentalities and their families' social scales. They consider the understudies as potential individuals who disrupt the norms. Therefore, they believe that punitive sanctions can be used to control students as per Willower, Eidel, & Hoy. Students are expected to abide by teachers' decisions without question, and communication and power flow in a vertical hierarchy in one direction by Lunenburg, [31]. Humanistic teacher control ideologies believe that love, respect, and friendship are necessary for improvement and are optimistic. They likewise embrace helping the understudies for self-restraint more than being focused by the educators. The majority of teachers who take a humanistic approach want a democratic classroom and are open to varying social strata and statuses. They allow students to express themselves and are open to bidirectional communication Willower, Eidel, & Hoy. According to Hoy [32], this fosters an environment in which each student's needs are met to the fullest extent and emphasizes the significance of each student's uniqueness.

The PCI scale has, in general, been a useful instrument for figuring out how pupil's results and classroom management affected by teacher beliefs. Overall, the findings of this investigation supported the theory that the PCI is one-factor/unidimensional. Following a confirmatory factor analysis, it was discovered that a 11-items, one-factor model described the data more accurately than any of the two earlier models. In conclusion, the PCI has been a helpful instrument for researchers looking at student learning and behaviour in schools. The scale is unidimensional, according to the results of the current investigation, which supports the construct validity of the PCI and fit in Indian context. Hence the target of this research to adapt and validate the Pupil Control Ideology Scale in the Indian context has achieved successfully proved valid for 21st century also.

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