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## ABSTRACT

This paper describes the development of the fourth and latest version of the Teacher Variance Inventory-IV (TVI-IV). It was designed to improve the psychometric properties of the TVI and explore other characteristics that enable the TVI to be used for teacher consultation. The TVI-IV is a self-report measure based on Teacher Variance theory, a multidimensional model for consultation and teacher training. It was developed due to the failure of many respondents using TVI-III to demonstrate consistency between their understanding about the cause of specific misbehaviors and the interventions based on their understanding of these causes. The paper also questions whether extensive training in psychological theory affects response styles. TVI-IV response patterns varied when the instrument was administered to psychologists as compared with teachers. Psychologists' results showed less unexplained variance. Although originally developed for pre-service and in-service training of teachers, the TVI-IV's value in consultation is just being understood. The findings regarding psychologists' responses point to various approaches to training in order to enable consultants to offer a broad perspective. Psychologists can employ this eclectic approach to facilitate an understanding of the nature of resistance and subsequently identify appropriate ways to minimize it. Appendix A is "Teacher Variance Inventory-IV." (Contains 2 figures and 18 references.) (Author/JDM)

# Teacher Variance Inventory-IV: Psychometric Properties and Advanced Applications for Use in Consultation.

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**Teacher Variance Inventory- IV:  
Psychometric Properties and Advanced Applications for Use in Consultation<sup>1</sup>**

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ABSTRACT

This paper describes the development of the Teacher Variance Inventory – IV (TVI-IV) in an attempt to improve the validity of previous versions of the scale. The TVI-IV is a self-report measure based on Teacher Variance theory, a multidimensional model for consultation and teacher training. It provides five scenarios in which teachers rate suspected causes for misbehavior and subsequent interventions they would use in real-life and interventions they would use if conditions were “ideal” (e.g., unlimited time, staff, and material resources). Factor analysis of the new items demonstrated that psychologists were more likely to respond in ways that were consistent with the five-factor structure than were teachers. While both groups had substantial number responding in “Eclectic” patterns, teachers, who tend as a group to have less background and interest in theory more frequently responded in patterns described as “Diffuse.” A brief discussion of practical application of the TVI-IV focuses on its use in dealing with consultee resistance.

The previous paper (Hyman & Winchell, 2001) presented . . . offers an explication of the underlying theory and assumptions regarding the Teacher Variance (TV) approach. Further, it addresses some issues related to the use of this approach in overcoming teacher resistance. Early application of TV as applied to in-service training of teachers depended on identifying teacher orientation to one of the five theories. Therefore, quite early it was recognized that the instrument used to measure teacher variance must be psychometrically sound. The first version of the scale used with teachers (Hyman, 1980) was based on Morse’s and Smith’s (1980) Child Variance Model. The scale presented various scenarios depicting student misbehavior. Respondents were asked to choose their most likely intervention. Interventions were organized in terms of six prevailing theories regarding human behavior. Five of which were included on updated versions of the scale (Humanistic, Psychodynamic/Interpersonal, Biophysical, Behavior, and Ecological/Systems). The respondents’ most frequent choices in terms of orientations were selected as the orientation that seemed closest to their set of beliefs about child behavior and misbehavior.

During the 1980’s and early 1990’s a number of revisions of the scale occurred. It soon became apparent that the scales did not refer to child variance, but rather to variance in teacher’s perceptions of the

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This is an edited version of a similar paper presented at the 108<sup>th</sup> Annual Convention of the American Psychological Association, August 7, 2000, Washington, D.C.. .

causes and appropriate interventions for student misbehavior. Also, work with early versions of the scale (Marchon-Tully, 1987) and lessons learned from workshops and consultation with teachers indicated that there were significant overlaps and inconsistencies in terms of translating the Child Variance Model to our efforts. Therefore, the six models of Child Variance were re-conceptualized into five models and renamed Teacher Variance. Further, it was clear that the scale needed to be designed to yield scores from equal appearing intervals based on a five-point likert format. The scale used after this change was called the Teacher Variance Inventory (TVI).

Early experience with the TVI revealed that teachers had separate conceptualizations and interventions based on their understandings of the causes of misbehavior and what to do about it. Further, it was clear that most teachers do not have appropriate training and knowledge regarding the various personality theories upon which TV is based. Subsequent versions of the TVI have attempted to address these problems. One approach has been to eliminate items which could appear to have conceptual overlap of theoretical orientations. For instance, moving a child closer to the front of the room could be based on the ecological/systems approach (e.g., student will pay attention because of proximity to the teacher) or the biophysical approach (e.g., the student could not see the board).

It is important for consultants to determine the consultees' frame of reference in terms of both causation and remediation. We believe that teachers can best be helped when they have a clear philosophical orientation in which they may determine the cause of misbehavior and follow through consistently with interventions based on their understanding of the causation. Further, in consultation, resistance can best be minimized when the consultant is able to work within the teacher's framework regarding the causes and remediations for misbehavior. Also, our data (Hyman, Dahbany, Blum, Brooks-Klein, Weiler, & Pokalo, 1997) suggest that many teachers do not have an understanding of a particular theoretical approach and that consultation can be used to help them select an approach with which they are comfortable and willing to work. Finally, teachers accept our notion that there is no one best method for handling all discipline problems and we are thereby able to validate their belief system once they accept one specific orientation using the results of the TVI.

The purpose of this paper is to describe the development of latest version of the Teacher Variance Inventories (TVI-IV) (Appendix A). The TVI-IV was developed because of the failure of many respondents using the TVI-III to demonstrate consistency between their understanding about the cause of specific misbehaviors and interventions which are based on their understanding of the causes of those misbehaviors. For instance, while many teachers will offer behavioral explanations for misbehavior, their responses to that misbehavior lack significant attention to reinforcement theory in order to effectively intervene consistent with behavioral theory. In this paper, we describe changes made in order to reduce the scale from the original ten scenarios to five scenarios that appear to be more neutral. That is, the scenarios seem less biased and, therefore, likely to pull for explanations from any one particular theoretical orientation.

After reading a scenario and indicating their agreement with various causes for the misbehavior, they are then asked to indicate agreement with possible interventions, which are framed within the five theoretical approaches. The TVI-IV, using previous research, reflects significant changes in the intervention responses. We believe the new response items have little overlap between theoretical approaches. In addition, we discuss a new response condition which allows respondents to indicate their favored interventions based on what they would do in an “ideal” situation (e.g., unlimited time and resources) versus what they would do in their “actual” situations (which are constrained by time, staff, monetary resources, etc.). We discuss the reasons for these changes in the paper.

#### Pilot Study

*Development of Five Neutral Scenarios in the TVI-IV* - Revisions were made to the TVI to minimize potential confounding factors such as the influence of contextual references in the scenarios. It is possible that certain items contained within previous version of the TVI, the TVI-III (Appendix B), included scenarios that pulled for particular responses. Specifically, the context of each scenario may have been a potential confounding factor, which caused respondents to select particular explanations for causes or interventions, regardless of their implicit beliefs about human behavior. For instance, previous research (Scirica, 1996) suggested that factors such as the gender of the misbehaving student and the nature of the misbehavior in terms of ownership (i.e., teacher-owned versus student-owned) biased teacher responses.

This suggestion that the TVI-III may have included biased scenarios was supported by findings obtained while developing the TVI-IV. Specifically, a panel of expert judges who were familiar with Teacher Variance Training Model were presented with worksheets containing scenarios that were being considered for the new version of the scale. These items on the worksheets had already been altered from those included in the TVI-III in that all references to gender were eliminated. Names of students contained within the scenarios were changed to a gender-neutral titles (i.e., “the student”). The judges were asked to rate each of the scenarios on a likert scale in terms of their “neutrality” or “bias” towards one particular orientation. Items, which were rated as being biased were not included on the TVI-IV. It should be noted that the judges rated many of the scenarios that had been included within the TVI-III as being biased (i.e., as potentially pulling for a particular response).

For example, one scenario included on the TVI-III read, “Tom is an eight year-old who has severe tantrums when he doesn’t get his way in class. To understand the cause of this behavior...” On the worksheet, this scenario was reworded to avoid reference to student-specific characteristics such as gender and age. The worksheet scenario read, “One student has severe tantrums when the student doesn’t get the student’s way in class.” Because this scenario was rated by the panel of judges as being biased, it was not included on the TVI-IV. Another example of a biased scenario is, “Mike often becomes inattentive in class.” It was reworded on the worksheet as “A student often becomes inattentive in class.” This biased scenario was also not included on the TVI-IV. The judges were presented with updated worksheets containing potential TVI-IV scenarios until a sizable pool of neutral items were retained.

Judges were interviewed after having completed the worksheets. It was revealed that each of these scenarios seemed to pull for particular interventions. The student who had severe tantrums pulled for a behavioral response (e.g., ignore the undesired behavior) and the inattentive student pulled for a biophysical response (e.g., request an ADD screening or recommend that the student get more sleep at night). Retaining scenarios that were judged neutral should prevent teachers from responding to the particular situation presented in the item, and instead should allow them to offer responses revealing their implicit beliefs.

*Changes in Response Items* - Other improvements of the TVI have included enhancement of the integrity of the items so that they are more theoretically consistent. This was accomplished by conducting an investigation of items of the TVI-III and revising or eliminating items that did not strongly represent the orientations they were intended to represent. Specifically, a panel of judges were given worksheets to rate items in terms of their representation of one particular theoretical orientation. Certain items from the TVI-III that were not included on the new scale included: “the student has poor inner controls,” “the assignments in class are too difficult for the student,” and “a reaction to being seated with disruptive students.” For instance, while it was thought that the first example, “the student has poor inner controls,” represented a psychodynamic explanation, the judges did not agree. However, this item might also be easily explained within the biophysical approach, since poor inner controls could be caused by ADHD.

*Addition of “Ideal” Intervention Response Category* - The previous version of the scale, the TVI-III, allowed teachers to respond about interventions they would use in an actual teaching situation (i.e., with realistic time, staff, and financial constraints). This presented a problem since although teachers’ understanding of causation might truly be rooted in one of the theories, they might use interventions based on convenience, past experience, the context of the situation, or other idiosyncratic beliefs. For instance, a teacher might understand that a child’s constant calling out could be eliminated if this behavior was ignored, based on the premise that the calling out was reinforced by the teacher’s frequent angry responses. Despite this behavioral belief, or understanding about the reinforcement of misbehavior, the teacher may feel that this intervention (i.e., ignoring) is unacceptable. The teacher might believe it could suggest to the rest of the class that the teacher is weak and unable to deal with misbehavior. The teacher might also worry that the ignoring the misbehavior might be observed by the principal or reported to parents and interpreted as an inability to control students.

In order to correct for the above-mentioned kinds of concerns we added a category of interventions which teachers would use given an “ideal” teaching situation (e.g., unlimited time, staff, and financial resources, etc.). A comparison of teachers’ selected interventions in the “actual” intervention category as compared with those in an “ideal” intervention category could provide a more accurate indicator of the teacher’s genuine theoretical beliefs. It may also provide information about the effects that one’s particular

teaching situation, such as practicality, has on choices of intervention strategies. It was hoped that the addition of an “ideal” response section would allow teachers to express preferred interventions that are unrelated to the constraints imposed by their actual teaching situations. If this were true, a statistical analysis should reveal a closer relationship between causation and “ideal” intervention than was found in previous studies between causation and actual interventions.

#### Addition of the Diffuse and Eclectic Orientation Categories

In this study, the additional orientation categories, “Diffuse” and “Eclectic” were added. Not all respondents display a clear preference for one particular orientation. Those who showed strong preference for more than one orientation are labeled Eclectic. Those whose responses demonstrated a lack of commitment to any of the orientations are labeled Diffuse. It is important to distinguish these individuals since training and consultation strategies should be tailored to address the unique needs of the respondent. Those with one preference, or mixed preferences (such as in “Eclectic”) may benefit from further education in the areas with which they are interested. However, individuals identified as “Diffuse” may require more intensive training that will allow them to refine and integrate their ideas. Assisting them in gaining greater familiarity with the TVTM as a whole would also be important so the individuals might be better informed to select an orientation which they are motivated to apply. The following is a brief overview of the findings of the research study conducted in order to demonstrate the construct validity of the TVI-IV (Winchell, 2001).

#### Results

Analyses of responses from two-hundred fifty participants (159 teachers and 91 psychologists) were used to assess the reliability and validity of the TVI-IV. Initial test-retest reliability was determined using responses from twenty-one teachers and five school psychologists who volunteered to fill out the TVI-IV a second time, after a two-week interval. A Pearson’s  $r$  correlation was performed on all 75 items of the TVI-IV, yielding satisfactory test-retest reliability. All 75 items showed reliability at the  $p < .01$  level.

Means for each orientation category of each of the response sections (i.e., Causes, Actual Interventions, and Ideal Interventions) were also compared. Paired samples correlations were obtained for

test and retest means from each of the three response sections. All three sections showed statistically significant reliability,  $p < .001$ .

#### Internal Consistency Reliability

Estimates for the reliability of the TVI-IV were computed using Cronbach's Alpha. The internal consistency reliability among the 75 items for the entire TVI was .926. The Cronbach Alpha reliabilities for the 25 items of the Causes section, Actual Interventions section, and Ideal Interventions section were .871, .875, and .881, respectively. These reliability analyses demonstrate that internal reliability is satisfactory for all 75 items of the TVI-IV. To further investigate internal consistency of the TVI-IV through the reliability of the factor structures, a subsample ( $N=25$ ) of the original participants was randomly selected. Principal components analysis (PCA) was applied to examine the degree of similarity between the factor structures derived from the overall sample and the subsample. A cutoff score of 80% agreement was chosen. Eighteen of the subjects (i.e., 87% of the subsample) met this criterion, their response profiles showing 82% - 95% agreement with the factor structure derived from analysis of the entire sample. The remaining seven subjects in the subsample yielded moderate agreement (68% - 80%). This suggests that the TVI-IV demonstrates satisfactory internal consistency. The next section discusses the important issue of construct validity.

#### Construct Validity

It was hypothesized that the participants would respond differently to Cause items than they would to Actual intervention items and Ideal Intervention items (i.e., the three different response sections of the TVI-IV). Therefore, three separate exploratory Principle Components Analyses (PCA) were performed for each response section. Each exploratory PCA was followed by varimax rotation.

A PCA of the Causes section resulted in 7 factors with eigenvalues greater than 1.0. These factors were consistent with the theoretical orientations they were meant to represent. These factors accounted for more than half (59.59%) of the variance.

The PCA performed on the Actual Intervention section showed that again, 7 factors accounted for the majority of the variance (eigenvalue > 1.0, accounting for 60.49%). All 7 of the factors were generally consistent with the theoretical orientations.

The PCA performed on the Ideal Intervention section showed that 6 factors accounted for more than half of the variance (eigenvalue > 1.0, accounting for 59.28% of the variance). Factors with assigned labels, eigenvalues, and the amount of variance accounted for by each factor are presented in Table 1. Descriptive labels for the factors were based on commonality among the high loading items and the TVTM orientations.

Table 1. Entire Sample Data: Principal Components Analysis With Varimax Rotation for Causes, Actual Interventions, and Ideal Interventions Sections

| Component                          | Percent of Variance | Cumulative Percent |
|------------------------------------|---------------------|--------------------|
| <u>Causes Section</u>              |                     |                    |
| 1. Psychodynamic                   | 11.268              | 11.268             |
| 2. Biophysical 1                   | 09.072              | 20.340             |
| 3. Ecological                      | 08.925              | 29.265             |
| 4. Behavioral 1                    | 08.248              | 37.512             |
| 5. Behavioral 2                    | 08.103              | 45.615             |
| 6. Biophysical 2                   | 07.256              | 52.871             |
| 7. Humanistic                      | 06.717              | 59.588             |
| <u>Actual Intervention Section</u> |                     |                    |
| 1. Biophysical 1                   | 13.233              | 13.233             |
| 2. Humanistic                      | 11.142              | 24.375             |
| 3. Behavioral                      | 09.976              | 34.350             |
| 4. Biophysical 2                   | 08.519              | 42.869             |
| 5. Ecological 1                    | 06.485              | 49.354             |
| 6. Ecological 2                    | 05.647              | 55.001             |
| 7. Psychodynamic                   | 05.486              | 60.488             |
| <u>Ideal Intervention Section</u>  |                     |                    |
| 1. Biophysical                     | 14.773              | 14.773             |
| 2. Humanistic                      | 11.441              | 26.214             |
| 3. Psychodynamic                   | 10.719              | 36.933             |
| 4. Behavioral 1                    | 08.657              | 45.590             |
| 5. Ecological                      | 07.314              | 52.904             |
| 6. Behavioral 2                    | 06.379              | 59.283             |

PCA of the Causes section resulted in the following seven components (presented in hierarchical order): Psychodynamic, Biophysical 1, Ecological-Systems, Behavioral 1, Behavioral 2, Biophysical 2, and

Humanistic. Labels for these components are based on their composition with reference to items that showed highest loadings. For instance, the Psychodynamic Cause component was named based on the high loadings of all 5 psychodynamic cause items. Also, items derived from other orientations showed much lower or, in some cases, negative loadings on the factor. A specific instance of a negative item loading on the Psychodynamic Cause factor includes the Ecological item 2D, which reads, "Instructions and routines for lining up are insufficient for maintaining an orderly classroom." The loading for this item was -.224. Designation of "1" and "2" for certain components was based on their hierarchical order, with "1" representing the more prominent factor. For instance, in the Causes section, there was "Biophysical 1" and "Biophysical 2" as well as a "Behavioral 1" and "Behavioral 2." Each of these components showed strong loadings of their respective items. In addition, there was some overlap of items contained in each component, demonstrating a relationship between the two similar components. For instance, on the Biophysical components, item 3D, which reads "The student has a neurological disorder and is unable to control outbursts," showed the loadings of .564 and .419 on "Biophysical 1" and "Biophysical 2", respectively." Similarly, on the Behavioral components, Cause item 3B, which reads, "The student's behavior receives attention and is, therefore, reinforced," showed loadings of .600 and .451, respectively.

PCA of the Actual Interventions section also resulted in a seven component structure. These included: Biophysical 1, Humanistic, Behavioral, Biophysical 2, Ecological 1, Ecological 2, and Psychodynamic. Like components obtained from the Causes section, these showed some degree of overlap with regard to item loadings as well as some negative loadings. For example, Biophysical 1 and Biophysical 2 shared the high loading item 3B, which reads, "Arrange directly through the school nurse...to obtain an evaluation...determine a neurological..." with values of .620 and .439. An example of negative item loading includes the behavioral item, 2C, which reads, "Establish a reward system for Student A lining up appropriately," that showed a negative loading of -.108 on the Biophysical 1 component.

PCA of the Ideal Interventions section resulted in a more discrete six-factor structure (as compared with the Causes and Actual Interventions). Components included: Biophysical, Humanistic, Psychodynamic, Behavioral 1, Ecological, and Behavioral 2.

Construct validity was further investigated by using a measure of criterion-related validity. The orientations from the TVI-IV were compared with orientations as identified by the Attitude Scale (Cozzi, 1998) by employing a series of z-tests for proportions. That is, discrete orientations were assigned to each subject using the Attitude Scale. Orientation labels used were, Biophysical, Humanistic, Psychodynamic, Behavioral, Ecological, and Diffuse. The “Eclectic” orientation category was not used because subjects who were assigned the “Eclectic” category showed various combinations of agreement with different orientation categories (e.g., mix of “Biophysical-Psychodynamic” versus “Humanistic-Ecological” versus “Behavioral-Ecological-Humanistic,” etc.). As such, this category lacks meaningful definition for the purposes of this analysis. The number of matches in orientation between the Attitude Scale and the TVI Causes orientation were analyzed to determine whether there was a significant positive relationship between the two measures. Results from the z-test demonstrated the TVI-IV’s criterion related validity. Specifically, using data from the entire sample,  $Z = 6.53, p < .001$ .

Do teachers report that they do what they would like to do?

Analyses of responses from the 250 subjects using the TVI-IV provided evidence for expected differences between subjects’ choices of interventions given usual classroom constraints, and the interventions they endorsed under “ideal” circumstances.

A MANOVA revealed a significant main effect of response condition (Actual versus Ideal) for orientation,  $F(5, 243) = 63.6, p < .001$ . Univariate ANOVAS revealed that subjects rated interventions more strongly in the “ideal” response condition than in the “actual” response condition, as shown in Table 2.

Table 2. Differences Between Means of Endorsement for Orientations for Actual Interventions and Ideal Interventions and the Significance of These Differences

| Orientation Category | Actual Mean* | Ideal Mean* | F value (1, 247) | Significance |
|----------------------|--------------|-------------|------------------|--------------|
| Humanistic           | 3.031        | 3.744       | 205              | $p < .001$   |
| Psychodynamic        | 2.885        | 3.719       | 260              | $p < .001$   |
| Biophysical          | 2.829        | 3.583       | 199              | $p < .001$   |
| Ecological-Systems   | 3.260        | 4.012       | 264              | $p < .001$   |
| Behavioral           | 3.851        | 4.313       | 99               | $p < .001$   |

\*Lower means indicate less agreement with the orientation category and higher means indicate more agreement with the orientation category

### Factorial Structure of Psychologists Compared to Teachers

To address whether extensive training in psychological theory affects response styles, the two groups (teachers and psychologists) were compared by examining the principal component structures derived from their responses. It was suspected that responses derived from psychologists would yield a PCA structure with less unexplained variance than those derived from teachers.

The PCA used employed a varimax factor rotation. In this rotation, each factor tends to load high on a smaller number of variables, thus facilitating the interpretation of the resulting factor structure. It was hypothesized that teachers as a group and psychologists as a group would respond differently to items corresponding to the three different response category sections of the TVI-IV, Causes, Actual Interventions and Ideal Interventions. Therefore, three separate exploratory PCAs were performed for teachers and for psychologists (i.e., six PCAs). Each exploratory PCA was followed by varimax rotation.

Responses from psychologists resulted in less unexplained variance across all sections of the TVI-IV: Causes, Actual Interventions, and Ideal Interventions sections. Psychologists' unexplained variance was 33.280%, 35.911%, and 28.935, respectively, as compared with teachers' 35.403%, 38.360%, and 37.015%. Unfortunately, there were not enough subjects to determine whether these differences were statistically significant (e.g., by using logistic regressions). It appears that the differences in Ideal Interventions might be.

### Discussion

The purpose of this study was to improve the psychometric properties of the TVI and explore other characteristics which enable both the TVI and the TVAS to be used for teacher consultation. Internal consistency and test-retest reliability for the TVI-IV was established as a result of this study. These results are very promising as they apply to future applications of the TVI-IV. Specifically, this new version of the TVI identifies the reliability of implicit orientations.

The present study provides ample empirical support for the proposed theoretical basis of items presented in the TVI-IV. Specifically, the factor structure obtained through PCA of the TVI-IV does reflect the TVTM theoretical structure to a high degree. It should be noted that although seven factors (as opposed to 5) were found to underlie the TVI-IV Cause section, all seven factors were reflective of discrete TVTM orientations. Specifically, strong, single factors were obtained consistent with psychodynamic, humanistic and ecological-systems theories. Behaviorist theory fell into two discrete factors, as did biophysical theory. Nonetheless, items loading on the two factors obtained for behaviorist theory and on the two factors for biophysical theory were generally consistent with the rationally derived theoretical structure.

In addition to improving the concordance with TVTM theory, the TVI-IV was designed to address a specific criticism regarding the nature of respondents' interpretation of the task. Researchers have suggested that responses to a prior version of the TVI (TVI-III) provided a "diluted" measure of teachers' beliefs (Webster, 1996; Cozzi, 1998), because responses to the TVI-III seemed to reflect perceptions influenced by given contexts. In other words, teachers were endorsing interventions that they perceived as feasible, rather than interventions that matched their ideas about behavior. To remedy this, TVI-IV respondents were given the opportunity to choose interventions that they would use in actual classroom situations as well as being asked about interventions that they would choose in ideal teaching situations (with unlimited resources in terms of staff, money, time, materials, etc.). As anticipated, responses changed when an "ideal" intervention condition was provided. Specifically, respondents showed stronger endorsements for all types of interventions under the "ideal" condition. This finding suggests that teachers feel constrained by their current teaching situations and feel more confident about expressing their preferences when instructed to avoid considering these constraints.

A third revision of the TVI presented in TVI-IV, keeping contexts constant across Causes, Actual Interventions and Ideal Interventions sections, served two purposes. First, this reduced the scale from its original ten items to five items, making it more “user-friendly” and less time-consuming. Also, each item requires respondents to determine both the Cause and possible Interventions for each given scenario. This provides a stronger rationale for linking perceived causes of behavior with interventions intended to modify behavior.

The second purpose of this study was to determine whether extensive training in psychological theory affects response styles. An investigation of the factor structures produced by PCA revealed that TVI-IV response patterns vary when the instrument is administered to psychologists as compared with teachers. Specifically, the factor structure produced by psychologists results in less unexplained variance. More discrete factors result from psychologists’ selection of interventions consistent with presumed cause as assessed by the instrument as well as their consistency in selecting responses that correspond with preferred orientations.

The TVI’s were originally developed for pre-service and in-service training of teachers. Unfortunately, this theory-driven approach, as spelled out in our text (Hyman et. al., 1997) has not, so far, made much impact on teacher training programs. This assumption is based on relatively low sales of the TV text. While we initially focused on teacher training, we serendipitously discovered the value of this approach in consultation. This occurred as the approach was integrated into teacher consultation training at Temple University, as described in the previous paper presented here (Hyman & Winchell, 2000).

The need to change schools and classrooms also relates to consultation. For instance, if a teacher believes in humanistic explanations for the causes of misbehavior, that teacher is unlikely to accept consultation oriented towards humanistic interventions unless the situation is “ideal.” This creates a dilemma for the consultant who might need to help the teacher to create an ideal situation in order to implement preferred interventions. For instance, a teacher might believe that an angry child’s emotional needs must be met before the child can learn. Therefore, the focus of a classroom session should be on helping the child meet those needs with support from the teacher and peers. In order to do this, the teacher

must feel comfortable about pausing during a lesson that is part of a planned or mandated curriculum.

Many teachers would be fearful of incurring the wrath of a principal or parents if it were learned that a class lesson was stopped in order to meet the emotional needs of a single child. These issues could be dealt with in consultation by helping the teacher to decide on a plan of action to make changes which would be consistent with the teacher's philosophy and the climate of the school.

There is a second implication regarding the TVI-IV and consultation. If a teacher's "actual" and "ideal" interventions do not match their most preferred explanation of causation, the consultant can work with the teacher in terms of making second choices with which the teacher could agree. For example, a teacher choosing the psychodynamic approach even in ideal situations, might feel that the process of gathering sufficient family and social background information is too demanding. The teacher might also feel that adjusting the curriculum to include materials to improve the student's self-image and address the student's ego needs might take too much time. However, even though the psychodynamic approach was most preferred by the teacher, the humanistic approach might have been preferred as the second best choice. In this case, the consultant and the consultee might decide that a humanistic approach would require less formal procedures, and therefore be more acceptable. Teachers thoroughly trained in behaviorism may not have similar problems.

The findings regarding psychologists' responses should point to various approaches to training in order to enable consultants to offer a broad perspective of consultation services. Our data and experience suggest that many psychologists find themselves confined to a strict adherence to behavioral approaches, despite the widely recognized teacher resistance to the implementation of behavioral consultation. Psychologists can employ this more eclectic approach to facilitate an understanding of the nature of resistance and subsequently identify appropriate ways to minimize it. Further, we believe that the efficacy of this approach can be demonstrated with the use of single-subject designs as is illustrated in the paper following this one (Tillman, 2001).

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Name: \_\_\_\_\_

School/Organization: \_\_\_\_\_

# TEACHER VARIANCE INVENTORY – IV

This questionnaire lists reasons why student behaviors occur in school and what to do about them. There are 5 scenarios divided into two sections. Each scenario offers choices about the cause of a particular behavior and interventions for the behavior.

Please respond to all five of the scenarios. Otherwise, the results will not be valid. This is not a test. There are no right or wrong answers.

**Directions:**

1. After reading each scenario, rate how important each available response is in determining the cause of the behavior by circling the appropriate number:

|               |   |           |   |                |   |   |
|---------------|---|-----------|---|----------------|---|---|
| Not important | 2 | Important | 3 | Very Important | 4 | 5 |
|---------------|---|-----------|---|----------------|---|---|

2. After you have indicated the level of importance for each of the five potential causes, select one response that you feel is the single best cause by circling the appropriate letter in the Best Choice column. Should you find it difficult to select one cause statement as being the best, just pick the one that you agree with the most (See the sample on the following page).

3. For each scenario, rate the level of effectiveness of each available intervention in changing the problem behavior, by circling the appropriate number:

|               |   |           |   |                |   |   |
|---------------|---|-----------|---|----------------|---|---|
| Not important | 2 | Important | 3 | Very Important | 4 | 5 |
|---------------|---|-----------|---|----------------|---|---|

4. After you have indicated the level of effectiveness of each of the five potential interventions, select one response you feel is the single most effective intervention by circling the appropriate letter in the Best Choice column. Should you find it difficult to select one intervention statement as being the best, just pick the one that you agree with the most (See the sample on the following page).

5. You will be given the opportunity to respond about intervention under two conditions: **ACTUAL** and **IDEAL**. In the **ACTUAL** box, rate the item in terms of interventions you would actually employ, given the realistic constraints in your present classroom. In the **IDEAL** box, rate the item in terms of an ideal situation where you are given unlimited resources (e.g., staff, financial, time, materials, etc.).

**SAMPLE:** A student continually taps fingers on the desk, fidgets, or foot shuffles when seated for an activity.

To understand the cause of this behavior how important is it for the teacher to determine if:

|  | NOT IMPORTANT | 2 | 3 | 4 | VERY IMPORTANT | BEST CHOICE |
|--|---------------|---|---|---|----------------|-------------|
| A. the student has unacknowledged anxiety                                | 1             |   |   |   | 5              | A           |
| B. the student's behavior is encouraged by attention received from peers | 1             | 2 | 3 | 4 | 5              | B           |
| C. the student may have ADHD   | 1             | 2 | 3 | 4 | 5              | C           |
| D. the student's individual needs are not being met in school            | 1             | 2 | 3 | 4 | 5              | D           |
| E. the assignments in class are too difficult for the student            | 1             | 2 | 3 | 4 | 5              | E           |

Note that in the above SAMPLE, the respondent considered both A and E as "very important," and then decided on A as the single "Best Choice."

Rate the effectiveness of each intervention first as it could be implemented in an ACTUAL TEACHING SITUATION (real classroom with limited resources). Then rate the effectiveness of each intervention in an IDEAL TEACHING SITUATION (i.e., unlimited resources).

|   | ACTUAL TEACHING SITUATION |   |   |   |   | IDEAL TEACHING SITUATION |               |   |   |   |   |             |
|---|---------------------------|---|---|---|---|--------------------------|---------------|---|---|---|---|-------------|
|   | NOT EFFECTIVE             | 2 | 3 | 4 | 5 | BEST CHOICE              | NOT EFFECTIVE | 2 | 3 | 4 | 5 | BEST CHOICE |
| A. Modify assignments to the student's skill level.   | 1                         | 2 | 3 | 4 | 5 | A                        | 1             | 2 | 3 | 4 | 5 | A           |
| B. Find ways to decrease the student's feelings of inferiority, which underlie the student's anxiety. | 1                         | 2 | 3 | 4 | 5 | B                        | 1             | 2 | 3 | 4 | 5 | B           |
| C. Recommend a physical exam to understand the cause of the student's restlessness.                   | 1                         | 2 | 3 | 4 | 5 | C                        | 1             | 2 | 3 | 4 | 5 | C           |
| D. Find other ways to fulfill the student's unmet need for love and belonging.                        | 1                         | 2 | 3 | 4 | 5 | D                        | 1             | 2 | 3 | 4 | 5 | D           |
| E. Establish a reward system for the student when the student is able to remain seated appropriately. | 1                         | 2 | 3 | 4 | 5 | E                        | 1             | 2 | 3 | 4 | 5 | E           |

Note that in the above SAMPLE, the respondent rated each response and then selected B as the single "best choice" (i.e., most effective) intervention option in the ACTUAL SITUATION column. The respondent selected response A as the single "Best Choice" (i.e., most effective) intervention option under the IDEAL SITUATION column.



Remember to rate each response and circle the best choice.

**ITEM 1: A student is not achieving as well as the student's teacher expected.**

To understand the cause of this behavior how important is it for the teacher to determine if:

- |  | NOT IMPORTANT |   |   |   |   | VERY IMPORTANT | BEST CHOICE |
|--|---------------|---|---|---|---|----------------|-------------|
|  | 1             | 2 | 3 | 4 | 5 |                | A           |
| A. This classroom and the school, in general, do not have a program to motivate underachieving students. | 1             | 2 | 3 | 4 | 5 |                | A           |
| B. The student is being consistently reinforced for good work habits.                                    | 1             | 2 | 3 | 4 | 5 |                | B           |
| C. This is the student's reaction to classwork, which the student finds personally unfulfilling.         | 1             | 2 | 3 | 4 | 5 |                | C           |
| D. The student has been daydreaming as a defense against anxiety.  | 1             | 2 | 3 | 4 | 5 |                | D           |
| E. The student has had a recent hearing and vision check.  | 1             | 2 | 3 | 4 | 5 |                | E           |

Rate the effectiveness of each intervention first as it could be implemented in an **ACTUAL TEACHING SITUATION** (real classroom with limited resources). Then rate the effectiveness of each intervention in an **IDEAL TEACHING SITUATION** (i.e., unlimited resources).

|   | ACTUAL TEACHING SITUATION |           |                |               |             | IDEAL TEACHING SITUATION |           |                |               |             |   |
|---|---------------------------|-----------|----------------|---------------|-------------|--------------------------|-----------|----------------|---------------|-------------|---|
|   | NOT EFFECTIVE             | EFFECTIVE | VERY EFFECTIVE | NOT EFFECTIVE | BEST CHOICE | NOT EFFECTIVE            | EFFECTIVE | VERY EFFECTIVE | NOT EFFECTIVE | BEST CHOICE |   |
|   | 1                         | 2         | 3              | 4             | 5           | 1                        | 2         | 3              | 4             | 5           | A |
| A. Develop a school-wide program to diagnose and remediate underachieving students.   | 1                         | 2         | 3              | 4             | 5           | 1                        | 2         | 3              | 4             | 5           | B |
| B. Allow the student to earn rewards, based on achievement.   | 1                         | 2         | 3              | 4             | 5           | 1                        | 2         | 3              | 4             | 5           | C |
| C. Recognize that the student's behavior is a genuine expression of need for recognition and respond with empathy and acceptance.   | 1                         | 2         | 3              | 4             | 5           | 1                        | 2         | 3              | 4             | 5           | D |
| D. Send the student to the school psychologist so that the student might address emotional issues in a therapeutic environment.     | 1                         | 2         | 3              | 4             | 5           | 1                        | 2         | 3              | 4             | 5           | E |
| E. Suggest that the student visit the school nurse to determine if a medical condition might be influencing the student's behavior. | 1                         | 2         | 3              | 4             | 5           | 1                        | 2         | 3              | 4             | 5           | E |

**ITEM 2: As the students line up for lunch, Student A cuts in front of Student B. The two students begin shoving each other.**

To understand the cause of this behavior how important is it for the teacher to determine if:

- |   | NOT IMPORTANT | IMPORTANT | VERY IMPORTANT | BEST CHOICE |   |   |
|---|---------------|-----------|----------------|-------------|---|---|
| A. Student A has poor inner controls.   | 1             | 2         | 3              | 4           | 5 | A |
| B. Student A's acting out is a genuine expression of the student's frustration with the rules and expectations of the class, which do not address the student's unique needs. | 1             | 2         | 3              | 4           | 5 | B |
| C. Student A finds the attention the student receives from the teacher (for misbehaving) reinforcing.   | 1             | 2         | 3              | 4           | 5 | C |
| D. Instructions and routines for lining up are insufficient for maintaining an orderly classroom.   | 1             | 2         | 3              | 4           | 5 | D |
| E. Student A may be suffering from a nutritional deficiency, which causes these tantrums.   | 1             | 2         | 3              | 4           | 5 | E |

Rate the effectiveness of each intervention first as it could be implemented in an *ACTUAL TEACHING SITUATION*. Then rate the effectiveness of each intervention in an *IDEAL TEACHING SITUATION*.

|  | ACTUAL TEACHING SITUATION |           |                |             |   | IDEAL TEACHING SITUATION |           |                |             |   |
|--|---------------------------|-----------|----------------|-------------|---|--------------------------|-----------|----------------|-------------|---|
|  | NOT EFFECTIVE             | EFFECTIVE | VERY EFFECTIVE | BEST CHOICE | A | NOT EFFECTIVE            | EFFECTIVE | VERY EFFECTIVE | BEST CHOICE | A |
| A. Suggest to Student A's parents that they consult their family physician determine if a medical condition is affecting the student's ability to control anger. | 1                         | 2         | 3              | 4           | 5 | 1                        | 2         | 3              | 4           | 5 |
| B. Establish better instructions and routines for lining up.   | 1                         | 2         | 3              | 4           | 5 | 1                        | 2         | 3              | 4           | 5 |
| C. Establish a reward system for Student A for lining up appropriately.  | 1                         | 2         | 3              | 4           | 5 | 1                        | 2         | 3              | 4           | 5 |
| D. View Student A's behavior as a genuine expression of the student's unmet need for recognition and, in the future, communicate acceptance to the student.      | 1                         | 2         | 3              | 4           | 5 | 1                        | 2         | 3              | 4           | 5 |
| E. Make a referral for family therapy since angry outbursts may be a part of the family history.   | 1                         | 2         | 3              | 4           | 5 | 1                        | 2         | 3              | 4           | 5 |

**ITEM 3: A student has been the aggressor in many fights with other students. Classmates complain that this student is a bully.**

To understand the cause of this behavior how important is it for the teacher to determine if:

- |  | NOT<br>IMPORTANT | IMPORTANT | VERY<br>IMPORTANT | BEST<br>CHOICE |
|--|------------------|-----------|-------------------|----------------|
| A. The school has not developed a system wide program for dealing with bullying. | 1                | 2         | 3                 | 5              |
| B. The student's misbehavior receives attention and is, therefore, reinforced.   | 1                | 2         | 3                 | 4              |
| C. The student requires a warmer, more accepting classroom.                      | 1                | 2         | 3                 | 4              |
| D. This is a subtle, perhaps unconscious attempt to disrupt the class.           | 1                | 2         | 3                 | 4              |
| E. The student has a neurological disorder and is unable to control outbursts.   | 1                | 2         | 3                 | 4              |

Rate the effectiveness of each intervention first as it could be implemented in an *ACTUAL TEACHING SITUATION*. Then rate the effectiveness of each intervention in an *IDEAL TEACHING SITUATION*.

- Suggest that the school could develop a program to deal with bullying.
- Praise the student whenever the student interacts with peers appropriately.
- Try to create a warmer, more accepting classroom.
- Ask the school psychologist to talk with the student to determine if upsetting feelings are contributing to the student's outbursts.
- Arrange directly through the student's parents or school nurse to obtain an evaluation to determine if there are neurological causes for the student's chronic aggression.

|   | ACTUAL TEACHING SITUATION |           |                   |                |   | IDEAL TEACHING SITUATION |           |                   |                |   |
|---|---------------------------|-----------|-------------------|----------------|---|--------------------------|-----------|-------------------|----------------|---|
|   | NOT<br>EFFECTIVE          | EFFECTIVE | VERY<br>EFFECTIVE | BEST<br>CHOICE | A | NOT<br>EFFECTIVE         | EFFECTIVE | VERY<br>EFFECTIVE | BEST<br>CHOICE | A |
| A. Suggest that the school could develop a program to deal with bullying.   | 1                         | 2         | 3                 | 4              | 5 | 1                        | 2         | 3                 | 4              | 5 |
| B. Praise the student whenever the student interacts with peers appropriately.  | 1                         | 2         | 3                 | 4              | 5 | 1                        | 2         | 3                 | 4              | 5 |
| C. Try to create a warmer, more accepting classroom.  | 1                         | 2         | 3                 | 4              | 5 | 1                        | 2         | 3                 | 4              | 5 |
| D. Ask the school psychologist to talk with the student to determine if upsetting feelings are contributing to the student's outbursts.                                       | 1                         | 2         | 3                 | 4              | 5 | 1                        | 2         | 3                 | 4              | 5 |
| E. Arrange directly through the student's parents or school nurse to obtain an evaluation to determine if there are neurological causes for the student's chronic aggression. | 1                         | 2         | 3                 | 4              | 5 | 1                        | 2         | 3                 | 4              | 5 |

**ITEM 4: A student's desk area is always a mess.**

To understand the cause of this behavior how important is it for the teacher to determine if:

- |   | NOT<br>IMPORTANT | IMPORTANT | VERY<br>IMPORTANT | BEST<br>CHOICE |   |   |
|---|------------------|-----------|-------------------|----------------|---|---|
|   | 1                | 2         | 3                 | 4              | 5 | A |
| A. There is no program available to help students to learn how to organize their desks.   | 1                | 2         | 3                 | 4              | 5 | A |
| B. The student is consistently reinforced for neatness.   | 1                | 2         | 3                 | 4              | 5 | B |
| C. The expectations about the student's desk area allows the students freedom to adequately express the student's unique qualities. | 1                | 2         | 3                 | 4              | 5 | C |
| D. The student's angry feelings toward the student's parents are carried over to all authority figures, including the teacher.      | 1                | 2         | 3                 | 4              | 5 | D |
| E. This is an indication of ADHD.   | 1                | 2         | 3                 | 4              | 5 | E |

Rate the effectiveness of each intervention first as it could be implemented in an *ACTUAL TEACHING SITUATION*. Then rate the effectiveness of each intervention an *IDEAL TEACHING SITUATION*.

|  | ACTUAL TEACHING SITUATION |           |           |                   |                | IDEAL TEACHING SITUATION |           |           |                   |                |   |
|--|---------------------------|-----------|-----------|-------------------|----------------|--------------------------|-----------|-----------|-------------------|----------------|---|
|  | NOT<br>EFFECTIVE          | EFFECTIVE | EFFECTIVE | VERY<br>EFFECTIVE | BEST<br>CHOICE | NOT<br>EFFECTIVE         | EFFECTIVE | EFFECTIVE | VERY<br>EFFECTIVE | BEST<br>CHOICE |   |
|  | 1                         | 2         | 3         | 4                 | 5              | 1                        | 2         | 3         | 4                 | 5              | A |
| A. Suggest that a school-wide curriculum module be developed for teaching students to keep their desks neat.   | 1                         | 2         | 3         | 4                 | 5              | 1                        | 2         | 3         | 4                 | 5              | A |
| B. Establish reinforcement contingencies that reward the student for maintaining a neat desk area.   | 1                         | 2         | 3         | 4                 | 5              | 1                        | 2         | 3         | 4                 | 5              | B |
| C. Ask the student's parents if this type of misbehavior is seen at home in order to determine if this behavior seems to be rooted in defiance of authority figures.   | 1                         | 2         | 3         | 4                 | 5              | 1                        | 2         | 3         | 4                 | 5              | C |
| D. Suggest to the student's parents that they may wish to visit their pediatrician to pursue possible medical interventions (e.g., change in diet or medication, etc.) as a means of influencing the student's behavior. | 1                         | 2         | 3         | 4                 | 5              | 1                        | 2         | 3         | 4                 | 5              | D |
| E. Allow the student to determine the student's own style for keeping materials and schoolwork.  | 1                         | 2         | 3         | 4                 | 5              | 1                        | 2         | 3         | 4                 | 5              | E |



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