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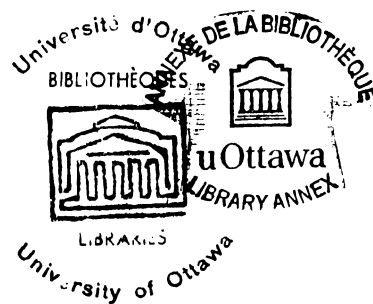
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THE INFLUENCE OF ORGANIZATIONAL CLIMATE AND  
DOGMATISM ON PUPIL CONTROL IDEOLOGY

by Frederick C. Lunenburg

Thesis presented to the School of  
Graduate Studies of the University  
of Ottawa as partial fulfillment of  
the requirements for the degree of  
Doctor of Philosophy



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## CURRICULUM STUDIORUM

Frederick C. Lunenburg was born March 5, 1938, in New Orleans, Louisiana. He received the Bachelor of Science degree in Economics from Wagner University, Staten Island, New York, in 1963. He received the Master of Arts degree in Education from Seton Hall University, South Orange, New Jersey, in 1968.

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## INTRODUCTION

Members of our society participate in a great variety of formal and informal organizations. Their daily life is predominantly organizational life.<sup>1</sup> Consequently, an organization, its goals and patterns, is believed to have a significant influence upon the attitudes of its members who participate in their activities.

A major requirement of any organization is a set of mechanisms for the coordination of activities so that goals may be achieved. Implied in the concept of coordination is some type of control over the behavior and activities of subordinates by superordinates. Controlling activities are manifested in many ways, but primarily in person-to-person interaction.

Schools tend to vary in the types of organizational patterns and climates which they represent. Principals, teachers, and laymen are quick to sense, or to "feel," the individuality of a school. This feeling which distinguishes one school from another is sometimes called the "atmosphere" of a school, the school's "climate," or the school's "personality." However, these same individuals may find it difficult

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<sup>1</sup> Amitai Etzioni, Modern Organizations, Englewood Cliffs, New Jersey, Prentice Hall, 1964, p. 1-2.

to identify the source of the particular climate or to describe the climate in words. Climate is usually explained in terms of the social interaction among various role incumbents in the organization. Controlling activities may constitute a portion of the total interaction matrix.

Within the school as a social institution, there are distinct kinds of interactions between the various role incumbents--principal-teacher, teacher-teacher, teacher-pupil, and pupil-pupil. While these relationships vary somewhat from school to school, the school itself is a special type of institution. Carlson has pointed out that the public school is a unique service-type organization in which neither the organization nor the client exercises choice concerning participation in the relationship; that is, public schools have no choice in the selection of clients (students), and the client must (in the legal sense) participate in the organization.<sup>2</sup> It should not be surprising that organizations of this type are likely to be confronted with some clients who have little or no desire to take advantage of the services rendered by the organization. This gives rise to an enduring characteristic of schools. Willower and Jones, in an observational study of

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2 Richard O. Carlson, "Environmental Constraints and Organizational Consequences: The Public School and Its Clients, The Sixty-third Yearbook of the National Society for the Study of Education, Part II, in Daniel E. Griffiths (ed.), Behavioral Science and Educational Administration, Chicago, Ill., The University of Chicago, 1964, p. 266.

one junior high school, found that pupil control appeared to play a central role in teacher-teacher and teacher-principal relationships; in fact, the concept of pupil control was described as an "integrative theme" which gave meaning to their data.<sup>3</sup>

The organizational climate of schools and the personality structures of teachers are considered as variables which influence the individual's orientation toward pupil control within the social system of the school. A flexible or inflexible outlook toward others or one's basic ideas, attitudes, and beliefs may affect an individual's orientation toward the control of pupils within the school. Further, the individual's orientation toward pupil control may be a reflection of that which pervades the peer work group.

The present investigation is designed to integrate the variables of organizational climate, dogmatism, and pupil control ideology within the conceptual framework of social systems theory.

The research report is arranged in four chapters. Chapter I reviews the pertinent literature and concludes with the statement of the problem and its specific hypotheses. Chapter II contains a description of the experimental design.

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<sup>3</sup> Donald J. Willower and Ronald G. Jones, "When Pupil Control Becomes an Institutional Theme," Phi Delta Kappan, Vol. 45, No. 2, November 1963, p. 107-109.

Chapter III consists of the presentation and analysis of the data. Chapter IV focuses on a discussion of the analyses.

Following the fourth chapter is a summary of the study and the conclusions. An annotated bibliography, appendices, and an abstract of the thesis are also included.

## CHAPTER I

### REVIEW OF THE LITERATURE

Pupil control ideology, organizational climate, and dogmatism are the central concepts of this study. In this chapter these concepts are expanded; the pertinent literature is reviewed, and the theoretical framework is presented. Finally, the problem and its specific hypotheses are stated in the final section of the chapter.

#### 1. Pupil Control Ideology

The public school has been identified as a special type of service organization similar to prisons and public mental hospitals with respect to selectivity in the client-organization relationship. In each case, the organization has no choice in the selection of the clients and conversely, the clients have no choice in their participation in the organization.<sup>1</sup> Furthermore, whether the organizational goal is education, treatment, or rehabilitation, the organization is of necessity dealing with some clients who have no desire to take

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<sup>1</sup> Richard O. Carlson, "Environmental Constraints and Organizational Consequences: The Public School and Its Clients," The Sixty-third Yearbook of the National Society for the Study of Education, Part II, in Daniel E. Griffiths (ed.), Behavioral Science and Educational Administration, Chicago, Ill., The University of Chicago, 1964, p. 262-276.

advantage of the services rendered by the organization. Thus, it is not surprising to find the control of clients of prime importance.

The problem of pupil control is not new, nor is there any lack of opinion or prescription on the subject.<sup>2</sup> Unfortunately there is little systematic study of pupil control in schools, much less which begins from the perspective of the school as a social system.<sup>3</sup> Such a view calls attention to both the structural and the normative aspects of the school. Studies which have focused on the school as a social system have described antagonistic student subcultures, conflict, and control problems.<sup>4</sup>

In the study of one school, a junior high school in Pennsylvania, pupil control was termed an "integrative theme" which appeared to permeate the school's culture. Pupil control appeared to play a central role in teacher-teacher, and teacher-principal relationships.<sup>5</sup> Pupil control was important

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2 Wayne K. Hoy, "Organizational Socialization: The Student Teacher and Pupil Control Ideology," The Journal of Educational Research, Vol. 61, No. 4, December 1967, p. 153.

3 -----, "Pupil Control Ideology and Organizational Socialization: The Influence of Experience on the Beginning Teacher," School Review, Vol. 76, No. 3, September 1968, p. 312.

4 Ibid.

5 Donald J. Willower and Ronald G. Jones, "When Pupil Control Becomes an Institutional Theme," Phi Delta Kappan, Vol. 45, No. 2, November 1963, p. 107-109.

in both the structural and the normative aspects of the school culture. For example, teachers who were viewed as weak on control had marginal status among their colleagues and others. Teachers were expected to maintain adequate social distance between themselves and pupils, a normative requirement which obliged teachers "to learn and play out a host of correct behaviors toward pupils."<sup>6</sup>

Gordon's<sup>7</sup> study of the social system of a high school revealed that the problems of an unselected clientele resulted in the creation of specific subcultures in the school, namely, the teacher subculture and the pupil subculture. The norms for each were dissimilar; yet it was necessary for the adult segment of this interaction to negotiate some means of equilibrium.

Waller<sup>8</sup> described the "perilous equilibrium" of the despotism of the school. According to Waller the teacher faces two immediate and continuing tasks in the classroom--both consequences of the disjunction between school learning

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6 Donald J. Willower, Terry L. Eidell, and Wayne K. Hoy, The School and Pupil Control Ideology, Penn State Studies No. 24, University Park, Pennsylvania, The Pennsylvania State University, 1967, p. 3.

7 Wayne C. Gordon, The Social System of the High School, Glencoe, Ill., The Free Press, 1957, xi-184 p.

8 Willard Waller, The Sociology of Teaching, New York, Wiley, 1967, p. 10.

and the child world of students. One is to motivate students to learn; the other is to control and discipline the classroom group so as to provide an orderly environment for learning. These tasks were looked upon as reinforcing each other in pressing for the exercise of dominative authority by the teacher, who demands student compliance to standards of accomplishment and rules of classroom behavior.<sup>9</sup>

Because of the organizational structure and the nature of the clientele of the public school in our society, some students perceive the school as unattractive and, therefore, do not desire to take advantage of the educational services provided. To this extent the organization is "threatened by a hostile environment." Willower utilized a control typology of external and internal, depending upon the sanctions involved, to develop several hypotheses on the school as a social system.<sup>10</sup> He stated:

When control is based upon sanctions which are primarily punitive, and employing devices such as coercion, ridicule, and the withholding of rewards, we speak of external control. When control is based upon sanctions which are more personal and appeal to

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9 Charles E. Bidwell, "The School as a Formal Organization," in James G. March (ed.), Handbook of Organizations, Chicago, Ill., Rand McNally, 1965, p. 978-979.

10 Donald J. Willower, "Hypotheses on the School as a Social System," Educational Administration Quarterly, Vol. 1, No. 3, Autumn 1965, p. 40-51.

the individual's sense of right and wrong, stressing self-discipline rather than imposed discipline, we speak of internal control. Internal control is non-punitive and implies an optimistic view of those being controlled, while external control implies a pessimistic view of those being controlled.<sup>11</sup>

Willower concluded that external controls will be employed more often when the pupils find the school unattractive.<sup>12</sup>

When external control is emphasized, conditions may exist which will readily lead to the treatment of discipline as an end-in-itself in many classrooms.

Kounin and Gump attempted a study to compare the influence of punitive and nonpunitive teachers upon children's concepts of school misconduct.<sup>13</sup> Children with punitive teachers were found to be "more unsettled and conflicted about misbehavior in school"; and children with nonpunitive teachers "talk more about learning, achievement losses, and violations of school unique values and rules."<sup>14</sup> The concepts of punitive and nonpunitive and the concepts of external and internal employed by Willower to some degree parallel at the behavioral level the ideological concepts

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11 Ibid., p. 41-42.

12 Ibid., p. 42-43.

13 Jacob S. Kounin and Paul V. Gump, "The Comparative Influence of Punitive and Nonpunitive Teachers upon Children's Concepts of School Misconduct," Journal of Educational Psychology, Vol. 52, No. 1, February 1961, p. 44-49.

14 Ibid., p. 48.

of custodialism and humanism which were utilized in this study.

The institutional theme of control identified by Willower and Jones<sup>15</sup> led to the development of an instrument to measure the pupil control ideology of professional personnel of schools. The classification of client control ideology developed by Gilbert and Levinson<sup>16</sup> in their study of staff ideology in mental hospitals has been adapted for use in the study of pupil control ideology of professional personnel in schools by Willower et al.<sup>17</sup> Pupil control ideology has been conceptualized along a continuum ranging from "custodialism" at one end to "humanism" at the other. These terms refer to contrasting types of individual ideology and the types of school organization that they seek to rationalize; the authors indicated that they are "ideal types" in the Weberian sense, "that is, they are pure types not necessarily found in such forms in experience."<sup>18</sup> The

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15 Willower and Jones, op. cit., p. 107-109.

16 Doris C. Gilbert and Daniel J. Levinson, "'Custodialism' and 'Humanism' in Mental Hospital Structure and in Staff Ideology," in Milton Greenblatt et al. (eds.) The Patient and the Mental Hospital, Glencoe, Ill., The Free Press, 1957, p. 20-35.

17 Willower, Eidell and Hoy, op. cit., p. 47-48.

18 Ibid., p. 5.

following prototypes of custodial and humanistic orientations toward pupil control were developed:<sup>19</sup>

Custodial.- The prototype of the custodial orientation is the school which provides a rigid and highly controlled setting concerned primarily with the maintenance of order. Students are stereotyped in terms of their appearance, behavior, and parents' social status. Teachers who hold a custodial orientation conceive of the school as an autocratic organization with a rigid pupil-teacher status hierarchy; the flow of power and communication is unilateral downward. Students must accept the decisions of their teachers without question. Teachers do not attempt to understand student behavior, but instead, view misbehavior as a personal affront. Students are perceived as irresponsible and undisciplined persons who must be controlled through punitive sanctions. Impersonality, pessimism, and watchful mistrust pervade the atmosphere of the custodial school.

Humanistic.- The prototype of the humanistic orientation conceives of the school as an educational community in which students learn through cooperative interaction and experience. Learning and behavior are viewed in psychological and sociological terms, not moralistic terms. Self-discipline is substituted for strict teacher control.

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<sup>19</sup> Adapted from Willower, Eidell and Hoy, op. cit., p. 5-6.

Humanistic orientations lead teachers to desire a democratic atmosphere with open channels of two-way communication between pupils and teachers and increased self-determination. In brief, a humanistic orientation is used in a socio-psychological sense; it indicates an orientation which stresses the importance of the individuality of each student and the creation of an atmosphere to meet the wide range of student needs.

The effect of organizational socialization on the pupil control ideology of student teachers was the focus of a study by Hoy. He found that student teachers at both the elementary and secondary levels were more custodial in their pupil control ideology after the student teaching experience than before. An underlying assumption of his study was that the teacher subculture of schools would emphasize a more custodial orientation than that acquired by the student teacher during his formal college preparation program. Hoy continued:

The findings of this study tend to suggest that the student teaching experience was a period when some elementary socialization occurred in the area of pupil control; student teachers emphasized a significantly more custodial pupil control ideology after student teaching than before.<sup>20</sup>

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20 Hoy, op. cit., 1967, p. 154.

In a follow-up study of the student teachers, Hoy found that the pupil control ideology of beginning teachers who taught the year subsequent to graduation continued to become significantly more custodial in their pupil control ideology while there was no significant custodial change in the pupil control ideology for those who did not teach during the first year after graduation.<sup>21</sup>

Pupil control has been recognized for some time as a relevant concern of school personnel; however, only recently have systematic studies of pupil control been reported. The conceptualization of pupil control along a humanistic-custodial continuum and the development of an instrument to measure the pupil control ideology of teachers has permitted some of the first steps toward a systematic analysis of pupil control in the schools.

## 2. Organizational Climate.

Francis Cornell is credited with the first use of the term organizational climate. As early as 1955 Cornell used the term in discussing socially perceptive administration.<sup>22</sup>

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21 Hoy, op. cit., 1968, p. 319.

22 Francis G. Cornell, "Socially Perceptive Administration," Phi Delta Kappan, Vol. 36, No. 6, March 1955, p. 219-223.

He defined the term as:

a delicate blending of interpretations (or perceptions as social psychologists would call it) by persons in the organization of their jobs or roles in relationship to others and their interpretations of the roles of others in the organization.<sup>23</sup>

In a four-year study involving four school systems, Cornell tested his hypothesis that the influence of specific administrative actions on the operational behavior of teachers is conditioned by a combination of variables in the organizational climate and teacher variables.<sup>24</sup> He concluded from the data that: (1) changes in the educational operations of a school system are determined by a complex of factors; (2) no two school systems are alike in their organizational climate; (3) the environment of administration (that is, the climate or atmosphere of the organization) may be more important than specific administrative activity; and (4) individual teachers react differently to administrative decision and organizational relationships.<sup>25</sup>

Three years following Cornell's study, Argyris developed a conception of organizational climate to order the complex, reciprocal network of variables that comprise

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23 Ibid., p. 222.

24 Ibid., p. 220.

25 Ibid., p. 220-223.

organizations.<sup>26</sup> The organizational setting for his study was a bank.

In creating a model to study the organizational behavior of the bank, he found that formal and informal organizational structures and personality variables were not adequate to explain behavior. He added a fourth level of analysis, that of organizational climate. Argyris saw climate as furnishing a meaningful pattern for the formal organizational variables, the personality variables, and the complicated informal variables. He defined organizational climate as the "homeostatic state of an organization composed of elements representing many different levels of analysis."<sup>27</sup>

Most of the studies of organizational climate in schools conducted since 1963 are indebted to Halpin and Croft for translating the concept of organizational climate into measurable dimensions and for developing the instrument of their measurement.<sup>28</sup> The major impetus for their research into organizational climate was provided by their observations of how schools differ. They noted:

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26 Chris Argyris, "Some Problems in Conceptualizing Organizational Climate: A Case Study of a Bank," Administrative Science Quarterly, Vol. 2, No. 4, March 1958, p. 501-520.

27 Ibid., p. 516.

28 Andrew W. Halpin and Don B. Croft, The Organizational Climate of Schools, Chicago, Ill., Midwest Administration Center, University of Chicago, 1963 [A], viii-130 p.

Anyone who visits more than a few schools notes quickly how schools differ from each other in their 'feel'. In one school the teachers and the principal are zestful and exude confidence in what they are doing. [...] In a second school the brooding discontent of the teachers is palpable; [...] A third school is marked by neither joy nor despair, but by hollow ritual. [...] And so, too, as one moves to other schools, one finds that each appears to have a "personality" that we describe here as the "Organizational Climate" of the school. Analogously, personality is to the individual what Organizational Climate is to the organization.<sup>29</sup>

The instrument which Halpin and Croft constructed was called the Organizational Climate Description Questionnaire (OCDQ). It contained sixty-four Likert-type items which were assigned to eight subtests delineated by factor-analytic methods. Four of the subtests pertain primarily to characteristics of the group, as a group, the other four to characteristics of the principal as a leader. The behavior tapped by each subtest is described as follows:<sup>30</sup>

OCDQ Subtests.

Teacher's Behavior

1. Disengagement indicates that the teachers do not work well together. They pull in different directions with respect to the task; they gripe and bicker among themselves.

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<sup>29</sup> Andrew W. Halpin, Theory and Research in Administration, New York, Macmillan, 1966, p. 131.

<sup>30</sup> Andrew W. Halpin and Don B. Croft, "The Organizational Climate of Schools," Administrator's Notebook, Vol. 11, No. 7, March 1963 [B], p. 2.

2. Hindrance refers to the teacher's feeling that the principal burdens them with routine duties, committee demands, and other requirements which the teachers construe as unnecessary busy-work.
3. Esprit refers to "morale." The teachers feel that their social needs are being satisfied, and that they are, at the same time, enjoying a sense of accomplishment in their job.
4. Intimacy refers to the teacher's enjoyment of friendly social relations with each other.

#### Principal's Behavior

5. Aloofness refers to behavior by the principal which is characterized as formal and impersonal. He "goes by the book" and prefers to be guided by rules and policies rather than to deal with the teachers in an informal, face-to-face situation.
6. Production Emphasis refers to behavior by the principal which is characterized by close supervision of the staff. He is highly directive and task-oriented.
7. Thrust refers to behavior marked not by close supervision of the teacher, but by the principal's attempt to motivate the teachers through the example which he personally sets. He does not ask the teachers to give of themselves anything more than he willingly gives of himself; his behavior, though starkly task-oriented; is nonetheless viewed favorably by the teachers.
8. Consideration refers to behavior by the principal which is characterized by an inclination to treat the teachers "humanly," to try to do a little something extra for them in human terms.

From the scores of these eight subtests they then constructed for each school a profile. The profiles were factor analyzed to determine whether the profiles themselves would cluster in a fashion that would allow differentiating

"meaningful" types of organizational climates. Halpin and Croft were able to discriminate six organizational climates which they arrayed along a continuum as follows: Open, Autonomous, Controlled, Familiar, Paternal, and Closed.<sup>31</sup> In this study the six discrete climate categories were not used to classify schools, but instead, the schools were grouped on the basis of the openness of their climates. The extremes of this continuum are characterized as follows:<sup>32</sup>

The Open Climate describes an energetic, lively organization which is moving toward its goals, and which provides satisfaction for the group members' social needs. Leadership acts emerge easily and appropriately from both the group and the leader. The members are preoccupied disproportionately with neither task achievement nor social-needs satisfaction; satisfaction on both counts seems to be obtained easily and almost effortlessly. The main characteristic of this climate is the "authenticity" of the behavior that occurs among all the members.

The Closed Climate is characterized by a high degree of apathy on the part of all members of the organization. The organization is not "moving"; Esprit is low because the group members secure neither social-needs satisfaction nor the satisfaction that comes from task achievement. The members' behavior can be construed as "inauthentic"; indeed, the organization seems to be stagnant.

Several studies indicate there is a relationship between teacher attitude toward students and the school's

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31 Halpin, op. cit., p. 166-174.

32 Halpin and Croft, op. cit., 1963 **(R)**, p. 2-3.

organizational climate. One study reported that teachers with a "good" attitude toward children tended to perceive all eight dimensions of climate in a manner indicative of an open climate, while teachers with a "poor" attitude toward children tended to see all eight dimensions in a way characteristic of a closed climate.<sup>33</sup> In another study the results suggested that open schools seemed to influence favorable attitudes of teachers as measured by the Minnesota Teacher Attitude Inventory when compared to closed schools.<sup>34</sup>

Nicholas, Virjo, and Wattenberg indicated from their research that there might be a direct relationship between the teachers' perception of the organizational climate of the school and pupil control problems. They stated:

[...] any speculation about a possible cause and effect association in the relationship shown between a "closed" climate and pupil-behavior problems raises the question of whether the climate affected the problems, or the problems affected the climate. A cyclical effect of the pupil-problem bombardment on the staff, rather than the administrative

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33 Eldon James Null, The Relationships between the Organizational Climate of a School and Personal Variables of Members of the Teaching Staff, unpublished doctoral thesis presented to the [School of Educational Administration] University of Minnesota, Minneapolis, Minnesota, 1965, ix-299 p.

34 Harry Edward Randles, The Effects of Organizational Climate on Beginning Elementary Teachers, unpublished doctoral thesis presented to the [School of Educational Administration] The Ohio State University, Columbus, Ohio, 1964, p. 133.

behavior of the principal, may have accounted for the teachers' perception of the climate as "closed."<sup>35</sup>

Appleberry and Hoy<sup>36</sup> explored the relationship between the organizational climate of elementary schools and the pupil control ideology of professional personnel. The Organizational Climate Description Questionnaire (OCDQ) was used as a measure of climate, and the Pupil Control Ideology Form (PCI) as a measure of pupil control ideology. Both instruments were administered to teachers and principals in forty-five elementary schools in Oklahoma. The openness of the climate of the school was determined by summing each school's score on the OCDQ subtests Esprit and Thrust and subtracting the Disengagement subtest score; the higher the resulting score the more open the climate of the school. Schools whose scores were in the upper and lower one-third of the resulting distribution were selected as the open and closed schools. Since the present investigation was intended

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35 Lynn N. Nicholas, Helen E. Virgo, and William W. Wattenberg, Effect of Socioeconomic Setting and Organizational Climate on Problems Brought to Elementary School Offices, Contract No. 2394, Cooperative Research Branch, United States Office of Education, Department of Health, Education, and Welfare, Wayne State University, Detroit, Michigan, 1965, p. 122.

36 James B. Appleberry and Wayne K. Hoy, "The Pupil Control Ideology of Professional Personnel in 'Open' and 'Closed' Elementary Schools," Educational Administration Quarterly, Vol. 5, No. 3, Autumn 1969, p. 74-85.

as a refinement of the Appleberry and Hoy study, a discussion follows.

As hypothesized, public elementary schools with open climates were found to be more humanistic in pupil control ideology than elementary schools with closed climates;<sup>37</sup> however, the hypothesis that principals serving in open schools would be significantly more humanistic in pupil control ideology than principals serving in closed schools was not supported.<sup>38</sup>

Appleberry and Hoy explained these findings on the basis of authenticity. In open climate schools relations among teachers and between teachers and principals were authentic, and these feelings of authenticity pervaded interactions between teachers and pupils. Closed climate schools tend to move in the opposite direction. Failure to establish a relationship between principals serving in open schools and a humanistic pupil control ideology was explained on the basis of role factors. Principals, regardless of climate, were found to express more humanistic pupil control ideologies than teachers mainly because those personnel that are directly responsible for the control of unselected clients seem more

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37 Ibid., p. 80-81.

38 Ibid., p. 80.

vulnerable to threats to their authority.<sup>39</sup>

Appleberry emphasized role factors and their influence on the behavior of teachers and teacher ideology concerning pupil control. The need and importance of examining psychological factors as well as sociological factors in determining behavior cannot be underestimated. An individual's pupil control ideology may be imbedded within a broader ideological and psychodynamic matrix and, therefore, should be considered when investigating the effects of social system pressures on social behavior. The writer, therefore, has added a personal variable to that of organizational climate in the study of pupil control ideology to further refine the Appleberry research. Thus, organizational climate and personality structures are viewed as variables which influence the individual's pupil control ideology within the social system of the school.

### 3. Belief-Disbelief System: Open and Closed Mindedness.

Rokeach,<sup>40</sup> over a period of more than ten years, has explored the phenomena of belief systems. He has stated

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<sup>39</sup> Ibid., p. 82-84.

<sup>40</sup> Milton Rokeach, The Open and Closed Mind, New York, Basic Books, 1960, xv-447 p.

that most psychologists tend to investigate the properties, the determinants, and the measurement of single beliefs and attitudes. They focus on single concepts, precepts, sets, habits, and expectancies. All of these elements together form a whole which Rokeach describes as an individual's belief-disbelief system. The structure of a person's belief-disbelief system may be described in terms of three dimensions: (1) the belief-disbelief dimension, (2) the central-peripheral dimension, and (3) the time-perspective dimension.<sup>41</sup>

A belief-disbelief system is a structure of components that may or may not be logically related. A belief system represents "all the beliefs, sets, expectancies, or hypotheses, conscious or unconscious, that a person at a given time accepts as true of the world he lives in."<sup>42</sup> A disbelief system, on the other hand, is composed of all the items listed above that a person at a given time rejects as false. Hence, the belief-disbelief system is the union of the belief system and the disbelief system.

A belief-disbelief system is also organized along a central-peripheral dimension. The central region consists of the "primitive" beliefs that an individual has concerning the physical world and himself; these beliefs may be classified

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41 Ibid., p. 53.

42 Ibid., p. 33.

as his axiomatic beliefs. The peripheral region is composed of "each and every (nonprimitive) belief and disbelief emanating from positive and negative authority, regardless of whether such beliefs are perceived consciously as being thus derived by the person himself."<sup>43</sup>

The third dimension along which an individual's belief-disbelief system is organized is a time-perspective dimension. The time-perspective dimension is the organization of the past, present, future and the fashion in which they are interrelated.

Rokeach suggested that the multi-dimensional model of the belief-disbelief system can be reduced to a single dimension which he classified as the "open-to-closed" dimension. A basic characteristic that defines the openness or closedness of a person's belief system is, in Rokeach's words:

the extent to which the person can receive, evaluate, and act on relevant information received from the outside on its own intrinsic merits unencumbered by irrelevant factors in the situation arising from within the person or from the outside.<sup>44</sup>

Some irrelevant internal pressures that interfere with the realistic reception of information are unrelated habits, beliefs, and perceptual clues, irrational ego motives, power

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43 Ibid., p. 47.

44 Ibid., p. 57.

needs, the need for self-aggrandizement, and the need to allay anxiety. By irrelevant external pressures Rokeach means pressures of reward and punishment arising from external authority, such as those exerted by parents, peers, other authority figures, reference groups, social and institutional norms, and cultural norms. The more open one's belief system, the more will evaluating and acting on information proceed independently on its own merits and in accord with the structural requirements of the situation; also the more will the person's actions be governed by internal self-actualizing forces and the less by irrational inner forces. The open person, according to Rokeach, sees the world as a more friendly place; he is more free and more impervious to irrelevant pressures.<sup>45</sup>

On the other hand, the more closed a person's belief system, the more difficult will it be for him to distinguish between information received about the world and information received about the source. To the extent that a person cannot distinguish the two kinds of information, he is not able to receive, evaluate, and act on the information in terms of its structural requirements. The more closed the belief system, the more will acceptance of a particular belief depend on

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45 Ibid., p. 58.

irrelevant internal drives and reinforcements from the external authority. The closed person sees the world as a threatening place; thus he is more inclined to rely on absolute authority.<sup>46</sup>

In summary, to the extent that the cognitive need to know is predominant in the individual and the need to ward off threat absent, an open belief system will result. As the need to ward off threat becomes stronger, the cognitive need to know will become weaker, resulting in a more closed system.

The foregoing suggests that the fundamental basis for distinguishing between the open and closed mind is the extent to which there is a reliance on absolute authority. Rokeach states, however, that he has preferred to define open and closed as he has because the primary concern is with what is going on and not going on at the cognitive level. In short, his major thesis is that persons with open belief systems and persons with closed belief systems differ in how they think or believe.

Table I summarizes the basic characteristics of a belief-disbelief system along the three dimensions already discussed.

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46 Ibid.

Table I.-  
 Characteristics of Open and Closed  
 Belief-Disbelief Systems.\*

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| A Belief-Disbelief System Is                                                                                                           |                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Open                                                                                                                                   | Closed                                                                                        |
| to the extent that                                                                                                                     |                                                                                               |
| 1. the intensity of rejection of disbeliefs is relatively low;                                                                         | 1. the intensity of rejection of disbeliefs is relatively high;                               |
| 2. there is a high degree of ability "to look at the other side," i.e. to examine and compare rationally one's beliefs and disbeliefs; | 2. there is isolation and differentiation between belief and disbelief systems;               |
| 3. disbelief subsystems are differentiated to a high degree;                                                                           | 3. disbelief subsystems tend to be grouped together as one and completely rejected;           |
| 4. there is a free communication between the components within both belief and disbelief systems;                                      | 4. the components within both belief and disbelief systems tend to be segregated;             |
| 5. the world is perceived as friendly;                                                                                                 | 5. the world is perceived as threatening;                                                     |
| 6. authority is not absolute and evaluations are made on the merit of the issues independent of the source;                            | 6. authority is absolute and people are judged by their acceptance or rejection of authority; |
| 7. the past, present and future are placed in perspective.                                                                             | 7. the past or present or future becomes a point of fixation.                                 |

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\*Milton Rokeach, The Open and Closed Mind, New York, Basic Books, 1960, p. 55-56. Adapted.

Rokeach has developed a Dogmatism Scale to measure the extent to which an individual's belief system is open or closed. The essence of Rokeach's theory is that a person's belief system has a pervasive effect on different spheres of his psychological activity--ideological, conceptual, perceptual, and esthetic. Thus, as a measure of individual differences in belief systems the Dogmatism Scale purportedly measures individual differences in how people function in these spheres.

Fantini<sup>47</sup> drew a parallel between societies and classrooms, asserting that just as we have open and closed societies, so do we have open and closed classrooms which are miniatures of these societies. In his remarks he did not assert that in open classrooms one would likely find open minded teachers or that in closed classrooms he would find closed minded teachers; however, he did suggest very strongly that teachers' needs and attitudes are important factors in determining classroom atmosphere.

Several investigators have studied the relationship between dogmatism (closed mindedness) and teacher attitudes. A significant relationship between dogmatism and negative

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47 M.D. Fantini, "Open vs. Closed Classrooms," Clearing House, Vol. 37, October 1962, p. 67-71.

attitudes toward teaching, as measured by the Minnesota Teacher Attitude Inventory (MTAI) has been reported for a sample of female teachers in a study by Johnston.<sup>48</sup> Vacchiano, Schiffman, and Crowell reported similar findings for a sample of graduate teacher interns. Scores on the MTAI were inversely and significantly related to dogmatism as measured by the Rokeach Dogmatism Scale.<sup>49</sup> Johnson reported a significant relationship between the dogmatism of student teachers and their expressed attitudes toward teaching and teacher-pupil relationships.<sup>50</sup>

These findings suggest that closed minded teachers tend to create classroom atmospheres characterized by frustration, restlessness, inattention, lack of respect, and numerous disciplinary problems. A feeling of mutual distrust and hostility would permeate the teacher-pupil relationship. In fact,

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48 William Wallace Johnston, "Dogmatism as a Means of Predicting Insecurity, Self Concept, Meaning, Attitude, and Effectiveness of Female Elementary Teachers," Dissertation Abstracts, Vol. 28, No. 5, November 1967, p. 1707, quoted by Ralph B. Vacchiano, Paul S. Strauss, and Leonard Hochman, "The Open and Closed Mind: A Review of Dogmatism," Psychological Bulletin, Vol. 71, No. 4, April 1969, p. 268.

49 Ralph B. Vacchiano, David C. Schiffman, and Areta V. Crowell, "Attitude Change as a Function of Intensive Training, Dogmatism and Authoritarianism," Psychological Reports, Vol. 19, August-December 1966, p. 359-362.

50 James Sydney Johnson, "The Relationship of Open- and Closed-Mindedness to Success in Student Teaching," Dissertation Abstracts, Vol. 27, No. 5, November 1966, p. 1282, quoted by Vacchiano, Strauss, and Hochman, op. cit., p. 268.

the basic goal of the school--education, may be displaced by the goal of client control.

Several investigators have studied the relationship between dogmatism and organizational climate. Shea<sup>51</sup> explored the relationship between the open-closed mindedness of teachers and the organizational climate of the elementary school. The sample consisted of 228 teachers in ten elementary schools. Instruments used to collect the data included the Organizational Climate Description Questionnaire and the Rokeach Dogmatism Scale, Form E. The instruments were administered to the professional staff members in faculty meetings of each school. The statistical procedure used was the Pearson product-moment correlation coefficient. The study failed to identify a significant relationship between the dogmatism of the teachers and their perception of the organizational climate of the school.<sup>52</sup> Shea's study supported the findings of earlier

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51 William Maurice Shea, Selected Relationships Among Personality Constructs of the Principal, Personality Constructs of the Staff, and the Organizational Climate of the Elementary School, unpublished doctoral thesis presented to the [School of Educational Administration] University of Southern California, Los Angeles, 1970, v-120 p.

52 Ibid., p. 73.

investigations by Bamberger,<sup>53</sup> Farber,<sup>54</sup> Huff,<sup>55</sup> Downey,<sup>56</sup> and LaGattuta<sup>57</sup> which also investigated the relationship between the dogmatism of teachers and their perception of the organizational climate of the school using the same instruments.

#### 4. Relationships Among the Variables.

Client control was found to be a significant concern in that category of service organizations where the organization has no control over client selection, and where the

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53 Richard Edwin Bamberger, A Study of Organizational Climate, Faculty Belief Systems, and Their Relation to the Rate of Adoption of Educational Innovations in Selected School Districts, unpublished doctoral thesis presented to the [School of Educational Administration] State University of New York at Albany, Albany, 1970, vi-121 p.

54 Bernard E. Farber, Organizational Climate of Public Elementary Schools as Related to Dogmatism and Selected Biographical Characteristics of Principals and Teachers, and Selected School and School Community Characteristics, unpublished doctoral thesis presented to the [School of Educational Administration] Wayne State University, Detroit, Michigan, 1968, 194 p., reported in Dissertation Abstracts, Vol. 29, No. 10, April 1969, p. 3368-3369.

55 Harold Ray Huff, An Investigation of the Dispersion of Dogmatism and the Organizational Climate of Elementary Schools, unpublished doctoral thesis presented to the [School of Educational Administration] George Peabody College for Teachers, Nashville, Tennessee, 1968, 114 p., reported in Dissertation Abstracts, Vol. 30, No. 3, September 1969, p. 954.

56 Loren William Downey, The Relationship of Teaching Patterns to Organizational Climate and Teachers' Belief Systems, unpublished doctoral thesis presented to the [School of Educational Administration] University of Arizona, Tucson, 1966, 149 p., reported in Dissertation Abstracts, Vol. 27, No. 4, October 1966, p. 898.

client has no choice but to participate in the organization.<sup>57</sup> In fact, Willower and Jones reported that pupil control was the salient feature of the organizational life of a public school. They described pupil control as the integrative theme of the school; it played a major part in the interactions among teachers and between the teachers and the principal.<sup>58</sup> Since the school is a service organization in which clients are unselected and participation is mandatory, it appears reasonable to assume that pupil control ideology is an important factor in intra-faculty relations that will bear a relationship to the climate of the school.

As teachers are integrated into the organizational life of the school, they acquire an ideological perspective regarding the client system which they service. Thus, the development of a pupil control ideology is shaped by the interaction of the individual teacher with his peer group, the principal, and his unselected clients. The expectations that each group has for him may be at odds with the pupil control ideology he holds. The organizational climate of the school helps to shape the pupil control ideology of the teachers.

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57 Carlson, op. cit., p. 270-271.

58 Willower and Jones, op. cit., p. 107-109.

It is not difficult to see the parallels between a custodial and humanistic orientation toward pupil control and the description of the open and closed climate developed by Halpin and Croft. Custodialism was defined in terms of the traditional viewpoints of control, characterized by stress on the maintenance of order, impersonality, one-way downward communication, distrust of students, and a punitive, moralistic orientation toward the control of students. If one considers this description alongside that of the closed climate, the following elements appear to be inherent: an autocratic form of leadership is present and operating; the social needs of the actors are not answered, usually through default by the leader; members of different status groups turn in upon themselves for the fulfillment of their social needs because of status group conflict; impersonality appears to be a hallmark that describes such organizations; morale is at a nadir, and distrust and tension permeate the organizational setting. It would appear that the opposite characteristics could be elicited from the humanistic-open climate construct.

Furthermore, the existence of any dichotomous situations between what teachers stated beliefs are and what they perceive and react to in the classroom environment can only lend further weight to the theory that sees the work environment as helping to mold the individual's organizational

personality. An individual's pupil control ideology may have a psychological base within the personality structure of the individual.

The open minded person, according to Rokeach, sees the world as a friendly place; he is not fearful of the future. The need to ward off threat is absent. Authority is not worshipped; on the contrary, authority is placed in a realistic perspective consistent with other information. A relatively high degree of tolerance is present. The personality characteristics of the open minded individual appear to support a humanistic pupil control ideology which stresses an atmosphere where behavior is examined in psychological and sociological terms, not moralistic terms; an atmosphere where clients will be self-disciplining rather than disciplined; an atmosphere where a democratic environment with its flexibility in rules and regulations prevails; and an atmosphere that fosters friendliness and optimism.

The closed minded person sees the world as a threatening place; he often is fearful of the future as well as the present. The need to ward off threat is predominant. Authority is viewed in absolute terms; others are judged to the extent of their agreement or disagreement with authority. A relatively high degree of intolerance is present. In short, authority and general intolerance are outstanding features of the closed minded person. The personality characteristics

of the closed minded individual appear to be consistent with a custodial pupil control ideology which emphasizes an atmosphere where client misbehavior is viewed as a personal affront; an atmosphere where there is a minimum of communication both within and across status lines; an atmosphere where clients are expected to accept the decisions of their superiors without question; an atmosphere characterized by pessimism and watchful mistrust; and an atmosphere where strict control of clients is central.

In summary, this chapter has discussed the concepts of organizational climate, open and closed mindedness, and pupil control ideology. The pertinent literature has been reviewed and the relationships among the variables have been presented. The following section contains the statement of the problem and its specific hypotheses.

#### 5. Statement of the Problem.

The open climate depicts a situation in which the members enjoy extremely high morale. The teachers work well together without bickering and griping. They obtain considerable job satisfaction, and are sufficiently motivated to overcome difficulties and frustrations. They possess the incentive to work things out and to keep the organization moving. The principal does not have to emphasize production; nor does he monitor the teacher's activities closely, because

the teachers do, indeed, produce easily and freely. He does not do all the work himself because he has the ability to let appropriate leadership acts emerge from the teachers. The characteristics of the open climate seem compatible with a humanistic pupil control ideology which calls for cooperative interaction and experiences between the teacher and the pupil, two-way communication between teachers and pupils, and increased student self-determination as well as the importance of individuality.

The closed climate marks a situation in which the group members obtain little satisfaction in respect to either task-achievement or social-needs. In short, the principal is ineffective in directing the activities of the teachers; at the same time, he is not inclined to look out for their personal welfare. Further, the teachers are disengaged and do not work well together; consequently, group achievement is minimal. Morale is at a nadir, reflecting low job satisfaction in respect to both job satisfaction and social-needs satisfaction. The principal is highly aloof and impersonal in controlling and directing the activities of the teachers; he emphasizes production. Motivation is low, and distrust and tension permeate the organizational setting. The characteristics of the closed climate appear to be consistent with a custodial pupil control ideology characterized by stress on the maintenance of order, impersonality, one-way downward communication,

distrust of students, and a punitive, moralistic orientation toward the control of students. If this is so, it raises the following question that needs to be studied. Does the organizational climate of the school influence the pupil control ideology of the teachers?

The application of the open-closed minded continuum to the prototypic extremes of humanistic and custodial pupil control orientations appears to have some validity. The open minded person, according to Rokeach, sees the world as a friendly place. He is not inclined to rely on absolute authority; authority is placed in a realistic perspective consistent with other information. The need to ward off threat is absent, and a relatively high degree of tolerance is present. The personality characteristics of the open minded individual appear to support a humanistic pupil control ideology which emphasizes the psychological and sociological bases of learning and behavior, and an accepting, trustful view of pupils.

The closed minded person sees the world as a threatening place; thus he is more inclined to rely on absolute authority. The need to ward off threat is predominant, and a relatively high degree of intolerance is present. The personality characteristics of the closed minded individual appear to be consistent with a custodial pupil control ideology which stresses the maintenance of order and a distrustful, moralistic

view of pupils who are perceived as threatening. If this is so, it raises the following question that needs to be explored. Does the open and closed mindedness of teachers influence the teachers' pupil control ideology?

On the basis of the foregoing discussion, the following research hypotheses are suggested.

1. Teachers in open climate schools will be more humanistic in their pupil control ideology than teachers in closed climate schools.
2. Open minded teachers will be more humanistic in their pupil control ideology than closed minded teachers.

## CHAPTER II

### EXPERIMENTAL DESIGN

The purpose of this study was to test hypotheses which relate organizational climate, dogmatism, and pupil control ideology as stated in Chapter I. This chapter describes the procedures used in investigating the relationships among these variables. Discussed in this chapter are the sample from which the data were collected, the instruments employed to measure the variables, the administration and collection of the data, and the plan of the statistical analysis.

#### 1. The Sample

Several considerations led to the decision to limit the sample to elementary schools. First, the Organizational Climate Description Questionnaire was developed from research utilizing a sample of seventy-one elementary schools only. Second, some researchers have questioned the validity of utilizing the OCDQ in secondary schools.<sup>1</sup> Third, the Pupil

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<sup>1</sup> J. Foster Watkins, "The OCDQ--An Application and Some Implications," Educational Administration Quarterly, Vol. 4, No. 2, Spring 1968, p. 55; Fred D. Carver and Thomas J. Sergiovanni, "Some Notes on the OCDQ," The Journal of Educational Administration, Vol. 7, No. 1, May 1969, p. 79.

Control Ideology Form has been validated at the elementary school level.

Following the decision to draw a sample of elementary schools, four school districts in Eastern Ontario were invited to participate in the study. Initial contact with each of the four school districts was made by the researcher in a telephone conversation with the Director of Education of each district. A brief explanation of the study was presented; permission was requested to administer three questionnaire-type instruments (Organizational Climate Description Questionnaire, Dogmatism Scale, and Pupil Control Ideology Form) to an elementary faculty. Subsequently, a research proposal and copies of the instruments were mailed to each Director for his examination. Cooperation was forthcoming immediately from three of the four districts.

When approval of the study was given, the three school districts included a basic population of 102 elementary schools. Further qualifications were imposed on these schools before they were considered eligible for inclusion in the population to be sampled. These restrictions and the reasons for their application were as follows:

1. The principal was required to be a full-time supervisor. Since the OCDQ taps certain dimensions of the interaction between the principal and the teachers, it was assumed

that his behavior in this position should not be confused with his behavior in another role.

2. Principals who were in their first year in a given school were excluded. Since the principal is so important in the development and maintenance of a particular type of climate, it was assumed that he should be in the school long enough to have a decided influence on the climate as measured by the OCDQ.

The first restriction tended to eliminate some of the very small elementary schools from the population to be sampled. This was considered to be desirable, since in a school with very few staff members the mean subtest scores can be distorted by one or two atypical individuals.

Further selection of schools within the districts, which met the qualifications imposed, was contingent upon the willingness of the principal and his staff to cooperate in the study. The invitation to participate was accepted in fifty-five of the fifty-nine schools contacted. One of the schools later refused to participate. The principal of another school was on an extended leave, and that school was eliminated.

The final sample for the study consisted of fifty-three elementary schools. A total of 925 usable returns were collected from the faculties of the fifty-three schools. This constituted a 95.9 per cent return. A few teachers were

absent when the instrument was administered and a small number failed to complete the form properly.

## 2. The Instruments

This section is divided into three parts. The first part describes the Organizational Climate Description Questionnaire; the second part presents a description of the Rokeach Dogmatism Scale; and the third part describes the Pupil Control Ideology Form. Following a description of each instrument, data on its reliability and validity is presented.

(a) The Organizational Climate Description Questionnaire.  
The Organizational Climate Description Questionnaire<sup>2</sup> (OCDQ) is designed to portray the organizational climate of a school through the responses of the members of the faculty. The instrument consists of sixty-nine items of which five are buffer questions that are not scored. The remaining sixty-four items consist of brief statements which describe events which commonly occur within schools. The respondent is asked to indicate the extent to which each of these descriptions characterizes his school by using a four-point scale (1 - Rarely occurs; 2 - Sometimes occurs; 3 - Often occurs;

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<sup>2</sup> Andrew W. Halpin and Don B. Croft, The Organizational Climate of Schools, Chicago, Ill., Midwest Administration Center, The University of Chicago, 1963, p. 122-124.

4 - Very frequently occurs). Permission to use the OCDQ in this study and to duplicate the required number of copies was obtained from the Macmillan Company (see Appendix 2).

During the development of the OCDQ, Halpin and Croft computed a three-factor rotational solution for the school scores on the eight OCDQ subtests. The factor analysis resulted in the identification of six sets of school profiles. For each of the six sets of schools, prototypic profiles were computed. These patterns, or climates, were ranked along a rough continuum as follows: Open, Autonomous, Controlled, Familiar, Paternal, and Closed.<sup>3</sup>

The climate of a school was defined by the pattern of scores on the eight OCDQ subtests for that school. Classification of a school's climate with respect to the six prototypic profiles was determined by computing a similarity score between the school's profile and each of the six prototypic profiles. The similarity score was obtained by computing the absolute difference between each subtest score in the school's profile and the corresponding score in the prototypic profile. After summing the results for each prototypic profile, the lowest similarity score indicated the climate classification.<sup>4</sup>

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3 Andrew W. Halpin, Theory and Research in Administration, New York, Macmillan, 1966, p. 166-167.

4 Ibid., p. 181-186.

The classification of schools into six discrete climate categories has been questioned by many. Watkins has stated that there is an apparent weakness in the middle classifications, and he proposed that these climates may reflect a "chaos of perception [of staff members] rather than any clearly perceived organizational climate."<sup>5</sup> Both McFadden<sup>6</sup> and Pritchard<sup>7</sup> have criticized equating the climate of a school with the climate profile from which it deviates least in terms of summed absolute differences between sub-test scores; McFadden stated that the schools in his study did not frequently match the prototypic profiles; and Pritchard indicated that the method of assignment accounted for the inconsistency in climate assignment in his study.

Andrews concluded from his extensive analysis of the OCDQ using a sample of 165 schools in Alberta that the sub-tests of the instrument provided reasonably valid measures of important aspects of the principal's leadership, in the

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5 Watkins, op. cit., p. 52.

6 Edward Clayton McFadden, The Non-Participant Observer and Organizational Climate, unpublished doctoral thesis presented to the [Department of Educational Administration] Stanford University, Stanford, California, 1966, p. 89.

7 James Leon Pritchard, Validation of the Organizational Climate Description Questionnaire Against Perceptions of Non-Faculty School Personnel, unpublished doctoral thesis presented to the [Department of Educational Administration] Stanford University, Stanford, California, 1966, p. 105.

perspective of interaction with his staff.<sup>8</sup> However, the vagueness of the six discrete climate types was regarded as a detraction from the validity of the instrument. The only valid meaning to be attached to the climate types, according to Andrews, is that they are commonly occurring patterns of scores on the subtests.<sup>9</sup> Brown concluded from the replication of the Halpin and Croft study:

While the results of this investigation (with respect to the identification of climates) were as similar to Halpin and Croft's results as one might reasonably hope for in a factor analytic replication, a conservative conclusion at this time would be that it is possible to identify a climate continuum, but that the dividing of that continuum into discrete climates (although useful for developing research hypotheses) may be refining the results further than the data warrants.<sup>10</sup>

Other reports attacking the method of assigning six discrete climate categories to schools are numerous.

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8 John H.M. Andrews, "School Organizational Climate: Some Validity Studies," Canadian Education and Research Digest, Vol. 5, No. 4, December 1965, p. 317-334.

9 Ibid., p. 333.

10 Robert John Brown, Organizational Climate of Elementary Schools, Research Monograph No. 2, Minneapolis Minnesota, Educational Research and Development Council of the Twin Cities Metropolitan Area, 1965, p. 10.

An alternate method of ranking schools on the climate continuum has been recommended by Croft.<sup>11</sup> This method involves summing the school's scores on the Esprit and Thrust subtests, then subtracting the school's score on the Disengagement subtest. While not identifying discrete climates, this method does allow a ranking of the school along a climate continuum from open to closed. On the basis of the foregoing discussion and other numerous research studies which have used the Croft scoring method, it was decided to use the alternate method to determine schools which were open and closed in their climate.

Responses to the OCDQ were punched on IBM cards and machine scored using the computer service at New Mexico State University, Las Cruces, New Mexico. A letter from Don B.

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<sup>11</sup> Telephone conversation with Don B. Croft, May 25, 1971. See also James B. Appleberry and Wayne K. Hoy, "The Pupil Control Ideology of Professional Personnel in 'Open' and 'Closed' Elementary Schools," Educational Administration Quarterly, Vol. 5, No. 3, Autumn, 1969, p. 74-75; Harris Edgar Miller, An Investigation of Organizational Climate as a Variable in Pupil Achievement Among 29 Elementary Schools in an Urban School District, unpublished doctoral thesis presented to the [Department of Educational Administration] University of Minnesota, Minneapolis, 1968, ix-192 p.; Eldon James Null, The Relationship between the Organizational Climate of a School and the Personal Variables of Members of the Teaching Staff, unpublished doctoral thesis presented to the [Department of Educational Administration] University of Minnesota, Minneapolis, 1965, ix-299 p.; Harry Edward Randles, The Effects of Organizational Climate on Beginning Elementary Teachers, unpublished doctoral thesis presented to the [School of Educational Administration] The Ohio State University, Columbus, 1964, vii-157 p.

Croft explained the procedure to be followed in utilizing this service (see Appendix 4). A description of the methodology is explained below.

The items of the questionnaire were scored on a point system from 6 to 9 points, with 6 points for an item marked "Rarely occurs," and increasing to 9 points for "Very frequently occurs." Items, 4, 8, 25, 54 and 64 were scored inversely. All of the items were then grouped into eight subtests. Appendix 21 presents a classification of items by subtest.

The raw score for each subtest was obtained by finding the sum of the scores on all of the items within the subtest, dividing by the number of items, multiplying by 10, and rounding off this quotient to a two-digit number. The raw subtest score for each school was obtained by computing subtest by subtest, the mean of the scores of all respondents in the school.

The next step was to standardize the raw subtest scores for each school twice, first, normatively, and second, ipsatively. The formula that was utilized to normatively standardize the raw subtest scores was as follows:

$$x_{ns} = \frac{(x_{no} - \bar{X}_n)}{S_n} \quad 10 + 50$$

$x_{ns}$  = standard score for  
subtest s

$\bar{X}_n$  = sample mean for  
all schools

$x_{no}$  = subtest raw score

$S_n$  = sample standard  
deviation for all  
schools

The standardization was computed on the basis of a mean of 50 and a standard deviation of 10 in accordance with the instructions devised by Halpin and Croft.<sup>12</sup>

To standardize the raw scores for each subtest, simply enter the appropriate mean and standard deviation in the formula and solve for  $x_{ns}$ . Enter, in turn, the mean and standard deviation for each subtest until all eight subtest scores have been converted to standard scores.

After completing this normative standardization, for each school compute the mean and standard deviation of the eight standardized subtest scores. The following formula is then used in the ipsative standardization procedure.

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<sup>12</sup> Andrew W. Halpin and Don B. Croft, The Organizational Climate of Schools, Research Report on Contract Number SAE 543 (8369), Washington, D.C., United States Office of Education, Department of Health, Education, and Welfare, July 1962, p. 177.

$$X_{ins} = \frac{(X_{ino} - \bar{X}_{in})}{S_{in}} \quad 10 + 50$$

$X_{ins}$  = standard score  
for subtest s

$\bar{X}_{in}$  = sample mean for  
each school

$X_{ino}$  = standardized  
subtest score

$S_{in}$  = sample standard  
deviation for  
each school

Using the above formula, insert, in turn, the mean and standard deviation for each school and solve the formula for each of the subtest scores. When these figures have been computed for all eight subtest scores, the scores will have been standardized ipsatively, thus completing the normative and ipsative standardization procedures for securing the school profile scores.

The double standardization procedure provided school profile scores on eight subtests: Disengagement, Hindrance, Esprit, Intimacy, Aloofness, Production Emphasis, Thrust, and Consideration (see Appendix 5). The school profile scores for selected subtests were used to provide an openness score for this study. To determine the openness score for each school, the subtest scores for Esprit and Thrust were added together, and the subtest score for Disengagement was subtracted from this total. The openness score which the

instrument provided was then used to classify the schools in the study on a continuum ranging from open to closed. Classification of schools on the climate continuum using this method is presented in Chapter III.

Reliability and validity. - The OCDQ was checked for reliability by Halpin and Croft.<sup>13</sup> They found the reliability adequate from two estimates based on the original sample. The data are summarized in Appendix 6. Brown,<sup>14</sup> in a replication study of the OCDQ, found reliability coefficients which compared favorably with those of Halpin and Croft. Novotney,<sup>15</sup> found that loadings in his factor analysis coincided with those of the original investigation. In a large urban

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13 Andrew W. Halpin and Don B. Croft, The Organizational Climate of Schools, Chicago, Ill., The University of Chicago, Midwest Administration Center, 1963, p. 48-49.

14 Brown, op. cit., p. 10-11.

15 Jerrold Morton Novotney, The Organizational Climate of Parochial Schools, unpublished doctoral thesis presented to the [Department of Educational Administration] University of California, Los Angeles, 1965, 97 p., reported in Dissertation Abstracts, Vol. 26, No. 7, January 1966, p. 3723-3724.

school system in Georgia, Hinson,<sup>16</sup> found a significant relationship between teachers' perceptions and principals' perceptions for climate on the OCDQ.

A number of other studies have been designed to investigate the validity of the OCDQ. For the present study, the question of construct validity of the OCDQ was of primary importance. With respect to construct validity Travers says that the only real sense in which a measure can have validity is when it has been shown consistently to be capable of making predictions in accordance with a theory.<sup>17</sup>

Randles examined the influence of organizational climate on the attitude of beginning elementary teachers. Thirty-seven elementary school staffs responded to the OCDQ. Seventy-five beginning elementary teachers responded to the Minnesota Teacher Attitude Inventory (MTAI). Composite scores on the OCDQ were arranged along a continuum. The upper and lower one-quarter of the distribution of scores designated

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16 James Harry Hinson Jr., An Investigation of the Organizational Climate of the Elementary Schools in a Large Urban School System, unpublished doctoral thesis presented to the [Department of Educational Administration] University of Georgia, 1965, 253 p., reported in Dissertation Abstracts, Vol. 26, No. 11, May 1966, p. 6471.

17 Robert M.W. Travers, An Introduction to Educational Research, New York, Macmillan, 1964, p. 204.

the open and closed climate schools respectively. Openness scores for all schools were determined by summing the school's Esprit and Thrust subtests and subtracting the Disengagement subtest from that total. Randles predicted that open climate schools would influence favorably the attitudes of teachers. The results suggested that open schools seemed to influence favorable attitudes of teachers as measured by the MTAI when compared to closed schools.<sup>18</sup>

Null also investigated the relationship between organizational climate and teacher attitude toward students using the same instruments. The sample consisted of 1,691 teachers in eighty-one elementary schools. Null predicted higher mean MTAI scores for teachers in open climate schools than for teachers in intermediate and closed climate schools. All schools were placed on a continuum from most open to most closed through use of school Esprit, Thrust, and Disengagement subtest scores. They were then divided into three numerically equal groups - those with the most open climates, those with intermediate climates, and those with the most closed climates. The findings indicated that the mean MTAI score of teachers in the most open climate schools was significantly higher than the mean scores in the other two classes.<sup>19</sup>

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18 Randles, op. cit., p. 133.

19 Null, op. cit., p. 253-254.

In another study Miller investigated the relationship between organizational climate and pupil achievement. The data were obtained from 29 elementary schools in the public school system in Duluth, Minnesota. Three instruments were used to obtain the data. The organizational climate of each school was assessed by use of the OCDQ. For each of the 29 schools a measure of the openness of the climate of each school was computed by summing their Thrust and Esprit scores and subtracting the Disengagement score. The Iowa Tests of Basic Skills provided a measure of pupil achievement in grades 3-6. Measures of pupil ability were obtained from the Lorge-Thorndike Intelligence Tests. Nearly 400 teachers responded to the OCDQ and over 6,000 pupils were included in the ability and achievement testing. Miller predicted relationships between the climate of a school and pupil achievement. The conclusions revealed that the over-all openness of the climate of a school appeared to be related to pupil achievement.<sup>20</sup>

Appleberry and Hoy explored the relationship between openness in organizational climate of elementary schools and the pupil control orientation of professional personnel. Forty-five schools in 30 school districts comprised the sample of the study. Schools were ranked according to their openness

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20 Miller, op. cit., p. 124.

scores. An openness score for each school was found by summing the school's scores on the Esprit and Thrust subtests, then subtracting the school's score on the Disengagement subtest. Schools with scores in the upper one-third of the distribution were termed open schools ( $N = 15$ , range = 48-79) and those with scores in the lower one-third of the distribution were designated as closed schools ( $N = 15$ , range = 24-38). As hypothesized teachers serving in open schools were more humanistic in their pupil control ideology than teachers serving in closed schools.<sup>21</sup>

A comprehensive evaluation of the validity of the OCDQ stemmed from the Organizational Climate Project of the Council for School Administration. These studies used a sample of 165 schools in Alberta, Canada. Taking the evidence produced by all of the studies in the project, Andrews made the assessment that the subtests of the OCDQ provide reasonably valid measures of important aspects of the leadership of the school principal in the perspective of interaction with his staff.<sup>22</sup>

The subtests Esprit and Thrust were the object of a validation study by Roseveare and Anderson. Roseveare, using a sample of six schools, correlated the results of the Esprit-

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21 Appleberry and Hoy, op. cit., p. 81.

22 Andrews, op. cit., p. 333.

Thrust Interview Schedule administered to the faculties of these schools with the scores on two subtests of the OCDQ. He concluded that the subtest, Thrust, was a valid measure and that Esprit seemed to have validity but the data were not conclusive.<sup>23</sup> Anderson, noting Roseveare's findings, repeated a validity analysis of the same two subtests using a sociometric questionnaire as a correlate to the OCDQ scores. Anderson found that both the Thrust and Esprit subtests were valid.<sup>24</sup>

Two other studies involving somewhat less directly the validity of the OCDQ as an instrument for measuring organizational climate presented evidence in support of the instrument. Sargent, while not specifically judging the validity of the OCDQ, found that there was a significant positive rank order correlation between school openness and teacher agreement on the extent of this openness. He concluded that the OCDQ was able to distinguish schools on the basis of their climate

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23 Carl George Roseveare, The Validity of Selected Subtests of the Organizational Climate Description Questionnaire, unpublished doctoral thesis presented to the [Department of Educational Administration] University of Arizona, Tucson, 1965, p. 55-56.

24 Gary Weldon Anderson, The Relationships of Organizational Climates and Subgroups in Elementary Schools, unpublished doctoral thesis presented to the [Department of Educational Administration] University of Arizona, Tucson, 1965, 148 p., reported in Dissertation Abstracts, Vol. 26, No. 10, April 1966, p. 5901.

openness (Thrust plus Esprit, minus Disengagement).<sup>25</sup> The other study which also found evidence in support of the validity of the OCDQ was conducted by Smith using a sample of seventeen elementary schools in the suburban Chicago area. Smith found consistency relative to the correlations of variables to OCDQ subtests, intervariable correlations, and the climates identified by the OCDQ, and was led to the conclusion that the OCDQ was externally consistent as well as internally so. In addition, he concluded that the empirical findings appeared to be consistent with the internal definitions of organizational climate as given by Halpin and Croft, and further that his study supported the conceptual and theoretical structure of the OCDQ.<sup>26</sup>

In concluding this discussion of the validity of the OCDQ, three additional studies deserve mention. While in each case the validity of the OCDQ was not a major question, the writers used the OCDQ and drew conclusions germane to use of

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25 James Currier Sargent, An Analysis of Principal and Staff Perceptions of High School Organizational Climate, unpublished doctoral thesis presented to the [Department of Educational Administration] University of Minnesota, Minneapolis, 1966, p. 140.

26 David Coles Smith, Relationships between External Variables and the Organizational Climate Description Questionnaire, unpublished doctoral thesis presented to the [Department of Educational Administration] Northwestern University, Evanston, Ill., 1966, 161 p., reported in Dissertation Abstracts, Vol. 27, No. 7, January 1967, p. 2041-2042.

the OCDQ as a research instrument. Anderson, using a sample of 81 elementary schools in the Twin Cities Metropolitan Area, stated that, "the OCDQ has earned a place as a research tool in studies of school leadership as well as other phenomena of the school organization."<sup>27</sup> Brown conducted a companion study to Anderson's using the same sample of schools and which was in part a replication of the original work by Halpin and Croft. He found some differences between the Minnesota schools and those used by Halpin and Croft, but concluded that the OCDQ was a well constructed instrument which should continue to be used.<sup>28</sup> Finally, in a study conducted by Flagg using a ten-school sample from Newark, New Jersey, the OCDQ was chosen as the instrument to measure the organizational climate. Among the findings of this study was the conclusion that each school had a distinguishable climate that was identified by the OCDQ.<sup>29</sup>

(b) The Dogmatism Scale. - Rokeach has constructed a Dogmatism Scale to measure the extent to which an individual's

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27 Donald Paul Anderson, A Study of the Relationships Between Organizational Climate of Elementary Schools and Personal Variables of the Principals, unpublished doctoral thesis presented to the [Department of Educational Administration] University of Minnesota, Minneapolis, 1964, p. 174.

28 Brown, op. cit., p. 10.

29 Joseph Thomas Flagg, The Organizational Climate of Schools: Its Relationship to Pupil Achievement, Size of School, and Teacher Turnover, unpublished doctoral thesis presented to the [Department of Educational Administration] Rutgers - The State University, New Brunswick, New Jersey, 1964, p.54.

belief system is open or closed.<sup>30</sup> Form E, the final revision of the instrument and the one employed in the present study, contains forty items. The first step in constructing the Dogmatism Scale, Rokeach says, involved the identification of various defining characteristics of open and closed systems. Then statements were developed to tap these characteristics. The assumption was that if a person strongly agreed with the statements he possessed one extreme of the particular characteristic being tapped, and if he disagreed he was manifesting the other extreme.

Rokeach states that because of the way he has defined open and closed, the Dogmatism Scale can be interpreted as a measure of general authoritarianism and general intolerance.<sup>31</sup> As the scale is designed, a person who makes a low score is said to possess a characteristic willingness to think through a situation and make decisions without prejudice, while a person who makes a high score is considered to be dogmatic and authoritarian in his thinking and decision making. Rokeach claims that the Dogmatism Scale is a better measure of general authoritarianism than similar scales currently in use because

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30 Milton Rokeach, The Open and Closed Mind, New York, Basic Books, 1960, p. 413-415.

31 Ibid., p. 72-73.

the theory guiding its construction was structure-oriented, not content-oriented.<sup>32</sup> Specific ideological content was avoided because the basic aim was to design scale items that tap various structural and formal aspects of openness and closedness.

However, the purpose of the Dogmatism Scale is not limited to the measurement of general authoritarianism in individuals. First and foremost, its purpose is to measure the extent to which the total mind is open or closed, for the essence of Rokeach's theory is that a person's belief system has a pervasive effect on different spheres of his psychological activity-ideological, conceptual, perceptual and esthetic. Thus, as a measure of individual differences in belief systems, the Dogmatism Scale purportedly measures differences in how people function in these spheres. Permission to use the Dogmatism Scale in this study and to duplicate the required number of copies was obtained from the author of the scale.

Each individual was directed to respond to each of the forty statements by writing +1, +2, +3, or -1, -2, -3, corresponding respectively to "I agree a little," "I agree on the whole," "I agree very much," or "I disagree a little," "I disagree on the whole," "I disagree very much."

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32 Ibid., p. 396-397.

To obtain a dogmatism score, the individual items were added algebraically, then a constant of  $4 \times 40 = 160$  was added to that total, thus eliminating all negative numbers.<sup>33</sup> The theoretical range of the total test is from 40 to 280. The higher the numerical value of the score, the more dogmatic or closed minded the subject was judged to be. Classification of subjects into open and closed minded groups is presented in Chapter III.

Reliability and validity.- In an administration of the Dogmatism Scale to 517 freshmen and sophomore psychology students at the University of Arizona, Zagona and Zurcher<sup>34</sup> obtained a test-retest reliability coefficient of .697, which, these investigators asserted, substantiates studies conducted by Rokeach.

In analyzing the responses of forty student teachers and their supervising teachers to the Dogmatism Scale, Brumbaugh, Hoedt, and Beisel<sup>35</sup> found an odd-even reliability, corrected by the Spearman-Brown formula, of .88 for the Dogmatism Scale.

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33 Rokeach, op. cit., p. 88.

34 Salvatore V. Zagona and Louis A. Zurcher, Jr., "Notes on the Reliability and Validity of the Dogmatism Scale," Psychological Reports, Vol. 16, January-June, 1965, p. 1234-1236.

35 Robert B. Brumbaugh, Kenneth C. Hoedt, and William H. Beisel, "Teacher Dogmatism and Perceptual Accuracy," Journal of Teacher Education, Vol. 17, No. 3, Fall 1966, p. 332-335.

In an exploratory study of one aspect of personality and its functional significance in a learning situation, Ehrlich found split-half and test-retest reliabilities of .75 and .73 respectively, for the Dogmatism Scale.<sup>36</sup> In a follow-up study of the same population after a time lapse of five years, Ehrlich reported a test-retest correlation of .55, for the Dogmatism Scale.<sup>37</sup>

Lichtenstein, Quinn, and Hover, using a sample of forty adult male inpatients in the neuropsychiatric service of a veterans administration hospital, reported a split-half reliability estimated by the Spearman-Brown formula of .76 for the Dogmatism Scale.<sup>38</sup> Plant has reported odd-even split-half reliability coefficients of .84 for a sample of four hundred male college freshmen and .85 for a sample of four hundred female college freshmen.<sup>39</sup>

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36 Howard J. Ehrlich, "Dogmatism and Learning," Journal of Abnormal and Social Psychology, Vol. 62, No. 1, 1961, p.148.

37 -----, "Dogmatism and Learning: A Five-Year Follow-up," Psychological Reports, Vol. 9, July-December 1961, p. 284.

38 Edward Lichtenstein, Robert P. Quinn, and Gerald L. Hover, "Critique and Notes, Dogmatism and Acquiescent Response Set," Journal of Abnormal and Social Psychology, Vol. 63, No. 3, 1961, p. 636.

39 Walter T. Plant, Charles W. Telford, and Joseph A. Thomas, "Some Personality Differences Between Dogmatic and Nondogmatic Groups," The Journal of Social Psychology, Vol. 67, First Half, October 1965, p. 68.

It appears from these studies that the Dogmatism Scale is sufficiently reliable for use in research dealing with group differences.

As evidence of the validity of the Dogmatism Scale, Rokeach presented the results of a series of investigations which he conducted using the "method of known groups."<sup>40</sup> For example, in one study, psychology students in a graduate seminar selected high and low dogmatic persons from among their personal friends and acquaintances. In this way, a total of twenty subjects was obtained, 10 judged to be extremely high and 10 extremely low in dogmatism. The mean Dogmatism Scale scores of these two groups differed sharply. The mean of the high dogmatic group was 157.2 and that of the low dogmatic group was 101.1, a difference which was significant at the .01 level.<sup>41</sup>

In further studies Rokeach found that those who scored high on the Dogmatism Scale differed consistently from those who scored low in the ability to form new belief systems, whether these new systems were conceptual, perceptual, or esthetic.

A typical procedure employed by Rokeach in his investigations was to compare high and low scorers on the Dogmatism

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40 Rokeach, op. cit., p. 109-129.

41 Ibid., p. 108.

Scale on a variety of laboratory tests which were deliberately chosen to represent different areas of psychological functioning. Of particular significance were his findings in a series of studies devoted to problem solving.<sup>42</sup> He found repeatedly that closed persons took significantly longer to solve novel problems than open minded persons, and discovered further that this was due to differences in the ability to integrate new beliefs or approaches in a way that led to a solution of the problem. There was no difference between the two groups in the ability to think analytically.

An investigation concerning the relationship of open and closed mindedness and critical thinking was conducted by Kemp. He administered the Dogmatism Scale, Form E, and fifty problems involving critical thinking to five hundred male and female freshmen students from three U.S. colleges.<sup>43</sup> The 150 students with the highest scores on the Dogmatism Scale and the 150 with the lowest were selected for comparison of results in critical thinking. Kemp found that those low in dogmatism were superior in critical thinking to those high in dogmatism. The differences between the low and high groups

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42 Ibid., p. 171-195.

43 C. Gratton Kemp, "Effect of Dogmatism on Critical Thinking," School Science and Mathematics, Vol. 60, No. 4, April 1960, p. 314-319.

was reported as being statistically significant at the .01 level. Kemp expressed the belief that educators need to become aware that the poor performance of potentially capable individuals may be due to closed minds or dogmatism. He added that since dogmatism adversely affects thought, attention should be given to the development of the understanding and skill necessary to cope with the problem.

In other tests Rokeach found closed persons to be significantly more susceptible than open persons to "party-line" thinking and maintaining loyalty to a system.<sup>44</sup> Closed persons also tended to be significantly less aware than open persons of transfer effect from one problem to another. In the realm of esthetics, closed persons tended to be significantly less willing to entertain new musical systems than open persons. In none of these diverse situations could differences observed in the performances of closed minded and open minded persons be attributed to differences in intelligence. Rokeach correlated the dogmatism scores of thirty open minded and thirty closed minded persons with the American Council on Education Test and found a correlation of  $-.02$ .<sup>45</sup> Ehrlich found similar results. He correlated the dogmatism scores of one hundred college

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44 Rokeach, op. cit., p. 225-284.

45 Ibid., p. 190.

students with the Ohio State Psychological Examination. He obtained a correlation of  $-.001$ .<sup>46</sup> Thus dogmatism does not appear to be related to intelligence.

Plant, Telford, and Thomas compared high dogmatic subjects and low dogmatic subjects on the Allport, Vernon, Lindzey Study of Values and five scales of the California Psychological Inventory (CPI), Sociability, Self-Control, Achievement via Independence, Intellectual Efficiency, and Responsibility. The total sample included 4,506 subjects (2,643 males and 1,863 females) who indicated an intent to enroll as freshmen in one of six California public junior colleges. Although subjects could not be differentiated by their value measures, high dogmatic subjects were found to differ significantly on each of the CPI scales.<sup>47</sup> The high dogmatic subjects were psychologically immature and characterized as being impulsive, defensive, and stereotyped in their thinking,<sup>48</sup> whereas the low dogmatic subjects were described as being outgoing and enterprising, calm and patient, mature and forceful, efficient and clearthinking, planful and responsible, and more likely to succeed in an academic setting.<sup>49</sup>

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46 Ehrlich, op. cit., 1961, p. 284.

47 Plant et al., op. cit., p. 67-75.

48 Ibid., p. 75.

49 Ibid., p. 73.

Korn and Giddan, utilizing three different scales from the CPI, Well-being, Tolerance, and Flexibility, concluded that the more dogmatic an individual is, the less tolerant, flexible, and secure he is.<sup>50</sup> Rokeach's description of the closed mind construct suggests that Tolerance, Flexibility, and Well-being are all negatively related to dogmatism.<sup>51</sup>

Several investigators have demonstrated a relationship in a university population between dogmatism and a poor self-concept and personality maladjustment. Due to his need for stress reduction and "defense against inimical stimuli" the closed minded person would be expected to have more personal problems than the open minded person. Kemp found this to be true by administering the Mooney Problem Check List to open and closed minded subjects.<sup>52</sup> Similarly, Norman found that the differences between high and low dogmatic subjects on the MMPI probably reflect variations in self-esteem and general personality adjustment.<sup>53</sup> These

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50 Harold A. Korn and Norman S. Giddan, "Scoring Methods and Construct Validity of the Dogmatism Scale," Educational and Psychological Measurement, Vol. 24, No. 4, Winter 1964, p. 871.

51 Rokeach, op. cit., p. 55-56.

52 C. Gratton Kemp, "Influence of Dogmatism on Counseling," The Personnel and Guidance Journal, Vol. 39, No. 8, April 1961, p. 662.

53 Russell P. Norman, "Dogmatism and Psychoneurosis in College Women," Journal of Consulting Psychology, Vol. 30, No. 3, June 1966, p. 278.

findings substantiate those of Rokeach.<sup>54</sup>

Further evidence of the validity of the Dogmatism Scale can be found in two review articles on dogmatism in the April, 1969 issue of Psychological Bulletin.<sup>55</sup> In the first article Ehrlich and Lee reviewed the research dealing with the effects of dogmatism on belief acquisition and learning. Rokeach's principle that high dogmatic persons are less able than low dogmatic persons to learn new beliefs was upheld. This proposition was subject to test in a variety of contexts.<sup>56</sup> In the second review article, research on Rokeach's concept of dogmatism is reviewed and structured into ten areas. The findings generally support the validity of Rokeach's concept, particularly as a generalized theory of authoritarianism independent of ideological content. Further, evidence suggests that a dogmatic personality style exists and may be readily identified.<sup>57</sup>

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54 Rokeach, op. cit., p. 347-365.

55 Howard J. Ehrlich and Dorothy Lee, "Dogmatism, Learning, and Resistance to Change: A Review and a New Paradigm," Psychological Bulletin, Vol. 71, No. 4, April 1969, p. 249-260; Ralph B. Vacchiano, Paul S. Strauss, and Leonard Hochman, "The Open and Closed Mind: A Review of Dogmatism," Psychological Bulletin, Vol. 71, No. 4, April 1969, p. 261-273.

56 Ibid., p. 249-260.

57 Ibid., p. 261-273.

The studies presented in this subsection considered together provide a consistent set of findings, all of which are in accord with theoretical expectations. Thus, it can be concluded that the Dogmatism Scale is both a valid and reliable instrument for use in research dealing with group differences.

(c) The Pupil Control Ideology Form.— As an operational measure of pupil control ideology an instrument called the Pupil Control Ideology Form (PCI Form) was utilized.<sup>58</sup> This instrument was adapted from the work of Gilbert and Levinson.<sup>59</sup> The instrument consists of twenty items. Response categories were scored 5, 4, 3, 2 and 1 for "strongly agree," "agree," "undecided," "disagree," and "strongly disagree," respectively. Scoring was reversed for items five and thirteen, which are positive to the humanistic viewpoint. These item scores were then summed to provide a single test score. The theoretical range of scores varies from 20 to 100. The higher the score the more custodial the individual was

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58 Donald J. Willower, Terry L. Eidell, and Wayne K. Hoy, The School and Pupil Control Ideology, Penn State Studies No. 24, University Park, Pennsylvania, The Pennsylvania State University, 1967, p. 47-48.

59 Doris C. Gilbert and Daniel J. Levinson, "'Custodialism' and 'Humanism' in Mental Hospital Structure and in Staff Ideology," in Milton Greenblatt, Daniel J. Levinson, and Richard H. Williams (eds.), The Patient and the Mental Hospital, Glencoe, Ill., The Free Press, 1957, p. 20-35.

judged to be. Permission to use the PCI Form in this study and to duplicate the required number of copies was obtained from the author of the scale (see Appendix 3).

The initial PCI Form (version one) had fifty-seven items. After a first pilot study was administered to fifty-eight subjects, graduate students in education and practicing teachers, the instrument was modified on the basis of the subjects' comments. As a result of this initial study, a thirty-eight item form emerged. In an effort to gather more systematic data, this version of the PCI Form was administered in seven schools in Pennsylvania and New York (two secondary and five elementary schools). These buildings were selected as representing urban, suburban, and rural areas. A total of 170 usable returns were collected from the faculties of the seven schools. On the basis of the data collected in the pilot study, an item analysis to determine the discriminating power of each statement was completed using biserial correlation techniques.<sup>60</sup> As a result of this analysis, twenty of the thirty-eight items were retained in the final form of the instrument. The biserial coefficient of correlation for each of these twenty items was greater than .325. These data are presented in Appendix 7.

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60 Willower, Eidell, Hoy, op. cit., p. 11.

Reliability and validity.- Reliability and validity of the PCI Form were calculated on the basis of the twenty-item version of the instrument. Split-half reliability coefficients in two samples were .95 (N = 170) and .91 (N = 55) with the application of the Spearman-Brown formula.<sup>61</sup>

The procedure used to validate the PCI Form was based upon principals' judgments concerning the pupil control ideology of certain of their teachers. Principals were asked to read descriptions of the custodial and humanistic viewpoints and to identify a specified number of teachers whose ideology was most like each description. The number of teachers of each type was based on the size of the school. Approximately fifteen per cent of the faculty was identified with each description. A total of fifty teachers were identified from the faculties of the seven schools. A t test for the difference of the means of two independent samples was applied "to test the prediction that teachers judged to hold a custodial ideology would differ in mean PCI Form scores from teachers judged to have a humanistic ideology."<sup>62</sup> Using a one-tailed test, the calculated t-value was 2.639, indicating a difference in the expected direction significant at the .01

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61 Ibid., p. 12.

62 Ibid., p. 13.

level.<sup>63</sup> These data are presented in Appendix 8.

As a further check on the validity of the PCI Form the mean scores of personnel in two schools known to be humanistic were compared with the PCI Form scores of personnel in other schools of the same grade level in the sample. While no statistical analysis was made in this case, a trend in the expected direction was visible.<sup>64</sup> The data are presented in Appendix 9.

Finally a cross-validation was carried out using the technique based upon principal's judgment of teacher ideology. Seven schools, five elementary and two secondary, were used for this purpose. Using a one-tailed test, the results showed "the difference in mean PCI Form scores for teachers judged to be custodial in ideology and teachers judged to be humanistic was significant at the .001 level."<sup>65</sup> The data are presented in Appendix 10.

Data on the PCI Form including information on the reliability and validity of the instrument have been presented. The instrument appears to be sufficiently reliable and valid for the purposes of this research.

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63 Ibid.

64 Ibid.

65 Ibid., p. 14.

### 3. Administration of the Instruments.

All of the data were collected in group faculty meetings. These group faculty meetings were arranged by the principals of the respective schools. Cooperation on the part of the teachers and principals involved was excellent. Use of group faculty meetings to collect data has two important features:

1. Teachers, with few exceptions, are required to attend and participate in the faculty meeting; hence, the sentiments of the faculty as a whole can be ascertained; no particular subgroup is neglected.

2. Use of group faculty meetings to collect data offers a technique to collect relatively large samples of data in a short period under similar conditions.

The researcher personally administered the instruments in all schools. Most faculty meetings were called after school; however, some schools called their faculty meetings during the noon hour as was their normal procedure. Approximately one week prior to the scheduled session for administering the instruments in a given school, a confirmation was sent to the principal of the school (see Appendix 11). Attendance at faculty meetings was considered part of the regular teacher routine in all districts. Therefore, except for a few cases (for example, a few teachers were

absent from the faculty meeting due to illness), all teachers attended the meetings and completed the required forms.

An effort was made to standardize procedures for the administration of the instruments. The same instructions and instruments were administered to all teachers. The principal, however, responded to only two of the three instruments utilized in the study. The researcher read a standardized set of directions to each group before the instruments were distributed (see Appendix 12). These directions informed the participants as to the nature of the instruments to which they were asked to respond. It was emphasized that there were no correct or incorrect answers and that an attempt be made by all respondents to answer every item. Furthermore, it was strongly stressed that responses would be strictly confidential, that all replies would be anonymous, and that no individual or school would be named in any report of the research.

After reading the directions the researcher distributed a twelve-page set of materials to each teacher (see Appendix 1) and a seven-page set of materials to the principal (the OCDQ was omitted from the principal's materials). The first page was a summary of general information, followed by directions for the Organizational Climate Description Questionnaire and the OCDQ itself. Subsequent pages

contained the Dogmatism Scale (the Opinion Questionnaire), the Pupil Control Ideology Form (Form PCI), and a one-page information sheet.

The materials were collected as each individual finished. A brief statement thanking the participants for their cooperation and assistance was made before the instruments were distributed.

#### 4. Plan of the Statistical Analysis.

A two-way analysis of variance technique was the statistical method employed to test the hypotheses of this study. Because of unequal cell frequencies, the following alternatives were considered: (1) dropping data, (2) an unweighted means analysis, and (3) a least-squares solution. There is some evidence to indicate that the resulting tests generated from the least-squares solution for the sums of squares in a factorial experiment is the most powerful.<sup>66</sup> This was the method employed in this study. The distribution of observations per cell will be discussed in Chapter III.

The hypotheses, in their null form, were as follows:

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<sup>66</sup> B.J. Winer, Statistical Principles in Experimental Design, New York, McGraw-Hill, 1962, p. 224.

Null Hypothesis 1.- There is no significant difference between the pupil control ideology scores of teachers in open climate schools and teachers in closed climate schools.

Null Hypothesis 2.- There is no significant difference between the pupil control ideology scores of open minded teachers and closed minded teachers.

Although there is no theoretical evidence to suggest an interaction of school climate and teacher dogmatism on pupil control ideology, this relationship was tested; no prior predictions were made, however.

## CHAPTER III

### PRESENTATION AND ANALYSIS OF DATA

The data collected to test the hypotheses of the study were analyzed statistically according to the plan discussed in Chapter II. Presentation and analysis of the data are included in this chapter and are arranged in four sections. The first section presents the rationale for using the climate continuum scores to determine schools with open and closed climates. In the second section classification of subjects into open and closed minded groups is reported. The third section presents the results of testing the hypotheses previously stated. A summary of the major findings is included at the end of the chapter.

#### 1. Classification of the Schools into Climate Categories

As discussed in Chapter II an openness score for each school is computed by summing the school's subtest scores for Esprit and Thrust, and then subtracting the school's Disengagement subtest score from that total.<sup>1</sup> This method has

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<sup>1</sup> Supra, p. 42.

been used in several studies of school climate.<sup>2</sup> In testing the hypotheses in this study the schools were grouped according to their degree of openness into two categories, open and closed. A numerical value for the degree of openness for each of the fifty-three schools was computed. Schools with scores in the upper one-quarter of the distribution were designated as open schools (N=13, range = 41-74). Schools with scores in the lower one-quarter of the distribution were labeled closed schools (N=13, range = 10-19). Appendix 13 indicates the results of this classification of the schools in terms of the openness of their climate. It should be noted that the distribution of scores on the climate continuum appears to be skewed. Schools tended toward the closed end of the continuum. The standardization procedure used to

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2 James B. Appleberry and Wayne K. Hoy, "The Pupil Control Ideology of Professional Personnel in 'Open' and 'Closed' Elementary Schools," Educational Administration Quarterly, Vol. 5, No. 3, Autumn 1969, p. 74-85; Harris Edgar Miller, An Investigation of Organization Climate as a Variable in Pupil Achievement Among 29 Elementary Schools in an Urban School District, unpublished doctoral thesis presented to the [Department of Educational Administration] University of Minnesota, Minneapolis, 1968, ix-192 p.; Eldon James Null, The Relationship Between the Organizational Climate of a School and the Personal Variables of Members of the Teaching Staff, unpublished doctoral thesis presented to the [Department of Educational Administration] University of Minnesota, Minneapolis, 1965, ix-299 p.; and Harry Edward Randles, The Effect of Organizational Climate on Beginning Teachers, unpublished doctoral thesis presented to the [Department of Educational Administration] The Ohio State University, Columbus, 1964, vii-157 p.

score the OCDQ was computed on the basis of a mean of 50. Therefore, one would ordinarily expect that scores below 50 would tend toward the closed end of the continuum and scores above 50 toward the open end of the continuum. Forty-three schools in the sample were below 50 and the remaining ten schools were above a score of 50. In the open climate category, ten scores were above the mean and three were below the mean. All of the scores were well below the mean in the closed climate category.

## 2. Classification of Subjects into Open and Closed Minded Groups.

A subject's total score on the Dogmatism Scale places him at some point along the open-closed minded continuum. A high score indicates closed mindedness and a low score open mindedness. In the analysis of the distribution of scores for the 925 teachers in this study, quartile points were determined. Those subjects whose scores fell in the upper quartile were designated the closed minded group; those whose scores were in the lower quartile were designated the open minded group. The closed minded group of teachers contained 228 subjects (range = 166-222), and the open minded group of teachers contained 225 subjects (range = 53-129).

Defining open and closed minded groups in terms of the lower and upper quartiles of a distribution of Dogmatism Scale

scores is consistent with Rokeach's findings which indicated that high (upper quartile) and low (lower quartile) dogmatic subjects differed consistently and in a statistically significant manner on the items of the Dogmatism Scale.<sup>3</sup> Kemp,<sup>4</sup> Pyron,<sup>5</sup> and others also used this procedure in some of their studies.

The range, mean, and standard deviation obtained for the open and closed minded teacher groups on the Dogmatism Scale are shown in Appendix 14. The mean scores in the table for the open and closed minded groups of this study compare favorably with the mean scores of groups identified as "low dogmatics" and "high dogmatics" in a validation study of Form E of the Dogmatism Scale reported by Rokeach.<sup>6</sup> The mean score of his low dogmatics was 101.1 while that of his high dogmatics was 157.2, which gives a difference of 56.1 between the means. The mean score of the open minded teachers in the

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3 Milton Rokeach, The Open and Closed Mind, New York, Basic Books, 1960, p. 90.

4 C. Gratton Kemp, "Effect of Dogmatism on Critical Thinking," School Science and Mathematics, Vol. 60, No. 4, April 1960, p. 314-319.

5 Bernard Pyron and John Kafer, Jr., "Recall of Nonsense Sentences and Attitudinal Rigidity," Journal of Personality and Social Psychology, Vol. 5, No. 4, April 1967, p. 463-466.

6 Rokeach, op. cit., p. 102-105.

present study was 113.60 and that of the closed minded teachers was 179.64, which gives a difference of 66.04 between the means. It is interesting to note that the teacher group in the present study were more dogmatic than the group used by Rokeach to validate the instrument. Rokeach's group consisted of graduate psychology students. The sample used in this study consisted of elementary school teachers. There is some evidence to suggest an inverse relationship between level of education and dogmatism.<sup>7</sup>

### 3. Results of Testing the Hypotheses.

The two hypotheses of this study were tested using a two-way analysis of variance technique. The basic design is depicted in Figure 1. Cell frequencies, pupil control ideology means, and the number of subjects per cell for two levels of school climate and teacher dogmatism are presented. The mean pupil control ideology scores of open and closed minded teachers in open and closed climate schools respectively were used as scores in the four cells of the design. The pupil

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<sup>7</sup> Robert Merlin Hoagland, Teacher Personality, Organizational Climate, and Teacher Job Satisfaction, unpublished doctoral thesis presented to the [Department of Educational Administration] Stanford University, Stanford, California, 1968, p. 68.

|         |        | DOGMATISM                                                               |                                                                        |
|---------|--------|-------------------------------------------------------------------------|------------------------------------------------------------------------|
|         |        | open minded                                                             | closed minded                                                          |
| Climate | Open   | <b>I</b><br><b>N = 12*</b><br><b>T = 58</b><br><b>Cell Mean 45.61**</b> | <b>II</b><br><b>N = 13</b><br><b>T = 51</b><br><b>Cell Mean 55.15</b>  |
|         | Closed | <b>III</b><br><b>N = 13</b><br><b>T = 51</b><br><b>Cell Mean 45.47</b>  | <b>IV</b><br><b>N = 12*</b><br><b>T = 66</b><br><b>Cell Mean 55.81</b> |

N = number of schools.

T = number of teachers.

Figure 1.- Design Showing Cell Frequencies and Pupil Control Ideology Means for Two Levels of Organizational Climate and Dogmatism.

\*In cell I, one school had no teachers classed as open-minded; in cell IV one school had no teachers classed as closed-minded.

\*\*The cell mean refers to the mean of the means of the pupil control ideology scores of teachers in each school.

control ideology scores for each school, cell totals, and cell means in each of the four cells is presented in Appendix 15. The .05 level of significance was selected. Because of unequal cell frequencies, a least squares solution was used. Homogeneity of variance among the four groups of the design was tested using Hartley's  $F_{\max}$  test.<sup>8</sup> The computation yielded an  $F_{\max}$  value of 3.61 which was not significant at the .05 level.

Null Hypothesis 1.- There is no significant difference between the pupil control ideology scores of teachers in open climate schools and teachers in closed climate schools.

For this hypothesis the computation of the analysis of variance yielded an F-value of 0.03. With 1 and 46 degrees of freedom, the F-Value was not significant at the .05 level. This resulted in the failure to reject the null hypothesis. Table II summarizes the data.

Null Hypothesis 2.- There is no significant difference between the pupil control ideology scores of open minded teachers and closed minded teachers.

The calculated F-value for testing the second hypothesis was 40.80. With 1 and 46 degrees of freedom this F-value was significant beyond the .05 level. Therefore, the null hypothesis was rejected. The data are presented in Table II.

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<sup>8</sup> Virginia Keith, Design and Analysis in Experimentation, Ottawa, Ontario, Faculty of Education, University of Ottawa, 1969, p. 213-214.

TABLE II

ANALYSIS OF VARIANCE DATA FOR THE INFLUENCE  
OF ORGANIZATIONAL CLIMATE AND DOGMATISM  
ON PUPIL CONTROL IDEOLOGY

| Source of<br>Variation | SS      | df | MS      | F      |
|------------------------|---------|----|---------|--------|
| Climate                | 0.87    | 1  | 0.87    | 0.03   |
| Dogmatism              | 1232.31 | 1  | 1232.31 | 40.80* |
| Interaction            | 2.06    | 1  | 2.01    | 0.08   |
| Error                  | 1171.01 | 46 | 25.46   |        |

\*  $p < .01$ .

Although there is no theoretical evidence to suggest an interaction of school climate and teacher dogmatism on pupil control ideology, this relationship was tested using the data available; no prior predictions were made, however. The F-value computed was 0.08. With 1 and 46 degrees of freedom the calculated F-value was not significant at the .05 level. Table II summarizes the data.

#### 4. Summary of Results.

The results of this study were derived from testing two major hypotheses. The main findings of the analyses of the data obtained are as follows:

1. Teachers in open climate schools were not significantly more humanistic in their pupil control ideology than teachers in closed climate schools.

2. Open minded teachers were significantly more humanistic in their pupil control ideology than closed minded teachers.

3. There was no interaction effect of school climate and teacher dogmatism on pupil control ideology.

These results will be discussed in the following chapter.

## CHAPTER IV

### DISCUSSION OF RESULTS

#### 1. Pupil Control Ideology and Organizational Climate

The first hypothesis stated that teachers in open climate schools would be more humanistic in their pupil control ideology than teachers in closed climate schools. The underlying rationale was that since the school is a service organization in which clients are unselected and participation is mandatory, it seemed reasonable to assume that pupil control orientation was an important factor in intra-faculty relations that would bear a relationship to the climate of the school. Concern in this study has focused on two contrasting types of school climate. It was suggested that the open climate seemed highly compatible with a humanistic pupil control ideology and the closed climate with a custodial pupil control orientation.

If the predicted structural parallels to ideological configurations actually occurred, then the elementary schools with the most open climates would have been staffed by teachers who worked with pupils in a social atmosphere of cooperative endeavor, and with a belief in the worth inherent in each individual, in his capacity for change, and in his ability to develop under conditions that are favorable for

him. In other words, a humanistic pupil control ideology was viewed as being more effective, at least in terms of expressive or social, emotional development of the child, than a custodial orientation.

The test of the hypothesis showed that the pupil control ideology of teachers in open climate schools did not differ significantly from the pupil control ideology of teachers in closed climate schools. In view of Appleberry and Hoy's finding that there was a significant relationship between school climate and pupil control ideology, and the theory presented earlier, this result was unexpected. Speculation for the reasons of such an occurrence include the following. In this study it has been assumed that teachers' needs-satisfaction are essentially derived from social interaction with principals and colleagues. Organizational climate, as measured by the OCDQ, is a measure of teachers' perceptions of task-needs integration among principal and teachers. Needless to say, teachers also work with pupils. Halpin and Croft have stressed the point that the group members must be able to enjoy social-needs satisfaction and satisfaction from task accomplishment. They have assumed that the principal source of social-needs satisfaction lies in the teacher's interactions with fellow teachers and the principal. But this is an oversimplification. A school is not an assembly line; the teachers are working with children.

Consequently, a teacher, especially in the elementary school, can achieve a major source of social-needs satisfaction through her relationship with the children themselves. Indeed, this satisfaction may be sufficient to compensate her for many dissatisfactions which her membership in the school organization forces her to endure. This leads to the question of the effects upon teachers' needs-satisfaction arising from teacher-pupil interaction within the classroom environment. In short, the social interaction among teachers and between the principal and the teachers, as measured by the OCDQ may not necessarily affect teacher-pupil relationships in the classroom environment in terms of the orientation of teachers toward the control of pupils, as measured by the PCI Form.

Another speculation for the unexpected findings in this study may be attributed to the homogeneity of levels of teacher experience in the two types of school climate in the present sample. Hoy<sup>1</sup> reports on the increase in the custodialism of respondents' pupil control ideology both immediately after student teaching and again after the first

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1 Wayne K. Hoy, "The Influence of Experience on the Beginning Teacher," The School Review, Vol. 76, No. 3, September 1968, p. 312-323.

year of teaching. Further, Rabinowitz and Rosenbaum<sup>2</sup> noted a decline in their respondents' concerns for pupil freedom after the initial three years of teaching experience. However, in the present investigation there was not an appreciable difference in the level of experience of teachers in the two types of school climate; in fact, only four percent of the teachers in both climate categories were first-year teachers. Other levels of experience were equally distributed between open and closed climate schools. Teacher experience may have a greater influence on pupil control ideology than the organizational climate of the school. Following this line of reasoning the relationship between school climate and pupil control ideology found in the Appleberry and Hoy research may have been attributed to the influence of experience on pupil control ideology.

Gross and Popper<sup>3</sup> sought to analyze the service and maintenance orientations of teachers and administrators in a junior high school. Among their findings, the investigators indicated that the maintenance-oriented responses dealt, among other things, with "students as materials," "control

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2 William Rabinowitz and Ira Rosenbaum, "Teaching Experience and Teachers' Attitudes," Elementary School Journal, Vol. 60, No. 6, March 1960, p. 313-319.

3 Edward Gross and Samuel H. Popper, "Service and Maintenance Orientation in a Junior High School Organization," Educational Administration Quarterly, Vol. 1, No. 2, Spring 1965, p. 29-42.

problems," and "techniques of consultation." Each of these types of responses is associated with the teacher perception of his relationship to the unselected clientele. What happens to teacher and pupil as a result?

Waller describes the teacher-pupil relationship as a form of institutionalized dominance and subordination. He states:

The teacher represents the established social order in the school, and his interest is in maintaining that order, whereas the pupils have only a negative interest in that feudal superstructure. Teacher and pupil confront each other with attitudes from which the underlying hostility can never be altogether removed. Pupils are the material in which teachers are supposed to produce results. Pupils are human beings striving to realize themselves in their own spontaneous manner, striving to produce their own results in their own way. Each of these hostile parties stands in the way of the other; in so far as the aims of either are realized it is at the sacrifice of the aims of the other.<sup>4</sup>

It is from the process of institutional socialization that the teacher acquires the tact to maintain his tenuous position as he strives to succeed in the organizational goal achievement.

In short, it appears reasonable to conclude that the socialization or role learning process of the teacher encompasses, among other things, the development of an ideology

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<sup>4</sup> Willard Waller, The Sociology of Teaching, New York, Wiley, 1967, p. 196.

and that this ideological perspective toward the control of pupils may be influenced more by the latent and manifest source of conflict which exists between the subcultures of the teacher and the pupil than by the type of school in which the teacher finds himself.

Another speculation for the reasons for the unexpected findings may be due to the skewed distribution of climate scores. Schools in this study tended toward the closed end of the climate continuum. The standardization procedure used to score the OCDQ was computed on the basis of a mean of 50 and a standard deviation of 10. Schools were then ranked according to their climate scores; the higher the score, the more open the climate of the school. One would ordinarily expect that scores below 50 would tend toward the closed end of the climate continuum and scores above 50 toward the open end of the continuum. In the open climate category, ten scores were above the mean and three were below the expected value. All of the scores were well below the mean in the closed climate category. The lack of extremeness of the open climate group might have prevented finding a relationship between organizational climate and pupil control ideology.

A final speculation for the reasons for the unexpected findings of the present study may be attributed to the elimination of the middle fifty per cent of the sample. Teachers whose scores were in the upper and lower one-quarter of the

distribution of Dogmatism Scale scores were classified as open and closed minded teacher groups. Their pupil control ideology scores were then compared in the open and closed climate schools. Hence, fifty per cent of the sample was not used in the comparison.

The researcher did a post hoc analysis using four levels of dogmatism thereby including the middle fifty per cent of the sample. A two-way analysis of variance technique was used. Because of unequal cell frequencies, a least squares solution was utilized.

The computation of the analysis of variance yielded an F-value of 5.34 for the influence of organizational climate on pupil control ideology. With 1 and 92 degrees of freedom, the F-value was significant beyond the .05 level. An F-value of 18.57 was obtained for the influence of dogmatism on pupil control ideology. With 3 and 92 degrees of freedom, this value was significant beyond the .05 level. No significance was found for the interaction of organizational climate and dogmatism on pupil control ideology. The data are presented in Appendix 16. The basic design used in testing these relationships is shown in Appendix 17.

The mean pupil control ideology scores of the extreme teacher groups on the open-closed continuum of the Dogmatism Scale were 45.61 and 55.15 respectively in the open climate schools and 45.47 and 55.81 in the closed climate schools.

These scores were almost identical when comparing the groups with respect to climate but showed a 10-point increase when comparing the groups with respect to dogmatism. Speculation for the fact that the extreme groups on the open-closed minded continuum were not affected by the climate of the school may be explained in terms of Rokeach's theory.

The closed minded individual, according to Rokeach, perceives the world as threatening; he is often fearful of the future as well as the present. A need to ward off threat predominates. Authority is viewed in absolute terms; others are judged to the extent of their agreement or disagreement with authority. There is a relatively high degree of intolerance. The personality characteristics of the closed minded individual appear to foster a custodial pupil control ideology characterized by stress on the maintenance of order, impersonality, one-way downward communication, distrust of students, and a punitive, moralistic orientation toward the control of students. It may be conjectured that the open climate characterized by a high degree of flexibility, freedom of communication, and receptivity to new ideas may be inconsistent with the personality characteristics of the closed minded individual. Thus, the closed minded individual might manifest a custodial orientation toward the control of his students due to his personality regardless of the climate of the school. The closed climate parallels

a custodial pupil control ideology and would present no problem for the closed minded person.

The open minded person, according to Rokeach, perceives the world as a friendly place; he is not fearful of the future. There is an absence of the need to ward off threat. Authority is not worshipped; on the contrary, authority is placed in a realistic perspective consistent with other information. There is a relatively high degree of tolerance present. The personality characteristics of the open minded individual appear to be consistent with a humanistic pupil control ideology which calls for cooperative interaction and experiences between the teacher and the pupil, two-way communication between teachers and pupils, and increased student self-determination as well as the importance of individuality. It may be speculated that the closed climate characterized by rigidity, authoritarianism, and resistance to new ideas may be inconsistent with the personality characteristics of the open minded person and might present a conflict for such an individual. Hence, the closed climate would have little influence on his degree of humanism in pupil control ideology. The open climate is highly consistent with a humanistic pupil control ideology and would present no conflict for the open minded person.

The mean pupil control ideology scores of the middle dogmatic group were 47.10 and 49.48 respectively in the open climate schools and 50.75 and 54.44 respectively in the closed climate schools. The mean pupil control ideology scores of teachers in closed climate schools were significantly higher<sup>5</sup> than the scores of teachers in open climate schools. These differences are consistent with what would be theoretically expected. It is suggested that teachers who scored in the middle range of the Dogmatism Scale's open-closed continuum tend to possess a psychological-philosophical disposition that makes them more susceptible to environmental influences. Such a disposition might include the inability to make decisions with confidence, the tendency to procrastinate, the lack of profound convictions, and general uncertainty.

In summary, when considering the extreme teacher groups on the open-closed continuum of the Dogmatism Scale, personality appears to override the climate of the school in influencing the pupil control ideology of these teachers. However, personality does not appear to override school climate when the middle range of the open-closed minded continuum of the Dogmatism Scale was included in the analysis.

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5 The higher the pupil control ideology score, the more custodial the pupil control ideology.

## 2. Pupil Control Ideology and Dogmatism

The second hypothesis stated that open minded teachers would be more humanistic in their pupil control ideology than closed minded teachers. The test of the hypothesis revealed that the pupil control ideology of open minded and closed minded teachers differed significantly. This implied that open minded teachers were more humanistic in their pupil control ideology than closed minded teachers.

In the presentation of the theoretical framework for the hypotheses, it was emphasized that closed mindedness appeared to be consistent with a custodial pupil control ideology and open mindedness with a humanistic pupil control ideology. It was further suggested that an individual's orientation toward the control of pupils may have a psychological base within the personality structure of the individual.

The development of the concept of custodialism as it is used in schools stresses the maintenance of order and a distrustful, moralistic view of pupils who are perceived as threatening. Humanism, on the contrary, emphasizes the psychological and sociological bases of learning and behavior, and an accepting, trustful view of pupils who are regarded as individuals to be understood and helped rather than a group to be condemned and kept in line.

The custodial ideology has important psychic functions for closed minded organizational members. If the pupil's behavior is viewed simply as irrational and not understandable, there may be great value in reducing inner strain and maintaining self-esteem for personnel who have difficulty at the outset in taking an intraceptive, psychological approach. Furthermore, when the organizational environment is perceived as hostile or threatening, feelings of insecurity and uncertainty may tend to evoke aggressive ideas and actions. Gilbert and Levinson write:

(...) for the person who has a great defensive need to displace and project aggressive wishes from authority figures onto those who can be regarded as immoral, custodial ideology has a special equilibrium-maintaining value through its justification of punitive suppressive measures.<sup>6</sup>

Humanistic ideology has corresponding functions for its adherents. By supporting a critical attitude toward the established order, it permits many open minded individuals to express generalized anti-authority hostilities. The principle of "self control through self understanding," applied in the attitude toward pupils, often serves to maintain and consolidate the intellectualizing defenses of open minded personnel.

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<sup>6</sup> Doris C. Gilbert and Daniel J. Levinson, "'Custodialism' and 'Humanism' in Mental Hospital Structure and in Staff Ideology," in Milton Greenblatt et al. (eds.) The Patient and the Mental Hospital, Glencoe, Ill., The Free Press, 1957, p. 20-35.

The theoretical assumptions underlying open and closed belief systems have tended to be confirmed by the affirmative results of the testing of the second hypothesis of this study. Open and closed mindedness have been useful in identifying different attitudinal structures of teachers.

### 3. Interaction of Organizational Climate and Dogmatism on Pupil Control Ideology

Although there was no theoretical evidence to suggest an interaction of school climate and teacher dogmatism on the pupil control ideology of teachers, this relationship was tested. No significant relationship was found.

## SUMMARY AND CONCLUSIONS

The study evolved from a basic concern for the part that pupil control plays in the organizational life of the school. The relationship of the teachers to the unselected clientele is crucial when one considers the organizational goals on the one hand and the role incumbents' security on the other. As teachers are integrated into the organizational life of the school, they acquire an ideological perspective regarding the client system. The conceptualization of pupil control ideology along a humanistic-custodial continuum by Willower, Eidell, and Hoy, and the subsequent development of an instrument to measure the pupil control ideology of teachers has permitted some of the first steps toward a systematic analysis of pupil control in the schools.

In this project organizational climate and personality structures were viewed as variables which influence the pupil control ideology of teachers within the social system of the school. It was proposed that a humanistic pupil control ideology seems compatible with an open climate and appears most congenial to an open minded belief system; and similarly, that a custodial pupil control ideology parallels a closed climate and best fits a closed minded belief system.

Two hypotheses were deduced from the above rationale and served as a guide for the study:

1. Teachers in open climate schools will be more humanistic in their pupil control ideology than teachers in closed climate schools.
2. Open minded teachers will be more humanistic in their pupil control ideology than closed minded teachers.

The Organizational Climate Description Questionnaire, the Rokeach Dogmatism Scale, and the Pupil Control Ideology Form were administered to 925 teachers in fifty-three elementary schools in Eastern Ontario. The openness of the climate of the school was determined by summing each school's score on the OCDQ subtests Esprit and Thrust, and subtracting the Disengagement subtest score; the higher the resulting score, the more open the climate of the school. Schools whose scores were in the upper and lower one-quarter of the resulting distribution were selected as the open and closed climate schools. Teachers whose scores were in the upper and lower one-quarter of the distribution of Dogmatism Scale scores were classified as open and closed minded teacher groups. The mean pupil control ideology scores of open and closed minded teachers in open and closed climate schools were used in a two-way analysis of variance design.

Based on the data from the study, the following conclusions were drawn:

1. There was no significant differences between the pupil control ideology scores of teachers in open climate schools and teachers in closed climate schools.

A post hoc analysis revealed a significant relationship between organizational climate and pupil control ideology when all four levels of dogmatism were used. The same statistical technique was employed as had been used in testing the first hypothesis; however, in the second analysis the sample was expanded to include all of the dogmatism scores in the open and closed climate schools (see Appendix 17).

2. There was a significant difference between the pupil control ideology scores of open minded teachers and closed minded teachers. This implies that the individual's pupil control ideology may have a psychological base within the personality structure of the individual.
3. There was no interaction effect of school climate and teacher dogmatism on pupil control ideology.

The conclusions listed above indicate that the specific hypotheses of this study have been answered and that a modest amount of knowledge has been added to the field of educational administration.

One criterion of the value of theoretical research is the set of ideas which are generated from the investigation. The final section of this inquiry will delineate some of the possible avenues for further empirical investigation.

A significant relationship was found to exist between pupil control ideology and teacher dogmatism. Other questions relative to these relationships arise and are in need of further research: (a) What is the relationship of an individual's pupil control ideology to his psychological needs? (b) Is there a relationship between pupil control

ideology and a teacher's self concept?

The following questions may be raised regarding pupil control ideology and school output. Is there a relationship between the pupil control ideology of teachers and other variables such as student academic achievement, student creativity, student absenteeism, student dropout rate, levels and types of student conformity, extent and type of student extracurricular participation, student self concept, and social-emotional development of students?

The discrepancy between teacher ideology and teacher performance has not been measured. Since it is the activities under actual conditions of teaching that are of significance, it would appear that a method of determining if such gaps exist and to what extent would be productive.

In two studies of student teachers, Hoy found that their pupil control ideology changed significantly before and after the student teaching experience. It has been demonstrated that a relationship between teaching experience and pupil control ideology exists. In view of these findings, longitudinal investigations are needed to determine whether or not a change in pupil control ideology with teaching experience is accompanied by a change in teaching behavior.

Willower has pointed out that external controls will probably be more often employed when pupils find schools unattractive and that displacement of instructional goals

will be more dominant in schools where external control of pupils predominates. The following question seems worthy of investigation: Is the pupil control ideology of a school directly related to the extent to which the school is perceived as unattractive by the pupils?

The schools that participated in this study tended toward the closed end of the climate continuum. A suggestion for further research is found in the re-definition of open climate and closed climate schools. It would appear that the closer schools approach to the extremes of the continuum between open and closed, the more open or closed their climates can be judged to be. Additional studies using the OCDQ may profit from a more restrictive definition than that employed in this study. The extreme divisions as defined by the upper and lower one-tenth of the distribution of scores on the OCDQ might assure more definitive differences between the two categories of schools.

In view of the inconsistent findings between this study and that of Appleberry and Hoy, further investigation of the relationship between organizational climate and pupil control ideology seems warranted.

A casual study of the data suggests that teachers in open and closed climate schools who expressed themselves as being neither predominantly open minded nor predominantly closed minded appeared to differ in their pupil control

ideology; however, differences in pupil control ideology of open and closed minded teachers in open and closed climate schools were not significant. Studies concentrating more intently on the pupil control ideology of teachers in open and closed climate schools who score in the middle range of the open-closed continuum of the Dogmatism Scale need to be undertaken; they may be more susceptible to environmental influences.

One final suggestion for further study seems indicated. The present study has been limited to an investigation of the influence of organizational climate and dogmatism on pupil control ideology in elementary schools. The following question could be investigated. What is the influence of organizational climate and dogmatism on pupil control ideology at the secondary school level?

The preceding suggestions for further research are only a few of the questions that might be raised. They indicate the fruitfulness of the concepts of pupil control ideology, dogmatism, and organizational climate in the investigation of the school as a social system.

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Andrews, John H.M., "School Organizational Climate: Some Validity Studies," Canadian Education and Research Digest, Vol. 5, No. 4, December 1965, p. 317-334.

Using the construct validity approach, Andrews did an extensive analysis of the OCDQ using a sample of 165 schools in Alberta, Canada. Relationships between OCDQ subtest scores and other variables were examined with reference to their consistency with established theory. Inquiries involved the interrelationships among the OCDQ subtests themselves; the relationship between LBDQ and OCDQ scores; the relationship between the OCDQ and teacher satisfaction and principal effectiveness. Andrews concluded that the subtests of the OCDQ provide reasonably valid measures of important aspects of the school principal's leadership, in the perspective of interaction with his staff.

Appleberry, James B., and Wayne K. Hoy, "The Pupil Control Ideology of Professional Personnel in 'Open' and 'Closed' Elementary Schools," Educational Administration Quarterly, Vol. 5, No. 3, Autumn 1969, p. 74-85.

The authors explored the relationship between the pupil control ideology of educators and the openness of the organizational climates of elementary schools. As hypothesized, elementary schools with relatively open climates and teachers serving in those schools were found to be more humanistic in their pupil control ideology than elementary schools with relatively closed climates and teachers serving in them. The hypothesis that principals serving in relatively open schools would be significantly more humanistic in pupil control ideology than principals serving in relatively closed schools was not supported.

Carlson, Richard O., "Environmental Constraints and Organizational Consequences: The Public School and Its Clients," The Sixty-third Yearbook of the National Society for the Study of Education, Part II, Behavioral Science and Educational Administration, Chicago, Ill., The University of Chicago, 1964, p. 262-276.

The author has categorized service organizations into four distinct types. He pointed out that public schools are like state mental hospitals, reform schools, and prisons in that clients have no choice in their participation in the

organization and the organization has no control in the selection of clients. In such organizations control of clients is an important aspect of organizational life. The article concludes with a discussion of organizational and client adaptation in Type IV Organizations (public schools, state mental hospitals, reform schools, and prisons) with major emphasis on the public school.

Coleman, James S., The Adolescent Society, New York, The Free Press, 1961, xvi-368 p.

The author presents evidence concerning the nature and functioning of the student society within the social system of the school. His study is an effort to compare systematically through questionnaires the internal characteristics of the student society in nine public high schools and a Catholic parochial high school--schools of varied size, community setting, and student social-class background. The study presents the picture of alienated student subcultures, defining and supported by distinctive student social structures. It provides evidence for the marked interpenetration of the student society and the extra-curriculum. These findings point to a possible paradox in the functioning of schools. The extra-curriculum seems to be a prime contributor to this phenomenon.

Getzels, Jacob W., "Administration as a Social Process," in Andrew W. Halpin (ed.), Administrative Theory in Education, New York, Macmillan, 1958, p. 150-165.

Getzels describes administration as a social process in which behavior is conceived as a function of both the nomothetic and the idiographic dimensions of the social system. This is a social-psychological approach that focuses upon the behavior of the individual actor.

Getzels, Jacob W., and Egon G. Guba, "Social Behavior and the Administrative Process," School Review, Vol. 15, No. 4, Winter 1957, p. 423-441.

The authors provide an incisive description of a theory of administration as a social process. They illustrate its application to four major issues--institutional and individual conflict, staff effectiveness, efficiency and satisfaction, the nature of various leadership-followerhip styles, and the problem of morale. The socio-psychological model of Getzels and Guba provided the theoretical framework for the present research project.

Getzels, Jacob W., James M. Lipham, and Roald F. Campbell, Educational Administration as a Social Process, New York, Harper and Row, 1968, xx-420 p.

The authors describe in detail the Getzels and Guba theory of administration as a social process. The description includes the original and extended forms of the model as well as empirical investigations based on it.

Gordon, Wayne C., The Social System of the High School, Glencoe, Ill., The Free Press, 1957, xi-184 p.

This is a research project conducted in 1949-1950 and submitted as a doctoral dissertation to Washington University in Saint Louis. The study is concerned with the student subsystem of the school society and its consequences for formal school activities. It is the most detailed and comprehensive empirical study of the school society.

Halpin, Andrew W., Theory and Research in Administration, New York, Macmillan, 1966, p. 131-252.

The material presented in Chapter 4 of this book is an abridgement of the findings reported by Andrew W. Halpin and Don B. Croft in The Organizational Climate of Schools, Chicago, Ill., Midwest Administration Center, The University of Chicago, 1963, viii-130 p. discussed below.

Halpin, Andrew W. and Don B. Croft, The Organizational Climate of Schools, Chicago, Ill., Midwest Administration Center, The University of Chicago, 1963, viii-130 p.

This is the first published version of the Halpin and Croft study of the organizational climate of schools. An abridged version appears in Halpin's book Theory and Research in Administration. The study makes three major contributions: (1) the development of an organizational climate instrument--the OCDQ, (2) the conceptualization of six types of organizational climates and the identification of three profile-factors which can be useful in future research, and (3) the exploration of the concept of "authenticity" in behavior and proposals for research in which the problem of "authenticity" is included. The authors explain how they went about their task with respect to: the design of the study; the development of the test items; the refinement of the analyses; the interpretation of the results; and the extrapolation on the concept of "authenticity." Many school administrators will find this monograph useful. Researchers in administration will find the OCDQ a convenient device for relating climate to a number of other variables.

Halpin, Andrew W. and Don B. Croft, "The Organizational Climate of Schools," Administrator's Notebook, Vol. 11, No. 7, March 1963, p. 1-4.

This is a very brief synopsis of the organizational climate study of Halpin and Croft discussed above.

Hoy, Wayne K., "Organizational Socialization: The Student Teacher and Pupil Control Ideology," The Journal of Educational Research, Vol. 61, No. 4, December 1967, p. 153-155.

In this study pupil control ideology was conceptualized along a continuum ranging from "custodialism" at one extreme to "humanism" at the other. Hypotheses were deduced from a conceptual framework which emphasized the saliency of client control in organizations with unselected clients. Data for student teachers (N = 282) were collected from students who completed their student teaching experience during the 1965-1966 school year at Oklahoma State University. The Pupil Control Ideology Form was administered and completed in group meetings both before and after student teaching. It was hypothesized that student teachers would be significantly more custodial in their pupil control ideology after the student teaching experience than before; separate tests of the hypothesis were made at both the elementary and secondary levels. All hypotheses tested were confirmed at a level of significance beyond the .001 level.

-----, "The Influence of Experience on the Beginning Teacher," The School Review, Vol. 76, No. 3, September 1968, p. 312-323.

In a follow-up study of the student teachers discussed above, the author found that the pupil control ideology of beginning teachers who taught the year subsequent to graduation continued to become significantly more custodial in their pupil control ideology while there was no significant custodial change in the pupil control ideology for those who did not teach during the first year after graduation.

Kounin, Jacob J., and Paul V. Gump, "The Comparative Influence of Punitive and Nonpunitive Teachers upon Children's Concepts of School Misconduct," Journal of Educational Psychology, Vol. 52, No. 1, February 1961, p. 44-49.

The authors attempted a study to compare the influence of "punitive" and "nonpunitive" teachers upon children's concepts of school misconduct. Children with punitive teachers were found to be more unsettled and conflicted about misbehavior in school; and children with non-punitive teachers

talked more about learning, achievement losses, and violations of school unique values and rules. The concepts of "punitive" and "nonpunitive" teachers to some degree parallel at the behavioral level the ideological concepts of custodialism and humanism which were utilized in the present research project.

Rokeach, Milton, The Open and Closed Mind, New York, Basic Books, 1960, xv-447 p.

This work provided the basis for a theoretical examination of the concept of open and closed mindedness, a major variable in the present research project. Rokeach, over a period of more than ten years, has explored the phenomena of belief systems. He has stated that most psychologists tend to investigate the properties, the determinants, and the measurement of single beliefs and attitudes. They focus on single concepts, precepts, sets, habits, and expectancies. All of these elements together form a whole which Rokeach describes as an individual's belief-disbelief system. His concern is not with the content but with the structure of belief systems, not with what a person believes but with how he believes. Individuals differ, Rokeach contends, in the extent to which their belief systems are open or closed, or in the extent to which they think and believe dogmatically. Rokeach supports his theories with a series of investigations which he and several associates conducted in the 1950's. Prior to undertaking these studies they developed the Dogmatism Scale which served as their instrument for measuring individual differences in belief systems. Results of recent research tend to support Rokeach's theories as well as the reliability and validity of the Dogmatism Scale.

Waller, Willard, The Sociology of Teaching, New York, Wiley, 1967, xiv-467 p.

Waller's contribution is one of the best works on the nature of the school as a formal organization. Waller's chief focus was on individual classrooms, teachers, and students. In the author's analysis, teachers face students alienated from the tasks of learning and organized to perpetuate the student way of life. Both administrators and teachers are at the same time exposed to a community constituency which legitimately defines standards of school effectiveness and can enforce these expectations. Consequently, the school administrators, like teachers, must exercise primarily dominative authority and enforce teachers' compliance to rules and policies. The effect of the small society of the school, interacting with the school's vulnerability to its environment, is to push its formal structure in the direction of punishment-centered, rather than representative, bureaucracy.

Willower, Donald J., "Hypotheses on the School as a Social System," Educational Administrative Quarterly, Vol. 1, No. 3, Autumn 1965, p. 40-51.

The author advances a set of propositions of the "middle range" which are based on a study of a single organization and which are related to the problem of pupil control as an integrative theme within the school. The article is a clear example of the author's development of conceptual tools within the framework of a theoretical formulation. The article illuminates our understanding of the nature of schools as social systems.

Willower, Donald J., Terry L. Eidell, and Wayne K. Hoy, The School and Pupil Control Ideology, Penn State Studies No. 24, The Pennsylvania State University, University Park, Pennsylvania, 1967, iii-66 p.

This monograph contains a discussion of the conceptualization of pupil control ideology along a continuum ranging from "custodialism" to "humanism" as adapted from the study of staff ideology in mental hospitals. The development of an instrument to measure the pupil control ideology of professional personnel of schools together with validity and reliability data on the instrument is presented. The authors discuss the testing of several hypotheses relating variations in pupil control ideology to organizational position, level of organization, degree of experience, and certain personal characteristics. This monograph provided the basis for empirical studies relating pupil control ideology to other meaningful variables.

Willower, Donald J., Wayne K. Hoy, and Terry L. Eidell, "The Counselor and the School as a Social System," Personnel and Guidance Journal, Vol. 46, No. 3, November 1967, p. 228-234.

The authors discuss results of testing hypotheses relating variations in pupil control ideology to organizational position. It was predicted that counselors and principals would be less "custodial" in pupil control ideology than teachers. The Pupil Control Ideology Form was administered to 945 teachers, 181 principals, and 180 counselors. Results confirmed the predictions. Counselor adaptations to ideological conflict concerning pupil control in both the secondary and elementary school are discussed. It was speculated that adaptations would function to reduce overt conflict and contribute to organizational equilibrium.

Willower, Donald J. and Ronald G. Jones, "When Pupil Control Becomes an Institutional Theme," Phi Delta Kappan, Vol. 45, No. 2, November 1963, p. 107-109.

In an observational study of one junior high school, Willower and Jones viewed the organization as a social system and found that pupil control appeared to play a key role in teacher-teacher and teacher-administrator relationships; in fact, the concept of pupil control was described as "an integrative theme" which gave meaning to their data. The institutional theme of control identified by Willower and Jones led to the development of an instrument to measure the pupil control ideology of professional personnel of schools and subsequent research relating pupil control ideology with other school variables.

-----, "Control in an Educational Organization," in J.D. Rath, John R. Pancella, and James S. Van Ness (eds.), Studying Teaching, Englewood Cliffs, N.J., Prentice-Hall, 1967, p. 424-428.

A reprint of the original paper discussed above.

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## APPENDIX 1

### THE INSTRUMENTS

Department of Educational Administration  
Graduate Faculty of Education  
University of Ottawa  
Ottawa, Ontario

### GENERAL INFORMATION

This study is part of a basic research project in educational administration being conducted at the University of Ottawa. You are being requested to participate in this project by completing the attached forms. Section One, the Organizational Climate Description Questionnaire, is designed to identify the organizational climate of your school. Section Two, called the Opinion Questionnaire, is designed to secure your opinions on a number of social questions. Section Three, called Form PCI, is designed to secure your opinions concerning certain aspects of teacher-pupil relationships. Section Four, the last page of the materials, is an information sheet.

Specific instructions and space for your responses are included on each of the separate forms. Although your responses will become part of the project data, they will remain strictly confidential, and no individual or school will be named in any report of the research.

Your cooperation is greatly appreciated.

### Organizational Climate Description Questionnaire

The items in this questionnaire describe typical behaviors or conditions that occur within a school organization. Please indicate to what extent each of these descriptions characterizes your school. Please do not evaluate the items in terms of "good" or "bad" behavior, but read each item carefully and respond in terms of how well the statement describes your school.

The descriptive scale on which to rate the items is printed at the top of each page. Please read the Instructions which describe how you should mark your answers.

The purpose of this questionnaire is to secure a description of the different ways in which teachers behave and of the various conditions under which they must work. After you have answered the questionnaire we will examine the behaviors or conditions that have been described as typical by the majority of the teachers in your school, and we will construct from this description, a portrait of the Organizational Climate of your school.

#### Marking Instructions

Printed below is an example of a typical item found in the Organizational Climate Description Questionnaire.

1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

Teachers call each other by their first names. 1 2 ③ 4

In this example the respondent marked alternative 3 to show that the interpersonal relationship described by this item "often occurs" at his school. Of course, any of the other alternatives could be selected, depending upon how often the behavior described by the item does, indeed, occur in your school.

Please mark your response clearly, as in the example. PLEASE BE SURE THAT YOU MARK EVERY ITEM. CIRCLE the numeral which most nearly approximates the frequency of the behavior described....authenticity of the response is very important. Do give the most accurate response that you can.

1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

|                                                                                 |   |   |   |   |
|---------------------------------------------------------------------------------|---|---|---|---|
| 1. Teachers' closest friends are other faculty members at this school.          | 1 | 2 | 3 | 4 |
| 2. The mannerisms of teachers at this school are annoying.                      | 1 | 2 | 3 | 4 |
| 3. Teachers spend time after school with students who have individual problems. | 1 | 2 | 3 | 4 |
| 4. Instructions for the operation of teaching aids are available.               | 1 | 2 | 3 | 4 |
| 5. Teachers invite other faculty to visit them at home.                         | 1 | 2 | 3 | 4 |
| 6. There is a minority group of teachers who always oppose the majority.        | 1 | 2 | 3 | 4 |
| 7. Extra books are available for classroom use.                                 | 1 | 2 | 3 | 4 |
| 8. Sufficient time is given to prepare administrative reports.                  | 1 | 2 | 3 | 4 |
| 9. Teachers know the family background of other faculty members.                | 1 | 2 | 3 | 4 |
| 10. Teachers exert group pressures on non-conforming faculty members.           | 1 | 2 | 3 | 4 |
| 11. In faculty meetings, there is a feeling of "let's get things done."         | 1 | 2 | 3 | 4 |
| 12. Administrative paper work is burdensome at this school.                     | 1 | 2 | 3 | 4 |
| 13. Teachers talk about their personal life to other faculty members.           | 1 | 2 | 3 | 4 |
| 14. Teachers seek special favors from the principal.                            | 1 | 2 | 3 | 4 |
| 15. School supplies are readily available for use in classwork.                 | 1 | 2 | 3 | 4 |
| 16. Student progress reports require too much work.                             | 1 | 2 | 3 | 4 |

1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

|                                                                                 |   |   |   |   |
|---------------------------------------------------------------------------------|---|---|---|---|
| 17. Teachers have fun socializing together during school time.                  | 1 | 2 | 3 | 4 |
| 18. Teachers interrupt other faculty members who are talking in staff meetings. | 1 | 2 | 3 | 4 |
| 19. Most of the teachers here accept the faults of their colleagues.            | 1 | 2 | 3 | 4 |
| 20. Teachers have too many committee requirements.                              | 1 | 2 | 3 | 4 |
| 21. There is considerable laughter when teachers gather informally.             | 1 | 2 | 3 | 4 |
| 22. Teachers ask nonsensical questions in faculty meetings.                     | 1 | 2 | 3 | 4 |
| 23. Custodial service is available when needed.                                 | 1 | 2 | 3 | 4 |
| 24. Routine duties interfere with the job of teaching.                          | 1 | 2 | 3 | 4 |
| 25. Teachers prepare administrative reports by themselves.                      | 1 | 2 | 3 | 4 |
| 26. Teachers ramble when they talk in faculty meetings.                         | 1 | 2 | 3 | 4 |
| 27. Teachers at this school show much school spirit.                            | 1 | 2 | 3 | 4 |
| 28. The principal goes out of his way to help teachers.                         | 1 | 2 | 3 | 4 |
| 29. The principal helps teachers solve personal problems.                       | 1 | 2 | 3 | 4 |
| 30. Teachers at this school stay by themselves.                                 | 1 | 2 | 3 | 4 |
| 31. The teachers accomplish their work with great vim, vigor, and pleasure.     | 1 | 2 | 3 | 4 |
| 32. The principal sets an example by working hard himself.                      | 1 | 2 | 3 | 4 |
| 33. The principal does personal favors for teachers.                            | 1 | 2 | 3 | 4 |

1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

|     |                                                                      |   |   |   |   |
|-----|----------------------------------------------------------------------|---|---|---|---|
| 34. | Teachers eat lunch by themselves in their own classrooms.            | 1 | 2 | 3 | 4 |
| 35. | The morale of the teachers is high.                                  | 1 | 2 | 3 | 4 |
| 36. | The principal uses constructive criticism.                           | 1 | 2 | 3 | 4 |
| 37. | The principal stays after school to help teachers finish their work. | 1 | 2 | 3 | 4 |
| 38. | Teachers socialize together in small select groups.                  | 1 | 2 | 3 | 4 |
| 39. | The principal makes all class-scheduling decisions.                  | 1 | 2 | 3 | 4 |
| 40. | Teachers are contacted by the principal each day.                    | 1 | 2 | 3 | 4 |
| 41. | The principal is well prepared when he speaks at school functions.   | 1 | 2 | 3 | 4 |
| 42. | The principal helps staff members settle minor differences.          | 1 | 2 | 3 | 4 |
| 43. | The principal schedules the work for the teachers.                   | 1 | 2 | 3 | 4 |
| 44. | Teachers leave the ground during the school day.                     | 1 | 2 | 3 | 4 |
| 45. | The principal criticizes a specific act rather than a staff member.  | 1 | 2 | 3 | 4 |
| 46. | Teachers help select which courses will be taught.                   | 1 | 2 | 3 | 4 |
| 47. | The principal corrects teachers' mistakes.                           | 1 | 2 | 3 | 4 |
| 48. | The principal talks a great deal.                                    | 1 | 2 | 3 | 4 |
| 49. | The principal explains his reasons for criticism to teachers.        | 1 | 2 | 3 | 4 |
| 50. | The principal tries to get better salaries for teachers.             | 1 | 2 | 3 | 4 |
| 51. | Extra duty for teachers is posted conspicuously.                     | 1 | 2 | 3 | 4 |

1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

|     |                                                                     |   |   |   |   |
|-----|---------------------------------------------------------------------|---|---|---|---|
| 52. | The rules set by the principal are never questioned.                | 1 | 2 | 3 | 4 |
| 53. | The principal looks out for the personal welfare of teachers.       | 1 | 2 | 3 | 4 |
| 54. | School secretarial service is available for teachers' use.          | 1 | 2 | 3 | 4 |
| 55. | The principal runs the faculty meetings like a business conference. | 1 | 2 | 3 | 4 |
| 56. | The principal is in the building before teachers arrive.            | 1 | 2 | 3 | 4 |
| 57. | Teachers work together preparing administrative reports.            | 1 | 2 | 3 | 4 |
| 58. | Faculty meetings are organized according to a tight agenda.         | 1 | 2 | 3 | 4 |
| 59. | Faculty meetings are mainly principal-report meetings.              | 1 | 2 | 3 | 4 |
| 60. | The principal tells teachers of new ideas he has run across.        | 1 | 2 | 3 | 4 |
| 61. | Teachers talk about leaving the school system.                      | 1 | 2 | 3 | 4 |
| 62. | The principal checks the subject-matter ability of teachers.        | 1 | 2 | 3 | 4 |
| 63. | The principal is easy to understand.                                | 1 | 2 | 3 | 4 |
| 64. | Teachers are informed of the results of a supervisor's visit.       | 1 | 2 | 3 | 4 |
| 65. | Grading practices are standardized at this school.                  | 1 | 2 | 3 | 4 |
| 66. | The principal insures that teachers work to their full capacity.    | 1 | 2 | 3 | 4 |
| 67. | Teachers leave the building as soon as possible at day's end.       | 1 | 2 | 3 | 4 |
| 68. | The principal clarifies wrong ideas a teacher may have.             | 1 | 2 | 3 | 4 |
| 69. | Schedule changes are posted conspicuously at this school.           | 1 | 2 | 3 | 4 |

## Opinion Questionnaire

Our purpose in administering this questionnaire is to obtain some indication of how you think and feel about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statements, you can be sure that many people feel the same as you do.

In the parentheses in the left margin, mark each statement according to how much you agree or disagree with it. PLEASE MARK EVERY ONE. Write +1, +2, +3, or -1, -2, -3 in the parentheses next to each statement, depending on how you feel in each case. Use the code shown below; it is repeated on each succeeding page of this form.

## Code

+1: I AGREE A LITTLE

-1: I DISAGREE A LITTLE

+2: I AGREE ON THE WHOLE

-2: I DISAGREE ON THE WHOLE

+3: I AGREE VERY MUCH

-3: I DISAGREE VERY MUCH

- ( ) 1. The United States and Russia have just about nothing in common.
- ( ) 2. The highest form of government is a democracy and the highest form of democracy is a government run by those who are the most intelligent.
- ( ) 3. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
- ( ) 4. It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.
- ( ) 5. Man on his own is a helpless and miserable creature.
- ( ) 6. Fundamentally, the world we live in is a pretty lonesome place.
- ( ) 7. Most people just don't give a "damn" for others.
- ( ) 8. I'd like it if I could find someone who would tell me how to solve my personal problems.
- ( ) 9. It is only natural for a person to be rather fearful of the future.
- ( ) 10. There is so much to be done and so little time to do it in.

## Code

+1: I AGREE A LITTLE

-1: I DISAGREE A LITTLE

+2: I AGREE ON THE WHOLE

-2: I DISAGREE ON THE WHOLE

+3: I AGREE VERY MUCH

-3: I DISAGREE VERY MUCH

- ( ) 11. Once I get wound up in a heated discussion I just can't stop.
- ( ) 12. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.
- ( ) 13. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what the others are saying.
- ( ) 14. It is better to be a dead hero than to be a live coward.
- ( ) 15. While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, or Beethoven, or Shakespeare.
- ( ) 16. The main thing in life is for a person to want to do something important.
- ( ) 17. If given the chance, I would do something of great benefit to the world.
- ( ) 18. In the history of mankind there have probably been just a handful of really great thinkers.
- ( ) 19. There are a number of people I have come to hate because of the things they stand for.
- ( ) 20. A man who does not believe in some great cause has not really lived.
- ( ) 21. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
- ( ) 22. Of all the different philosophies which exist in this world there is probably only one which is correct.
- ( ) 23. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.
- ( ) 24. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.
- ( ) 25. When it comes to differences of opinion in religion we must be careful not to compromise with those who believe differently from the way we do.
- ( ) 26. In times like these, a person must be pretty selfish if he considers primarily his own happiness.

## Code

- |                          |                             |
|--------------------------|-----------------------------|
| +1: I AGREE A LITTLE     | -1: I DISAGREE A LITTLE     |
| +2: I AGREE ON THE WHOLE | -2: I DISAGREE ON THE WHOLE |
| +3: I AGREE VERY MUCH    | -3: I DISAGREE VERY MUCH    |

- ( ) 27. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.
- ( ) 28. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.
- ( ) 29. A group which tolerates too much differences of opinion among its own members cannot exist for long.
- ( ) 30. There are two kinds of people in this world: those who are for the truth and those who are against the truth.
- ( ) 31. My blood boils whenever a person stubbornly refuses to admit he is wrong.
- ( ) 32. A person who thinks primarily of his own happiness is beneath contempt.
- ( ) 33. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.
- ( ) 34. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.
- ( ) 35. It is often desirable to reserve judgement about what's going on until one has had a chance to hear the opinions of those one respects.
- ( ) 36. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.
- ( ) 37. The present is all too often full of unhappiness. It is only the future that counts.
- ( ) 38. If a man is to accomplish his mission in life it is sometimes necessary to gamble "all or nothing at all."
- ( ) 39. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.
- ( ) 40. Most people just don't know what's good for them.

## FORM PCI

## INFORMATION

On the following pages a number of statements about teaching are presented. Our purpose is to gather information regarding the actual attitudes of educators concerning these statements.

You will recognize that the statements are of such a nature that there are no correct or incorrect answers. We are interested only in your frank opinion of them.

Your responses will remain confidential, and no individual or school will be named in the report of this study. Your cooperation is greatly appreciated.

**INSTRUCTIONS:** Following are twenty statements about schools, teachers, and pupils. Please indicate your personal opinion about each statement by circling the appropriate response at the right of the statement.

|                                                                                                         | Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |
|---------------------------------------------------------------------------------------------------------|----------------|-------|-----------|----------|-------------------|
| 1. It is desirable to require pupils to sit in assigned seats during assemblies.                        | SA             | A     | U         | D        | SD                |
| 2. Pupils are usually not capable of solving their problems through logical reasoning.                  | SA             | A     | U         | D        | SD                |
| 3. Directing sarcastic remarks toward a defiant pupil is a good disciplinary technique.                 | SA             | A     | U         | D        | SD                |
| 4. Beginning teachers are not likely to maintain strict enough control over their pupils.               | SA             | A     | U         | D        | SD                |
| 5. Teachers should consider revision of their teaching methods if these are criticized by their pupils. | SA             | A     | U         | D        | SD                |
| 6. The best principals give unquestioning support to teachers in disciplining pupils.                   | SA             | A     | U         | D        | SD                |
| 7. Pupils should not be permitted to contradict the statements of a teacher in class.                   | SA             | A     | U         | D        | SD                |

|                                                                                                                  | Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |
|------------------------------------------------------------------------------------------------------------------|----------------|-------|-----------|----------|-------------------|
| 8. It is justifiable to have pupils learn many facts about a subject even if they have no immediate application. | SA             | A     | U         | D        | SD                |
| 9. Too much pupil time is spent on guidance and activities and too little on academic preparation.               | SA             | A     | U         | D        | SD                |
| 10. Being friendly with pupils often leads them to become too familiar.                                          | SA             | A     | U         | D        | SD                |
| 11. It is more important for pupils to learn to obey rules than that they make their own decisions.              | SA             | A     | U         | D        | SD                |
| 12. Student governments are a good "safety valve" but should not have much influence on school policy.           | SA             | A     | U         | D        | SD                |
| 13. Pupils can be trusted to work together without supervision.                                                  | SA             | A     | U         | D        | SD                |
| 14. If a pupil uses obscene or profane language in school, it must be considered a moral offense.                | SA             | A     | U         | D        | SD                |
| 15. If pupils are allowed to use the lavatory without getting permission, this privilege will be abused.         | SA             | A     | U         | D        | SD                |
| 16. A few pupils are just young hoodlums and should be treated accordingly.                                      | SA             | A     | U         | D        | SD                |
| 17. It is often necessary to remind pupils that their status in school differs from that of teachers.            | SA             | A     | U         | D        | SD                |
| 18. A pupil who destroys school material or severely punished.                                                   | SA             | A     | U         | D        | SD                |
| 19. Pupils cannot perceive the difference between democracy and anarchy in the classroom.                        | SA             | A     | U         | D        | SD                |
| 20. Pupils often misbehave in order to make the teacher look bad.                                                | SA             | A     | U         | D        | SD                |

### Biographical Information

Please place a check mark to the left of the appropriate category.

- |                               |                             |                         |
|-------------------------------|-----------------------------|-------------------------|
| 1. Position:                  | 1. <input type="checkbox"/> | Principal               |
|                               | 2. <input type="checkbox"/> | Teacher                 |
|                               | 3. <input type="checkbox"/> | Other                   |
|                               |                             |                         |
| 2. Sex:                       | 1. <input type="checkbox"/> | Male                    |
|                               | 2. <input type="checkbox"/> | Female                  |
|                               |                             |                         |
| 3. Age:                       | 1. <input type="checkbox"/> | 20 - 29                 |
|                               | 2. <input type="checkbox"/> | 30 - 39                 |
|                               | 3. <input type="checkbox"/> | 40 - 49                 |
|                               | 4. <input type="checkbox"/> | 50 - 59                 |
|                               | 5. <input type="checkbox"/> | 60 or over              |
|                               |                             |                         |
| 4. Years of experience        | 1. <input type="checkbox"/> | 0 - 1                   |
|                               | 2. <input type="checkbox"/> | 2 - 5                   |
|                               | 3. <input type="checkbox"/> | 5 - 10                  |
|                               | 4. <input type="checkbox"/> | 11 - 15                 |
|                               | 5. <input type="checkbox"/> | 16 or over              |
|                               |                             |                         |
| 5. Years at this school       | 1. <input type="checkbox"/> | 0 - 1                   |
|                               | 2. <input type="checkbox"/> | 2 - 5                   |
|                               | 3. <input type="checkbox"/> | 5 - 10                  |
|                               | 4. <input type="checkbox"/> | 11 - 15                 |
|                               | 5. <input type="checkbox"/> | 16 or over              |
|                               |                             |                         |
| 6. Highest degree:            | 1. <input type="checkbox"/> | Less than Bachelors     |
|                               | 2. <input type="checkbox"/> | Bachelors               |
|                               | 3. <input type="checkbox"/> | Masters                 |
|                               | 4. <input type="checkbox"/> | Masters plus            |
|                               | 5. <input type="checkbox"/> | Doctors                 |
|                               |                             |                         |
| 7. Undergraduate preparation: | 1. <input type="checkbox"/> | Major in education      |
|                               | 2. <input type="checkbox"/> | Major outside education |
|                               |                             |                         |
| 8. Graduate preparation:      | 1. <input type="checkbox"/> | Major in education      |
|                               | 2. <input type="checkbox"/> | Major outside education |

## APPENDIX 2

PERMISSION TO USE THE OCDQ

THE MACMILLAN COMPANY  
A SUBSIDIARY OF CROWELL COLLIER AND MACMILLAN, INC.  
866 Third Avenue, New York, N. Y. 10022

April 16, 1971

Mr. Frederick C. Lunenburg  
Graduate Faculty of Education  
University of Ottawa  
1245 Kilborn Avenue  
Ottawa 8, Ontario  
CANADA.

Dear Mr. Lunenburg:

Re: Your letter of 4/7/71

You may have our permission to use, in the English language only, the Organizational Climate Descriptive Questionnaire from THEORY AND RESEARCH IN ADMINISTRATION by Andrew W. Halpin, subject to the following limitations:

Permission is granted for usage of the material in the manner and for the purpose as specified in your letter. Note: If your study is published (other than University Microfilms) it is necessary to reapply for permission;

Permission is granted for a fee of \$ 35.00 limited to 1,200 copies. This fee is payable upon signing.

Full credit must be given on every copy reproduced as follows:

Reprinted with permission of The Macmillan Company from  
(title) by (author). Copyright © by Andrew W. Halpin, 1966.

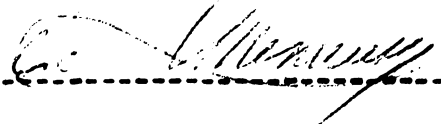
If you are in agreement, please sign both copies of this letter in the space provided below and return one copy and your remittance to this department.

Thank you.

Sincerely,

  
(Mrs.) Agnes Moran  
Permissions Department

AGREED TO:

  
-----

APPENDIX 3

PERMISSION TO USE THE  
PUPIL CONTROL IDEOLOGY FORM

RUTGERS UNIVERSITY *The State University of New Jersey*

---

GRADUATE SCHOOL OF EDUCATION  
10 Seminary Place  
New Brunswick, New Jersey 08903

April 20, 1971

Mr. Frederick C. Lunenburg  
Graduate Faculty of Education  
University of Ottawa  
1245 Kilborn Avenue  
Ottawa 8, Ontario, CANADA

Dear Mr. Lunenburg:

I have before me your letter of April 6 requesting permission to use the PCI Form in your study.

You certainly have my permission to use the Form in your research, and as I commented in our telephone conversation, I would appreciate a report of the research when it is completed.

I have also enclosed several copies of the reprints which were concerned with the PCI. They may be useful.

Best wishes in your research.

Sincerely,

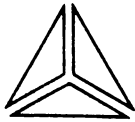


Wayne K. Hoy  
Associate Professor of  
Educational Administration

WKH:lw  
Enclosures

#### APPENDIX 4

LETTER FROM DR. DON B. CROFT AND  
INSTRUCTIONS FOR KEYPUNCHING CARDS



# NEW MEXICO STATE UNIVERSITY

BOX 3AC, LAS CRUCES, NEW MEXICO 88001  
COLLEGE OF EDUCATION, AREA 505 646-2004

Claude C. Dove Learning Center

April 15, 1971

Dr. Frederick C. Lunenburg  
Graduate Faculty of Education  
University of Ottawa  
1245 Kilborn Avenue  
Ottawa 8, Ontario, Canada

Dear Dr. Lunenburg:

I appreciate your interest in the OCDQ, and have enclosed a copy of instructions for keypunching the cards, and the interpretation of the output. The book, of course, provides a more complete description for interpreting the scores.

When you have completed punching the cards, simply send them to me for scoring, and the scores will be returned to you in about a week. Please separate the cards by school, and indicate how many teachers are included in each school.

If further assistance is needed, please let me know. Thank you.

Yours truly,

Don B. Croft  
Director

to  
enc.

New Mexico State University  
COMPUTER CENTER

Organizational Climate Scoring Program

Direct Inquiries to: Dr. Don B. Croft, Director  
Claude C. Dove Learning Center  
Box 3AC  
New Mexico State University  
Las Cruces, New Mexico 88001

Purpose:

This program computes: Raw subtest scores for each subject 2) Double standardized subtest scores for each subject, and evaluates the type of climate perceived by each subject 3) mean subtest scores for the organization (Organizational Climate Profile Score), and 4) evaluates the type of climate present in the organization

1. The program accounts for missing data.
2. The scores are double standardized to a mean of 50 and a deviation of 10.
3. The program is written for the item arrangement found in the OCDQ Booklet form (see note #1 if the items use a scale with values different than 1, 2, 3, and 4).
4. The program is written in Fortran IV for an IBM 7040 Computer.
5. Output is printed or punched on cards.

Data Preparation:

When the booklet form of the OCDQ is used, the card for each subject is punched in the following format. This is the format that must be used with this program.

|              |                              |
|--------------|------------------------------|
| Col. 1 - 4   | Subject Number               |
| Col. 5 - 7   | Organization Number          |
| Col. 8 - 12  | The biographical information |
| Col. 13 - 80 | Responses to each OCDQ item  |

Control Card Preparation:

Two control cards with the following format are prepared. Decimals are not punched.

Control Card #1 (Prepare only one card for each job)

|              |       |                                                                                                                  |
|--------------|-------|------------------------------------------------------------------------------------------------------------------|
| Col. 1 - 5   |       | Punch the number of different leader-group units for which a climate profile is to be computed (right justified) |
| Col. 6       | Blank | Does not compute double-standardized scores for each subject                                                     |
|              | 1     | Print double-standardized scores                                                                                 |
|              | 2     | Punch double-standardized scores                                                                                 |
| Col. 7       | Blank | Does not output raw scores for each subject                                                                      |
|              | 1     | Punch raw scores                                                                                                 |
|              | 2     | Print raw scores                                                                                                 |
| Col. 11 - 80 |       | Punch any alpha-numeric identification for the job. (For example: Project name, date, etc.)                      |

Control Card #2 (Prepare this card for each different organization)

|              |                                                                                                  |
|--------------|--------------------------------------------------------------------------------------------------|
| Col. 1 - 5   | Number of subjects (right justified)                                                             |
| Col. 11 - 80 | Punch any alpha-numeric identification for each unit. For example, school name, group name, etc. |

#### Deck Input Sequence

A \$IESYS (Cols. 1 - 6)  
 B \$JOB  
 C \$IPJOB (Cols. 1 - 6) NCSOURCE (Cols. 16 - 23)  
 D BINARY DECK  
 E CONSTANTS DECK  
 F CONTROL CARD #1  
 G CONTROL CARD #2  
 H DATA CARDS

Control Card #2 for the Nth Organization  
 Data  
 (repeat G and H for each organization)

#### Note #1

The program was written to compute scores based upon the arrangement of items listed in the booklet form of the OCDQ. The sequence of items is the same as that listed in

the original report and the monograph. However, insure that the OCDQ items are punched beginning in column 13 and not column 1. If the items are arranged in any other sequence they must be repunched in this sequence before the program can be used. A board can easily be wired for an IBM 519 to put the items in the correct column.

### Note #2

If the OCDQ items have been rated on a scale with values from 6 - 9, replace the following cards in the "Constants" deck with the ones listed below (See identification of Constants Deck).

Card #1            Present card has a 5 punched in every column on the card.  
Replace existing card with a blank card.

Card #2            Present card has a 5 punched in columns 8, 16, and 50  
Replace existing card with one punched in the following manner:

|            |         |
|------------|---------|
| Col. 7     | Punch 1 |
| Col. 8     | " 5     |
| Col. 15    | " 1     |
| Col. 16    | " 5     |
| Col. 49    | " 1     |
| Col. 50    | " 5     |
| all others | Blank   |

Card #3            Present card has a 5 punched in cols. 26 and 46  
Replace existing card with one punched in the following manner:

|            |         |
|------------|---------|
| Col. 25    | Punch 1 |
| Col. 26    | " 5     |
| Col. 45    | " 1     |
| Col. 46    | " 5     |
| all others | Blank   |

### Identification of Constants Deck

Card #1            The constant added to each item responses to make the value range between 6 and 9.

Card #2            Negatively score items #16, 20, and 37 by subtracting the score from a constant and taking the absolute value of the difference.

Card #3                      Negatively score items #66 and 76

Cards #4 - 9                Ideal profile, respectively, for each climate type (one profile per card, in the order listed in the output)

Card #10                    Means used to normatively standardize the subtest scores.

Card #11                    Standard deviations used to normatively standardize the subtest scores.

Cards #12-19                A 1 is punched in the appropriate columns indicating which items are scored for each subtest.

### Output Interpretation

#### Subtest scores

|                     |                           |
|---------------------|---------------------------|
| DIS = Disengagement | ALO = Aloofness           |
| HIN = Hindrance     | PRO = Production Emphasis |
| EST = Esprit        | THR = Thrust              |
| INT = Intimacy      | CON = Consideration       |

#### Climate Types

|                  |                |
|------------------|----------------|
| OPN = Open       | FAM = Familiar |
| AUT = Autonomous | PAT = Paternal |
| CNT = Controlles | CLS = Closed   |

#### Climate Similarity Scores

A difference score between the climate profile score and the profile scores for each climate type is presented in the test problem output. The smallest climate similarity score among the six scores is selected to identify the climate of the organization. The largest similarity score indicate which climates the organization is NOT like.

If the climate similarity score is greater than approximately 45, the climate of the organization is not clearly one type or another. If an organization obtains low similarity scores for two types of climates, the organization possess characteristics of both climates. For example, the organization may have the attributes of both an open and autonomous climate.

## APPENDIX 5

### OCDQ PROFILE SCORES FOR FIFTY-THREE SCHOOLS

# APPENDIX 5

## OCDQ PROFILE SCORES FOR FIFTY-THREE SCHOOLS

| School<br>Code | Climate Dimensions |     |     |     |     |     |     |     |
|----------------|--------------------|-----|-----|-----|-----|-----|-----|-----|
|                | DIS                | HIN | ESP | INT | ALO | PRD | THR | CON |
| 1              | 60                 | 57  | 38  | 60  | 53  | 38  | 44  | 45  |
| 2              | 57                 | 58  | 44  | 49  | 57  | 57  | 32  | 42  |
| 3              | 55                 | 62  | 40  | 50  | 54  | 57  | 36  | 41  |
| 4              | 69                 | 59  | 44  | 46  | 44  | 44  | 42  | 49  |
| 5              | 55                 | 51  | 45  | 67  | 38  | 44  | 42  | 54  |
| 6              | 48                 | 53  | 40  | 62  | 58  | 53  | 33  | 49  |
| 7              | 46                 | 44  | 60  | 59  | 36  | 40  | 53  | 58  |
| 8              | 65                 | 56  | 40  | 52  | 53  | 48  | 35  | 46  |
| 9              | 30                 | 46  | 51  | 58  | 54  | 59  | 47  | 52  |
| 10             | 62                 | 61  | 36  | 47  | 41  | 52  | 43  | 52  |
| 11             | 40                 | 41  | 57  | 60  | 42  | 41  | 56  | 60  |
| 12             | 52                 | 64  | 44  | 39  | 50  | 42  | 44  | 61  |
| 13             | 62                 | 47  | 47  | 63  | 47  | 42  | 35  | 52  |
| 14             | 54                 | 60  | 46  | 35  | 61  | 54  | 44  | 42  |
| 15             | 68                 | 54  | 43  | 50  | 48  | 41  | 39  | 53  |
| 16             | 56                 | 41  | 43  | 54  | 56  | 64  | 36  | 46  |
| 17             | 45                 | 54  | 59  | 50  | 39  | 36  | 51  | 62  |
| 18             | 67                 | 49  | 42  | 59  | 43  | 48  | 39  | 50  |
| 19             | 63                 | 48  | 53  | 59  | 40  | 36  | 44  | 53  |
| 20             | 66                 | 56  | 48  | 50  | 40  | 37  | 44  | 54  |
| 21             | 41                 | 41  | 54  | 65  | 38  | 49  | 53  | 56  |
| 22             | 66                 | 60  | 40  | 48  | 43  | 44  | 43  | 52  |
| 23             | 60                 | 57  | 39  | 58  | 51  | 52  | 35  | 43  |
| 24             | 65                 | 41  | 43  | 63  | 45  | 46  | 44  | 50  |
| 25             | 46                 | 42  | 45  | 57  | 39  | 43  | 59  | 64  |
| 26             | 56                 | 46  | 42  | 48  | 51  | 33  | 55  | 64  |
| 27             | 53                 | 44  | 55  | 59  | 55  | 58  | 36  | 37  |
| 28             | 59                 | 67  | 48  | 43  | 49  | 42  | 40  | 48  |
| 29             | 68                 | 55  | 42  | 46  | 52  | 45  | 38  | 49  |
| 30             | 56                 | 53  | 51  | 64  | 43  | 32  | 47  | 50  |

| School<br>Code | Climate Dimensions |     |     |     |     |     |     |     |
|----------------|--------------------|-----|-----|-----|-----|-----|-----|-----|
|                | DIS                | HIN | ESP | INT | ALO | PRD | THR | CON |
| 31             | 65                 | 53  | 50  | 54  | 41  | 41  | 37  | 54  |
| 32             | 67                 | 55  | 40  | 53  | 43  | 43  | 41  | 53  |
| 33             | 40                 | 60  | 55  | 57  | 41  | 40  | 42  | 60  |
| 34             | 71                 | 50  | 43  | 48  | 49  | 41  | 45  | 50  |
| 35             | 46                 | 68  | 38  | 49  | 50  | 57  | 42  | 45  |
| 36             | 40                 | 53  | 56  | 33  | 62  | 48  | 52  | 53  |
| 37             | 54                 | 63  | 41  | 51  | 57  | 51  | 33  | 45  |
| 38             | 61                 | 60  | 36  | 49  | 58  | 44  | 41  | 48  |
| 39             | 61                 | 65  | 49  | 41  | 41  | 44  | 41  | 53  |
| 40             | 48                 | 65  | 48  | 38  | 59  | 55  | 40  | 44  |
| 41             | 53                 | 65  | 44  | 47  | 39  | 44  | 43  | 62  |
| 42             | 55                 | 63  | 47  | 38  | 59  | 38  | 44  | 52  |
| 43             | 56                 | 67  | 47  | 52  | 46  | 50  | 35  | 45  |
| 44             | 41                 | 39  | 60  | 56  | 40  | 45  | 55  | 61  |
| 45             | 67                 | 47  | 35  | 47  | 57  | 46  | 50  | 47  |
| 46             | 55                 | 46  | 48  | 57  | 50  | 65  | 36  | 39  |
| 47             | 61                 | 66  | 44  | 47  | 51  | 39  | 43  | 45  |
| 48             | 43                 | 45  | 57  | 49  | 66  | 57  | 41  | 40  |
| 49             | 59                 | 51  | 50  | 63  | 34  | 41  | 54  | 45  |
| 50             | 42                 | 55  | 40  | 52  | 53  | 43  | 42  | 68  |
| 51             | 57                 | 56  | 49  | 57  | 35  | 38  | 46  | 59  |
| 52             | 53                 | 53  | 47  | 49  | 51  | 48  | 30  | 64  |
| 53             | 52                 | 51  | 47  | 47  | 48  | 69  | 36  | 45  |

## APPENDIX 6

ESTIMATES OF INTERNAL CONSISTENCY AND OF  
EQUIVALENCE FOR THE EIGHT OCDQ SUBTESTS

## APPENDIX 6

### ESTIMATES OF INTERNAL CONSISTENCY AND OF EQUIVALENCE FOR THE EIGHT OCDQ SUBTESTS\*

| <u>OCDQ</u><br>Subtest              | Split-Half<br>Coefficient of<br>Reliability,<br>Corrected by the<br>Spearman-Brown<br>Formula <sup>a</sup><br>(N = 1151) | Correlation between<br>Scores of the Odd-<br>Numbered and the<br>Even-Numbered<br>Respondents in<br>Each School <sup>b</sup><br>(N = 71) |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Disengagement                    | .73                                                                                                                      | .59                                                                                                                                      |
| 2. Hindrance                        | .68                                                                                                                      | .54                                                                                                                                      |
| 3. Esprit                           | .75                                                                                                                      | .61                                                                                                                                      |
| 4. Intimacy                         | .60                                                                                                                      | .49                                                                                                                                      |
| 5. Aloofness                        | .26                                                                                                                      | .76                                                                                                                                      |
| 6. Production<br>Emphasis           | .55                                                                                                                      | .73                                                                                                                                      |
| 7. Thrust                           | .84                                                                                                                      | .75                                                                                                                                      |
| 8. Consideration                    | .59                                                                                                                      | .63                                                                                                                                      |
| a Estimate of internal consistency. |                                                                                                                          |                                                                                                                                          |
| b Estimate of equivalence.          |                                                                                                                          |                                                                                                                                          |

\* Andrew W. Halpin and Don B. Croft, The Organizational Climate of Schools, Chicago, Ill., The University of Chicago, Midwest Administration Center, 1963, p. 49.

## APPENDIX 7

BISERIAL CORRELATIONS FOR ITEMS OF PCI FORM

# APPENDIX 7

## Biserial Correlations for Items of PCI Form.\*\*

| Item<br>Number | Correlation<br>Coefficient | Item<br>Number | Correlation<br>Coefficient |
|----------------|----------------------------|----------------|----------------------------|
| 1              | .44                        | 11             | .42                        |
| 2              | .60                        | 12             | .48                        |
| 3              | .35                        | 13*            | .40                        |
| 4              | .38                        | 14             | .44                        |
| 5*             | .38                        | 15             | .39                        |
| 6              | .40                        | 16             | .44                        |
| 7              | .41                        | 17             | .33                        |
| 8              | .40                        | 18             | .36                        |
| 9              | .54                        | 19             | .33                        |
| 10             | .57                        | 20             | .53                        |

\* Indicates statement positive to the humanistic viewpoint.

\*\* Donald J. Willower, Terry L. Eidell, and Wayne K. Hoy, The School and Pupil Control Ideology, Penn State Studies No. 24, University Park, Pennsylvania, The Pennsylvania State University, 1967, p. 12.

## APPENDIX 8

PRINCIPALS' JUDGMENTS OF TEACHER IDEOLOGY AND  
TEACHER PCI FORM SCORES

## APPENDIX 9

MEAN PCI FORM SCORES OF TEACHERS IN HUMANISTIC SCHOOLS AND  
SCORES FOR TEACHERS IN OTHER SCHOOLS

# APPENDIX 9

Mean PCI Form Scores of Teachers in Humanistic Schools and  
Scores for Teachers in Other Schools.\*

| Teachers                     | N  | <u>PCI Form</u><br>Mean Score |
|------------------------------|----|-------------------------------|
| Humanistic Elementary School | 14 | 48.8                          |
| All other Elementary         | 87 | 52.9                          |
| Humanistic Secondary School  | 18 | 52.8                          |
| All other Secondary          | 51 | 60.5                          |

\*Donald J. Willower, Terry L. Eidell, and Wayne K. Hoy, The School and Pupil Control Ideology, Penn State Studies No. 24, University Park, Pennsylvania, The Pennsylvania State University, 1967, p. 14.

## APPENDIX 10

### CROSS-VALIDATION OF THE PCI FORM

APPENDIX 10

Cross-Validation of the PCI Form.\*

| Judged<br>Ideology | N  | <u>PCI Form</u><br>Mean Score |
|--------------------|----|-------------------------------|
| Custodial          | 19 | 61.6                          |
| Humanistic         | 21 | 54.0                          |

$t = 3.418$ ,  $df = 38$ ,  $p < .001$ .

\*Donald J. Willower, Terry L. Eidell, and Wayne K. Hoy, The School and Pupil Control Ideology, Penn State Studies No. 24, University Park, Pennsylvania, The Pennsylvania State University, 1967, p. 14.

APPENDIX 11

LETTER OF CONFIRMATION SENT TO PRINCIPALS

UNIVERSITÉ D'OTTAWA



OTTAWA ONTARIO  
CANADA K1N 6N5

UNIVERSITY OF OTTAWA

FACULTÉ D'ÉDUCATION  
ÉTUDES SUPÉRIEURES

FACULTY OF EDUCATION  
GRADUATE STUDIES

Dear

This note is to confirm my scheduled visit to your school to administer a questionnaire to your faculty, at a group faculty meeting as agreed.

School \_\_\_\_\_  
Date \_\_\_\_\_  
Time \_\_\_\_\_

Please advise me if this schedule is incorrect. (Phone 749-0368) or (231-4296, ext. 33).

Thanks again.

Sincerely,

Frederick C. Lunenburg

APPENDIX 12

ORAL DIRECTIONS

## APPENDIX 12

### ORAL DIRECTIONS

Good afternoon ladies and gentlemen.

You are being requested to participate in a research project which will be the basis for my doctoral dissertation in Educational Administration at the University of Ottawa.

Staff members from approximately fifty elementary schools in selected school districts in Ontario will be co-operating in this project.

In a few minutes you will receive the instruments which I will use to collect the data.

There are four separate sections to the questionnaire. Section one, called the Organizational Climate Description Questionnaire, is designed to identify the organizational climates of elementary schools. Section two, called the Opinion Questionnaire, is designed to secure your opinions on a number of social questions. Section three, called Form PCI, is designed to secure your opinions concerning certain aspects of teacher-pupil relations. Section four is a one-page information sheet.

The directions for each section are self-explanatory and are attached to each instrument.

1. Please read the directions for each section carefully and then proceed to answer all the questions. It is important that each question be answered. I realize that some of the questions may be difficult to answer with the information given, but please respond to each item as well as you can. I cannot interpret any item on the questionnaire for you; each person is to respond to each item just as he reads it, and in light of his own situation.
2. Do not spend too much time on any one item; your first natural response is probably your best. Since I am collecting opinions/and viewpoints, there are no right or wrong answers.

3. It is important that your answers be independent, so please do not discuss your answers with other teachers.
4. You will notice that your name is not requested. All replies are anonymous, and no individual or school will be named in any report of the research.
5. It will probably take you about 25 to 35 minutes to complete the entire questionnaire.

I appreciate your assistance and cooperation in this report.

Distribute the instruments.

## APPENDIX 13

ELEMENTARY SCHOOLS LISTED IN RANK ORDER ACCORDING TO  
ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE SCORES

# APPENDIX 13

## ELEMENTARY SCHOOLS LISTED IN RANK ORDER ACCORDING TO OCDQ SCORES

|                  | School<br>Code | School Subtest Scores |                 |    | Openness<br>Score |
|------------------|----------------|-----------------------|-----------------|----|-------------------|
|                  |                | Esprit+ Thrust        | - Disengagement | =  |                   |
| O<br>P<br>E<br>N | 44             | 60                    | 55              | 41 | 74                |
|                  | 11             | 57                    | 56              | 40 | 73                |
|                  | 9              | 51                    | 47              | 30 | 68                |
|                  | 36             | 56                    | 52              | 40 | 68                |
|                  | 7              | 60                    | 53              | 46 | 67                |
|                  | 21             | 54                    | 53              | 41 | 66                |
|                  | 17             | 59                    | 51              | 45 | 65                |
|                  | 25             | 45                    | 59              | 46 | 58                |
|                  | 33             | 55                    | 42              | 40 | 57                |
|                  | 48             | 57                    | 41              | 43 | 55                |
|                  | 49             | 50                    | 54              | 59 | 45                |
|                  | 30             | 51                    | 47              | 56 | 42                |
|                  | 26             | 42                    | 55              | 56 | 41                |
|                  | 40             | 48                    | 40              | 48 | 40                |
|                  | 50             | 40                    | 42              | 42 | 40                |
|                  | 27             | 55                    | 36              | 53 | 38                |
|                  | 51             | 49                    | 46              | 57 | 38                |
|                  | 12             | 44                    | 44              | 52 | 36                |
|                  | 14             | 46                    | 44              | 54 | 36                |
|                  | 42             | 47                    | 44              | 55 | 36                |
|                  | 19             | 53                    | 44              | 63 | 34                |
|                  | 35             | 38                    | 42              | 46 | 34                |
|                  | 41             | 44                    | 43              | 53 | 34                |
|                  | 5              | 45                    | 42              | 55 | 32                |
|                  | 53             | 47                    | 36              | 52 | 31                |
|                  | 28             | 48                    | 40              | 59 | 29                |
|                  | 39             | 49                    | 41              | 61 | 29                |
|                  | 46             | 48                    | 36              | 55 | 29                |
|                  | 20             | 48                    | 44              | 66 | 26                |
|                  | 43             | 47                    | 35              | 56 | 26                |
|                  | 47             | 44                    | 43              | 61 | 26                |
|                  | 6              | 40                    | 33              | 48 | 25                |
|                  | 52             | 47                    | 30              | 53 | 24                |
|                  | 16             | 43                    | 36              | 56 | 23                |
|                  | 1              | 38                    | 44              | 60 | 22                |
|                  | 24             | 43                    | 44              | 65 | 22                |
|                  | 31             | 50                    | 37              | 65 | 22                |
|                  | 3              | 40                    | 36              | 55 | 21                |
|                  | 13             | 47                    | 35              | 62 | 20                |
|                  | 37             | 41                    | 33              | 54 | 20                |

| School                     |    | School Subtest Scores           |    |    | = | Openness<br>Score |
|----------------------------|----|---------------------------------|----|----|---|-------------------|
| Code                       |    | Esprit + Thrust - Disengagement |    |    |   |                   |
| C<br>L<br>O<br>S<br>E<br>D | 2  | 44                              | 32 | 57 |   | 19                |
|                            | 45 | 35                              | 50 | 67 |   | 18                |
|                            | 4  | 44                              | 42 | 69 |   | 17                |
|                            | 10 | 36                              | 43 | 62 |   | 17                |
|                            | 22 | 40                              | 43 | 66 |   | 17                |
|                            | 34 | 43                              | 45 | 71 |   | 17                |
|                            | 38 | 36                              | 41 | 61 |   | 16                |
|                            | 15 | 43                              | 39 | 68 |   | 14                |
|                            | 18 | 42                              | 39 | 67 |   | 14                |
|                            | 23 | 39                              | 35 | 60 |   | 14                |
|                            | 32 | 40                              | 41 | 67 |   | 14                |
|                            | 29 | 42                              | 38 | 68 |   | 12                |
|                            | 8  | 40                              | 35 | 65 |   | 10                |

## APPENDIX 14

A COMPARISON OF THE RANGE, MEAN, AND STANDARD DEVIATION  
OF THE OPEN AND CLOSED MINDED TEACHER GROUPS ON  
THE DOGMATISM SCALE

## APPENDIX 14

A Comparison of the Range, Mean, and Standard Deviation  
of the Open and Closed Minded Teacher Groups on  
the Dogmatism Scale.

| Group  | Number | Range   | Mean   | Standard<br>Deviation |
|--------|--------|---------|--------|-----------------------|
| Open   | 225    | 53-129  | 113.60 | 14.33                 |
| Closed | 228    | 166-222 | 179.64 | 11.74                 |

## APPENDIX 15

MEAN PUPIL CONTROL IDEOLOGY SCORES OF OPEN AND  
CLOSED MINDED TEACHERS IN OPEN AND CLOSED  
CLIMATE SCHOOLS

# APPENDIX 15

## MEAN PUPIL CONTROL IDEOLOGY SCORES OF OPEN AND CLOSED MINDED TEACHERS IN OPEN AND CLOSED CLIMATE SCHOOLS

### DOGMATISM

|                   | Open Minded    |                   | Closed Minded  |                   |
|-------------------|----------------|-------------------|----------------|-------------------|
|                   | Cell 1         |                   | Cell 2         |                   |
| School<br>Climate | School<br>Code | Mean PCI<br>Score | School<br>Code | Mean PCI<br>Score |
|                   |                |                   |                |                   |
| OPEN              | 44             | 45.29             | 44             | 47.00             |
|                   | 11             | 50.00             | 11             | 54.50             |
|                   | 9              | 45.20             | 9              | 63.00             |
|                   | 36             | 41.67             | 36             | 68.67             |
|                   | 7              | 46.00             | 7              | 50.50             |
|                   | 21             | 46.38             | 21             | 57.50             |
|                   | 17             | 43.00             | 17             | 51.50             |
|                   | 25             | -----             | 25             | 46.33             |
|                   | 33             | 41.13             | 33             | 53.60             |
|                   | 48             | 52.00             | 48             | 61.67             |
|                   | 49             | 48.50             | 49             | 54.33             |
|                   | 30             | 45.83             | 30             | 52.50             |
|                   | 26             | 42.33             | 26             | 55.80             |
|                   | Cell Total     | 547.33            | Cell Total     | 716.90            |
|                   | Cell Mean      | 45.61             | Cell Mean      | 55.15             |
|                   |                |                   |                |                   |
|                   | Cell 3         |                   | Cell 4         |                   |
|                   |                |                   |                |                   |
| CLOSED            | 2              | 48.00             | 2              | 65.33             |
|                   | 45             | 46.50             | 45             | 51.00             |
|                   | 4              | 40.00             | 4              | 48.67             |
|                   | 10             | 44.00             | 10             | 56.10             |
|                   | 22             | 50.50             | 22             | 57.67             |
|                   | 34             | 39.00             | 34             | 55.40             |
|                   | 38             | 48.90             | 38             | 55.00             |
|                   | 15             | 46.25             | 15             | 51.00             |
|                   | 18             | 35.67             | 18             | 57.00             |
|                   | 23             | 52.00             | 23             | 54.50             |
|                   | 32             | 50.00             | 32             | 54.00             |
|                   | 29             | 42.00             | 29             | -----             |
|                   | 8              | 48.33             | 8              | 64.10             |
|                   | Cell Total     | 591.15            | Cell Total     | 669.74            |
|                   | Cell Mean      | 45.47             | Cell Mean      | 55.81             |

## APPENDIX 16

### ANALYSIS OF VARIANCE DATA FOR THE INFLUENCE OF ORGANIZATIONAL CLIMATE AND DOGMATISM ON PUPIL CONTROL IDEOLOGY USING FOUR LEVELS OF DOGMATISM

| Source of Variation | SS      | df | MS     | F       |
|---------------------|---------|----|--------|---------|
| Climate             | 131.77  | 1  | 131.77 | 5.34*   |
| Dogmatism           | 1373.44 | 3  | 457.81 | 18.57** |
| Interaction         | 110.76  | 3  | 36.92  | 1.49    |
| Error               | 2268.61 | 92 | 24.65  |         |

\*  $p < .05$ .

\*\*  $p < .01$ .

APPENDIX 17

MEAN PUPIL CONTROL IDEOLOGY SCORES OF OPEN  
AND CLOSED MINDED TEACHERS (FOUR LEVELS)  
IN OPEN AND CLOSED CLIMATE SCHOOLS

# APPENDIX 17

## MEAN PUPIL CONTROL IDEOLOGY SCORES OF OPEN AND CLOSED MINDED TEACHERS (FOUR LEVELS) IN OPEN AND CLOSED CLIMATE SCHOOLS

### DOGMATISM

|          | Very Low<br>(53-129) | Middle Low<br>(130-143) | Middle High<br>(144-165) | Very High<br>(166-222) |
|----------|----------------------|-------------------------|--------------------------|------------------------|
| I        | II                   |                         |                          |                        |
| Mean PCI | III                  |                         |                          |                        |
| Score    | IV                   |                         |                          |                        |
| 45.29    | 44.33                | 47.50                   | 47.00                    | 47.00                  |
| 50.00    | 48.20                | 53.00                   | 54.00                    | 54.50                  |
| 45.20    | 45.75                | 57.50                   | 57.50                    | 63.00                  |
| 41.67    | 44.00                | 49.40                   | 49.40                    | 68.67                  |
| 46.00    | 47.00                | 41.00                   | 41.00                    | 50.50                  |
| 46.38    | 48.40                | 54.00                   | 54.00                    | 57.50                  |
| 43.00    | 46.00                | 41.80                   | 41.80                    | 51.50                  |
| -----    | 44.50                | 49.00                   | 49.00                    | 46.33                  |
| 41.13    | 40.50                | 48.71                   | 48.71                    | 53.60                  |
| 52.00    | 50.75                | 46.80                   | 46.80                    | 61.61                  |
| 48.50    | 52.00                | 50.50                   | 50.50                    | 54.33                  |
| 45.83    | 51.40                | 51.66                   | 51.66                    | 52.50                  |
| 42.33    | 49.50                | 52.42                   | 52.42                    | 55.80                  |
| 547.33   | 612.33               | 643.29                  | 716.90                   | Cell Total             |
| 45.61    | 47.10                | 49.48                   | 55.15                    | Cell Mean              |

OPEN

ORGANIZATIONAL CLIMATE

N = number of schools

T = number of teachers

# APPENDIX 17

|                   | Very Low<br>(53-129) | Middle Low<br>(130-143) | Middle High<br>(144-165) | Very High<br>(166-222) |
|-------------------|----------------------|-------------------------|--------------------------|------------------------|
| V                 | VI                   | VII                     | VIII                     |                        |
| Mean PCI<br>Score |                      |                         |                          |                        |
| 48.00             | 51.00                | 55.50                   | 65.33                    |                        |
| 46.50             | 49.50                | 54.40                   | 51.00                    |                        |
| 40.00             | 47.00                | 49.50                   | 48.67                    |                        |
| 44.00             | 48.12                | 50.75                   | 56.10                    |                        |
| 50.50             | 45.50                | 52.42                   | 57.67                    |                        |
| 39.00             | -----                | 61.60                   | 55.40                    | N = 12                 |
| 48.90             | 56.00                | 55.50                   | 55.00                    |                        |
| 46.25             | 45.83                | 53.55                   | 51.00                    |                        |
| 35.67             | 42.25                | 58.00                   | 57.00                    | T = 66                 |
| 52.00             | 68.00                | 62.50                   | 54.50                    |                        |
| 50.00             | 54.80                | 51.33                   | 54.00                    |                        |
| 42.00             | -----                | 54.00                   | 64.10                    |                        |
| 48.33             | 50.33                | 48.75                   |                          |                        |
| 591.15            | Cell Total           | 707.80                  | 669.74                   | Cell Total             |
| 45.47             | Cell Mean            | 54.44                   | 55.81                    | Cell Mean              |

N = number of schools

T = number of teachers

ORGANIZATIONAL CLIMATE

CLOSED

APPENDIX 18

MEANS AND STANDARD DEVIATIONS FOR PUPIL CONTROL IDEOLOGY  
AND DOGMATISM OF TEACHERS IN OPEN AND CLOSED SCHOOLS

# APPENDIX 18

## MEANS AND STANDARD DEVIATIONS FOR PUPIL CONTROL IDEOLOGY AND DOGMATISM OF TEACHERS IN OPEN AND CLOSED SCHOOLS

| School | N   | Climate<br>Openness | Pupil Control<br>Ideology |       | Dogmatism |       |
|--------|-----|---------------------|---------------------------|-------|-----------|-------|
|        |     |                     | Mean                      | S.D.  | Mean      | S.D.  |
| Open   |     |                     |                           |       |           |       |
| 44     | 14  | 74                  | 45.64                     | 5.69  | 136.21    | 17.82 |
| 11     | 12  | 73                  | 51.25                     | 7.91  | 153.42    | 25.39 |
| 9      | 22  | 68                  | 50.77                     | 9.48  | 138.36    | 25.84 |
| 36     | 13  | 68                  | 51.23                     | 12.97 | 149.92    | 23.80 |
| 7      | 17  | 67                  | 46.82                     | 4.89  | 142.29    | 21.73 |
| 21     | 16  | 66                  | 48.88                     | 6.89  | 130.31    | 27.81 |
| 17     | 14  | 65                  | 44.43                     | 9.34  | 143.93    | 28.58 |
| 25     | 9   | 58                  | 47.11                     | 6.41  | 156.78    | 14.76 |
| 33     | 24  | 57                  | 45.83                     | 9.31  | 141.54    | 30.20 |
| 48     | 13  | 55                  | 51.85                     | 7.47  | 152.85    | 22.17 |
| 49     | 11  | 45                  | 52.36                     | 6.80  | 162.55    | 25.65 |
| 30     | 25  | 42                  | 50.48                     | 7.76  | 150.76    | 24.33 |
| 26     | 22  | 41                  | 50.46                     | 11.65 | 147.00    | 22.99 |
| Closed |     |                     |                           |       |           |       |
| 2      | 10  | 19                  | 55.90                     | 7.70  | 145.90    | 21.13 |
| 45     | 14  | 18                  | 51.14                     | 8.84  | 147.57    | 23.92 |
| 4      | 21  | 17                  | 45.95                     | 6.29  | 142.38    | 22.89 |
| 10     | 35  | 17                  | 49.94                     | 8.09  | 142.29    | 31.41 |
| 22     | 20  | 17                  | 53.90                     | 7.60  | 162.00    | 26.11 |
| 34     | 11  | 17                  | 56.73                     | 9.61  | 162.82    | 27.14 |
| 38     | 30  | 16                  | 53.07                     | 9.16  | 153.37    | 34.00 |
| 15     | 24  | 14                  | 49.08                     | 6.37  | 138.00    | 22.07 |
| 18     | 12  | 14                  | 46.92                     | 12.28 | 142.33    | 26.05 |
| 23     | 10  | 14                  | 58.80                     | 9.58  | 159.10    | 20.22 |
| 32     | 12  | 14                  | 52.67                     | 6.75  | 144.00    | 11.83 |
| 29     | 10  | 12                  | 49.20                     | 10.69 | 133.30    | 41.39 |
| 8      | 19  | 10                  | 56.21                     | 10.78 | 156.26    | 33.34 |
| 26     | 440 | -                   | 50.42                     | 9.06  | 146.85    | 27.07 |

APPENDIX 19

CLIMATE OPENNESS SCORES, MEANS AND STANDARD DEVIATIONS  
FOR PUPIL CONTROL IDEOLOGY AND DOGMATISM OF TEACHERS  
IN FIFTY-THREE ELEMENTARY SCHOOLS

# APPENDIX 19

## CLIMATE OPENNESS SCORES, MEANS AND STANDARD DEVIATIONS FOR PUPIL CONTROL IDEOLOGY AND DOGMATISM OF TEACHERS IN FIFTY-THREE ELEMENTARY SCHOOLS

| School | N  | Climate<br>Openness | Pupil Control<br>Ideology |       | Dogmatism |       |
|--------|----|---------------------|---------------------------|-------|-----------|-------|
|        |    |                     | Mean                      | S.D.  | Mean      | S.D.  |
| 1      | 22 | 22                  | 49.41                     | 6.26  | 136.00    | 22.65 |
| 2      | 10 | 19                  | 55.90                     | 7.70  | 145.90    | 21.13 |
| 3      | 25 | 21                  | 53.84                     | 6.97  | 151.88    | 20.37 |
| 4      | 21 | 17                  | 45.95                     | 6.29  | 142.38    | 22.89 |
| 5      | 18 | 32                  | 49.72                     | 8.84  | 140.33    | 21.73 |
| 6      | 15 | 25                  | 51.20                     | 11.56 | 136.47    | 27.78 |
| 7      | 17 | 67                  | 46.82                     | 4.89  | 142.29    | 21.73 |
| 8      | 19 | 10                  | 56.21                     | 10.78 | 156.26    | 33.34 |
| 9      | 22 | 68                  | 50.77                     | 9.48  | 138.36    | 25.84 |
| 10     | 35 | 17                  | 49.94                     | 8.09  | 142.29    | 31.41 |
| 11     | 12 | 73                  | 51.25                     | 7.91  | 153.42    | 25.39 |
| 12     | 12 | 36                  | 52.25                     | 12.82 | 156.42    | 34.72 |
| 13     | 30 | 20                  | 49.87                     | 7.99  | 148.57    | 24.07 |
| 14     | 22 | 36                  | 49.91                     | 6.58  | 139.00    | 27.29 |
| 15     | 24 | 14                  | 49.08                     | 6.37  | 138.00    | 22.07 |
| 16     | 15 | 23                  | 48.67                     | 9.37  | 135.87    | 27.92 |
| 17     | 14 | 65                  | 44.43                     | 9.34  | 143.93    | 28.58 |
| 18     | 12 | 14                  | 46.92                     | 12.28 | 142.33    | 26.05 |
| 19     | 21 | 34                  | 47.86                     | 7.06  | 144.38    | 23.04 |
| 20     | 16 | 26                  | 48.06                     | 9.98  | 145.31    | 29.96 |
| 21     | 16 | 66                  | 48.88                     | 6.89  | 130.31    | 27.81 |
| 22     | 20 | 17                  | 53.90                     | 7.60  | 162.00    | 26.11 |
| 23     | 10 | 14                  | 58.80                     | 9.58  | 159.10    | 20.22 |
| 24     | 17 | 22                  | 52.24                     | 8.90  | 139.76    | 23.55 |
| 25     | 9  | 58                  | 47.11                     | 6.41  | 156.78    | 14.76 |
| 26     | 22 | 41                  | 50.46                     | 11.65 | 147.00    | 22.99 |
| 27     | 20 | 38                  | 48.40                     | 9.36  | 148.85    | 28.38 |
| 28     | 18 | 29                  | 49.22                     | 9.94  | 141.94    | 24.21 |
| 29     | 10 | 12                  | 49.20                     | 10.69 | 133.30    | 41.39 |
| 30     | 25 | 42                  | 50.48                     | 7.76  | 150.76    | 24.33 |

| School | N   | Climate<br>Openness | Pupil Control<br>Ideology |       | Dogmatism |       |
|--------|-----|---------------------|---------------------------|-------|-----------|-------|
|        |     |                     | Mean                      | S.D.  | Mean      | S.D.  |
| 31     | 36  | 22                  | 52.94                     | 8.93  | 139.03    | 22.61 |
| 32     | 12  | 14                  | 52.67                     | 6.75  | 144.00    | 11.83 |
| 33     | 24  | 57                  | 45.83                     | 9.31  | 141.54    | 30.20 |
| 34     | 11  | 17                  | 56.73                     | 9.61  | 162.82    | 27.14 |
| 35     | 20  | 34                  | 50.85                     | 9.40  | 154.45    | 26.97 |
| 36     | 13  | 68                  | 51.23                     | 12.97 | 149.92    | 23.80 |
| 37     | 14  | 20                  | 50.64                     | 7.07  | 139.86    | 22.03 |
| 38     | 30  | 16                  | 53.07                     | 9.16  | 153.37    | 34.00 |
| 39     | 19  | 29                  | 53.11                     | 8.42  | 158.21    | 20.41 |
| 40     | 9   | 40                  | 54.89                     | 6.41  | 139.33    | 20.02 |
| 41     | 14  | 34                  | 55.36                     | 10.60 | 140.14    | 22.39 |
| 42     | 14  | 36                  | 53.29                     | 7.86  | 157.29    | 21.11 |
| 43     | 18  | 26                  | 54.22                     | 7.40  | 140.39    | 15.22 |
| 44     | 14  | 74                  | 45.64                     | 5.69  | 136.21    | 17.82 |
| 45     | 14  | 18                  | 51.14                     | 8.84  | 147.57    | 23.92 |
| 46     | 25  | 29                  | 53.92                     | 8.85  | 152.72    | 17.88 |
| 47     | 20  | 26                  | 55.30                     | 10.56 | 151.90    | 28.37 |
| 48     | 13  | 55                  | 51.85                     | 7.47  | 152.85    | 22.17 |
| 49     | 11  | 45                  | 52.36                     | 6.80  | 162.55    | 25.65 |
| 50     | 12  | 40                  | 54.42                     | 5.40  | 162.25    | 24.48 |
| 51     | 11  | 38                  | 53.82                     | 8.57  | 153.36    | 33.54 |
| 52     | 14  | 24                  | 55.14                     | 9.65  | 157.50    | 24.44 |
| 53     | 8   | 31                  | 52.25                     | 9.54  | 149.38    | 17.86 |
| 53     | 925 | -                   | 51.11                     | 8.94  | 146.56    | 25.92 |

APPENDIX 20

ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE, PUPIL  
CONTROL IDEOLOGY, AND DOGMATISM RAW SCORES FOR EACH  
SUBJECT BY SCHOOL

# APPENDIX 20

## ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE, PUPIL CONTROL IDEOLOGY, AND DOGMATISM RAW SCORES FOR EACH SUBJECT BY SCHOOL

| Subject  | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| School 1 |     |     |     |     |     |     |     |     |     |      |
| 1        | 66  | 71  | 74  | 72  | 65  | 75  | 75  | 66  | 43  | 151  |
| 2        | 71  | 73  | 74  | 75  | 73  | 68  | 82  | 70  | 55  | 153  |
| 3        | 64  | 71  | 82  | 75  | 68  | 62  | 85  | 71  | 47  | 120  |
| 4        | 64  | 65  | 85  | 74  | 66  | 67  | 82  | 68  | 54  | 116  |
| 5        | 66  | 66  | 82  | 71  | 68  | 72  | 81  | 68  | 51  | 169  |
| 6        | 67  | 70  | 82  | 75  | 75  | 65  | 82  | 73  | 37  | 116  |
| 7        | 61  | 63  | 81  | 77  | 67  | 71  | 82  | 73  | 49  | 134  |
| 8        | 64  | 66  | 78  | 77  | 68  | 74  | 80  | 68  | 50  | 171  |
| 9        | 66  | 70  | 79  | 78  | 74  | 68  | 76  | 70  | 50  | 139  |
| 10       | 69  | 71  | 77  | 68  | 76  | 71  | 78  | 70  | 47  | 143  |
| 11       | 73  | 71  | 72  | 75  | 80  | 71  | 71  | 70  | 52  | 114  |
| 12       | 69  | 71  | 74  | 75  | 75  | 62  | 75  | 70  | 61  | 138  |
| 13       | 69  | 76  | 76  | 75  | 75  | 68  | 86  | 68  | 42  | 101  |
| 14       | 65  | 63  | 80  | 77  | 67  | 70  | 80  | 66  | 54  | 135  |
| 15       | 71  | 70  | 70  | 72  | 72  | 67  | 72  | 70  | 54  | 104  |
| 16       | 69  | 70  | 83  | 80  | 67  | 68  | 84  | 76  | 46  | 144  |
| 17       | 72  | 76  | 80  | 80  | 74  | 75  | 77  | 78  | 50  | 128  |
| 18       | 73  | 81  | 75  | 71  | 76  | 71  | 84  | 75  | 41  | 127  |
| 19       | 65  | 73  | 78  | 68  | 72  | 70  | 90  | 73  | 64  | 183  |
| 20       | 70  | 76  | 70  | 70  | 74  | 68  | 68  | 65  | 48  | 125  |
| 21       | 65  | 75  | 83  | 77  | 67  | 71  | 82  | 75  | 45  | 168  |
| 22       | 68  | 73  | 83  | 70  | 71  | 67  | 81  | 71  | 47  | 113  |
| School 2 |     |     |     |     |     |     |     |     |     |      |
| 1        | 72  | 73  | 82  | 72  | 75  | 77  | 68  | 65  | 69  | 173  |
| 2        | 67  | 71  | 77  | 72  | 77  | 74  | 68  | 63  | 65  | 171  |
| 3        | 68  | 75  | 79  | 74  | 70  | 74  | 74  | 70  | 49  | 131  |
| 4        | 76  | 78  | 77  | 74  | 70  | 70  | 81  | 71  | 59  | 146  |
| 5        | 68  | 71  | 76  | 75  | 76  | 81  | 64  | 71  | 56  | 132  |
| 6        | 69  | 73  | 79  | 74  | 77  | 76  | 75  | 73  | 48  | 107  |
| 7        | 61  | 75  | 83  | 65  | 75  | 72  | 73  | 60  | 62  | 169  |
| 8        | 68  | 80  | 86  | 77  | 78  | 82  | 77  | 71  | 53  | 139  |
| 9        | 74  | 75  | 78  | 75  | 73  | 77  | 75  | 73  | 46  | 137  |
| 10       | 69  | 73  | 75  | 68  | 71  | 74  | 78  | 71  | 52  | 154  |

| Subject  | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| School 3 |     |     |     |     |     |     |     |     |     |      |
| 1        | 67  | 70  | 74  | 65  | 82  | 78  | 70  | 61  | 67  | 191  |
| 2        | 62  | 75  | 80  | 78  | 71  | 78  | 82  | 74  | 54  | 140  |
| 3        | 68  | 81  | 74  | 67  | 71  | 72  | 77  | 63  | 56  | 131  |
| 4        | 61  | 63  | 85  | 65  | 68  | 67  | 77  | 70  | 43  | 135  |
| 5        | 66  | 76  | 72  | 70  | 74  | 67  | 67  | 63  | 55  | 179  |
| 6        | 67  | 76  | 81  | 72  | 73  | 78  | 81  | 71  | 52  | 170  |
| 7        | 67  | 75  | 75  | 81  | 75  | 78  | 74  | 66  | 52  | 166  |
| 8        | 64  | 85  | 79  | 77  | 71  | 77  | 73  | 63  | 60  | 186  |
| 9        | 68  | 75  | 86  | 71  | 75  | 72  | 78  | 68  | 51  | 132  |
| 10       | 70  | 66  | 82  | 80  | 70  | 82  | 82  | 78  | 56  | 162  |
| 11       | 66  | 76  | 76  | 72  | 67  | 72  | 67  | 63  | 53  | 184  |
| 12       | 63  | 70  | 78  | 78  | 70  | 74  | 80  | 71  | 44  | 130  |
| 13       | 81  | 75  | 72  | 74  | 63  | 71  | 75  | 65  | 48  | 154  |
| 14       | 65  | 81  | 80  | 77  | 73  | 70  | 75  | 73  | 62  | 154  |
| 15       | 73  | 83  | 73  | 62  | 74  | 84  | 76  | 83  | 60  | 158  |
| 16       | 71  | 73  | 78  | 75  | 76  | 81  | 78  | 68  | 44  | 132  |
| 17       | 73  | 75  | 71  | 62  | 70  | 67  | 65  | 65  | 47  | 119  |
| 18       | 66  | 81  | 71  | 71  | 71  | 72  | 76  | 65  | 47  | 146  |
| 19       | 67  | 78  | 79  | 74  | 73  | 77  | 81  | 68  | 59  | 133  |
| 20       | 77  | 83  | 72  | 72  | 75  | 74  | 75  | 65  | 43  | 166  |
| 21       | 70  | 65  | 89  | 71  | 75  | 81  | 84  | 76  | 55  | 144  |
| 22       | 70  | 76  | 79  | 74  | 77  | 80  | 72  | 65  | 57  | 132  |
| 23       | 62  | 66  | 76  | 71  | 72  | 72  | 77  | 68  | 52  | 148  |
| 24       | 65  | 78  | 71  | 72  | 77  | 71  | 70  | 65  | 65  | 169  |
| 25       | 67  | 78  | 74  | 78  | 72  | 78  | 77  | 75  | 64  | 136  |
| School 4 |     |     |     |     |     |     |     |     |     |      |
| 1        | 63  | 66  | 90  | 67  | 70  | 72  | 85  | 75  | 42  | 132  |
| 2        | 76  | 75  | 79  | 74  | 66  | 67  | 81  | 65  | 45  | 113  |
| 3        | 68  | 63  | 81  | 72  | 67  | 68  | 84  | 75  | 44  | 119  |
| 4        | 73  | 73  | 80  | 71  | 67  | 68  | 78  | 73  | 50  | 163  |
| 5        | 64  | 70  | 85  | 75  | 64  | 70  | 82  | 73  | 53  | 130  |
| 6        | 67  | 66  | 83  | 72  | 75  | 74  | 80  | 76  | 41  | 177  |
| 7        | 83  | 78  | 76  | 74  | 81  | 77  | 82  | 65  | 45  | 136  |
| 8        | 69  | 73  | 81  | 75  | 68  | 71  | 81  | 75  | 50  | 143  |
| 9        | 71  | 70  | 81  | 78  | 70  | 77  | 86  | 80  | 39  | 118  |
| 10       | 72  | 80  | 76  | 72  | 77  | 70  | 76  | 65  | 51  | 192  |
| 11       | 78  | 75  | 79  | 81  | 72  | 80  | 75  | 71  | 54  | 174  |
| 12       | 65  | 71  | 80  | 81  | 71  | 72  | 86  | 86  | 26  | 102  |
| 13       | 67  | 86  | 87  | 68  | 72  | 71  | 86  | 81  | 43  | 121  |
| 14       | 67  | 78  | 83  | 70  | 72  | 71  | 84  | 76  | 50  | 138  |
| 15       | 71  | 78  | 76  | 75  | 71  | 65  | 74  | 73  | 47  | 162  |

| Subject | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 16      | 71  | 73  | 79  | 64  | 72  | 77  | 80  | 70  | 49  | 147  |
| 17      | 70  | 75  | 72  | 67  | 74  | 71  | 74  | 68  | 42  | 143  |
| 18      | 76  | 75  | 82  | 74  | 76  | 75  | 75  | 66  | 51  | 162  |
| 19      | 76  | 76  | 72  | 68  | 71  | 70  | 74  | 70  | 48  | 145  |
| 20      | 64  | 63  | 88  | 75  | 71  | 68  | 86  | 83  | 52  | 144  |
| 21      | 61  | 68  | 82  | 68  | 66  | 70  | 85  | 65  | 43  | 129  |

## School 5

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 61 | 66 | 81 | 68 | 68 | 74 | 73 | 65 | 48 | 173 |
| 2  | 70 | 80 | 80 | 82 | 67 | 71 | 74 | 66 | 45 | 138 |
| 3  | 66 | 78 | 76 | 77 | 66 | 67 | 74 | 68 | 47 | 109 |
| 4  | 63 | 74 | 83 | 84 | 73 | 72 | 78 | 75 | 51 | 168 |
| 5  | 63 | 63 | 81 | 82 | 67 | 68 | 84 | 76 | 57 | 149 |
| 6  | 71 | 70 | 72 | 72 | 73 | 71 | 72 | 66 | 49 | 112 |
| 7  | 68 | 80 | 82 | 74 | 67 | 75 | 77 | 71 | 52 | 145 |
| 8  | 66 | 66 | 79 | 74 | 63 | 62 | 83 | 81 | 52 | 135 |
| 9  | 68 | 73 | 78 | 74 | 68 | 70 | 74 | 70 | 51 | 152 |
| 10 | 71 | 80 | 72 | 75 | 73 | 67 | 73 | 68 | 63 | 137 |
| 11 | 69 | 72 | 79 | 81 | 66 | 74 | 80 | 73 | 41 | 142 |
| 12 | 62 | 66 | 78 | 78 | 68 | 72 | 84 | 73 | 59 | 159 |
| 13 | 75 | 68 | 85 | 74 | 72 | 82 | 85 | 85 | 60 | 164 |
| 14 | 60 | 61 | 87 | 72 | 71 | 71 | 85 | 78 | 56 | 157 |
| 15 | 65 | 66 | 81 | 82 | 68 | 65 | 80 | 76 | 59 | 145 |
| 16 | 65 | 66 | 88 | 77 | 73 | 75 | 82 | 63 | 35 | 107 |
| 17 | 74 | 71 | 73 | 72 | 67 | 65 | 90 | 83 | 37 | 136 |
| 18 | 69 | 63 | 81 | 75 | 71 | 68 | 84 | 80 | 33 | 98  |

## School 6

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 65 | 75 | 75 | 70 | 68 | 70 | 76 | 66 | 39 | 143 |
| 2  | 63 | 68 | 79 | 74 | 73 | 71 | 74 | 71 | 54 | 116 |
| 3  | 64 | 70 | 77 | 74 | 72 | 67 | 74 | 73 | 37 | 164 |
| 4  | 65 | 63 | 79 | 70 | 72 | 74 | 78 | 70 | 68 | 122 |
| 5  | 61 | 70 | 85 | 80 | 72 | 75 | 78 | 73 | 65 | 138 |
| 6  | 64 | 66 | 75 | 75 | 75 | 70 | 76 | 68 | 52 | 138 |
| 7  | 68 | 65 | 76 | 72 | 72 | 77 | 77 | 76 | 63 | 149 |
| 8  | 69 | 76 | 80 | 75 | 70 | 68 | 74 | 65 | 52 | 129 |
| 9  | 65 | 75 | 77 | 80 | 73 | 71 | 68 | 70 | 59 | 148 |
| 10 | 61 | 68 | 81 | 78 | 70 | 80 | 88 | 88 | 47 | 156 |
| 11 | 70 | 65 | 78 | 77 | 76 | 74 | 78 | 81 | 52 | 153 |
| 12 | 62 | 76 | 78 | 78 | 71 | 64 | 67 | 63 | 50 | 128 |
| 13 | 70 | 70 | 76 | 71 | 78 | 74 | 74 | 70 | 24 | 53  |
| 14 | 63 | 66 | 77 | 72 | 72 | 75 | 81 | 71 | 47 | 173 |
| 15 | 66 | 76 | 74 | 75 | 73 | 72 | 73 | 63 | 59 | 137 |

| Subject | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|

---

## School 7

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 66 | 66 | 79 | 75 | 64 | 70 | 78 | 76 | 40 | 138 |
| 2  | 64 | 76 | 79 | 72 | 66 | 61 | 78 | 70 | 49 | 127 |
| 3  | 67 | 73 | 85 | 74 | 68 | 64 | 83 | 75 | 56 | 177 |
| 4  | 64 | 68 | 79 | 72 | 66 | 71 | 80 | 76 | 52 | 143 |
| 5  | 66 | 68 | 89 | 81 | 73 | 68 | 85 | 80 | 46 | 124 |
| 6  | 62 | 63 | 85 | 68 | 64 | 65 | 85 | 73 | 39 | 105 |
| 7  | 64 | 70 | 87 | 75 | 70 | 74 | 81 | 71 | 48 | 133 |
| 8  | 64 | 61 | 88 | 78 | 70 | 72 | 83 | 73 | 45 | 165 |
| 9  | 65 | 65 | 87 | 71 | 67 | 68 | 86 | 73 | 48 | 166 |
| 10 | 62 | 61 | 86 | 81 | 68 | 60 | 85 | 80 | 43 | 133 |
| 11 | 66 | 70 | 83 | 77 | 70 | 68 | 81 | 70 | 51 | 143 |
| 12 | 64 | 63 | 87 | 78 | 63 | 72 | 84 | 76 | 48 | 176 |
| 13 | 64 | 61 | 83 | 72 | 63 | 70 | 85 | 78 | 37 | 145 |
| 14 | 70 | 70 | 89 | 85 | 68 | 75 | 86 | 85 | 48 | 138 |
| 15 | 64 | 76 | 83 | 78 | 65 | 70 | 83 | 76 | 50 | 169 |
| 16 | 65 | 65 | 87 | 81 | 68 | 70 | 85 | 83 | 50 | 126 |
| 17 | 62 | 68 | 83 | 71 | 66 | 61 | 81 | 71 | 46 | 111 |

## School 8

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 80 | 78 | 66 | 75 | 81 | 67 | 70 | 61 | 76 | 166 |
| 2  | 66 | 75 | 78 | 75 | 73 | 74 | 76 | 68 | 76 | 169 |
| 3  | 74 | 75 | 73 | 64 | 74 | 72 | 63 | 63 | 52 | 173 |
| 4  | 70 | 68 | 83 | 75 | 71 | 68 | 78 | 71 | 54 | 133 |
| 5  | 61 | 63 | 83 | 64 | 62 | 71 | 77 | 73 | 46 | 141 |
| 6  | 72 | 78 | 76 | 75 | 71 | 67 | 67 | 65 | 51 | 132 |
| 7  | 71 | 63 | 77 | 80 | 75 | 75 | 85 | 80 | 52 | 204 |
| 8  | 68 | 71 | 80 | 72 | 66 | 75 | 82 | 75 | 74 | 201 |
| 9  | 68 | 73 | 72 | 71 | 66 | 64 | 70 | 70 | 46 | 100 |
| 10 | 73 | 70 | 77 | 71 | 77 | 78 | 68 | 78 | 45 | 115 |
| 11 | 73 | 71 | 67 | 74 | 77 | 67 | 71 | 65 | 57 | 179 |
| 12 | 72 | 73 | 75 | 72 | 68 | 67 | 60 | 66 | 50 | 148 |
| 13 | 72 | 66 | 77 | 72 | 75 | 74 | 75 | 68 | 45 | 155 |
| 14 | 67 | 70 | 82 | 82 | 68 | 74 | 71 | 73 | 49 | 147 |
| 15 | 68 | 76 | 75 | 75 | 71 | 67 | 72 | 71 | 54 | 89  |
| 16 | 75 | 76 | 71 | 75 | 73 | 71 | 72 | 70 | 74 | 188 |
| 17 | 84 | 80 | 72 | 62 | 74 | 70 | 64 | 63 | 55 | 198 |
| 18 | 62 | 63 | 81 | 70 | 67 | 65 | 81 | 70 | 51 | 145 |
| 19 | 76 | 76 | 69 | 72 | 74 | 71 | 76 | 61 | 61 | 186 |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| <hr/>     |     |     |     |     |     |     |     |     |     |      |
| School 9  |     |     |     |     |     |     |     |     |     |      |
| 1         | 72  | 76  | 74  | 68  | 71  | 72  | 78  | 66  | 73  | 166  |
| 2         | 62  | 70  | 84  | 74  | 70  | 74  | 75  | 66  | 43  | 120  |
| 3         | 62  | 68  | 83  | 73  | 76  | 82  | 84  | 76  | 63  | 188  |
| 4         | 68  | 76  | 79  | 67  | 75  | 77  | 73  | 70  | 57  | 185  |
| 5         | 63  | 73  | 84  | 72  | 68  | 72  | 85  | 71  | 34  | 136  |
| 6         | 64  | 68  | 86  | 74  | 68  | 82  | 85  | 76  | 52  | 153  |
| 7         | 65  | 73  | 80  | 75  | 71  | 78  | 83  | 71  | 62  | 159  |
| 8         | 63  | 75  | 82  | 65  | 77  | 80  | 80  | 71  | 57  | 149  |
| 9         | 64  | 73  | 85  | 78  | 76  | 75  | 81  | 73  | 43  | 132  |
| 10        | 65  | 65  | 78  | 77  | 75  | 70  | 88  | 81  | 59  | 173  |
| 11        | 64  | 68  | 83  | 82  | 70  | 75  | 88  | 86  | 51  | 136  |
| 12        | 61  | 66  | 84  | 77  | 73  | 72  | 85  | 71  | 52  | 124  |
| 13        | 62  | 73  | 86  | 84  | 73  | 71  | 84  | 73  | 48  | 129  |
| 14        | 65  | 63  | 85  | 74  | 74  | 72  | 85  | 65  | 35  | 112  |
| 15        | 60  | 68  | 81  | 72  | 67  | 75  | 82  | 71  | 48  | 113  |
| 16        | 62  | 68  | 80  | 71  | 72  | 71  | 78  | 73  | 48  | 123  |
| 17        | 65  | 75  | 79  | 72  | 74  | 71  | 80  | 66  | 59  | 154  |
| 18        | 67  | 68  | 85  | 80  | 74  | 74  | 82  | 78  | 47  | 122  |
| 19        | 63  | 70  | 83  | 78  | 74  | 78  | 76  | 68  | 55  | 141  |
| 20        | 63  | 70  | 86  | 78  | 72  | 67  | 87  | 86  | 40  | 79   |
| 21        | 66  | 71  | 78  | 75  | 73  | 77  | 85  | 83  | 49  | 127  |
| 22        | 64  | 66  | 80  | 77  | 74  | 72  | 82  | 75  | 42  | 123  |
| School 10 |     |     |     |     |     |     |     |     |     |      |
| 1         | 70  | 66  | 84  | 75  | 73  | 67  | 77  | 73  | 43  | 157  |
| 2         | 72  | 66  | 78  | 72  | 73  | 80  | 78  | 70  | 59  | 177  |
| 3         | 67  | 71  | 84  | 75  | 67  | 75  | 87  | 75  | 50  | 117  |
| 4         | 67  | 70  | 82  | 72  | 67  | 71  | 80  | 76  | 47  | 133  |
| 5         | 72  | 71  | 83  | 75  | 65  | 78  | 87  | 73  | 55  | 156  |
| 6         | 65  | 73  | 75  | 72  | 72  | 71  | 75  | 66  | 47  | 135  |
| 7         | 70  | 78  | 79  | 71  | 73  | 71  | 85  | 75  | 48  | 161  |
| 8         | 68  | 75  | 80  | 75  | 75  | 75  | 85  | 86  | 51  | 168  |
| 9         | 67  | 73  | 77  | 67  | 74  | 68  | 78  | 70  | 61  | 179  |
| 10        | 66  | 83  | 74  | 67  | 72  | 80  | 82  | 75  | 66  | 186  |
| 11        | 79  | 80  | 75  | 74  | 66  | 72  | 77  | 75  | 51  | 123  |
| 12        | 69  | 68  | 73  | 74  | 72  | 77  | 82  | 73  | 41  | 83   |
| 13        | 65  | 66  | 77  | 78  | 67  | 74  | 86  | 78  | 47  | 144  |
| 14        | 75  | 78  | 79  | 72  | 70  | 68  | 73  | 66  | 51  | 152  |
| 15        | 65  | 76  | 75  | 75  | 65  | 71  | 82  | 73  | 50  | 138  |
| 16        | 68  | 70  | 77  | 75  | 71  | 65  | 84  | 78  | 40  | 75   |
| 17        | 74  | 71  | 75  | 71  | 73  | 77  | 76  | 61  | 46  | 161  |
| 18        | 63  | 70  | 82  | 70  | 68  | 68  | 78  | 73  | 40  | 105  |

| Subject | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 19      | 72  | 78  | 75  | 72  | 76  | 75  | 81  | 83  | 66  | 153  |
| 20      | 70  | 71  | 75  | 71  | 67  | 71  | 85  | 88  | 55  | 166  |
| 21      | 68  | 78  | 80  | 68  | 70  | 70  | 82  | 73  | 49  | 140  |
| 22      | 74  | 78  | 76  | 70  | 66  | 77  | 84  | 68  | 35  | 106  |
| 23      | 65  | 68  | 82  | 74  | 67  | 75  | 85  | 80  | 57  | 180  |
| 24      | 67  | 78  | 82  | 74  | 71  | 75  | 81  | 80  | 48  | 135  |
| 25      | 65  | 70  | 84  | 71  | 70  | 75  | 88  | 76  | 46  | 168  |
| 26      | 80  | 81  | 79  | 71  | 78  | 84  | 74  | 70  | 36  | 119  |
| 27      | 70  | 76  | 74  | 74  | 66  | 77  | 74  | 75  | 52  | 176  |
| 28      | 71  | 71  | 81  | 72  | 73  | 74  | 77  | 70  | 46  | 142  |
| 29      | 64  | 71  | 81  | 75  | 65  | 70  | 85  | 71  | 63  | 69   |
| 30      | 67  | 71  | 81  | 74  | 73  | 70  | 75  | 70  | 57  | 143  |
| 31      | 67  | 73  | 78  | 71  | 70  | 71  | 76  | 73  | 63  | 184  |
| 32      | 67  | 83  | 79  | 70  | 68  | 71  | 83  | 83  | 40  | 90   |
| 33      | 64  | 65  | 79  | 68  | 71  | 67  | 80  | 66  | 51  | 173  |
| 34      | 70  | 68  | 77  | 70  | 72  | 77  | 76  | 78  | 41  | 140  |
| 35      | 67  | 78  | 76  | 77  | 72  | 72  | 75  | 70  | 50  | 146  |

## School 11

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 63 | 68 | 86 | 80 | 70 | 74 | 88 | 81 | 44 | 133 |
| 2  | 63 | 75 | 77 | 72 | 68 | 68 | 82 | 71 | 41 | 139 |
| 3  | 63 | 65 | 88 | 78 | 74 | 67 | 85 | 86 | 49 | 136 |
| 4  | 63 | 65 | 78 | 78 | 68 | 77 | 90 | 73 | 59 | 145 |
| 5  | 60 | 68 | 81 | 71 | 66 | 65 | 74 | 68 | 64 | 136 |
| 6  | 66 | 68 | 83 | 72 | 68 | 64 | 86 | 75 | 45 | 182 |
| 7  | 62 | 61 | 89 | 82 | 68 | 70 | 88 | 85 | 50 | 123 |
| 8  | 73 | 71 | 81 | 77 | 73 | 74 | 83 | 80 | 62 | 197 |
| 9  | 60 | 61 | 87 | 80 | 68 | 68 | 87 | 76 | 52 | 186 |
| 10 | 63 | 71 | 89 | 77 | 72 | 72 | 88 | 75 | 47 | 146 |
| 11 | 62 | 63 | 89 | 80 | 64 | 61 | 87 | 81 | 43 | 137 |
| 12 | 61 | 61 | 88 | 84 | 73 | 72 | 87 | 86 | 59 | 181 |

## School 12

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 69 | 78 | 79 | 67 | 73 | 75 | 73 | 73 | 65 | 186 |
| 2  | 65 | 75 | 74 | 74 | 77 | 77 | 71 | 68 | 64 | 167 |
| 3  | 65 | 63 | 82 | 75 | 68 | 68 | 85 | 80 | 44 | 140 |
| 4  | 62 | 75 | 81 | 70 | 66 | 65 | 77 | 65 | 55 | 122 |
| 5  | 65 | 71 | 80 | 68 | 74 | 64 | 77 | 66 | 63 | 191 |
| 6  | 66 | 73 | 72 | 70 | 74 | 75 | 73 | 70 | 65 | 195 |
| 7  | 65 | 71 | 84 | 67 | 65 | 71 | 85 | 80 | 50 | 199 |
| 8  | 70 | 73 | 85 | 71 | 65 | 72 | 90 | 83 | 29 | 117 |
| 9  | 63 | 61 | 82 | 65 | 68 | 61 | 84 | 71 | 30 | 98  |
| 10 | 66 | 76 | 79 | 71 | 71 | 74 | 85 | 86 | 46 | 126 |
| 11 | 71 | 80 | 76 | 68 | 75 | 71 | 75 | 68 | 56 | 159 |
| 12 | 67 | 71 | 81 | 77 | 75 | 70 | 85 | 80 | 60 | 177 |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| School 13 |     |     |     |     |     |     |     |     |     |      |
| 1         | 74  | 66  | 82  | 78  | 72  | 75  | 77  | 75  | 56  | 158  |
| 2         | 65  | 61  | 87  | 81  | 66  | 72  | 80  | 75  | 45  | 117  |
| 3         | 74  | 75  | 77  | 72  | 72  | 65  | 66  | 68  | 46  | 140  |
| 4         | 74  | 75  | 68  | 71  | 72  | 64  | 66  | 63  | 45  | 146  |
| 5         | 72  | 61  | 77  | 78  | 72  | 72  | 74  | 71  | 46  | 180  |
| 6         | 65  | 73  | 79  | 74  | 72  | 71  | 66  | 71  | 36  | 129  |
| 7         | 67  | 66  | 84  | 80  | 70  | 70  | 81  | 73  | 62  | 167  |
| 8         | 69  | 65  | 80  | 74  | 70  | 64  | 76  | 68  | 45  | 108  |
| 9         | 66  | 63  | 80  | 78  | 73  | 76  | 84  | 75  | 58  | 169  |
| 10        | 75  | 71  | 73  | 75  | 70  | 70  | 70  | 71  | 63  | 196  |
| 11        | 77  | 73  | 70  | 74  | 73  | 64  | 62  | 68  | 50  | 169  |
| 12        | 70  | 63  | 81  | 75  | 66  | 67  | 74  | 68  | 51  | 167  |
| 13        | 70  | 73  | 76  | 81  | 67  | 68  | 72  | 70  | 51  | 168  |
| 14        | 67  | 65  | 81  | 78  | 70  | 65  | 80  | 73  | 45  | 118  |
| 15        | 76  | 78  | 75  | 75  | 67  | 67  | 66  | 71  | 54  | 159  |
| 16        | 67  | 65  | 83  | 80  | 74  | 70  | 75  | 76  | 55  | 147  |
| 17        | 69  | 71  | 81  | 88  | 71  | 60  | 83  | 75  | 38  | 147  |
| 18        | 69  | 66  | 81  | 81  | 74  | 74  | 73  | 73  | 50  | 140  |
| 19        | 70  | 68  | 82  | 80  | 73  | 74  | 73  | 70  | 48  | 142  |
| 20        | 70  | 65  | 84  | 80  | 71  | 67  | 74  | 71  | 45  | 126  |
| 21        | 69  | 68  | 80  | 81  | 78  | 70  | 75  | 78  | 54  | 192  |
| 22        | 64  | 66  | 80  | 74  | 66  | 67  | 74  | 76  | 36  | 165  |
| 23        | 67  | 66  | 80  | 72  | 65  | 68  | 76  | 80  | 48  | 140  |
| 24        | 74  | 76  | 73  | 77  | 74  | 61  | 72  | 71  | 64  | 180  |
| 25        | 66  | 65  | 81  | 80  | 68  | 77  | 85  | 76  | 42  | 139  |
| 26        | 69  | 70  | 81  | 75  | 68  | 68  | 76  | 76  | 57  | 133  |
| 27        | 65  | 65  | 80  | 70  | 64  | 70  | 74  | 71  | 51  | 121  |
| 28        | 64  | 66  | 81  | 74  | 68  | 71  | 71  | 75  | 54  | 139  |
| 29        | 69  | 70  | 77  | 71  | 68  | 71  | 65  | 70  | 62  | 155  |
| 30        | 67  | 63  | 82  | 75  | 65  | 67  | 81  | 70  | 36  | 100  |
| School 14 |     |     |     |     |     |     |     |     |     |      |
| 1         | 66  | 71  | 77  | 67  | 75  | 82  | 77  | 63  | 59  | 169  |
| 2         | 65  | 70  | 80  | 68  | 70  | 68  | 85  | 70  | 48  | 80   |
| 3         | 66  | 68  | 82  | 65  | 76  | 75  | 83  | 70  | 52  | 152  |
| 4         | 65  | 70  | 83  | 71  | 74  | 70  | 76  | 66  | 44  | 146  |
| 5         | 68  | 70  | 82  | 74  | 65  | 75  | 80  | 76  | 53  | 130  |
| 6         | 65  | 70  | 83  | 71  | 73  | 77  | 84  | 70  | 51  | 178  |
| 7         | 67  | 70  | 84  | 70  | 74  | 75  | 84  | 73  | 43  | 164  |
| 8         | 63  | 73  | 86  | 75  | 70  | 74  | 87  | 76  | 54  | 178  |
| 9         | 62  | 71  | 81  | 70  | 73  | 82  | 87  | 68  | 42  | 176  |
| 10        | 66  | 80  | 79  | 65  | 65  | 67  | 73  | 60  | 38  | 163  |

| Subject | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 11      | 74  | 70  | 83  | 80  | 75  | 74  | 86  | 85  | 50  | 149  |
| 12      | 72  | 70  | 81  | 67  | 77  | 74  | 83  | 78  | 45  | 118  |
| 13      | 70  | 85  | 81  | 72  | 76  | 81  | 84  | 76  | 56  | 134  |
| 14      | 76  | 78  | 85  | 72  | 75  | 70  | 82  | 73  | 44  | 107  |
| 15      | 63  | 70  | 83  | 78  | 72  | 72  | 84  | 71  | 47  | 97   |
| 16      | 65  | 66  | 77  | 68  | 77  | 72  | 82  | 73  | 55  | 101  |
| 17      | 69  | 80  | 84  | 75  | 75  | 74  | 82  | 75  | 52  | 126  |
| 18      | 61  | 68  | 78  | 68  | 74  | 70  | 75  | 66  | 53  | 124  |
| 19      | 74  | 70  | 72  | 72  | 75  | 71  | 77  | 71  | 64  | 141  |
| 20      | 67  | 80  | 80  | 70  | 71  | 65  | 81  | 75  | 39  | 150  |
| 21      | 68  | 80  | 83  | 71  | 76  | 72  | 81  | 75  | 54  | 134  |
| 22      | 70  | 71  | 80  | 68  | 73  | 77  | 82  | 66  | 55  | 141  |

## School 15

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 69 | 76 | 73 | 71 | 70 | 71 | 80 | 71 | 48 | 145 |
| 2  | 71 | 66 | 75 | 68 | 72 | 68 | 78 | 70 | 54 | 149 |
| 3  | 67 | 66 | 78 | 72 | 70 | 68 | 86 | 80 | 41 | 142 |
| 4  | 68 | 70 | 78 | 75 | 68 | 72 | 78 | 68 | 60 | 163 |
| 5  | 66 | 71 | 79 | 71 | 68 | 72 | 81 | 75 | 55 | 151 |
| 6  | 74 | 70 | 72 | 62 | 66 | 70 | 66 | 61 | 51 | 200 |
| 7  | 62 | 61 | 80 | 72 | 68 | 63 | 75 | 63 | 43 | 125 |
| 8  | 68 | 66 | 78 | 70 | 68 | 67 | 81 | 76 | 48 | 153 |
| 9  | 64 | 66 | 78 | 70 | 72 | 67 | 80 | 71 | 47 | 148 |
| 10 | 67 | 70 | 80 | 78 | 74 | 78 | 83 | 78 | 44 | 108 |
| 11 | 67 | 70 | 81 | 78 | 66 | 74 | 80 | 75 | 45 | 118 |
| 12 | 66 | 75 | 75 | 74 | 76 | 65 | 70 | 65 | 40 | 107 |
| 13 | 69 | 73 | 79 | 74 | 75 | 68 | 76 | 73 | 53 | 130 |
| 14 | 70 | 70 | 75 | 67 | 71 | 71 | 77 | 75 | 66 | 165 |
| 15 | 74 | 65 | 83 | 75 | 71 | 71 | 77 | 71 | 46 | 133 |
| 16 | 76 | 73 | 79 | 71 | 71 | 72 | 78 | 71 | 56 | 97  |
| 17 | 70 | 71 | 71 | 68 | 73 | 63 | 67 | 63 | 51 | 145 |
| 18 | 70 | 70 | 83 | 71 | 70 | 68 | 83 | 78 | 53 | 153 |
| 19 | 70 | 70 | 75 | 68 | 72 | 65 | 75 | 71 | 44 | 121 |
| 20 | 64 | 76 | 79 | 72 | 63 | 64 | 74 | 70 | 45 | 120 |
| 21 | 70 | 80 | 75 | 70 | 63 | 64 | 76 | 70 | 49 | 138 |
| 22 | 70 | 65 | 80 | 70 | 74 | 78 | 74 | 76 | 53 | 124 |
| 23 | 67 | 70 | 84 | 74 | 75 | 68 | 83 | 81 | 45 | 143 |
| 24 | 63 | 61 | 87 | 71 | 66 | 65 | 82 | 65 | 41 | 134 |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| School 16 |     |     |     |     |     |     |     |     |     |      |
| 1         | 66  | 66  | 78  | 74  | 70  | 75  | 77  | 76  | 59  | 177  |
| 2         | 71  | 70  | 81  | 72  | 73  | 72  | 77  | 70  | 47  | 120  |
| 3         | 68  | 65  | 78  | 74  | 72  | 75  | 78  | 68  | 38  | 83   |
| 4         | 68  | 70  | 82  | 75  | 70  | 82  | 83  | 71  | 50  | 130  |
| 5         | 64  | 70  | 84  | 75  | 77  | 75  | 76  | 73  | 43  | 154  |
| 6         | 69  | 70  | 78  | 71  | 68  | 80  | 78  | 75  | 48  | 166  |
| 7         | 68  | 66  | 74  | 70  | 72  | 75  | 80  | 68  | 66  | 148  |
| 8         | 63  | 61  | 80  | 77  | 70  | 70  | 80  | 80  | 40  | 117  |
| 9         | 64  | 75  | 83  | 74  | 71  | 67  | 75  | 70  | 53  | 110  |
| 10        | 77  | 71  | 73  | 68  | 74  | 74  | 68  | 66  | 29  | 163  |
| 11        | 68  | 65  | 81  | 70  | 72  | 77  | 80  | 63  | 43  | 124  |
| 12        | 64  | 76  | 81  | 72  | 73  | 74  | 80  | 68  | 57  | 167  |
| 13        | 68  | 63  | 83  | 80  | 73  | 71  | 87  | 81  | 58  | 94   |
| 14        | 64  | 65  | 82  | 72  | 71  | 75  | 86  | 76  | 49  | 147  |
| 15        | 65  | 73  | 79  | 77  | 81  | 78  | 80  | 68  | 50  | 138  |
| School 17 |     |     |     |     |     |     |     |     |     |      |
| 1         | 61  | 61  | 84  | 67  | 67  | 67  | 86  | 78  | 39  | 106  |
| 2         | 66  | 75  | 78  | 68  | 66  | 68  | 83  | 78  | 52  | 145  |
| 3         | 62  | 70  | 84  | 77  | 67  | 64  | 77  | 71  | 37  | 152  |
| 4         | 63  | 68  | 82  | 77  | 70  | 65  | 78  | 75  | 39  | 156  |
| 5         | 60  | 65  | 86  | 70  | 74  | 65  | 83  | 71  | 57  | 189  |
| 6         | 62  | 66  | 90  | 71  | 67  | 60  | 88  | 90  | 31  | 136  |
| 7         | 68  | 80  | 75  | 64  | 70  | 71  | 75  | 75  | 46  | 212  |
| 8         | 69  | 85  | 86  | 77  | 70  | 68  | 84  | 83  | 48  | 132  |
| 9         | 62  | 78  | 85  | 78  | 61  | 62  | 84  | 73  | 44  | 147  |
| 10        | 62  | 70  | 87  | 65  | 66  | 65  | 85  | 76  | 59  | 128  |
| 11        | 69  | 76  | 88  | 67  | 66  | 68  | 84  | 78  | 37  | 149  |
| 12        | 67  | 63  | 84  | 77  | 67  | 68  | 74  | 78  | 40  | 112  |
| 13        | 62  | 70  | 79  | 70  | 72  | 64  | 76  | 73  | 59  | 133  |
| 14        | 63  | 65  | 82  | 80  | 63  | 70  | 77  | 71  | 34  | 118  |
| School 18 |     |     |     |     |     |     |     |     |     |      |
| 1         | 71  | 71  | 82  | 78  | 66  | 70  | 85  | 80  | 40  | 136  |
| 2         | 71  | 74  | 74  | 71  | 64  | 75  | 83  | 68  | 38  | 141  |
| 3         | 70  | 70  | 80  | 75  | 72  | 74  | 80  | 76  | 54  | 171  |
| 4         | 66  | 65  | 85  | 74  | 68  | 67  | 81  | 73  | 47  | 120  |
| 5         | 72  | 71  | 75  | 72  | 68  | 70  | 81  | 80  | 47  | 151  |
| 6         | 68  | 65  | 78  | 74  | 70  | 68  | 73  | 70  | 47  | 136  |
| 7         | 71  | 65  | 80  | 74  | 68  | 68  | 75  | 71  | 66  | 180  |
| 8         | 72  | 68  | 78  | 77  | 67  | 68  | 75  | 70  | 51  | 177  |
| 9         | 74  | 73  | 73  | 74  | 76  | 80  | 66  | 65  | 26  | 94   |
| 10        | 68  | 70  | 79  | 78  | 68  | 75  | 85  | 66  | 34  | 116  |
| 11        | 65  | 71  | 82  | 77  | 72  | 74  | 76  | 71  | 44  | 130  |
| 12        | 71  | 70  | 75  | 71  | 73  | 67  | 73  | 73  | 69  | 156  |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| <hr/>     |     |     |     |     |     |     |     |     |     |      |
| School 19 |     |     |     |     |     |     |     |     |     |      |
| 1         | 63  | 63  | 85  | 77  | 68  | 65  | 83  | 78  | 51  | 152  |
| 2         | 67  | 63  | 81  | 77  | 68  | 75  | 85  | 78  | 51  | 143  |
| 3         | 72  | 75  | 84  | 74  | 68  | 71  | 83  | 75  | 50  | 155  |
| 4         | 74  | 70  | 80  | 77  | 68  | 71  | 74  | 70  | 50  | 100  |
| 5         | 65  | 66  | 79  | 75  | 67  | 71  | 85  | 66  | 51  | 171  |
| 6         | 70  | 75  | 80  | 77  | 68  | 70  | 76  | 75  | 55  | 153  |
| 7         | 64  | 71  | 82  | 78  | 71  | 66  | 78  | 68  | 50  | 140  |
| 8         | 73  | 78  | 79  | 66  | 70  | 67  | 86  | 80  | 49  | 129  |
| 9         | 68  | 65  | 85  | 78  | 63  | 65  | 78  | 82  | 55  | 181  |
| 10        | 64  | 63  | 89  | 74  | 72  | 72  | 84  | 70  | 48  | 128  |
| 11        | 69  | 70  | 82  | 71  | 68  | 67  | 82  | 71  | 52  | 166  |
| 12        | 70  | 70  | 78  | 70  | 72  | 64  | 82  | 76  | 40  | 130  |
| 13        | 75  | 66  | 81  | 75  | 70  | 67  | 80  | 75  | 54  | 126  |
| 14        | 71  | 70  | 84  | 74  | 70  | 74  | 81  | 73  | 49  | 163  |
| 15        | 67  | 68  | 83  | 71  | 70  | 64  | 80  | 73  | 38  | 175  |
| 16        | 69  | 78  | 77  | 72  | 72  | 67  | 70  | 66  | 44  | 156  |
| 17        | 71  | 71  | 74  | 68  | 71  | 71  | 73  | 65  | 62  | 156  |
| 18        | 68  | 72  | 81  | 77  | 66  | 68  | 80  | 75  | 40  | 92   |
| 19        | 71  | 71  | 82  | 77  | 73  | 65  | 83  | 76  | 47  | 146  |
| 20        | 65  | 66  | 84  | 81  | 68  | 70  | 78  | 71  | 34  | 122  |
| 21        | 64  | 66  | 81  | 77  | 75  | 71  | 80  | 71  | 35  | 148  |
| School 20 |     |     |     |     |     |     |     |     |     |      |
| 1         | 77  | 73  | 85  | 71  | 70  | 68  | 78  | 75  | 43  | 149  |
| 2         | 74  | 80  | 76  | 74  | 70  | 68  | 82  | 76  | 78  | 163  |
| 3         | 71  | 75  | 89  | 80  | 67  | 78  | 86  | 76  | 46  | 133  |
| 4         | 72  | 71  | 82  | 75  | 70  | 75  | 86  | 85  | 47  | 164  |
| 5         | 64  | 65  | 88  | 71  | 72  | 74  | 86  | 80  | 43  | 92   |
| 6         | 68  | 76  | 84  | 74  | 71  | 70  | 78  | 76  | 54  | 174  |
| 7         | 68  | 73  | 83  | 72  | 68  | 72  | 85  | 75  | 35  | 147  |
| 8         | 68  | 70  | 78  | 70  | 77  | 61  | 78  | 68  | 41  | 94   |
| 9         | 67  | 70  | 80  | 75  | 71  | 72  | 85  | 70  | 50  | 140  |
| 10        | 69  | 78  | 87  | 75  | 70  | 62  | 81  | 76  | 47  | 152  |
| 11        | 75  | 78  | 84  | 68  | 73  | 66  | 81  | 76  | 45  | 166  |
| 12        | 73  | 75  | 72  | 71  | 71  | 74  | 73  | 75  | 54  | 200  |
| 13        | 67  | 66  | 82  | 81  | 70  | 77  | 81  | 76  | 50  | 134  |
| 14        | 73  | 80  | 80  | 72  | 66  | 60  | 82  | 66  | 41  | 100  |
| 15        | 70  | 71  | 81  | 77  | 66  | 71  | 80  | 80  | 57  | 146  |
| 16        | 77  | 70  | 76  | 71  | 70  | 65  | 74  | 68  | 38  | 171  |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| <hr/>     |     |     |     |     |     |     |     |     |     |      |
| School 21 |     |     |     |     |     |     |     |     |     |      |
| 1         | 63  | 70  | 79  | 71  | 68  | 72  | 84  | 78  | 60  | 117  |
| 2         | 63  | 63  | 79  | 74  | 67  | 68  | 84  | 71  | 44  | 136  |
| 3         | 66  | 66  | 84  | 78  | 66  | 67  | 86  | 80  | 45  | 137  |
| 4         | 64  | 70  | 86  | 67  | 77  | 78  | 83  | 73  | 54  | 132  |
| 5         | 61  | 61  | 79  | 82  | 65  | 67  | 77  | 66  | 41  | 80   |
| 6         | 71  | 76  | 80  | 75  | 66  | 75  | 86  | 76  | 55  | 178  |
| 7         | 64  | 66  | 81  | 78  | 72  | 62  | 73  | 66  | 50  | 137  |
| 8         | 61  | 61  | 82  | 81  | 71  | 74  | 81  | 68  | 54  | 161  |
| 9         | 62  | 65  | 88  | 82  | 68  | 80  | 87  | 80  | 52  | 129  |
| 10        | 69  | 70  | 79  | 65  | 65  | 74  | 82  | 75  | 60  | 186  |
| 11        | 62  | 71  | 84  | 77  | 65  | 77  | 86  | 81  | 43  | 100  |
| 12        | 65  | 71  | 81  | 78  | 73  | 67  | 81  | 75  | 40  | 123  |
| 13        | 64  | 66  | 84  | 78  | 72  | 74  | 83  | 75  | 47  | 113  |
| 14        | 63  | 60  | 81  | 74  | 65  | 71  | 88  | 78  | 37  | 96   |
| 15        | 60  | 66  | 88  | 80  | 68  | 71  | 78  | 65  | 49  | 131  |
| 16        | 65  | 70  | 78  | 81  | 68  | 71  | 78  | 78  | 51  | 129  |
| School 22 |     |     |     |     |     |     |     |     |     |      |
| 1         | 72  | 76  | 68  | 65  | 74  | 67  | 84  | 73  | 62  | 198  |
| 2         | 74  | 81  | 83  | 77  | 66  | 74  | 85  | 83  | 64  | 222  |
| 3         | 63  | 66  | 75  | 68  | 70  | 70  | 81  | 70  | 67  | 179  |
| 4         | 70  | 65  | 82  | 72  | 66  | 68  | 83  | 73  | 45  | 114  |
| 5         | 72  | 76  | 76  | 70  | 68  | 72  | 70  | 75  | 63  | 175  |
| 6         | 70  | 70  | 81  | 74  | 65  | 65  | 77  | 73  | 49  | 132  |
| 7         | 63  | 65  | 76  | 67  | 64  | 65  | 73  | 63  | 53  | 190  |
| 8         | 73  | 78  | 71  | 61  | 70  | 70  | 84  | 70  | 62  | 157  |
| 9         | 69  | 73  | 78  | 77  | 72  | 68  | 86  | 75  | 44  | 150  |
| 10        | 63  | 68  | 77  | 71  | 65  | 65  | 75  | 70  | 56  | 127  |
| 11        | 72  | 71  | 77  | 72  | 70  | 64  | 78  | 76  | 61  | 170  |
| 12        | 72  | 73  | 73  | 67  | 70  | 68  | 70  | 73  | 50  | 177  |
| 13        | 68  | 63  | 80  | 72  | 70  | 65  | 80  | 68  | 52  | 164  |
| 14        | 68  | 71  | 85  | 68  | 68  | 71  | 81  | 73  | 45  | 176  |
| 15        | 67  | 75  | 76  | 72  | 66  | 71  | 83  | 75  | 55  | 149  |
| 16        | 82  | 81  | 67  | 65  | 70  | 71  | 65  | 68  | 54  | 175  |
| 17        | 65  | 66  | 81  | 71  | 67  | 65  | 77  | 75  | 46  | 155  |
| 18        | 79  | 85  | 68  | 70  | 70  | 72  | 74  | 70  | 49  | 146  |
| 19        | 75  | 78  | 70  | 75  | 64  | 70  | 71  | 70  | 59  | 154  |
| 20        | 73  | 78  | 73  | 75  | 72  | 65  | 66  | 65  | 42  | 130  |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
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| School 23 |     |     |     |     |     |     |     |     |     |      |
| 1         | 63  | 75  | 75  | 77  | 64  | 70  | 78  | 66  | 50  | 182  |
| 2         | 71  | 76  | 72  | 77  | 76  | 74  | 74  | 66  | 52  | 128  |
| 3         | 71  | 66  | 79  | 71  | 68  | 78  | 65  | 66  | 63  | 182  |
| 4         | 66  | 68  | 80  | 75  | 73  | 77  | 76  | 70  | 57  | 187  |
| 5         | 73  | 81  | 72  | 72  | 70  | 71  | 65  | 63  | 76  | 144  |
| 6         | 71  | 66  | 75  | 80  | 72  | 67  | 73  | 71  | 64  | 158  |
| 7         | 72  | 73  | 75  | 74  | 72  | 70  | 71  | 70  | 63  | 146  |
| 8         | 67  | 71  | 74  | 71  | 70  | 68  | 72  | 66  | 47  | 153  |
| 9         | 66  | 71  | 75  | 72  | 67  | 72  | 73  | 63  | 48  | 170  |
| 10        | 66  | 70  | 72  | 75  | 73  | 70  | 75  | 68  | 68  | 141  |
| School 24 |     |     |     |     |     |     |     |     |     |      |
| 1         | 67  | 63  | 77  | 77  | 71  | 68  | 83  | 75  | 59  | 147  |
| 2         | 72  | 70  | 73  | 80  | 73  | 71  | 74  | 73  | 56  | 156  |
| 3         | 67  | 65  | 76  | 77  | 67  | 68  | 84  | 80  | 40  | 132  |
| 4         | 72  | 66  | 82  | 74  | 70  | 70  | 86  | 81  | 56  | 154  |
| 5         | 74  | 78  | 77  | 65  | 71  | 65  | 71  | 65  | 69  | 161  |
| 6         | 63  | 63  | 83  | 72  | 65  | 71  | 81  | 70  | 65  | 180  |
| 7         | 66  | 61  | 77  | 70  | 70  | 74  | 77  | 70  | 50  | 119  |
| 8         | 69  | 70  | 79  | 75  | 75  | 67  | 76  | 70  | 47  | 150  |
| 9         | 68  | 68  | 81  | 78  | 68  | 68  | 84  | 73  | 48  | 103  |
| 10        | 71  | 66  | 76  | 77  | 70  | 70  | 83  | 75  | 54  | 110  |
| 11        | 64  | 66  | 83  | 78  | 67  | 62  | 78  | 70  | 41  | 98   |
| 12        | 64  | 56  | 80  | 71  | 68  | 81  | 81  | 65  | 37  | 148  |
| 13        | 73  | 65  | 75  | 68  | 72  | 77  | 74  | 65  | 48  | 137  |
| 14        | 74  | 71  | 76  | 80  | 71  | 70  | 72  | 61  | 64  | 146  |
| 15        | 68  | 63  | 76  | 75  | 71  | 68  | 77  | 62  | 47  | 121  |
| 16        | 68  | 60  | 84  | 84  | 70  | 71  | 86  | 85  | 53  | 175  |
| 17        | 69  | 66  | 75  | 72  | 67  | 71  | 74  | 71  | 54  | 139  |
| School 25 |     |     |     |     |     |     |     |     |     |      |
| 1         | 65  | 65  | 78  | 72  | 64  | 67  | 86  | 71  | 50  | 177  |
| 2         | 61  | 65  | 81  | 80  | 65  | 71  | 87  | 80  | 46  | 157  |
| 3         | 65  | 68  | 79  | 75  | 66  | 62  | 86  | 78  | 40  | 167  |
| 4         | 68  | 65  | 75  | 70  | 70  | 71  | 84  | 80  | 51  | 146  |
| 5         | 61  | 63  | 83  | 77  | 67  | 70  | 83  | 76  | 51  | 149  |
| 6         | 70  | 68  | 78  | 82  | 75  | 74  | 84  | 80  | 48  | 161  |
| 7         | 64  | 75  | 77  | 64  | 70  | 72  | 81  | 68  | 49  | 176  |
| 8         | 65  | 70  | 83  | 74  | 66  | 71  | 84  | 85  | 34  | 135  |
| 9         | 63  | 63  | 77  | 70  | 74  | 68  | 80  | 66  | 55  | 143  |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| <hr/>     |     |     |     |     |     |     |     |     |     |      |
| School 26 |     |     |     |     |     |     |     |     |     |      |
| 1         | 62  | 61  | 82  | 71  | 67  | 60  | 83  | 70  | 36  | 152  |
| 2         | 60  | 61  | 75  | 68  | 67  | 71  | 84  | 70  | 74  | 160  |
| 3         | 64  | 68  | 76  | 71  | 71  | 64  | 76  | 66  | 51  | 174  |
| 4         | 68  | 80  | 77  | 71  | 70  | 67  | 81  | 65  | 75  | 172  |
| 5         | 68  | 78  | 74  | 67  | 67  | 64  | 83  | 78  | 74  | 161  |
| 6         | 67  | 68  | 76  | 74  | 70  | 68  | 82  | 81  | 49  | 139  |
| 7         | 65  | 60  | 76  | 67  | 75  | 70  | 88  | 76  | 31  | 107  |
| 8         | 71  | 70  | 75  | 70  | 72  | 71  | 82  | 78  | 41  | 140  |
| 9         | 62  | 61  | 84  | 74  | 78  | 71  | 78  | 73  | 42  | 148  |
| 10        | 70  | 70  | 78  | 71  | 76  | 68  | 81  | 76  | 50  | 144  |
| 11        | 64  | 65  | 80  | 65  | 68  | 67  | 84  | 80  | 54  | 169  |
| 12        | 62  | 71  | 83  | 67  | 71  | 64  | 88  | 85  | 49  | 154  |
| 13        | 62  | 60  | 83  | 72  | 70  | 65  | 81  | 75  | 51  | 120  |
| 14        | 64  | 68  | 73  | 70  | 68  | 65  | 80  | 70  | 56  | 200  |
| 15        | 62  | 65  | 81  | 72  | 72  | 68  | 83  | 71  | 49  | 139  |
| 16        | 64  | 76  | 77  | 67  | 68  | 70  | 86  | 76  | 43  | 175  |
| 17        | 69  | 70  | 86  | 75  | 71  | 68  | 90  | 85  | 45  | 105  |
| 18        | 73  | 71  | 76  | 68  | 67  | 72  | 85  | 71  | 57  | 137  |
| 19        | 75  | 68  | 78  | 81  | 77  | 70  | 78  | 78  | 48  | 130  |
| 20        | 75  | 76  | 76  | 71  | 74  | 72  | 82  | 78  | 53  | 134  |
| 21        | 74  | 71  | 77  | 74  | 70  | 61  | 66  | 68  | 42  | 149  |
| 22        | 64  | 60  | 82  | 80  | 70  | 70  | 83  | 78  | 50  | 131  |
| School 27 |     |     |     |     |     |     |     |     |     |      |
| 1         | 62  | 63  | 84  | 70  | 72  | 71  | 75  | 68  | 55  | 163  |
| 2         | 66  | 66  | 82  | 71  | 67  | 70  | 81  | 68  | 50  | 152  |
| 3         | 67  | 71  | 76  | 71  | 68  | 74  | 78  | 73  | 56  | 205  |
| 4         | 70  | 63  | 77  | 72  | 71  | 77  | 84  | 75  | 57  | 185  |
| 5         | 63  | 71  | 77  | 74  | 71  | 68  | 76  | 70  | 53  | 138  |
| 6         | 65  | 70  | 80  | 77  | 67  | 74  | 82  | 73  | 64  | 191  |
| 7         | 61  | 66  | 81  | 68  | 74  | 65  | 84  | 70  | 44  | 142  |
| 8         | 69  | 76  | 78  | 64  | 73  | 72  | 72  | 66  | 38  | 161  |
| 9         | 65  | 70  | 84  | 78  | 72  | 72  | 82  | 68  | 38  | 135  |
| 10        | 68  | 76  | 77  | 71  | 76  | 74  | 68  | 61  | 55  | 178  |
| 11        | 62  | 73  | 74  | 68  | 71  | 68  | 76  | 61  | 55  | 170  |
| 12        | 65  | 66  | 85  | 75  | 72  | 71  | 86  | 82  | 34  | 108  |
| 13        | 69  | 71  | 84  | 75  | 75  | 72  | 86  | 80  | 49  | 115  |
| 14        | 60  | 60  | 87  | 74  | 68  | 71  | 83  | 68  | 46  | 134  |
| 15        | 66  | 70  | 81  | 77  | 68  | 70  | 85  | 76  | 43  | 104  |
| 16        | 71  | 68  | 83  | 77  | 76  | 74  | 74  | 70  | 38  | 168  |
| 17        | 64  | 65  | 82  | 70  | 71  | 70  | 76  | 68  | 55  | 134  |
| 18        | 64  | 70  | 81  | 72  | 70  | 77  | 77  | 66  | 54  | 141  |
| 19        | 75  | 68  | 76  | 75  | 71  | 77  | 75  | 66  | 56  | 140  |
| 20        | 65  | 68  | 87  | 75  | 71  | 80  | 84  | 70  | 28  | 113  |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| <hr/>     |     |     |     |     |     |     |     |     |     |      |
| School 28 |     |     |     |     |     |     |     |     |     |      |
| 1         | 63  | 71  | 74  | 74  | 74  | 68  | 71  | 60  | 53  | 153  |
| 2         | 71  | 81  | 76  | 68  | 73  | 74  | 85  | 80  | 49  | 132  |
| 3         | 63  | 73  | 83  | 70  | 74  | 67  | 76  | 68  | 55  | 191  |
| 4         | 70  | 73  | 72  | 70  | 74  | 65  | 72  | 63  | 43  | 142  |
| 5         | 69  | 71  | 82  | 71  | 68  | 71  | 81  | 70  | 34  | 132  |
| 6         | 70  | 80  | 76  | 71  | 72  | 65  | 76  | 76  | 43  | 129  |
| 7         | 62  | 70  | 84  | 71  | 73  | 72  | 75  | 73  | 64  | 134  |
| 8         | 74  | 80  | 79  | 71  | 73  | 72  | 82  | 66  | 51  | 142  |
| 9         | 78  | 81  | 71  | 71  | 74  | 68  | 71  | 65  | 28  | 141  |
| 10        | 66  | 73  | 85  | 71  | 71  | 72  | 85  | 75  | 41  | 133  |
| 11        | 68  | 75  | 75  | 68  | 71  | 70  | 75  | 68  | 46  | 110  |
| 12        | 63  | 75  | 75  | 68  | 71  | 70  | 75  | 68  | 63  | 172  |
| 13        | 75  | 70  | 78  | 71  | 71  | 78  | 84  | 73  | 52  | 154  |
| 14        | 62  | 63  | 87  | 75  | 71  | 64  | 76  | 76  | 61  | 165  |
| 15        | 66  | 73  | 81  | 65  | 63  | 67  | 77  | 70  | 53  | 143  |
| 16        | 66  | 80  | 87  | 74  | 70  | 71  | 83  | 78  | 51  | 156  |
| 17        | 70  | 73  | 82  | 64  | 63  | 67  | 85  | 73  | 60  | 148  |
| 18        | 62  | 75  | 86  | 75  | 68  | 70  | 77  | 65  | 39  | 78   |
| School 29 |     |     |     |     |     |     |     |     |     |      |
| 1         | 70  | 68  | 72  | 70  | 67  | 72  | 72  | 65  | 43  | 68   |
| 2         | 69  | 75  | 76  | 65  | 72  | 64  | 80  | 68  | 60  | 147  |
| 3         | 72  | 73  | 77  | 67  | 78  | 74  | 76  | 75  | 54  | 196  |
| 4         | 73  | 76  | 75  | 70  | 72  | 68  | 74  | 68  | 65  | 156  |
| 5         | 67  | 68  | 78  | 80  | 71  | 67  | 75  | 68  | 63  | 148  |
| 6         | 66  | 60  | 81  | 68  | 74  | 68  | 80  | 81  | 41  | 68   |
| 7         | 75  | 83  | 81  | 70  | 67  | 72  | 82  | 76  | 38  | 121  |
| 8         | 65  | 70  | 80  | 75  | 72  | 67  | 76  | 70  | 35  | 153  |
| 9         | 77  | 73  | 75  | 70  | 68  | 64  | 63  | 65  | 47  | 165  |
| 10        | 88  | 70  | 70  | 65  | 71  | 72  | 65  | 73  | 46  | 111  |
| School 30 |     |     |     |     |     |     |     |     |     |      |
| 1         | 65  | 68  | 86  | 74  | 71  | 64  | 83  | 78  | 34  | 128  |
| 2         | 68  | 73  | 75  | 74  | 73  | 65  | 78  | 70  | 54  | 166  |
| 3         | 68  | 75  | 82  | 77  | 68  | 61  | 74  | 81  | 41  | 121  |
| 4         | 70  | 65  | 77  | 80  | 65  | 64  | 77  | 63  | 59  | 159  |
| 5         | 67  | 75  | 78  | 74  | 74  | 72  | 71  | 70  | 49  | 165  |
| 6         | 69  | 63  | 85  | 77  | 74  | 70  | 86  | 80  | 46  | 126  |
| 7         | 64  | 68  | 83  | 78  | 72  | 64  | 74  | 65  | 48  | 179  |
| 8         | 67  | 75  | 78  | 67  | 71  | 64  | 80  | 71  | 40  | 113  |
| 9         | 66  | 68  | 74  | 74  | 68  | 67  | 82  | 65  | 42  | 145  |
| 10        | 70  | 65  | 84  | 80  | 68  | 62  | 85  | 81  | 50  | 173  |

| Subject | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 11      | 66  | 73  | 86  | 82  | 73  | 67  | 85  | 66  | 56  | 176  |
| 12      | 64  | 68  | 87  | 77  | 72  | 78  | 85  | 71  | 57  | 180  |
| 13      | 70  | 76  | 75  | 71  | 68  | 68  | 77  | 73  | 55  | 140  |
| 14      | 69  | 73  | 83  | 77  | 70  | 71  | 84  | 75  | 52  | 204  |
| 15      | 66  | 78  | 80  | 75  | 65  | 62  | 82  | 70  | 43  | 138  |
| 16      | 71  | 76  | 70  | 72  | 68  | 74  | 72  | 70  | 42  | 144  |
| 17      | 69  | 71  | 81  | 77  | 68  | 74  | 86  | 83  | 62  | 143  |
| 18      | 69  | 71  | 87  | 77  | 72  | 70  | 83  | 73  | 56  | 123  |
| 19      | 63  | 66  | 78  | 78  | 67  | 62  | 82  | 66  | 56  | 164  |
| 20      | 70  | 71  | 82  | 71  | 73  | 74  | 85  | 78  | 62  | 146  |
| 21      | 70  | 68  | 83  | 80  | 65  | 64  | 80  | 76  | 43  | 133  |
| 22      | 66  | 68  | 84  | 78  | 68  | 72  | 87  | 73  | 58  | 119  |
| 23      | 68  | 76  | 89  | 78  | 70  | 71  | 85  | 73  | 54  | 131  |
| 24      | 63  | 63  | 78  | 72  | 78  | 71  | 81  | 68  | 59  | 166  |
| 25      | 66  | 75  | 85  | 78  | 70  | 62  | 82  | 71  | 44  | 187  |

## School 31

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 71 | 71 | 87 | 72 | 67 | 70 | 82 | 76 | 53 | 155 |
| 2  | 64 | 75 | 88 | 81 | 73 | 77 | 87 | 88 | 52 | 144 |
| 3  | 72 | 68 | 87 | 80 | 67 | 68 | 81 | 73 | 35 | 116 |
| 4  | 65 | 70 | 81 | 75 | 70 | 75 | 72 | 65 | 49 | 140 |
| 5  | 64 | 66 | 82 | 74 | 63 | 68 | 81 | 81 | 62 | 176 |
| 6  | 67 | 68 | 82 | 72 | 72 | 71 | 76 | 68 | 46 | 87  |
| 7  | 71 | 76 | 83 | 67 | 65 | 70 | 73 | 71 | 48 | 108 |
| 8  | 68 | 76 | 78 | 70 | 68 | 70 | 73 | 68 | 62 | 114 |
| 9  | 62 | 68 | 85 | 71 | 71 | 64 | 86 | 80 | 50 | 130 |
| 10 | 68 | 60 | 87 | 68 | 74 | 65 | 87 | 76 | 53 | 140 |
| 11 | 71 | 65 | 73 | 72 | 67 | 75 | 73 | 70 | 59 | 123 |
| 12 | 66 | 73 | 74 | 73 | 68 | 71 | 73 | 75 | 48 | 131 |
| 13 | 75 | 71 | 85 | 77 | 71 | 72 | 76 | 80 | 50 | 160 |
| 14 | 72 | 65 | 80 | 68 | 70 | 71 | 75 | 73 | 53 | 151 |
| 15 | 64 | 70 | 70 | 68 | 70 | 64 | 70 | 65 | 55 | 139 |
| 16 | 67 | 66 | 88 | 78 | 67 | 70 | 86 | 85 | 53 | 165 |
| 17 | 71 | 70 | 80 | 75 | 67 | 71 | 73 | 70 | 46 | 122 |
| 18 | 66 | 66 | 85 | 75 | 71 | 62 | 82 | 70 | 52 | 136 |
| 19 | 73 | 68 | 85 | 81 | 62 | 64 | 86 | 85 | 41 | 95  |
| 20 | 74 | 78 | 84 | 75 | 68 | 71 | 76 | 70 | 57 | 144 |
| 21 | 70 | 70 | 79 | 75 | 71 | 68 | 77 | 78 | 55 | 174 |
| 22 | 69 | 73 | 75 | 75 | 70 | 70 | 71 | 73 | 45 | 163 |
| 23 | 69 | 73 | 77 | 74 | 71 | 68 | 68 | 66 | 45 | 149 |
| 24 | 73 | 83 | 87 | 67 | 71 | 75 | 83 | 70 | 67 | 133 |
| 25 | 70 | 73 | 81 | 75 | 70 | 73 | 72 | 73 | 61 | 170 |
| 26 | 72 | 71 | 82 | 77 | 70 | 68 | 81 | 71 | 56 | 144 |
| 27 | 75 | 66 | 84 | 80 | 72 | 65 | 83 | 83 | 47 | 131 |

| Subject | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 28      | 75  | 81  | 67  | 67  | 71  | 67  | 64  | 63  | 86  | 175  |
| 29      | 73  | 71  | 80  | 80  | 70  | 70  | 76  | 75  | 49  | 129  |
| 30      | 69  | 68  | 84  | 75  | 65  | 68  | 78  | 78  | 54  | 104  |
| 31      | 68  | 65  | 83  | 77  | 68  | 65  | 78  | 70  | 56  | 121  |
| 32      | 76  | 78  | 79  | 71  | 71  | 68  | 72  | 83  | 46  | 131  |
| 33      | 71  | 68  | 82  | 72  | 70  | 68  | 80  | 71  | 41  | 155  |
| 34      | 68  | 71  | 80  | 74  | 74  | 72  | 70  | 66  | 64  | 126  |
| 35      | 67  | 73  | 83  | 78  | 70  | 67  | 82  | 73  | 50  | 165  |
| 36      | 83  | 83  | 70  | 62  | 73  | 70  | 70  | 71  | 60  | 159  |

## School 32

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 63 | 68 | 80 | 73 | 70 | 70 | 78 | 73 | 56 | 156 |
| 2  | 72 | 63 | 79 | 70 | 71 | 72 | 85 | 78 | 53 | 148 |
| 3  | 63 | 68 | 76 | 70 | 70 | 72 | 80 | 66 | 56 | 153 |
| 4  | 68 | 70 | 80 | 68 | 71 | 72 | 84 | 71 | 57 | 161 |
| 5  | 67 | 78 | 79 | 70 | 65 | 65 | 76 | 76 | 50 | 122 |
| 6  | 62 | 65 | 79 | 75 | 68 | 60 | 77 | 81 | 49 | 146 |
| 7  | 70 | 71 | 74 | 78 | 68 | 63 | 70 | 73 | 49 | 141 |
| 8  | 75 | 76 | 79 | 78 | 72 | 71 | 77 | 68 | 66 | 141 |
| 9  | 79 | 76 | 79 | 80 | 71 | 71 | 77 | 76 | 52 | 136 |
| 10 | 72 | 73 | 78 | 70 | 72 | 75 | 78 | 73 | 37 | 158 |
| 11 | 63 | 70 | 80 | 72 | 71 | 70 | 82 | 68 | 53 | 133 |
| 12 | 78 | 73 | 80 | 72 | 73 | 71 | 82 | 70 | 54 | 133 |

## School 33

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 62 | 68 | 80 | 70 | 68 | 66 | 75 | 75 | 54 | 167 |
| 2  | 64 | 73 | 79 | 74 | 75 | 74 | 76 | 71 | 34 | 143 |
| 3  | 61 | 70 | 90 | 71 | 66 | 68 | 83 | 77 | 49 | 123 |
| 4  | 70 | 76 | 79 | 72 | 70 | 72 | 81 | 78 | 38 | 122 |
| 5  | 62 | 73 | 81 | 75 | 65 | 68 | 86 | 76 | 46 | 164 |
| 6  | 66 | 71 | 80 | 75 | 72 | 70 | 82 | 78 | 50 | 163 |
| 7  | 66 | 65 | 87 | 80 | 70 | 67 | 82 | 71 | 51 | 133 |
| 8  | 70 | 75 | 83 | 70 | 74 | 68 | 82 | 75 | 63 | 172 |
| 9  | 64 | 71 | 88 | 82 | 65 | 75 | 80 | 66 | 48 | 129 |
| 10 | 68 | 75 | 73 | 77 | 68 | 75 | 80 | 78 | 44 | 116 |
| 11 | 67 | 78 | 83 | 67 | 67 | 64 | 76 | 73 | 43 | 158 |
| 12 | 70 | 88 | 72 | 68 | 68 | 68 | 75 | 76 | 52 | 158 |
| 13 | 61 | 75 | 84 | 72 | 78 | 68 | 74 | 71 | 40 | 83  |
| 14 | 61 | 63 | 87 | 77 | 73 | 67 | 80 | 73 | 27 | 73  |
| 15 | 66 | 71 | 78 | 72 | 74 | 74 | 84 | 85 | 37 | 149 |
| 16 | 62 | 78 | 86 | 77 | 66 | 71 | 84 | 78 | 36 | 172 |
| 17 | 71 | 76 | 83 | 77 | 68 | 72 | 83 | 76 | 55 | 157 |
| 18 | 62 | 66 | 86 | 77 | 71 | 65 | 78 | 75 | 36 | 106 |
| 19 | 63 | 70 | 87 | 80 | 73 | 75 | 85 | 81 | 58 | 147 |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 20        | 63  | 68  | 88  | 81  | 71  | 81  | 80  | 80  | 42  | 132  |
| 21        | 65  | 81  | 78  | 78  | 71  | 70  | 82  | 73  | 61  | 206  |
| 22        | 70  | 83  | 83  | 72  | 70  | 72  | 81  | 81  | 35  | 136  |
| 23        | 64  | 70  | 86  | 77  | 76  | 70  | 81  | 76  | 54  | 170  |
| 24        | 60  | 71  | 85  | 74  | 67  | 74  | 84  | 66  | 47  | 118  |
| School 34 |     |     |     |     |     |     |     |     |     |      |
| 1         | 63  | 70  | 81  | 73  | 63  | 60  | 76  | 61  | 59  | 178  |
| 2         | 61  | 65  | 83  | 65  | 75  | 65  | 80  | 68  | 54  | 155  |
| 3         | 67  | 70  | 82  | 75  | 67  | 74  | 83  | 75  | 53  | 185  |
| 4         | 79  | 75  | 74  | 64  | 72  | 67  | 68  | 68  | 62  | 163  |
| 5         | 70  | 63  | 80  | 67  | 72  | 74  | 81  | 80  | 59  | 149  |
| 6         | 70  | 65  | 77  | 74  | 68  | 72  | 82  | 76  | 39  | 95   |
| 7         | 64  | 71  | 70  | 70  | 68  | 64  | 67  | 66  | 66  | 184  |
| 8         | 71  | 70  | 71  | 70  | 73  | 72  | 73  | 66  | 56  | 180  |
| 9         | 66  | 61  | 81  | 72  | 71  | 67  | 78  | 73  | 43  | 191  |
| 10        | 87  | 75  | 78  | 74  | 70  | 60  | 90  | 75  | 60  | 164  |
| 11        | 67  | 63  | 71  | 67  | 67  | 68  | 76  | 61  | 73  | 147  |
| School 35 |     |     |     |     |     |     |     |     |     |      |
| 1         | 60  | 68  | 84  | 78  | 65  | 68  | 87  | 78  | 57  | 166  |
| 2         | 60  | 65  | 81  | 77  | 64  | 64  | 83  | 83  | 54  | 191  |
| 3         | 63  | 65  | 87  | 74  | 68  | 70  | 88  | 73  | 63  | 182  |
| 4         | 67  | 75  | 74  | 74  | 67  | 74  | 76  | 70  | 62  | 176  |
| 5         | 60  | 70  | 82  | 71  | 66  | 70  | 87  | 66  | 55  | 171  |
| 6         | 60  | 70  | 82  | 75  | 67  | 71  | 81  | 68  | 50  | 100  |
| 7         | 62  | 68  | 76  | 67  | 70  | 72  | 83  | 83  | 57  | 167  |
| 8         | 62  | 71  | 78  | 66  | 70  | 72  | 84  | 71  | 54  | 208  |
| 9         | 63  | 70  | 81  | 74  | 75  | 71  | 84  | 76  | 49  | 127  |
| 10        | 69  | 75  | 80  | 74  | 72  | 71  | 80  | 70  | 62  | 165  |
| 11        | 63  | 68  | 77  | 78  | 75  | 75  | 71  | 63  | 59  | 165  |
| 12        | 65  | 80  | 83  | 74  | 70  | 74  | 84  | 71  | 46  | 165  |
| 13        | 77  | 85  | 74  | 64  | 77  | 87  | 73  | 61  | 40  | 130  |
| 14        | 71  | 76  | 69  | 65  | 71  | 74  | 76  | 70  | 23  | 123  |
| 15        | 66  | 73  | 78  | 71  | 74  | 72  | 71  | 65  | 42  | 130  |
| 16        | 67  | 80  | 76  | 81  | 71  | 84  | 82  | 68  | 50  | 166  |
| 17        | 66  | 76  | 78  | 70  | 72  | 70  | 78  | 73  | 46  | 127  |
| 18        | 76  | 85  | 70  | 65  | 76  | 75  | 67  | 66  | 50  | 154  |
| 19        | 67  | 81  | 74  | 70  | 78  | 75  | 76  | 70  | 43  | 129  |
| 20        | 61  | 83  | 81  | 75  | 75  | 80  | 76  | 71  | 55  | 147  |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| <hr/>     |     |     |     |     |     |     |     |     |     |      |
| School 36 |     |     |     |     |     |     |     |     |     |      |
| 1         | 62  | 65  | 88  | 75  | 74  | 72  | 86  | 86  | 56  | 180  |
| 2         | 61  | 73  | 85  | 68  | 66  | 74  | 85  | 75  | 42  | 145  |
| 3         | 66  | 80  | 79  | 72  | 75  | 74  | 85  | 80  | 40  | 142  |
| 4         | 69  | 70  | 81  | 67  | 76  | 68  | 85  | 61  | 32  | 113  |
| 5         | 62  | 66  | 78  | 67  | 67  | 65  | 74  | 61  | 52  | 128  |
| 6         | 62  | 70  | 85  | 70  | 75  | 72  | 84  | 68  | 73  | 182  |
| 7         | 60  | 70  | 80  | 74  | 73  | 67  | 81  | 75  | 56  | 155  |
| 8         | 73  | 73  | 87  | 68  | 81  | 72  | 83  | 78  | 59  | 158  |
| 9         | 62  | 71  | 81  | 65  | 76  | 85  | 86  | 78  | 77  | 193  |
| 10        | 64  | 61  | 86  | 68  | 70  | 68  | 80  | 66  | 41  | 122  |
| 11        | 64  | 76  | 81  | 65  | 75  | 77  | 83  | 76  | 45  | 148  |
| 12        | 67  | 75  | 84  | 71  | 77  | 72  | 86  | 75  | 45  | 147  |
| 13        | 68  | 76  | 81  | 68  | 73  | 68  | 77  | 75  | 48  | 136  |
| School 37 |     |     |     |     |     |     |     |     |     |      |
| 1         | 67  | 81  | 74  | 68  | 73  | 64  | 70  | 66  | 47  | 143  |
| 2         | 63  | 81  | 72  | 68  | 72  | 67  | 63  | 63  | 57  | 186  |
| 3         | 64  | 63  | 80  | 70  | 70  | 68  | 71  | 65  | 51  | 140  |
| 4         | 66  | 73  | 72  | 68  | 72  | 75  | 68  | 66  | 61  | 169  |
| 5         | 68  | 76  | 79  | 68  | 75  | 77  | 75  | 75  | 56  | 167  |
| 6         | 65  | 71  | 74  | 77  | 70  | 71  | 63  | 70  | 54  | 128  |
| 7         | 67  | 73  | 71  | 67  | 75  | 74  | 70  | 66  | 53  | 131  |
| 8         | 69  | 75  | 72  | 72  | 70  | 67  | 71  | 68  | 47  | 153  |
| 9         | 69  | 75  | 84  | 71  | 74  | 74  | 77  | 73  | 39  | 125  |
| 10        | 73  | 71  | 75  | 71  | 74  | 71  | 68  | 68  | 42  | 116  |
| 11        | 64  | 75  | 75  | 74  | 75  | 72  | 77  | 70  | 56  | 141  |
| 12        | 64  | 73  | 74  | 72  | 72  | 74  | 63  | 63  | 56  | 109  |
| 13        | 66  | 76  | 68  | 78  | 66  | 74  | 68  | 61  | 52  | 127  |
| 14        | 62  | 81  | 78  | 74  | 80  | 64  | 74  | 70  | 38  | 123  |
| School 38 |     |     |     |     |     |     |     |     |     |      |
| 1         | 67  | 75  | 78  | 68  | 74  | 80  | 80  | 68  | 70  | 170  |
| 2         | 66  | 66  | 76  | 71  | 72  | 68  | 86  | 78  | 36  | 119  |
| 3         | 78  | 73  | 72  | 80  | 75  | 67  | 74  | 68  | 54  | 178  |
| 4         | 71  | 68  | 73  | 71  | 80  | 64  | 72  | 66  | 65  | 125  |
| 5         | 66  | 73  | 76  | 68  | 70  | 62  | 81  | 68  | 45  | 100  |
| 6         | 68  | 66  | 80  | 71  | 78  | 68  | 80  | 71  | 66  | 162  |
| 7         | 71  | 81  | 75  | 70  | 77  | 80  | 73  | 65  | 45  | 124  |
| 8         | 74  | 71  | 71  | 72  | 71  | 71  | 66  | 65  | 61  | 126  |
| 9         | 66  | 73  | 77  | 74  | 74  | 67  | 83  | 70  | 45  | 92   |
| 10        | 68  | 76  | 74  | 65  | 78  | 68  | 72  | 66  | 57  | 180  |

| Subject | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 11      | 67  | 86  | 68  | 78  | 71  | 75  | 68  | 70  | 58  | 189  |
| 12      | 70  | 71  | 71  | 65  | 78  | 78  | 71  | 63  | 56  | 139  |
| 13      | 73  | 68  | 78  | 72  | 74  | 70  | 82  | 83  | 61  | 128  |
| 14      | 79  | 81  | 69  | 74  | 78  | 72  | 76  | 66  | 41  | 180  |
| 15      | 78  | 61  | 78  | 74  | 71  | 64  | 88  | 98  | 40  | 169  |
| 16      | 67  | 73  | 76  | 70  | 70  | 65  | 81  | 73  | 42  | 149  |
| 17      | 75  | 70  | 66  | 72  | 73  | 74  | 68  | 66  | 58  | 204  |
| 18      | 77  | 81  | 72  | 75  | 67  | 68  | 76  | 71  | 53  | 166  |
| 19      | 71  | 71  | 80  | 77  | 74  | 67  | 82  | 75  | 50  | 172  |
| 20      | 68  | 80  | 76  | 77  | 73  | 71  | 78  | 75  | 56  | 147  |
| 21      | 61  | 73  | 67  | 64  | 78  | 62  | 75  | 70  | 61  | 207  |
| 22      | 65  | 75  | 80  | 67  | 70  | 72  | 82  | 71  | 51  | 181  |
| 23      | 67  | 73  | 72  | 67  | 66  | 64  | 70  | 66  | 48  | 200  |
| 24      | 64  | 76  | 80  | 74  | 75  | 68  | 86  | 80  | 37  | 104  |
| 25      | 75  | 71  | 74  | 74  | 72  | 68  | 75  | 71  | 62  | 166  |
| 26      | 69  | 73  | 69  | 75  | 76  | 68  | 63  | 60  | 51  | 106  |
| 27      | 69  | 85  | 78  | 68  | 75  | 70  | 78  | 70  | 58  | 150  |
| 28      | 62  | 80  | 77  | 72  | 70  | 64  | 64  | 63  | 43  | 100  |
| 29      | 70  | 76  | 74  | 68  | 78  | 67  | 83  | 83  | 63  | 179  |
| 30      | 65  | 73  | 72  | 77  | 71  | 68  | 76  | 68  | 59  | 189  |

## School 39

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 75 | 76 | 75 | 64 | 67 | 78 | 83 | 80 | 66 | 163 |
| 2  | 63 | 65 | 77 | 65 | 68 | 65 | 78 | 68 | 61 | 149 |
| 3  | 78 | 75 | 71 | 64 | 65 | 68 | 73 | 66 | 47 | 176 |
| 4  | 71 | 73 | 75 | 68 | 70 | 72 | 78 | 78 | 36 | 168 |
| 5  | 72 | 81 | 83 | 70 | 64 | 68 | 76 | 71 | 48 | 166 |
| 6  | 65 | 78 | 81 | 65 | 65 | 66 | 74 | 75 | 40 | 119 |
| 7  | 69 | 76 | 78 | 71 | 76 | 75 | 71 | 66 | 56 | 143 |
| 8  | 64 | 68 | 78 | 60 | 65 | 70 | 77 | 66 | 58 | 157 |
| 9  | 71 | 76 | 81 | 72 | 67 | 74 | 82 | 81 | 56 | 169 |
| 10 | 72 | 70 | 80 | 74 | 71 | 62 | 68 | 71 | 65 | 188 |
| 11 | 73 | 73 | 84 | 71 | 72 | 72 | 85 | 86 | 49 | 145 |
| 12 | 71 | 78 | 79 | 70 | 71 | 70 | 73 | 68 | 54 | 132 |
| 13 | 63 | 71 | 84 | 75 | 66 | 68 | 81 | 73 | 64 | 194 |
| 14 | 77 | 83 | 77 | 71 | 70 | 70 | 74 | 65 | 47 | 153 |
| 15 | 64 | 70 | 82 | 70 | 66 | 64 | 76 | 73 | 46 | 146 |
| 16 | 61 | 63 | 85 | 71 | 67 | 67 | 82 | 71 | 61 | 166 |
| 17 | 68 | 76 | 84 | 71 | 72 | 72 | 83 | 75 | 50 | 191 |
| 18 | 63 | 71 | 81 | 65 | 67 | 70 | 81 | 76 | 48 | 146 |
| 19 | 62 | 88 | 83 | 71 | 68 | 67 | 75 | 66 | 57 | 135 |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| <hr/>     |     |     |     |     |     |     |     |     |     |      |
| School 40 |     |     |     |     |     |     |     |     |     |      |
| 1         | 62  | 80  | 82  | 77  | 72  | 74  | 81  | 66  | 57  | 147  |
| 2         | 64  | 68  | 80  | 74  | 78  | 70  | 73  | 70  | 49  | 131  |
| 3         | 63  | 85  | 86  | 68  | 70  | 72  | 75  | 68  | 66  | 182  |
| 4         | 71  | 85  | 80  | 70  | 73  | 74  | 86  | 85  | 59  | 148  |
| 5         | 75  | 70  | 77  | 60  | 76  | 81  | 81  | 70  | 58  | 116  |
| 6         | 62  | 75  | 81  | 70  | 70  | 78  | 73  | 66  | 58  | 124  |
| 7         | 66  | 73  | 76  | 67  | 76  | 67  | 78  | 68  | 53  | 161  |
| 8         | 64  | 81  | 85  | 67  | 77  | 78  | 73  | 71  | 48  | 127  |
| 9         | 64  | 73  | 79  | 64  | 74  | 74  | 78  | 65  | 46  | 118  |
| School 41 |     |     |     |     |     |     |     |     |     |      |
| 1         | 62  | 68  | 81  | 74  | 67  | 71  | 83  | 78  | 35  | 117  |
| 2         | 67  | 83  | 76  | 68  | 70  | 64  | 73  | 65  | 73  | 157  |
| 3         | 63  | 63  | 81  | 71  | 71  | 74  | 81  | 63  | 44  | 142  |
| 4         | 65  | 73  | 79  | 70  | 68  | 65  | 75  | 61  | 61  | 141  |
| 5         | 66  | 70  | 74  | 71  | 67  | 74  | 77  | 75  | 65  | 186  |
| 6         | 71  | 73  | 75  | 74  | 67  | 71  | 77  | 75  | 52  | 129  |
| 7         | 66  | 68  | 80  | 70  | 67  | 64  | 77  | 75  | 57  | 155  |
| 8         | 65  | 73  | 83  | 78  | 71  | 72  | 83  | 80  | 57  | 128  |
| 9         | 72  | 78  | 73  | 70  | 74  | 77  | 76  | 80  | 67  | 147  |
| 10        | 62  | 68  | 79  | 74  | 68  | 70  | 80  | 73  | 56  | 126  |
| 11        | 62  | 65  | 83  | 75  | 65  | 67  | 84  | 80  | 59  | 162  |
| 12        | 67  | 75  | 83  | 70  | 71  | 74  | 81  | 76  | 38  | 94   |
| 13        | 72  | 73  | 84  | 70  | 72  | 70  | 83  | 78  | 53  | 128  |
| 14        | 67  | 83  | 84  | 68  | 75  | 77  | 87  | 80  | 58  | 150  |
| School 42 |     |     |     |     |     |     |     |     |     |      |
| 1         | 65  | 70  | 80  | 72  | 67  | 60  | 84  | 71  | 66  | 198  |
| 2         | 65  | 61  | 83  | 74  | 75  | 75  | 84  | 71  | 47  | 150  |
| 3         | 61  | 65  | 80  | 72  | 75  | 64  | 84  | 71  | 46  | 168  |
| 4         | 76  | 78  | 75  | 65  | 77  | 88  | 83  | 78  | 57  | 168  |
| 5         | 68  | 70  | 80  | 74  | 71  | 78  | 83  | 68  | 60  | 190  |
| 6         | 66  | 70  | 86  | 72  | 66  | 62  | 76  | 65  | 62  | 133  |
| 7         | 68  | 73  | 84  | 77  | 74  | 68  | 77  | 70  | 47  | 162  |
| 8         | 64  | 71  | 75  | 71  | 71  | 70  | 81  | 78  | 62  | 177  |
| 9         | 69  | 83  | 76  | 64  | 75  | 70  | 76  | 70  | 57  | 145  |
| 10        | 69  | 70  | 78  | 68  | 70  | 75  | 74  | 68  | 43  | 143  |
| 11        | 66  | 76  | 82  | 70  | 73  | 67  | 80  | 75  | 52  | 158  |
| 12        | 61  | 61  | 79  | 74  | 68  | 64  | 83  | 70  | 40  | 139  |
| 13        | 68  | 80  | 82  | 70  | 72  | 74  | 80  | 80  | 53  | 144  |
| 14        | 61  | 68  | 81  | 64  | 70  | 65  | 77  | 73  | 54  | 127  |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| <hr/>     |     |     |     |     |     |     |     |     |     |      |
| School 43 |     |     |     |     |     |     |     |     |     |      |
| 1         | 72  | 86  | 75  | 71  | 67  | 75  | 68  | 68  | 61  | 122  |
| 2         | 74  | 76  | 80  | 78  | 64  | 77  | 83  | 80  | 32  | 129  |
| 3         | 69  | 85  | 76  | 74  | 72  | 70  | 70  | 70  | 63  | 143  |
| 4         | 69  | 70  | 81  | 82  | 71  | 71  | 81  | 81  | 43  | 109  |
| 5         | 64  | 86  | 88  | 71  | 73  | 77  | 74  | 65  | 47  | 148  |
| 6         | 67  | 75  | 76  | 74  | 70  | 70  | 71  | 71  | 56  | 156  |
| 7         | 65  | 78  | 75  | 70  | 67  | 65  | 68  | 60  | 58  | 133  |
| 8         | 63  | 80  | 83  | 72  | 67  | 74  | 76  | 68  | 56  | 154  |
| 9         | 75  | 76  | 78  | 68  | 77  | 83  | 77  | 68  | 56  | 108  |
| 10        | 70  | 73  | 82  | 70  | 65  | 68  | 82  | 73  | 59  | 138  |
| 11        | 67  | 71  | 73  | 74  | 67  | 68  | 73  | 70  | 54  | 150  |
| 12        | 63  | 83  | 82  | 70  | 73  | 70  | 67  | 63  | 54  | 157  |
| 13        | 68  | 70  | 86  | 78  | 71  | 70  | 73  | 66  | 52  | 159  |
| 14        | 64  | 75  | 81  | 74  | 67  | 72  | 78  | 75  | 55  | 147  |
| 15        | 70  | 78  | 73  | 67  | 71  | 68  | 70  | 65  | 53  | 143  |
| 16        | 66  | 68  | 83  | 77  | 72  | 75  | 82  | 83  | 60  | 139  |
| 17        | 69  | 73  | 80  | 70  | 70  | 68  | 80  | 68  | 56  | 141  |
| 18        | 66  | 76  | 82  | 75  | 75  | 71  | 75  | 66  | 61  | 151  |
| School 44 |     |     |     |     |     |     |     |     |     |      |
| 1         | 66  | 70  | 83  | 72  | 70  | 67  | 80  | 70  | 41  | 131  |
| 2         | 60  | 66  | 84  | 70  | 64  | 71  | 88  | 83  | 43  | 129  |
| 3         | 66  | 71  | 86  | 78  | 74  | 77  | 86  | 68  | 53  | 121  |
| 4         | 61  | 61  | 83  | 71  | 70  | 70  | 85  | 71  | 41  | 119  |
| 5         | 62  | 65  | 85  | 74  | 64  | 66  | 82  | 64  | 45  | 120  |
| 6         | 62  | 66  | 80  | 71  | 75  | 70  | 82  | 73  | 39  | 133  |
| 7         | 65  | 65  | 90  | 75  | 66  | 70  | 82  | 81  | 37  | 126  |
| 8         | 62  | 70  | 88  | 72  | 67  | 65  | 85  | 81  | 42  | 152  |
| 9         | 66  | 65  | 83  | 72  | 72  | 65  | 82  | 81  | 44  | 124  |
| 10        | 67  | 71  | 82  | 74  | 73  | 77  | 81  | 81  | 47  | 170  |
| 11        | 62  | 61  | 82  | 84  | 68  | 68  | 84  | 76  | 53  | 132  |
| 12        | 63  | 68  | 86  | 71  | 65  | 72  | 85  | 83  | 47  | 173  |
| 13        | 64  | 65  | 86  | 78  | 67  | 72  | 86  | 81  | 53  | 149  |
| 14        | 69  | 66  | 81  | 80  | 71  | 81  | 85  | 78  | 54  | 128  |
| School 45 |     |     |     |     |     |     |     |     |     |      |
| 1         | 74  | 63  | 67  | 71  | 72  | 70  | 84  | 76  | 32  | 151  |
| 2         | 71  | 65  | 81  | 71  | 70  | 64  | 84  | 80  | 51  | 184  |
| 3         | 65  | 66  | 80  | 70  | 64  | 64  | 77  | 66  | 53  | 151  |
| 4         | 76  | 75  | 75  | 68  | 72  | 68  | 84  | 68  | 42  | 134  |
| 5         | 72  | 76  | 75  | 68  | 81  | 75  | 78  | 65  | 43  | 133  |

| Subject | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 6       | 76  | 60  | 77  | 64  | 74  | 81  | 84  | 71  | 63  | 160  |
| 7       | 64  | 71  | 75  | 78  | 64  | 62  | 77  | 70  | 62  | 162  |
| 8       | 66  | 63  | 77  | 65  | 75  | 68  | 80  | 66  | 56  | 143  |
| 9       | 61  | 70  | 76  | 74  | 74  | 81  | 88  | 80  | 47  | 105  |
| 10      | 68  | 68  | 80  | 75  | 73  | 77  | 84  | 68  | 48  | 175  |
| 11      | 71  | 73  | 69  | 67  | 71  | 64  | 70  | 66  | 54  | 174  |
| 12      | 81  | 61  | 71  | 78  | 84  | 72  | 75  | 73  | 46  | 106  |
| 13      | 79  | 73  | 68  | 68  | 67  | 65  | 80  | 61  | 62  | 156  |
| 14      | 64  | 65  | 82  | 74  | 75  | 68  | 87  | 70  | 57  | 132  |

## School 46

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 68 | 68 | 82 | 71 | 70 | 77 | 74 | 63 | 71 | 172 |
| 2  | 68 | 71 | 78 | 74 | 71 | 72 | 68 | 61 | 47 | 153 |
| 3  | 65 | 66 | 77 | 75 | 66 | 75 | 70 | 63 | 51 | 153 |
| 4  | 66 | 66 | 77 | 71 | 68 | 75 | 76 | 63 | 53 | 152 |
| 5  | 67 | 68 | 77 | 78 | 68 | 74 | 74 | 65 | 59 | 163 |
| 6  | 66 | 71 | 78 | 72 | 67 | 72 | 81 | 66 | 65 | 147 |
| 7  | 66 | 66 | 83 | 80 | 72 | 84 | 76 | 65 | 46 | 135 |
| 8  | 67 | 63 | 85 | 78 | 75 | 75 | 81 | 66 | 40 | 131 |
| 9  | 63 | 61 | 87 | 72 | 74 | 78 | 80 | 71 | 49 | 140 |
| 10 | 76 | 80 | 82 | 68 | 74 | 72 | 87 | 68 | 70 | 179 |
| 11 | 65 | 73 | 85 | 74 | 68 | 78 | 83 | 71 | 66 | 145 |
| 12 | 68 | 68 | 81 | 82 | 73 | 77 | 78 | 73 | 44 | 120 |
| 13 | 66 | 71 | 82 | 75 | 75 | 77 | 72 | 71 | 61 | 170 |
| 14 | 70 | 76 | 82 | 80 | 66 | 74 | 74 | 73 | 64 | 180 |
| 15 | 69 | 66 | 79 | 72 | 66 | 82 | 75 | 63 | 46 | 126 |
| 16 | 62 | 70 | 81 | 77 | 73 | 71 | 75 | 68 | 53 | 149 |
| 17 | 63 | 70 | 77 | 67 | 70 | 75 | 71 | 61 | 53 | 156 |
| 18 | 63 | 70 | 78 | 64 | 71 | 77 | 68 | 61 | 56 | 154 |
| 19 | 66 | 61 | 82 | 77 | 65 | 67 | 87 | 86 | 51 | 119 |
| 20 | 71 | 70 | 75 | 78 | 80 | 85 | 74 | 63 | 37 | 168 |
| 21 | 69 | 71 | 79 | 80 | 76 | 84 | 83 | 86 | 51 | 168 |
| 22 | 81 | 68 | 76 | 78 | 72 | 81 | 75 | 70 | 60 | 182 |
| 23 | 71 | 75 | 82 | 74 | 71 | 80 | 71 | 65 | 52 | 157 |
| 24 | 64 | 60 | 84 | 70 | 77 | 78 | 85 | 71 | 48 | 142 |
| 25 | 63 | 66 | 85 | 72 | 74 | 71 | 84 | 76 | 55 | 157 |

## School 47

|   |    |    |    |    |    |    |    |    |    |     |
|---|----|----|----|----|----|----|----|----|----|-----|
| 1 | 62 | 76 | 79 | 78 | 75 | 62 | 84 | 68 | 52 | 150 |
| 2 | 63 | 68 | 82 | 65 | 68 | 68 | 82 | 70 | 64 | 189 |
| 3 | 69 | 75 | 78 | 77 | 71 | 72 | 83 | 71 | 37 | 104 |
| 4 | 73 | 71 | 80 | 74 | 70 | 74 | 77 | 68 | 52 | 181 |
| 5 | 67 | 78 | 82 | 78 | 75 | 65 | 77 | 75 | 52 | 145 |

| Subject | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 6       | 67  | 71  | 76  | 72  | 66  | 68  | 80  | 73  | 46  | 165  |
| 7       | 64  | 60  | 89  | 70  | 68  | 64  | 83  | 76  | 42  | 102  |
| 8       | 70  | 75  | 81  | 71  | 66  | 70  | 87  | 76  | 51  | 185  |
| 9       | 71  | 73  | 84  | 72  | 72  | 71  | 87  | 80  | 53  | 178  |
| 10      | 68  | 70  | 74  | 68  | 74  | 65  | 76  | 70  | 59  | 149  |
| 11      | 77  | 88  | 77  | 70  | 72  | 70  | 77  | 71  | 77  | 131  |
| 12      | 65  | 65  | 78  | 72  | 67  | 72  | 77  | 66  | 75  | 164  |
| 13      | 76  | 71  | 71  | 64  | 75  | 71  | 74  | 60  | 40  | 126  |
| 14      | 66  | 73  | 77  | 72  | 74  | 65  | 70  | 66  | 64  | 146  |
| 15      | 64  | 73  | 81  | 71  | 73  | 72  | 73  | 65  | 53  | 149  |
| 16      | 69  | 81  | 75  | 71  | 68  | 67  | 81  | 71  | 64  | 199  |
| 17      | 61  | 71  | 82  | 72  | 67  | 72  | 78  | 68  | 60  | 150  |
| 18      | 66  | 76  | 79  | 67  | 76  | 70  | 77  | 73  | 63  | 182  |
| 19      | 68  | 71  | 76  | 70  | 73  | 65  | 77  | 65  | 53  | 121  |
| 20      | 68  | 80  | 80  | 71  | 68  | 74  | 80  | 75  | 49  | 122  |

## School 48

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 61 | 68 | 82 | 78 | 74 | 65 | 83 | 70 | 52 | 146 |
| 2  | 63 | 73 | 86 | 70 | 78 | 75 | 86 | 70 | 61 | 183 |
| 3  | 68 | 73 | 81 | 74 | 78 | 81 | 80 | 71 | 57 | 143 |
| 4  | 62 | 60 | 85 | 67 | 71 | 71 | 78 | 66 | 52 | 149 |
| 5  | 61 | 71 | 84 | 74 | 77 | 75 | 82 | 71 | 66 | 202 |
| 6  | 66 | 66 | 79 | 74 | 68 | 67 | 81 | 68 | 46 | 157 |
| 7  | 67 | 70 | 77 | 70 | 74 | 78 | 80 | 66 | 47 | 150 |
| 8  | 63 | 71 | 82 | 65 | 70 | 84 | 70 | 68 | 49 | 133 |
| 9  | 66 | 68 | 82 | 70 | 80 | 70 | 74 | 73 | 46 | 134 |
| 10 | 65 | 61 | 88 | 80 | 74 | 77 | 75 | 68 | 52 | 123 |
| 11 | 63 | 70 | 87 | 70 | 74 | 72 | 77 | 65 | 37 | 155 |
| 12 | 66 | 66 | 83 | 74 | 80 | 74 | 74 | 68 | 58 | 175 |
| 13 | 64 | 66 | 83 | 75 | 77 | 75 | 80 | 66 | 51 | 137 |

## School 49

|    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|-----|
| 1  | 66 | 76 | 86 | 88 | 60 | 71 | 82 | 68 | 52 | 135 |
| 2  | 70 | 68 | 76 | 67 | 68 | 71 | 73 | 68 | 63 | 172 |
| 3  | 69 | 68 | 84 | 72 | 71 | 68 | 84 | 72 | 57 | 173 |
| 4  | 71 | 75 | 83 | 80 | 65 | 68 | 70 | 61 | 55 | 118 |
| 5  | 65 | 65 | 83 | 71 | 73 | 74 | 86 | 76 | 59 | 203 |
| 6  | 69 | 71 | 79 | 74 | 73 | 77 | 86 | 71 | 54 | 164 |
| 7  | 66 | 71 | 83 | 75 | 64 | 70 | 87 | 68 | 51 | 173 |
| 8  | 65 | 66 | 82 | 80 | 72 | 70 | 87 | 80 | 47 | 160 |
| 9  | 67 | 68 | 78 | 80 | 70 | 65 | 81 | 75 | 42 | 129 |
| 10 | 66 | 75 | 72 | 71 | 71 | 68 | 87 | 68 | 41 | 173 |
| 11 | 66 | 65 | 83 | 62 | 73 | 71 | 82 | 73 | 55 | 188 |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| School 50 |     |     |     |     |     |     |     |     |     |      |
| 1         | 61  | 61  | 81  | 67  | 74  | 75  | 83  | 86  | 55  | 165  |
| 2         | 60  | 68  | 84  | 74  | 71  | 65  | 87  | 80  | 47  | 174  |
| 3         | 62  | 73  | 82  | 70  | 67  | 64  | 83  | 75  | 59  | 170  |
| 4         | 66  | 66  | 79  | 67  | 67  | 68  | 80  | 76  | 54  | 120  |
| 5         | 64  | 71  | 77  | 75  | 74  | 70  | 77  | 68  | 51  | 162  |
| 6         | 68  | 70  | 72  | 74  | 77  | 71  | 76  | 68  | 47  | 175  |
| 7         | 65  | 70  | 81  | 72  | 68  | 74  | 82  | 73  | 53  | 162  |
| 8         | 62  | 68  | 79  | 68  | 67  | 75  | 85  | 73  | 54  | 163  |
| 9         | 65  | 66  | 77  | 72  | 71  | 68  | 71  | 68  | 49  | 150  |
| 10        | 65  | 70  | 81  | 75  | 71  | 70  | 81  | 72  | 62  | 222  |
| 11        | 64  | 71  | 76  | 70  | 71  | 71  | 72  | 63  | 60  | 127  |
| 12        | 66  | 68  | 70  | 68  | 64  | 64  | 67  | 68  | 62  | 157  |
| School 51 |     |     |     |     |     |     |     |     |     |      |
| 1         | 66  | 76  | 80  | 78  | 68  | 67  | 81  | 76  | 48  | 153  |
| 2         | 69  | 71  | 80  | 70  | 66  | 71  | 75  | 68  | 53  | 137  |
| 3         | 69  | 71  | 73  | 70  | 70  | 68  | 80  | 73  | 71  | 221  |
| 4         | 70  | 63  | 86  | 74  | 67  | 68  | 81  | 73  | 56  | 134  |
| 5         | 68  | 68  | 79  | 74  | 65  | 64  | 83  | 83  | 57  | 162  |
| 6         | 60  | 65  | 84  | 75  | 72  | 74  | 84  | 80  | 54  | 137  |
| 7         | 67  | 76  | 85  | 80  | 68  | 68  | 86  | 80  | 37  | 93   |
| 8         | 75  | 71  | 84  | 75  | 66  | 67  | 84  | 75  | 62  | 187  |
| 9         | 67  | 81  | 85  | 82  | 66  | 70  | 78  | 83  | 55  | 159  |
| 10        | 70  | 78  | 77  | 74  | 70  | 62  | 72  | 68  | 49  | 131  |
| 11        | 70  | 74  | 78  | 74  | 65  | 72  | 83  | 78  | 50  | 173  |
| School 52 |     |     |     |     |     |     |     |     |     |      |
| 1         | 66  | 68  | 75  | 70  | 72  | 68  | 73  | 68  | 64  | 178  |
| 2         | 66  | 73  | 80  | 67  | 65  | 75  | 80  | 81  | 61  | 205  |
| 3         | 65  | 68  | 84  | 71  | 72  | 72  | 76  | 78  | 48  | 160  |
| 4         | 68  | 70  | 70  | 71  | 72  | 67  | 66  | 65  | 49  | 149  |
| 5         | 61  | 65  | 81  | 67  | 70  | 68  | 84  | 73  | 55  | 156  |
| 6         | 71  | 78  | 68  | 70  | 75  | 71  | 61  | 63  | 51  | 183  |
| 7         | 61  | 71  | 77  | 78  | 73  | 71  | 77  | 78  | 60  | 138  |
| 8         | 63  | 70  | 75  | 71  | 74  | 64  | 78  | 71  | 50  | 159  |
| 9         | 71  | 65  | 89  | 75  | 74  | 64  | 70  | 75  | 65  | 134  |
| 10        | 64  | 68  | 87  | 75  | 68  | 70  | 80  | 83  | 76  | 172  |
| 11        | 62  | 63  | 80  | 62  | 70  | 77  | 80  | 80  | 52  | 173  |
| 12        | 60  | 76  | 76  | 72  | 70  | 71  | 65  | 71  | 57  | 126  |
| 13        | 62  | 63  | 86  | 70  | 64  | 74  | 87  | 70  | 37  | 113  |
| 14        | 78  | 71  | 80  | 75  | 70  | 74  | 81  | 81  | 47  | 159  |

| Subject   | DIS | HIN | ESP | INT | ALO | PRD | THR | CON | PCI | DOGM |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| School 53 |     |     |     |     |     |     |     |     |     |      |
| 1         | 63  | 78  | 80  | 67  | 71  | 78  | 75  | 65  | 47  | 163  |
| 2         | 71  | 68  | 70  | 68  | 74  | 77  | 62  | 63  | 32  | 130  |
| 3         | 65  | 66  | 83  | 74  | 71  | 84  | 82  | 83  | 44  | 137  |
| 4         | 67  | 73  | 82  | 75  | 70  | 85  | 82  | 71  | 38  | 136  |
| 5         | 76  | 70  | 86  | 72  | 76  | 81  | 72  | 68  | 48  | 129  |
| 6         | 63  | 68  | 85  | 78  | 71  | 81  | 82  | 78  | 59  | 145  |
| 7         | 74  | 78  | 80  | 74  | 76  | 85  | 78  | 76  | 51  | 165  |
| 8         | 63  | 70  | 83  | 72  | 65  | 68  | 84  | 66  | 60  | 164  |

APPENDIX 21

CLASSIFICATION BY SUBTEST OF THE ITEMS OF THE ORGANIZATIONAL  
CLIMATE DESCRIPTION QUESTIONNAIRE

## APPENDIX 21

### CLASSIFICATION BY SUBTEST OF THE ITEMS OF THE ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE

#### TEACHERS' BEHAVIOR

##### I-DISENGAGEMENT

- 2. The mannerisms of teachers at this school are annoying.
- 6. There is a minority group of teachers who always oppose the majority.
- 10. Teachers exert group pressure on non-conforming faculty members.
- 14. Teachers seek special favors from the principals.
- 18. Teachers interrupt other faculty members who are talking in staff meetings.
- 22. Teachers ask nonsensical questions in faculty meetings.
- 26. Teachers ramble when they talk in faculty meetings.
- 30. Teachers at this school stay by themselves.
- 61. Teachers talk about leaving the school system.
- 38. Teachers socialize together in small select groups.

##### II-HINDRANCE

- 24. Routine duties interfere with the job of teaching.
- 20. Teachers have too many committee requirements.
- 16. Student progress reports require too much work.
- 12. Administrative paper work is burdensome at this school.
- 8. Sufficient time is given to prepare administrative reports.
- 4. Instructions for the operation of teaching aids are available.

##### III-ESPRIT

- 35. The morale of the teachers is high.
- 31. The teachers accomplish their work with great vim, vigor and pleasure.
- 27. Teachers at this school show much school spirit.
- 23. Custodial service is available when needed.
- 19. Most of the teachers here accept the faults of their colleagues.
- 15. School supplies are readily available for use in classwork.
- 21. There is considerable laughter when teachers gather informally.
- 11. In faculty meetings, there is the feeling of "let's get things done."
- 7. Extra books are available for classroom use.
- 3. Teachers spend time after school with students who have individual problems.

IV-INTIMACY

1. Teachers' closest friends are other faculty members at this school.
5. Teachers invite other faculty members to visit them at home.
9. Teachers know the family background of other faculty members.
13. Teachers talk about their personal life to other faculty members.
17. Teachers have fun socializing together during school time.
57. Teachers work together preparing administrative reports.
- 25. Teachers prepare administrative reports by themselves.

## PRINCIPAL'S BEHAVIOR

V-ALOOFNESS

58. Faculty meetings are organized according to a tight agenda.
59. Faculty meetings are mainly principal-report meetings.
55. The principal runs the faculty meetings like a business conference.
44. Teachers leave the grounds during the school day.
34. Teachers eat lunch by themselves in their own classrooms.
52. The rules set by the principal are never questioned.
40. Teachers are contacted by the principal each day.
- 54. School secretarial service is available for teachers' use.
- 64. Teachers are informed of the results of a supervisor's visit.

VI-PRODUCTION EMPHASIS

39. The principal makes all class scheduling decisions.
43. The principal schedules the work for the teachers.
62. The principal checks the subject matter ability of teachers.
47. The principal corrects the teachers' mistakes.
66. The principal insures that teachers work to their full capacity.
51. Extra duty for teachers is posted conspicuously.
48. The principal talks a great deal.

VII-THRUST

28. The principal goes out of his way to help teachers.
32. The principal sets an example by working hard himself.
36. The principal uses constructive criticism.
41. The principal is well prepared when he speaks at school functions.
49. The principal explains his reasons for criticism to teachers.

- 53. The principal looks out for the personal welfare of teachers.
- 56. The principal is in the building before teachers arrive.
- 60. The principal tells teachers of new ideas he has run across.
- 63. The principal is easy to understand.

#### VIII-CONSIDERATION

- 29. The principal helps teachers solve personal problems.
- 33. The principal does personal favors for teachers.
- 37. The principal stays after school to help teachers finish their work.
- 42. The principal helps staff members settle minor differences.
- 46. Teachers help select which courses will be taught.
- 50. The principal tries to get better salaries for teachers.

- 
- 45. The principal criticizes a specific act rather than a staff member\*.
  - 65. Grading practices are standardized at this school.\*
  - 67. Teachers leave the building as soon as possible at day's end.\*
  - 68. The principal clarifies wrong ideas a teacher may have.\*
  - 69. Schedule changes are posted conspicuously at this school.\*
- 

\* These five items are merely "buffer" items used to fill out the IBM cards; these five items are not scored. The questionnaire scores are based on 64 items.

APPENDIX 22

ABSTRACT OF

The Influence of Organizational Climate and  
Dogmatism on Pupil Control Ideology

## APPENDIX 22

### ABSTRACT OF

#### The Influence of Organizational Climate and Dogmatism on Pupil Control Ideology

The school has been defined as a service organization in which participation is mandatory and clients are unselected. In such an organization client control is of particular importance, especially when many participants do not desire to take advantage of the services offered. The conceptualization of pupil control ideology along a humanistic-custodial continuum, and the subsequent development of an instrument to measure the pupil control ideology of teachers has permitted some of the first steps toward a systematic analysis of pupil control in the schools.

This study investigated the influence of organizational climate and teacher dogmatism on pupil control ideology. It was proposed that a humanistic pupil control ideology seems compatible with an open climate and appears most congenial to an open minded belief system; and similarly, that a custodial pupil control ideology parallels a closed climate and best fits a closed minded belief system.

Two hypotheses were deduced from the above rationale and served as a guide for the study:

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1 Frederick C. Lunenburg, doctoral thesis presented to the School of Graduate Studies of the University of Ottawa, Ontario, Canada, July 1972, 204 p.

1. Teachers in open climate schools will be more humanistic in their pupil control ideology than teachers in closed climate schools.
2. Open minded teachers will be more humanistic in their pupil control ideology than closed minded teachers.

The Organizational Climate Description Questionnaire, the Rokeach Dogmatism Scale, and the Pupil Control Ideology Form were administered to 925 teachers in fifty-three elementary schools in Eastern Ontario. The openness of the climate of the school was determined by summing each school's score on the OCDQ subtests Esprit and Thrust, and subtracting the Disengagement subtest score; the higher the resulting score, the more open the climate of the school. Schools whose scores were in the upper and lower one-quarter of the resulting distribution were selected as the open and closed climate schools. Teachers whose scores were in the upper and lower one-quarter of the distribution of Dogmatism Scale scores were classified as open and closed minded teacher groups. The mean pupil control ideology scores of open and closed minded teachers in open and closed climate schools were used in a two-way analysis of variance design.

Based on the data from the study, the following conclusions were drawn.

1. Teachers in open climate schools were not significantly more humanistic in their pupil control ideology than teachers in closed climate schools.

2. Open minded teachers were significantly more humanistic in their pupil control ideology than closed minded teachers.

Suggestions for further research included:

- 1) replicative studies at the secondary school level;
- 2) further examination of personal variables in relation to pupil control ideology;
- 3) an examination of the relationship between teacher performance and teacher ideology; and
- 4) the exploration of the relationship of the pupil control ideology of teachers to other variables that operate within the school organization.