### DOCUMENT RESUME

ED 359 240 TM 020 009

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TITLE Validation of an Inventory of Classroom Management

Style: Differences between Novice and Experienced

Teachers.

PUB DATE Apr 93

NOTE 40p.; Paper presented at the Annual Meeting of the

American Educational Research Association (Atlanta,

GA, April 12-16, 1993).

PUB TYPE Reports - Research/Technical (143) --

Speeches/Conference Papers (150) -- Tests/Evaluation

Instruments (160)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS Beliefs; \*Classroom Techniques; College Students;

Comparative Testing; Conventional Instruction; Demography; \*Education Majors; Elementary School Teachers; Elementary Secondary Education; Higher Education; Interaction; \*Intervention; Locus of Control; Secondary School Teachers; Teacher Education; Teaching Experience: \*Test Validity;

Traditionalism

IDENTIFIERS Experienced Teachers; \*Inventory of Classroom

Management Style; \*Management Styles

### ABSTRACT

A preliminary investigation was conducted of the construct validity of the Inventory of Classroom Management Style (ICMS), a scale to measure differences in perceptions of classroom management style. The main objective was to determine if the scale reflects differences between novice and experienced teachers. Classroom management is defined as a multi-faceted construct including broad dimensions of person, instruction, and discipline. Data were collected from 158 college students (61 percent novice teachers still in college and 39 percent experienced teachers in a college class) via the ICMS, Rotter's Internal-External Locus of Control Scale, the 16 Personality Factor Questionnaire, and a demographics form. Beliefs were classified on a continuum from non-interventionist through interactionalist to interventionist. Several differences were found between novice and experienced teachers. Novices scored as significantly more interventionist than did experienced teachers. Experienced teachers were more internal regarding locus of control, but no significant relationship was found between ICMS scores and locus of control. Interventionists also tended to be more conservative and respecting of traditional ideas. Eleven tables present study findings. Three appendixes contain a framework for the ICMS dimensions, a teacher behavior continuum, and the ICMS instrument. (SLD)

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# Validation of an Inventory of Classroom Management Style: Differences Between Novice and Experienced Teachers

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Running head: CLASSROOM MANAGEMENT STYLE

Paper presented at the Annual Conference of the American Educational Research Association, Atlanta, GA., April, 1993



### **ABSTRACT**

Beliefs regarding classroom management vary among teachers and can play an important role in effective instruction. The primary goal of this study is to begin a preliminary investigation of construct validity of the Inventory of Classroom Management Style (ICMS), a scale to measure differences in perceptions of classroom management style. The learning-to-teach literature suggests that novice and experienced teachers have different approaches and beliefs regarding classroom management style. A main objective, therefore, was to determine if the scale reflects these differences between novice and experienced teachers. Within this study, classroom management is defined as a multi-faceted construct that includes three broad dimensions--person, instruction, and discipline.

Data were collected from 158 subjects (61 % novice teachers, 39 % experienced teachers) via the Inventory of Classroom Management Style (ICMS), Rotter's I-E Locus of Control Scale, 16 Personality Factor Questionnaire (16 PF), and demographics. The ICMS represents a major revision of Tamashiro's Beliefs on Discipline Inventory, consists of 19 forced-choice items in its revised form, and considers each of the three dimensions of classroom management. Beliefs were classified on a continuum that reflects the degree of teacher power over students and categorizes beliefs into three segments--non-interventionist, interactionalist, and interventionist.

Data were analyzed utilizing a series of ANOVAs and correlations. Significant results were found regarding a variety of variables.



# Validation of an Inventory of Classroom Management Style: Differences Between Novice and Experienced Teachers

Although often used interchangeably, the terms classroom management and discipline are not synonymous. For purposes of this paper, it is important to distinguish between the two. The literature generally defines classroom management as a broad, umbrella term that includes, but is not limited to, discipline concerns (Johns, MacNaughton, & Karabinus, 1989; Lemlech, 1988; Wolfe, 1988; Wolfgang & Glickman, 1980, 1986).

Creating an optimum instructional climate is no easy task. Rust (1992) reports anecdotal evidence from first-year teachers who report high levels of stress and frustration as the result of classroom management concerns.

Although discipline was reported as a primary concern, other more general aspects of classroom management were also reported as sources of frustration. Both teachers also reported a sense of shock and disillusionment with the newfound realities of the classroom.

Perhaps more distressing is Kagan's (1992) synthesis of the literature which reveals that the majority of studies indicate subjects perceive a "lack of connection" between the information provided in teacher preparation coursework and the real classroom (p. 156). Until recently teacher preparation programs focused on lesson preparation and did not consider classroom management to be a fundamental concern. While no one would negate the importance of instructional planning, perhaps educators should now begin to recognize both effective instruction and effective classroom management as two vital and intertwined components of the instructional process (Johns, MacNaughton, & Karabinus, 1989).

Within this study, classroom management is defined as a multi-faceted construct that includes three broad dimensions--person, instruction, and



discipline. (See Appendix A.) The person dimension includes what teachers believe about students as persons and what they do to enable pupils to develop as individuals. This includes teacher's perceptions of the general nature of students' abilities as well as the overall psychosocial climate. Dimension two, the instruction dimension, incorporates what teachers do to enable students to learn such as the establishment and maintenance of classroom routines, physical room arrangement, and the use of time. Finally, the discipline component, entails those behaviors that teachers use to set standards for behavior and to enforce those standards.

Willower, Eidell, and Hoy's classic (1967) monograph describes an ideological continuum regarding pupil control. The continuum ranges from custodial--where the main concern is the maintenance of order--to humanistic-where school is perceived as a community in which its members learn via interaction and experience (p. 5).

Wolfgang and Glickman (1980, 1986) conceptualized a framework to explain teacher beliefs toward discipline. Based on a combination of psychological interpretations, their continuum illustrates three approaches to classroom interaction--non-interventionists, interventionists, and interactionalists. The non-interventionist presupposes the child has an inner drive that needs to find its expression in the real world. Proponents of transactional analysis or Gordon's *Teacher Effectiveness Training* (1974) are considered non-interventionists. At the opposite end of the continuum are interventionists--those who emphasize what the outer environment (of people and objects) does to the human organism to cause it to develop in its particular way. Traditional behavior modification provides the theoretical foundation for this school of thought. Midway between these two extremes, interactionalists focus on what the individual does to modify the external environment as well as



what the environment does to shape him or her. Alfred Adler, Rudolf Dreikurs, and William Glasser are considered to be interactionalists.

The assumption is that teachers believe and act according to all three models of discipline, but one usually predominates in beliefs and actions (Wolfgang & Glickman, 1980; 1986). Therefore, the application of these various theories emphasizes teacher behaviors that reflect the corresponding degrees of power possessed by student and teacher.

Appendix B represents a modification of Wolfgang and Glickman's (1980) Teacher Behavior Continuum (TBC) that reflects the power relationship between teacher and student and includes eight typical techniques utilized by teachers in dealing with misbehavior. At one end of the continuum, the child (C) enjoys the most control over his or her behavior while the teacher (t) has least control. At the opposite end of the continuum, the teacher (T) assumes control of the child (c). Therefore, those who act from the non-interventionist's perspective are likely to utilize minimal power while interventionists would exercise greater control. Mid-way between these two, interactionalists strive to find joint solutions while employing some of the same techniques as non-interventionists and interventionists. Still, the interactionalist is "... wary of any unilateral control of behavior by either student or teacher" (Wolfgang & Glickman, 1980, p. 18).

Research suggests that less experienced teachers differ from those with more experience regarding their attitudes pertaining to discipline. Swanson, O'Connor, and Cooney (1990) report that novice teachers tend to respond in ways that are less directive and obtrusive than their experienced counterparts. "New" teachers appeared to be patient, share responsibility, and interact with students. More experienced teachers, however, tended to react in a manner that could be classified as more interventionist in nature--insisting on



appropriate behavior, using time-out procedures, punishing students, etc. (Swanson, O'Connor, & Cooney, 1990).

On the other hand, Kagan's more recent (1992) synthesis of the learningto-teach literature reveals a large and fairly consistent body of research that paints a different picture of preservice and beginning teachers describing them as growing more controlling in their beliefs. McNeely and Mertz's study (cited in Kagan, 1992) revealed that student teachers began their experience by focusing on quality lesson planning. By the end of their experience, however, they had begun to consider pupils as the "enemy," were overly concerned with class control, and shifted the focus of lesson planning from activities designed to encourage learning to those likely to discourage disruption (Kagan, 1992). Kagan, therefore states that "... class control and instruction appear to be inextricably interrelated pedagocial tasks" (1992, p. 145). Kagan also concluded that teachers are capable of focusing on their pupils and their learning only after they have negotiated a preliminary stage in which they develop an image of themselves as teachers. Therefore, exploring differences between teachers regarding classroom management style seems to be a legitimate validation mechanism.

Although earlier research has emphasized the importance of certain personal characteristics in the teaching-learning process, little has been done regarding personality variables vis-a-vis classroom management style. Getzels and Jackson (1963) maintained that the personality of the teacher is the most significant variable in classroom success. However, they commented that defining and measuring personality characteristics was so problematic as to make research unproductive. In 1971, however, DeBlassie concluded (via the 16 PF) that experienced teachers tend to be more assertive, bold, and selfsufficient than their preservice counterparts.



Several more recent studies also indicate that many of the variables associated with effective teaching are non-academic in nature. Pittman (1985) found that student ratings of teacher effectiveness were highly correlated to the personality dimensions of warmth, creativity, and organization. Elementary school teachers identified as "effective" by their peers were willing to take risks, had a capacity for loving, were independent and assertive, and were more mature (Easterly, 1985).

In spite of the fact that practitioners, educational researchers, and teacher educators believe that teacher personality is an important factor in learning and creating a classroom environment (Payne & Manning, 1985), the more recent trends in research on teaching focus on cognitive knowledge and overt behaviors. Variables which are more easily measured such as knowledge base, student engagement, monitoring, questioning, and interaction form the basis for evaluating effectiveness. However, the impact of teacher personality needs to be further explored.

The facets of classroom management may also vary as a function of locus of control orientation (Hartman & Fuqua, 1983; Rotter, 1966; Taylor, 1982). Based on social learning theory, the concept posits that individuals differ in the degree to which they attribute reinforcements to their own actions (internality) or to other forces such as luck, chance, fate, or powerful others (externality) (Rotter, 1966, 1975).

Although little empirical evidence exists regarding locus of control and classroom management, related research indicates that a connection between these two variables is likely. Rotter's classic (1966) article synthesizes much of the research in the area of locus of control and reports that: 1. External individuals are less likely to expect future success than internals since internals perceive success to be the result of their own skill and efforts; 2. Internals are



likely to (a.) be more alert to those aspects of the environment which provide useful information for future behavior, (b.) take steps to improve the environmental condition, (c.) place greater value on skill or achievement reinforcements and be generally more concerned with his or her ability, and (d.) be resistive to subtle attempts of influence.

Henderson's study (cited in Packard, 1988) reports a high correlation (.92) between the Pupil Control Ideology Scale and "... a measure of locus of control" (p. 186). Research has also revealed that locus of control may influence student-teachers' perceptions in simulated educational situations (Kremer & Kurtz, 1982). On the other hand, Rose and Medway (1981) report that, although teacher beliefs regarding locus of control were not transformed into actions, there seems to be a qualitative difference "... in the way more internal teachers attempt to provide direct instruction" (p. 380).

Sherman and Giles' (1981) study discerned that more experienced teachers scored significantly more internal on the I-E Scale than iess experienced teachers or student-teachers. Harvey (cited in Sherman & Giles, 1981) reveals similar results among government employees with administrative positions. Therefore, it seems that those with more experience enjoy a greater sense of personal control possibly as the result of increased knowledge of the work setting. This may, in turn, influence classroom management style.

Although a large body of research exists on the subject of discipline, little has been done regarding the broader concept of classroom management. The primary goal of this study is to begin a preliminary investigation of construct validity of the Inventory of Classroom Management Style (ICMS), a scale to measure differences in perceptions of classroom management style. Professional literature investigating the differences between teachers seems to approach the research in one of two ways. One body compares pre-service



and current teachers (i.e.: Etheridge, 1981; Niemeyer, 1992), while the other categorizes educators as novice and experienced (i.e.: Korevaar & Bergen, 1992; Sherman & Giles, 1981).

Our initial analyses compared pre-service teachers to their experienced counterparts; no significant findings were ascertained. A main objective, therefore, was to determine if the scale reflects differences between novice and experienced teachers. Similar to other research, a novice teacher is defined as one with zero to three years teaching experience (Berliner, 1988; Kagan, 1992; Korevaar & Bergen, 1992).

Crocker and Algina (1986) explain that a construct should be defined at two levels. First, it should be operationally defined. (See Appendix A.)

Second, the definition must be described in relation to other variables. To this end, the following research questions were asked:

- 1. Is there a difference between novice and experienced teachers regarding their perceptions of classroom management style?
- 2. Is there a relationship between locus of control orientation and perceptions of classroom management style?
- 3. Is there a relationship between various personality variables and perceptions of classroom management style?

### Methodology

### <u>Participants</u>

College students enrolled at a mid-sized, regional university in the south were drawn from sections of education courses. There were 158 participants; 61% were novice teachers and 39%, experienced teachers. The subject pool was composed primarily of females (91.8%; 8.2% males). The mean age of participants was 31.66 years. Results revealed no significant difference between the age of experienced teachers (M = 38.01) and novice teachers (M =



27.95;  $\mathbf{p} = .963$ ). The majority (97.5%) of the subject pool was white; 2.5%, black. Those certified or expecting certification at the elementary level accounted for 65.2% of participants.

Those subjects who are currently teaching work in area schools which could be described as rural in nature where ethnic composition is approximately 60% white, 40% black. Their students' parents could be described as primarily blue collar workers and low SES. Pre-service teachers participating in the study are primarily the products of and are trained in these same area schools.

### **Instruments**

Data were collected via the Inventory of Classroom Management Style (ICMS), Rotter's Internal-External (I-E) Locus of Control Scale, 16 Personality Factor Questionnaire (16 PF) Form A, and demographics. The ICMS represents a major revision of Tamashire's Beliefs on Discipline Inventory (BDI) (Wolfgang & Glickman, 1980, 1986).

In addition to the discipline sub-scale, the ICMS also includes sub-scales to address the instruction and person dimensions of classroom management. (See Appendix C.) The ICMS classifies each of these three dimensions of classroom management on a continuum categorized into three segments--non-interventionist, interactionalist, and interventionist (Wolfgang & Glickman, 1980, 1986). In its original form, the instrument consisted of 24 forced-choice items and scores ranged from 24 (most non-interventionist) to 48 (most interventionist); scores approaching the mid-point of 36 indicated interactionalist ideology. Each pair of statements consists of one option that could be classified as more "controlling" than the other. However, each pair is not necessarily an interventionist/non-interventionist pairing. (See Appendix B.)



Two points were given for the more "controlling" choice; one point, for each "less controlling" choice.

The Rotter's I-E Locus of Control Scale consists of 23 forced choice items plus six filler items. Internal items are paired with external items. One point is given for each external response. Scores range from zero (most internal) to 23 (most external). Internal reliability estimates range from .65 to .79 (Rotter, 1966).

The 16 PF, Form A, contains 187 forced-choice items designed to measure sixteen dimensions of personality. Form A is considered appropriate for individuals whose level of education is approximately equal to the normal high school student. Average test-retest reliability estimates range from .80 (short-term) to .78 (long-term). Each item scores 0, 1, or 2 and contributes to only one factor total. Each dimension is quantified by a standard ten (STEN) score. These dimensions are described as:

- (A) Warmth. Low score = reserved, detached critical, aloof, stiff; high score = outgoing, warmhearted, easygoing, participating.
- (B) Mentar Japacity. Low score = concrete thinking; high score = abstract thinking.
- (C) Emotional Stability. Low score = affected by feelings, emotionally less stable, easily upset, changeable; high score = emotionally stable, mature, faces reality, calm.
- (E) Assertiveness. Low score = humble, mild, easily led, docile, accommodating, submissive; high score = assertive, aggressive, stubborn, competitive, dominant.
- (F) Impulsivity. Low score = sober, taciturn, serious; high score = happy-go-lucky, enthusiastic.
- (G) Conformity. Low score = expedient, disregards rules, low superego; high score = conscientious, staid, moralistic, high superego.
- (H) Boldness. Low score = shy, timid, threat sensitive; high score = venturesome, uninhibited, socially bold.



- (I) Sensitivity. Low score = tough-minded, realistic, self-reliant; high score = tender-minded, sensitive, clinging, overprotected.
- (L) Trust/Suspicion. Low score = trusting, accepting; high score = suspicious, hard to fool.
- (M) Imagination. Low score = practical, down-to-earth; high score = imaginative, bohemian, absent-minded.
- (N) Social Awareness. Low score = forthright, unpretentious, socially clumsy; high score = astute, polished, socially aware.
- (O) Secure/Insecure. Low score = self-assured, placid, serene, secure; high score = apprehensive, worrying, insecure, troubled.
- (Q1) Traditional/Liberal. Low score = conservative, respecting traditional ideas; high score = experimenting, free thinker, liberal.
- (Q2) Self-Sufficiency. Low score = group dependent, a follower; high score = self-sufficient, resourceful, prefers own decisions.
- (Q3) Self-Discipline. Low score = lax, follows own urges, careless of social rules; high score = controlled, willpower, socially precise, compulsive.
- (Q4) Tension. Low score = relaxed, tranquil, composed; high score = frustrated, overwrought, driven. (Administrator's Manual for the 16PF, 1986).

### Results

In an effort to answer the first research question, a series of one-way ANOVAs was performed. Scores on the ICMS full-scale score and each of the three sub-scales served as the dependent variables for the four ANOVAs. Years experience served as the independent variable where novice teachers were those with zero to three years experience; experienced teachers were those with more than three years experience. Results revealed that full-scale scores and scores on sub-scale C (Discipline) were significant at the .05 level (p < .05). (See Tables 1 and 2, respectively.) Sub-scales A (Person) and B (Instruction), however, were not significant.



Insert Table 1 about here.
Insert Table 2 about here.

Analysis of individual item means revealed that novice teachers consistently responded more interventionist than their more experienced counterparts on all but a few items. (See Table 3.) Within Sub-scale A, means for item 4 were equal for the two groups, while experienced teachers scored more interventionist on item 5. Within Sub-scale B, the greatest differences were found between novice and experienced teachers for items 12, 14, and 15. Means were computed by elementary and secondary levels as well as novice and experienced teachers for items 4, 5, 12, 14, and 15. (See Table 4.)

Insert Table 3 about here.
Insert Table 4 about here.

Closer investigation revealed that experienced, secondary teachers scored most interventionist on all items in question. For items 4 and 15, experienced, elementary teachers scored most non-interventionist suggesting that any difference in responses to these two items could be accounted for by



elementary vs. secondary differences rather than years experience. For items 5, 12, and 14, novice, secondary teachers scored most non-interventionist while experienced, secondary teachers scored at the opposite extreme and all elementary teachers fell in between the two. Again, elementary teachers—as a group—scored differently than secondary teachers. Further differences seem to exist among secondary teachers for these items.

Items 4, 5, 12, 14, and 15 were omitted and further analyses were conducted. The "new" range for ICMS is 19 (most non-interventioist) to 38 (most interventionist); scores approaching the mid-point of 28.5 indicate interactionalist ideology. No further analyses were performed with Sub-scale C (Discipline). Results revealed that revised full-scale scores were significant at the .05 level (p = .0014). (See Table 5.) Results for sub-scale A (Person), however, were not significant. (See Table 6.) Scores on sub-scale B (Instruction) proved significant (p = .0389). (See Table 7.)

Insert	Table	5	about	here.
Insert	Table	6	about	here.
Insert	Table	7	about	here.

The second research question sought to determine if a relationship exists between locus of control orientation and perceptions of classroom management style. Correlations between the I-E Locus of Control Scale and the ICMS full-



scale score (r = +.1067, p < .05) and each of the three sub-scales proved non-significant (-A: r = -.0173, p < .05; -B: r = +.0674, p < .05; -C: r = +.1498, p < .05). An ANOVA was performed with locus of control and years experience as the independent variables where subjects were divided at the median and grouped as internal or external locus of control. ICMS-FS (Revised) scores served as the dependent variable. Results were significant (p = .014). (See Table 8.) Post hoc analyses revealed that experienced teachers characterized by internal locus of control scored significantly more non-interventionist (p = .014) than external, novice teachers (p = .018).

Insert Table 8 about here.

ANOVAs were also performed with each ICMS sub-scale as independent variables. Although neither sub-scales A and B were significant, sub-scale C (Discipline) was ( $\varrho$  < .05) (See Table 9.) Post hoc analyses revealed that experienced teachers characterized by internal locus of control scored significantly more non-interventionist (M = 9.12) than external, novice teachers (M = 9.87).

Insert Table 9 about here.

Novice teachers were compared to experienced teachers regarding locus of control. A one-way ANOVA revealed that experienced teachers scored significantly more internal than their novice counterparts. (See Table 10.) However, means for both groups seem to be clustered near the mid-point (overall M = 9.5; novice M = 10.1; experienced M = 8.5). Therefore, neither group could be considered extremely internal nor external (median = 9).



Insert Table 10 about here.

Finally, the third research question asks if there is a relationship between various personality variables and perceptions of classroom management style. A series of correlations was performed between each sub-scale of the 16 PF and the ICMS full-scale score and each sub-scale. Twelve of the 16 factors proved to be significantly correlated with the full-scale score and/or one or more of the three sub-scale scores. (See Table 11.) Factors M and N yielded significant correlations with ICMS-FS, ICMS-B (Instruction), and ICMS-C (Discipline). Factor H also revealed a significant relationship with both ICMS-FS and ICMS-A (Person). In addition, ICMS-A correlated significantly with Factors B, E, F, I, L, and Q1. ICMS-B yielded significant, positive relationships (.05) with Factors G and Q3. In addition to Factors M and N, ICMS-C was also significantly correlated with Factor C.

Inser	t Table 11	about here.	

### Discussion

The ICMS full-scale score was found to be significantly related to a number of variables. Novice teachers were found to score significantly more interventionist than those subjects with more than three years teaching experience. Regarding locus of control, experienced teachers characterized as internals were found to score significantly more non-interventionist than external, novice teachers. Because the correlation between locus of control and ICSM-FS proved non-significant, it appears that years of experience may



influence one's perceptions of classroom management style while locus of control may be a secondary factor.

Three factors of the 16 PF were found to significantly correlate with the ICMS-FS. Factor H--Shy, Timid, Threat-Sensitive vs. Venturesome, Uninhibited, Socially Bold--yielded a significant, negative relationship with both the ICMS-FS and ICMS-A. Therefore, those subjects scoring high on Factor H and low on ICMS-FS (more non-interventionist) tend to be described as ready to try new things and spontaneous in nature while those scoring low on Factor H, high on ICMS-FS (more interventionist) tend to be more likely to have feelings of inferiority and "... dislike occupations with personal contacts" (Administrator's Manual for the 16 PF, 1986, p. 27).

A significant, negative relationship was also ascertained between ICMS-FS, Sub-scales B, C, and Factor M--Practical, "Down-to-Earth" vs. Imaginative, Bohemian, Absent-Minded. This suggests that those scoring high on Factor M and low on ICMS-FS (more non-interventionist) tend to be more unconventional while interventionists could be described as more anxious to do the "right thing," and unimaginative.

Finally, Factor N yielded a significant, positive correlation with the ICMS-FS and ICMS-B and -C. As scores on this factor increase, individuals are considered to be more astute, polished, and socially aware. As high scores on ICSM-FS reflect increased interventionist ideology, high scores on this factor suggest they could be described as "...hard-headed, [with]...an unsentimental approach to situations" (Administrator's Manual for the 16 PF, 1986, p. 29). Those who score low on Factor N--and, in turn, ICMS-FS--are described as "uncomplicated and sentimental" (p. 29).

ICMS-A, Person Dimension, revealed significance on a total of seven factors of the 16 PF. In addition to Factor H, Factors B, E, F, I, L, and Q<sub>1</sub> also



yielded significant relationships. A significant, positive relationship was ascertained between ICMS-A and Factor B. High scores on this factor tend to describe one who is a quick learner, fast to grasp ideas, and capable of abstract-thinking. Low scorers could be described as the opposite--concrete-thinkers who tend to be slow to learn. Factor E and ICMS-A revealed a significant, negative correlation. Those scoring high on this factor are sometimes described as authoritarian and controlling--uncharacteristic of what one would expect of non-interventionist ideology. However, those scoring high on this factor are also described as self-confident, assertive, and independent-minded. Those scoring low on this factor are said to be more likely to conform and "give way to others" (Administrator's Manual for the 16 PF, 1986, p. 25).

Factor F and ICMS-A revealed a significant, negative relationship. As scores on ICMS-A became more non-interventionist, scores on Factor F describe one who is talkative and outgoing, "effervescent and carefree" (p. 26). Again, low scores on this factor indicate one who is sober and introspective. A significant, negative relationship between Factor I and ICMS-A is in keeping with the construct as those who score low on this factor tend to be tough-minded and realistic, sometimes hard and cynical. High scorers are described as sensitive and sometimes demanding of attention, and impatient. A significant negative relationship also exists between ICMS-A and Factor L. Those who score high on Factors I and L are both expected to make poor group members. Those scoring low on Factor L tend to make good team members as they are trusting and easy to get along with.

Finally, ICMS-A yielded a significant negative relationship with Factor Q<sub>1</sub>. Those scoring high on this factor--and more non-interventionist on ICMS-A--tend not to moralize but experiment with life experiences. Low scorers on this



factor tend to dislike change and cling to tradition even when new ideas may be more beneficial.

In addition to Factors M and N, a significant, positive relationship was also determined between ICMS-B (Instruction) and Factors G and Q<sub>3</sub>. Those scoring high on these factors are described as conscientious, conforming, and moralistic (G) as well as having strong control of their emotions and general behavior (Q<sub>3</sub>).

ICMS-FS and sub-scale C (Discipline) were significantly correlated with Factors M and N. ICMS-C also yielded a significant, positive correlation with Factor C. The teacher characterized as more non-interventionist regarding discipline is also likely to score low on this factor and, therefore, be described as one who is affected by feelings, easily annoyed, and less stable emotionally (Administrator's Manual for the 16 PF, 1986).

### Summary & Conclusions

In the minds of teachers, discipline is considered one of the most enduring and wide spread problems in education (Johns, MacNaughton, & Karabinus, 1989; Long & Frye, 1989; Willower, Eidell, & Hoy, 1967). Still, no aspect of the instruction process exists in a vacuum. Discipline is no exception and should be considered an integral part of overall classroom management rather than a separate entity.

Beliefs regarding the nature of appropriate and inappropriate behaviors and how to control them vary among teachers and can play an important role in the determination of teacher behavior (Willower, Eidell, & Hoy, 1967; Wolfgang & Glickman, 1980, 1986). Wolfgang and Glickman's (1980, 1986) continuum of beliefs regarding discipline ranges from non-interventionist to interventionist with interactionalists mid-way between the two extreme points.



Research has revealed significant differences between certain groups pertaining to beliefs regarding discipline, but little has been done considering the broader concept of classroom management. Within this study classroom management is defined as a multi-fac 'ed construct. In addition to discipline, it includes both a person and instruction component. The person component includes what the teacher believes about students as people and the psychosocial environment they create. The instruction component involves the physical environment, time management, and classroom routines as well as beliefs regarding monitoring students. The discipline component includes beliefs regarding rule setting and the manner in which appropriate and inappropriate behaviors are acknowledged. (See Appendix A.) Therefore, the Inventory of Classroom Management Style (ICMS) consists of a full-scale and three sub-scales.

Data were collected utilizing the Inventory of Classroom Management Style (ICMS), I-E Locus of Control Scale, 16-Personality Factor Questionnaire, and demographics. Results revealed significant differences between novice and experienced teachers vis-a-vis the ICMS full-scale score and two of the three sub-scales. Results seem to corroborate Kagan's (1992) synthesis of the literature regarding learning to teach. For both ICMS-B and -C, novice teachers scored consistently more interventionist. Sub-scale A, Person, was the only dimension that did not yield significance. Regardless of experience, all subjects have chosen a helping prefession and therefore, may have similar views regarding the nature of students as persons.

Results revealed that experienced teachers scored significantly more internal regarding locus of control but no significant relationship was found to exist between ICMS and locus of control. However, closer investigation revealed that the means for the two groups were clustered near the median of



the I-E Scale. It could be that there is a relationship between locus of control and perceptions of classroom management style but the ICMS is not sensitive enough to detect a difference between internals and externals. It is also possible that these results are sample specific.

Still, all sub-scales and the full-scale score correlated significantly with a number of factors on the 16 PF. Significant correlations were both positive and negative in direction and seemed to be in keeping with the construct as defined by the ICMS. Teachers scoring more interventionist on ICMS-FS tend to be less venturesome and uninhibited (H), less practical (M), and more astute, and socially aware (N). The Person dimension (sub-scale A) correlated significantly with more factors than the other two sub-scales. Those scoring high on ICMS-A (more interventionist) capable of abstract learning (B), more humble and mild (E), and more sober and serious (F). In addition, interventionists were found to score more threat sensitive (H), and tough-minded and self-reliant (I), as well as accepting (L). Finally, a significant negative correlation was ascertained between ICMS-A and 16 PF Factor Q<sub>1</sub>; suggesting that interventionists tend to be more conservative, and respecting traditional ideas.

Sub-scale B (Instruction) correlated significantly with four factors and suggests that interventionists are more conscientious (G), also less practical (M) and more astute (N) as well as more controlled and compulsive (Q<sub>3</sub>). Significant correlations between sub-scale C (Discipline) and three factors suggests that interventionists are easily upset and affected by feelings (C), and, again, less practical (M) and more astute (N).

This study represents an initial effort to establish construct validity. To this end, the construct of classroom management has been operationally defined and compared to other variables (Crocker & Algina, 1986). A rich body of results has materialized.



Construct validity is a complex and on-going process. This study represents a good "first step" in the process of establishing the construct of classroom management.

Many questions remain unasked and unanswered. Are there significant differences between elementary and secondary, male and female teachers regarding perceptions of classroom management style? Do ethnic and culural differences exit? How do personality variables effect classroom management? What is the "best" style for managing the classroom? Do teacher perceptions of their classroom management style match their behavior in the classroom?

There can be little doubt that the novice teacher encounters a variety of new experiences in the classroom. Their beliefs regarding these experiences and the manner in which they approach them work together to create a unique and individual style of classroom management. Efficient lesson planning and effective classroom management are both necessary in order for learning to take place.

A clearer understanding of the facets of classroom management will hopefully facilitate the process of university level instruction of pre-service and experienced teachers. Because of the lack of an empirically derived body of information, a systematic means of measuring these factors seems to be a fruitful one for future study. The Inventory of Classroom Management Style appears to be a timely and useful tool for additional research in this area.



### References

- Crooker, L. A., & Algina, J. (1986). *Introduction to classical and modern test theory*. New York, NY: Holt, Rinehart, & Winston.
- DeBlassie, R. R. (1971). A comparative study of the personality structures of persistent and prospective teachers. *Journal of Educational Research*, 64, 331-333.
- Easterly, J. L. (1985). Outstanding teachers: Pathfinders for the profession.

  Action in *Teacher Education*, 7, 1-5.
- Etheridge, G. W., James, T. L., & Bryant, G. W. (1981). Discipline beliefs of student teachers and directing teachers. (Report No. SP-019-868).

  Memphis, TN: Memphis State University, College of Education. (ERIC Document Reproduction No. ED 215 958)
- Getzels, J. W., & Jackson, P. W. (1963). The teacher's personality and characteristics. In N. L. Gage (ed.), *Handbook of research on teaching*, p. 506-582. Chicago: Rand NcNally.
- Gordon, T. (1974). Teacher effectiveness training. New York: Wyden.
- Hartman, B. W., & Fuqua, D. R. (1983). Career indecision from a multidimentional perspective: A reply to Grite. *The School Counselor*, 30, 340-346.
- Hoy, W. K. & Woolfolk, A. E. (1990). Student teacher socialization. *American Educational Research Journal*, *27*, 279-300.
- Johns, F. A., MacNaughton, R. H., & Karabinus, N. G. (1989). School discipline guidebook: Theory into practice. Boston, MS: Allyn & Bacon.
- Kagan, D. M. (1992). Professional growth among preservice and beginning teachers. *Review of Educational Research*, *62* (2), 129-169.
- Korevaar, G. A. G. & Bergen, T. C. M. (1992, April). *Inexperienced and experienced teachers' differences in reacting and attributing to*



- 24
- problematic classroom situations. Paper presented at the Annual Meeting of the American Educational Research Association, San Fransisco, CA.
- Kremer, L. & Kurtz, C. (1982). Locus of control. perceptions and attributions of student teachers' in educational situations. (Report No. SP-019-642).

  Haifa, Israel: University of Haifa. (ERIC Document Reproduction Service No. ED 212 614)
- Lemlech, J. K. (1988). Classroom management: Methods and techniques for elementary and secondary teachers, 2nd ed. New York, NY: Longman.
- Long, J. D. & Frye, V. H. (1989). *Making it till Friday,* 4th ed. Princeton, NJ: Princeton Book Company, Inc.
- McNeely, S. R. & Mertz, N. T. (1990, April). Cognitive constructs of preservice teachers: Research on how student teachers think about teaching.

  Paper presented at the Annual Meeting of the American Educational Research Association, Boston.
- Niemeyer, R. (1992, April). Teachers' beliefs and the emerging self. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco.
- Packard, J. S. (1988). The pupil control studies. In Norman J. Boyan (Ed.), Handbook of research of educational administration (pp. 185-207).
- Payne, B. D. & Manning, B. H. (1985). Personal dimensions: Second class variables in teacher education. *Action in Teacher Education*, 7 (3), 79-85.
- Pittman, R. B. (1905). Perceived instructional effectiveness and associated teaching dimensions. *Journal of Experimental Education*, 24 (2), 34-39.
- Robinson, J. P., & Shaver, P. R. (1973). *Measures of Social Psychological Attitudes* (revised edition). Ann Arbor, MI: Institute for Social Research.



- Rose, J. S. & Medway, F. J. (1981). Teacher locus of control, teacher behavior, and student behavior as determinants of student achievement. *Journal of Educational Research*, 74 (6), 375-381.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, *80*, 1-28.
- Rotter, J. B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. *Journal of Consulting and Clinical Psychology*, *43*, 56-67.
- Rust, F. O. (1992, April). The first year of teaching: It's not what they expected.

  Paper presented at the annual conference of the American Educational

  Research Association: San Francisco, CA.
- Sherman, T. M., & Giles, M. B. (1981). The development and structure of personal control in teachers. *Journal of Educational Research*, 74 (3), 139-142.
- Short, R. J., & Short, P. M. (1989). Teacher beliefs, perceptions of behavior problems, and intervention preferences. *Journal of Social Studies Research*, 13 (2), 28-33
- Swanson, H. L., O'Connor, J. E., & Cooney, J. B. (1990). An information processing analysis of expert and novice teachers' problem solving.

  \*American Educational Research Journal, 27, 3, 533-557.
- Taylor, K. M. (1982). An investigation of vocational indecision in college students: Correlates and moderators. *Journal of Vocational Behavior*, *21*, 318-329.
- Willower, D. J., Eidell, T. L., & Hoy, W. K. (1967). Conceptual framework. *The Pennsylvania State University Studies*, *26*, 3-8.



- Wolfe, P. (1988). Classroom management: A proactive approach to creating n effective learning environment. Alexandria, VA: Association for Supervision & Curriculum Development.
- Wolfgang, C. H. & Glickman, C. D. (1980). Solving discipline problems:

  Strategies for classroom teachers. Boston, MS: Allyn and Bacon, Inc.
- Wolfgang, C. H. & Glickman, C. D. (1986). Solving discipline problems:

  Strategies for classroom teachers., 2nd ed. Boston, MS: Allyn and Bacon, Inc.

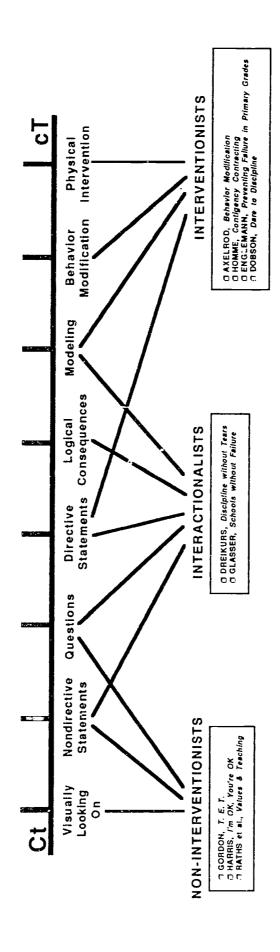


### APPENDIX A

# FRAMEWORK FOR INVENTORY OF CLASSROOM MANAGEMENT STYLE DIMENSIONS OF TEACHER CLASSROOM MANAGEMENT BEHAVIOR

- I. PERSON DIMENSION -- what teachers believe about students as persons and what teachers do to enable students to develop as persons
  - A. TEACHER'S PERCEPTIONS OF THE NATURE OF STUDENTS
    - 1. personal attributes
    - 2. independence/capabilities of students
  - B. PSYCHOSOCIAL CLIMATE
    - 1. personal attention/worth
    - 2. opportunity for success
    - 3. group spirit and purpose
    - 4. classroom climate (warmth, friendliness, courtesy, respect)
- II. INSTRUCTION DIMENSION -- what teachers do to enable students to learn
  - A. PHYSICAL ENVIRONMENT
    - 1. territory
    - 2. seating
    - 3. materials
  - B. TIME
    - 1. how to allocate time
    - 2. diversions from task
  - C. CLASSROOM ROUTINES
    - 1. daily routines
    - 2. transitions
  - D. MONITORING LEARNING BEHAVIOR
    - 1. keeping on-task
    - 2. circulating
    - 3. feedback on performance
    - 4. choice of learning topic/task
    - 5. purpose of homework
- III. DISCIPLINE DIMENSION -- what teachers do to set standards for behavior and to enforce those standards
  - A. RULE SETTING
    - 1. who sets rules
    - 2. importance of rules
  - B. ACKNOWLEDGMENT OF APPROPRIATE/INAPPROPRIATE BEHAVIOR
    - 1. importance of praise
    - 2. effectiveness of punishment/negative consequences





# APPENDIX B. Teacher Behavior Continuum (TBC)

**3** 

# APPENDIX C INVENTORY OF CLASSROOM MANAGEMENT STYLE

<u>Directions</u>: Please circle the <u>one</u> statement (either a or b) for each item that <u>best</u> fits your belief or describes what you would do in your own classroom. There are no right or wrong answers. If you disagree with both options, circle the one you disagree with the least. If you agree with both options, circle the one that you agree with the most. Answer every question one way or another. Do not skip any.

(**NOTE**: \* = Items omitted from original scale.)

### SUB-SCALE A: PERSON DIMENSION

- 1
- a. Student's creativity and self-expression should be encouraged and nurtured as much as possible. (1)
- b. Teachers must set guidelines for students in order for them to understand the importance of living by rules and laws. (2)
- 2.
- a. Although students do think, the decisions they make are not yet fully rational and moral. (2)
- b. Student's inner emotions and decision-making processes must be considered legitimate and valid. (1)
- 3.
- a. My responsibility as a teacher is to aid students' self-discovery. (1)
- b. My responsibility as a teacher is to reward those students who do well. (2)
- \*4.
- a. Students must be allowed the freedom to pursue their own interests and to succeed in those areas. (1)
- b. If students work hard and follow my directions, they will be successful in school. (2)
- \*5.
- a. A class is made up of unique individuals; students will develop their own ways of working and playing with each other. (1)
- b. My responsibility as a teacher is to direct students in how to work together cooperatively toward academic goals. (2)



- 6.
- a. I encourage students to treat each other with courtesy and respect. (1)
- b. I would never allow students to treat each other with anything other than friendliness, courtesy, and respect. (2)

### SUB-SCALE B: INSTRUCTION DIMENSION

7.

- a. The assignment at hand determines how the space should be used. (1)
- b. I would be annoyed if a student sat at my desk without permission. (2)
- 8.
- a. Generally, I think it's best to assign students to specific seats in the classroom. (2)
- b. Generally, I think it's best to allow students to select their own seats. (1)
- 9.
- a. The teacher knows best how to allocate classroom materials and supplies to optimize learning. (2)
- b. Students in my classroom may use any materials they wish during the learning process. (1)
- 10.
- a. I specify a set time for each learning activity and try to stay within my plans.(2)
- b. The time spent on each learning activity can only be determined by the students' needs and interests. (1)
- 11.
- a. During a lesson on the Bill of Rights, a student begins to tell a story about a neighbor who was falsely arrested for selling drugs. I would most likely remind the student gently but firmly that the class has to finish the lesson before the end of the class period. (2)
- b. During a lesson on the Bill of Rights, a student begins to tell a story about a neighbor who was falsely arrested for selling drugs. I would most likely let the student tell the story so (s)he could find the association between the lesson objective and the incident. (1)

### \*12.

- a. Students need the structure of a daily routine that is organized by the teacher. (2)
- b. Responsibility and self-discipline are fostered when students create their own daily routines. (1)



13.

- a. When moving from one learning activity to another, I will most likely allow students to progress at their own rate since we all learn at a different pace. (1)
- b. When moving from one learning activity to another, I will most likely give students directions regarding how to proceed. (2)

### \*14.

- a. When a student is repeatedly off-task, I will most likely remove a privilege such as recess or require detention. (2)
- b. When a student is repeatedly off-task, I will most likely ask a question such as, "Chris, why aren't you working?" (1)

### \*15.

- a. During seatwork, it is important to circulate around the room in order to manage students' learning behavior. (2)
- b. It is not necessary to circulate during seatwork since students can monitor their own learning behavior and seek out the teacher if there are questions. (1)

16.

- a. Teachers should conference with students regarding the quality of their work.(1)
- b. Teachers should provide feedback regarding the quality of performance. (2)

17.

- a. The teacher should decide what topics the students study and the tasks used to study them. (2)
- b. Learning becomes meaningful when students have input regarding learning topics and tasks. (1)

18.

- a. The primary purpose of homework is to provide supplementary activities that meet the students' needs and interests. (1)
- b. The primary purpose of homework is to reinforce skills learned in the classroom. (2)

## SUB-SCALE C: DISCIPLINE DIMENSION 19

- a. If students agree that a classroom rule is unfair, then I should explain the reason for the rule. (2)
- b. If students agree that a classroom rule is unfair, then the rule should be replaced by a rule that students think is fair. (1)



20.

- a. During the first week of class, I will most likely announce the classroom rules and inform students of the penalties for disregarding the rules. (2)
- b. During the first week of class, I will discuss class rules with the students. (1)

21.

- a. Rules are important because they shape the student's behavior and development. (2)
- b. Class rules stifle the student's ability to develop a personal moral code. (1)

22.

- a. When one of the more conscientious students does not complete an assignment on time, I will most likely assume that the student has a legitimate reason and that the student will turn in the assignment when it is completed. (1)
- b. When one of the more conscientious students does not complete an assignment on time, I will most likely remind the student that the assignment is late. (2)

23.

- a. When students behave appropriately, I will most likely comment on their good behavior and provide verbal encouragement such as, "You've been working well for over an hour!" (1)
- b. When students behave appropriately, I will most likely provide a reward of some kind such as stickers or points toward a party. (2)

24.

- a. When a student disrupts class or bothers other students, I will most likely say nothing but look directly at the student and frown. (1)
- b. When a student disrupts class or bothers other students, I will most likely tell the student to be quiet and request a conference with the student at a more convenient time. (2)



TABLE 1
1-WAY ANOVA: YEARS EXPERIENCE & ORIGINAL ICMS (FULL-SCALE)

SOURCE	df	SS	MS	F
Between	1	32.7344	32.7344	3.7798*
Within	152	1316.389	8.6605	
Total	153	1349.123		

<sup>\*</sup>significant at p < .05

TABLE 2
1-WAY ANOVA: YEARS EXPERIENCE AND ICMS ORIGINAL SUB-SCALE C (DISCIPLINE)

SOURCE	df	SS	MS	F
Between	1	10.808	10.808	7.462*
Within	153	221.579	1,448	
Total	154	232.387		

<sup>\*</sup>significant at  $\underline{p} < .05$ 

TABLE 3
ICMS MEANS PER ITEM

P	Total opulation	Novice Teachers	Experienced Teachers
SUB-SCALE	A: PERSON	DIMENSION	
1. 2. 3. 4.* 5.* 6.	1.24 1.24 1.03 <b>1.11</b> <b>1.69</b> 1.30	1.26 1.28 1.04 <b>1.11</b> <b>1.62</b> 1.31	1.20 1.16 1.03 <b>1.11</b> <b>1.81</b> 1.28
SUB-SCALE	B: Instruc	CTION DIMENSION	
7. 8. 9. 10. 11. 12.* 13. 14.* 15.* 16. 17. 18.	1.16 1.50 1.53 1.29 1.07 <b>1.80</b> 1.78 <b>1.33</b> <b>1.90</b> 1.67 1.17	1.18 1.48 1.56 1.29 1.08 <b>1.77</b> 1.82 <b>1.31 1.86</b> 1.72 1.19 1.77	1.11 1.52 1.47 1.28 1.05 <b>1.86</b> 1.71 <b>1.37</b> <b>1.96</b> 1.61 1.15
SUB-SCALE	C: DISCIPL	INE DIMENSION	
19. 20. 21. 22. 23. 24.	1.70 1.39 1.97 1.78 1.27 1.42	1.73 1.46 1.97 1.84 1.28 1.44	1.66 1.28 1.96 1.67 1.24 1.39

<sup>\* =</sup> Items omitted from original instrument.

TABLE 4
ITEM MEANS BY ELEMENTARY VS. SECONDARY AND NOVICE VS.
EXPERIENCED FOR ITEMS 4, 5, 12, 14, & 15

=======================================	mantari	0
	mentary	<u>Secondary</u>
# 4		
Novice	1.11	1.13
Experienced	1.09	1.30
Experienced	1.05	1.30
л =		
#5		
Novice	1.64	1.60
Experienced	1.78	2.00
•		
#12		
Novice	1 70	1 70
	1.79	1.73
Experienced	1.87	1.90
#14		
Novice	1.38	1.23
Experienced	1.39	1.40
Experienced	1.09	1.40
#4 F		
#15		
Novice	1.83	1.90
Experienced	1.97	2.00

TABLE 5
1-WAY ANOVA: YEARS EXPERIENCE AND REVISED ICMS (FULL-SCALE)

SOURCE	df	SS	MS	F
Between Within Total	1 152 153	69.324 1000.285 1069.610	69.324 6.580	10.5344*

\*significant at p < .05

TABLE 6
1-WAY ANOVA: YEARS EXPERIENCE AND REVISED ICMS SUB-SCALE A (PERSON)

SOURCE	df	SS	MS	F
Between	1	1.818	1.818	2.459*
Within	154	113.848	0.739	
Total	1 <b>5</b> 5	115.666		

<sup>\*</sup> p > .05

TABLE 7
1-WAY ANOVA: YEARS EXPERIENCE AND REVISED ICMS SUB-SCALE B (INSTRUCTION)

SOURCE	df	SS	MS	F
Between	1	12.127	12.127	4.337*
Within	153	427.782	2.796	
Total	154	439.909		

<sup>\*</sup>significant at p < .05

TABLE 8
ANOVA: I-E LOCUS OF CONTROL & REVISED ICMS (FULL-SCALE)

SOURCE	df	SS	MS	F
Between Within	3 150	72.071 997.539	24.023 6.650	3.612*
Total	153	1069.610	0.000	

<sup>\*</sup>significant at p < .05



TABLE 9
ANOVA: I-E LOCUS OF CONTROL & ICMS-C (DISCIPLINE)

SOURCE	df	SS	MS	F
Between Within Total	3 151 154	13.017 219.370 232.387	4.339 1.452	2.986*

<sup>\*</sup>significant at p < .05

TABLE 10
1-WAY ANOVA: YEARS EXPERIENCE AND LOCUS OF CONTROL

SOURCE	df	SS	MS	F
Between Within Total	1 154 155	94.1458 2116.6234 2210.7692	94.1458 13.7443	6.849*

<sup>\*</sup>significant at p < .05

TABLE 11
PEARSON PRODUCT-MOMENT CORRELATIONS: 16 PF & REVISED ICMS
FULL-SCALE, SUB-SCALES A, B, & C

	Factor	ICMS-FS	ICMS-A	ICMS-в	ICMS-C
Α.	Reserved vs. Critical	0546	1264	1093	+.0842
В.	More vs. Less Intelligent	+.0012	+.1751*	0390	0506
C.	Affected by Feelings vs. Emotionally Stable	1105	+.0588	0878	1570*
E.	Humble vs. Assertive	1401	2751**	0522	0325
F.	Sober vs. Happy-Go- Lucky	1224	1782*	1137	+.0033
G.	Expedient vs. Conscientious	+.1333	+.1082	+.1625*	+.0021
H.	Shy vs. Venturesome	1788 <b>*</b>	2316**	1167	0639
I.	Tough-Minded vs. Tender-minded	0298	1629*	+.0177	+ 0457
L.	Trusting vs. Suspicious	1113	1772*	0697	0100
M.	Practical vs. Imaginative	2914**	1216	2553**	1789*
N.	Forthright vs. Astute	+.1995*	+.0580	+.1602*	+.1696*
Ο.	Self-Assured vs. Apprehensive	+.0571	0365	0061	+.1559
Q <sub>1</sub> .	Conservative vs. Experimenting	0691	1748*	+.0008	0249
Q <sub>2</sub> .	Group-Dependent vs. Self-Sufficient	+.1088	+.0314	+.1360	+.0142
Q3.	Undisciplined Self-Conflict vs.Control	+.1039 lled	+.1164	+.1574*	0655
Q4.	Relaxed vs. Tense	+.0691	0700	+.0633	+.1027

<sup>\* =</sup> Significant .05 \*\* = Significant .01