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The Attitudes & Beliefs on Classroom Control Inventory-Revised and Revisited: A Continuation of Construct Validation

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ABSTRACT

The purpose of this study was to report the psychometric properties of the revised Attitudes and Beliefs of Classroom Control Inventory (ABCC-R). Data were collected from 489 participants via the ABCC-R, Teacher Efficacy Scale, Problems in School Questionnaire, and a demographic questionnaire. Results were in keeping with the construct. The findings provided further evidence that two of the three ABCC-R subscales (Instructional Management and People Management) are appropriate for use with K-12 certified, classroom teachers.

INTRODUCTION

A meta-analysis of 50 years of research concluded that classroom management has almost as much impact on student learning as student ability (Wang, Haertel, & Walberg, 1994). In addition, classroom management has consistently been identified as a salient concern for teachers (Ladd, 2000; Willower, Eidell, & Hoy, 1967). Unfortunately, the research in this area has been stymied by the complexity of measuring this important classroom component.

Teacher beliefs vary regarding the nature of child development and, in turn, how to best engage students and manage classrooms. Glickman and Tamashiro (1980) and Wolfgang (1995) conceptualized a framework to explain teacher beliefs regarding child development. Based on an integration of theoretical perspectives, the underlying continuum of control hypothesizes three approaches to teacher-student interaction: non-interventionist, interventionist, and interactionalist.

The non-interventionist assumes the child has an inner drive that needs to find its expression in the real world. Interventionists, those who emphasize what the outer environment does to shape the human organism in a particular way, anchor the opposite end of the continuum. The non-interventionist is the least directive and controlling, while the interventionist is most controlling. Midway between these two extremes, interactionalists focus on what the individual does to alter the external milieu, as well as what the environment does to shape the individual. Interactionalists work to find solutions acceptable to both teacher and students and use some of the same techniques as non-interventionists and interventionists. While it is assumed that teachers believe and act according to all three approaches, one usually predominates (Wolfgang, 1995; Wolfgang & Glickman, 1980).

Based on the conceptual model of Wolfgang and Glickman (1980) and Wolfgang (1995), Martin, Yin, and Baldwin (1998) developed the Attitudes and Beliefs of Classroom Control Inventory (ABCC) that measured teachers' perceptions of their approaches to classroom control. In the ABCC, classroom management style is defined as a multidimensional construct that includes three comprehensive, independent components—instructional management, people management, and behavior management (Martin, Yin, & Baldwin, 1998). These three dimensions work together to create teachers' classroom management styles and guide their efforts to attain appropriate instructional objectives.

Dimension one, instructional management, includes aspects such as overseeing seatwork, organizing daily routines, and distributing materials. The people management dimension pertains to what teachers believe about students as persons and what teachers do to develop the teacher-student relationship. Although similar to discipline, the behavior management dimension is different in that it focuses on pre-planned efforts to prevent misbehavior rather than the teacher's response to it. Specifically, this facet includes establishing rules, forming a reward structure, and providing opportunities for student input.

One's approach to classroom management likely informs their expectation of success with students and impacts their level of self-efficacy. Teachers' sense of efficacy has been defined as, ". . . teachers' judgments about their abilities to promote students' learning" (Woolfolk, Hoy & Spero, 2005). Hoy and Woolfolk (1993) have further refined the construct (based on Gibson & Dembo's 1984 research) to include two independent dimensions. General teaching efficacy reflects a general belief about the power of teaching to reach difficult children. Personal efficacy is a more specific reflection of the teacher's individual sense of confidence in overcoming obstacles in the classroom (Hoy & Woolfolk, 1993).

Research has shown teacher efficacy to be related to teachers' methods of handling classroom management (Henson, 2003; Henson & Chambers, 2005; Hoy & Woolfolk, 1990; Savran & Cakiroglu, 2003; Woolfolk & Hoy, 1990). For example, teachers with a high sense of efficacy tended to favor more humanistic and less controlling management orientations (Henson, 2003; Woolfolk & Hoy, 1990; Woolfolk, Rosoff, & Hoy, 1990). However, Hoy and Woolfolk's (1990) study revealed the student teaching experience resulted in increased personal efficacy, decreased general efficacy and an increase in teacher control in the classroom.

In addition, it seems likely that a relationship exists between the teacher's approach to motivate students and their style of classroom management. When applied to the classroom, self-determination theory (SDT) is mainly focused on facilitating the student's quest for learning, value of scholarship, and faith in their abilities (Deci & Ryan, 1985, 1991). SDT provides the foundation for a fairly consistent body of research related to the teacher's style of motivating students via control versus support for student autonomy (Deci, et al., 1981, 1982, 1991; Reeve, Bolt, & Cai, 1999). Providing meaningful feedback and student choices are examples of an autonomy-supportive approach to student motivation. Examples of controlling teacher behaviors include any external event used to pressure students to "think, feel, or behave in a specific way," such as setting required goals and time limits on activities (Deci, et al, 1991, p. 335).

The purpose of this study was to report the factor structure and concurrent validity of a revised version of the Attitudes and Beliefs of Classroom Control Inventory (ABCC-R), a multidimensional instrument designed to measure various aspects of teachers' beliefs and predispositions toward classroom management practices. It was hypothesized that interventionist classroom management styles were inversely associated with both general and personal teacher efficacy. In addition, it was hypothesized that the level of teacher support for student autonomy is inversely associated with the degree of teacher control in all three dimensions of classroom management.

METHOD

Sample

Data were collected online from 489 certified teachers employed by public school districts in the southwest. The majority of subjects (83%; N = 407) were female. The average age for participants was 41.4 years. Mean years' experience was 13.4 years. The majority of subjects (48.7%) reported being certified at the elementary level; 31.9%, at the secondary level and 19.4% were certified all-level (EC-12). The subject pool was composed of 2.45% African-American, 0.82% Asian, 70.96% Caucasian, 22.9% Hispanic; 2.86% were of other ethnic origin.

Construction of the Attitudes and Beliefs of Classroom Control (ABCC-R) Inventory-Revised

The ABCC-R has been developed in several stages. The instrument was originally titled the Inventory of Classroom Management Styles (ICMS) (Martin & Baldwin, 1994, 1993), and later renamed the Attitudes and Beliefs on Classroom Control (ABCC) Inventory (Martin, et al., 1998). The ABCC inventory was composed of three subscales with 48 items underlying the proposed classroom management dimensions (Martin, et al., 1998).

However, more recent research on the ABCC has found an alternative factor structure to the three-factor solution (Henson, 2003; Savran & Cakiroglu, 2003). These studies revealed only a 2-factor solution that retained the instructional management dimension and collapsed the people management and behavior management factors together. Indeed, research on the ABCC has consistently shown the behavior management subscale to be the weakest of the three factors (Henson, 2003; Martin, et al., 1998; Savran & Cakiroglu, 2003). Conceptually, it makes sense that perhaps there are only two dimensions rather than the originally hypothesized three. Clearly, further revision and additional analyses of the ABCC are needed in order to clarify the nature of the construct as well as the psychometric properties of the instrument. To that end, a revised version of the ABCC was created by revising the wording of several of the original 48 ABCC items and creating two additional items. (See Table 1.)

A four category response scale for each item was retained and a response of "describes me very well" was scored 4, "describes me usually" = 3, "describes me somewhat" = 2, "describes me not at all" = 1. Scoring for several items is reversed. A score for each subscale is determined by

TABLE 1

All Items of the Attitudes & Beliefs on Classroom Control Inventory- Revised by Dimension

	IM	PM	BM	Mean	Std. Deviation	Corrected Item-Total Correlation
14. I believe students will be successful in school if allowed the freedom to pursue their own interests.*		0.56		3.49	0.78	0.51
18. I believe teachers should give students freedom so they will develop their own ways of interacting with each other.*		0.59		1.96	0.81	0.52
20. I do not specify a set time for each learning activity because that can only be determined by the students.*		0.42		2.22	1.15	0.35
27. When moving from one learning activity to another, I will allow students to progress at their own rate.*		0.44		1.60	0.75	0.38
29. I believe student's emotions and decision-making processes must always be considered fully legitimate and valid.*		0.41		1.81	0.82	0.38
30. I believe students can manage their own learning behavior during seatwork.*		0.41		2.34	0.97	0.32
39. I believe students should choose the learning topics and tasks.*		0.50		2.10	0.94	0.44
43. Students in my classroom are free to use any materials they wish during the learning process.*		0.44		1.67	0.81	0.39
45. I believe friendliness, courtesy, and respect for fellow students is something that students have to learn first-hand through free interaction.*		0.45		2.55	0.95	0.36
8. I believe students should create their own daily routines as this fosters the development of responsibility.*		0.45		3.60	0.68	0.38
10. When a student is repeatedly off-task, I will most likely remove a privilege or require detention.	0.40			1.27	0.58	0.38
11. The classroom runs more smoothly when the teacher assigns students specific seats.	0.44			2.17	0.88	0.37
16. During the first week of class, I will announce the classroom rules and inform students of the penalties for disregarding the rules.	0.58			1.72	0.85	0.50
19. The teacher knows best how to allocate classroom materials and supplies to optimize learning.	0.53			2.41	1.18	0.47

* *= scoring reversed for these items*

23. When a student bothers other students, I will immediately tell the student to be quiet and stop it.	0.49			2.42	0.76	0.40
25. While teaching a lesson on library skills, a student begins to talk about the research she is doing for her book report. I would remind the student that the class has to finish the lesson before the end of the class period.	0.42			1.80	0.86	0.37
26. I believe teachers should require student compliance and respect for law and order.	0.49			1.69	0.74	0.47
38. I believe students will be successful in school if they listen to the adults who know what's best for them.	0.50			2.54	1.03	0.44
48. I believe class rules are important because they shape the student's behavior and development.	0.42			1.85	0.82	0.40
7. If students believe that a classroom rule is unfair, I may explain the reason for the rule but would not change it.	0.50			2.07	0.83	0.39
Items deleted from ABCC-R.						
1. Student interaction should be kept to a minimum because it can easily lead to disruption in the classroom.				1.40	0.59	
12. I believe general classroom guidelines are preferable to strict rules.*				2.22	0.93	
13. I believe teachers should provide clear, specific feedback regarding the quality of student's work.				1.29	0.63	
15. I believe the teacher should decide what topics the students study and the tasks used to study them.	0.37			3.00	0.93	
17. I believe the primary purpose of homework is to provide supplementary activities that enhance student's learning.*				2.37	0.81	
2. I believe teachers should nurture and encourage student independence and self-expression.*				2.54	0.86	
21. I believe that friendliness, courtesy, and respect for fellow students is something that teachers should demand.				2.80	0.87	
22. When a student does not complete an assignment on time, I will assume that the student has a good reason.*		0.37		2.31	1.02	
24. I believe class rules stifle the student's ability to develop a personal moral code.*				2.11	0.90	

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21. I believe that friendliness, courtesy, and respect for fellow students is something that teachers should demand.				2.80	0.87	
22. When a student does not complete an assignment on time, I will assume that the student has a good reason.*		0.37		2.31	1.02	
24. I believe class rules stifle the student's ability to develop a personal moral code.*				2.11	0.90	

* *= scoring reversed for these items*

28. I would be annoyed if a student sat at my desk without permission.				1.45	0.64	
3. I believe the teacher should direct the students' transition from one learning activity to another.	0.38			2.45	0.79	
31. If students agree that a classroom rule is unfair, then I would replace it with one that students think is fair.*	0.38			2.26	1.00	
32. Rewarding those students who behave appropriately is a good strategy for preventing misbehavior.			0.49	2.26	1.12	
33. I believe students need the structure of a daily routine that is organized and implemented by the teacher.	0.40		0.44	2.23	0.83	
34. When a student is repeatedly off-task, I will most likely talk with the student to find out why.*				2.74	0.77	
35. I allow students to select their own seats.*				1.89	0.77	
36. When students behave appropriately, I will provide a reward of some kind such as points toward a party or free time.			0.57	2.54	1.16	
37. I believe students should judge the quality of their own work rather than rely on what the teacher tells them.*		0.39		2.97	0.95	
4. If a student sat at my desk, it would be okay.*				1.82	1.04	
40. During the first week of class, I will allow the students to come up with a set of classroom rules.*	0.41		-0.41	1.87	0.79	
41. I believe the primary purpose of homework is to provide drill and practice of skills learned in the classroom.				2.82	0.95	
42. I believe that students need direction in how to work together.			0.40	2.36	0.84	
44. I specify a set time for each learning activity and try to stay within my plans.	0.35			2.88	0.86	
46. When a student does not complete an assignment on time, I will deduct points from their grade.	0.39			2.74	1.07	
47. When a student bothers other students, my first reaction would be to say nothing and let the students work it out themselves.*				2.21	0.96	
49. During a lesson on the Bill of Rights, a student begins to tell a story about a neighbor who was falsely arrested for selling drugs. I would let the student tell the story and relate it to the lesson.*				3.11	0.92	

* *= scoring reversed for these items*

5. I believe the teacher should keep in mind that student's emotions and decision-making processes are not yet fully developed.				3.32	0.87	
50. Teacher planned student interaction (such as student group work and class discussion) fosters appropriate student behavior.*				1.63	0.69	
6. I believe it's important to continuously monitor students' learning behavior during seatwork.			0.46	2.65	0.82	
9. When students behave appropriately, I will most likely do nothing since good behavior is its own reward.*				2.08	0.97	

* *= scoring reversed for these items*

summing the responses of all items in that dimension. The continuum originally suggested by Wolfgang and Glickman (1980, 1986) provides the foundation for each subscale, thus endorsement of an item reflects the degree of teacher control over students. High subscale scores point to a more controlling, interventionist attitude while lower scores are indicative of a less controlling belief in that aspect of classroom management style.

Measures

Data for this study was collected online. In addition to the ABCC-R Inventory, study subjects also completed the Teacher Efficacy Scale (Gibson & Dembo, 1984 and adapted by Woolfolk and Hoy, 1990), the Problems in Schools (PS) Questionnaire (Deci, et al., 1981), and a demographic questionnaire. Teachers were invited to participate in the online survey in a variety of ways. Initially, teachers were sent an email request directly from the researchers asking them to participate. In addition, an opportunity to participate was presented to teachers enrolled in graduate level coursework as well as members of a statewide teachers' professional organization. Finally, principals were emailed and asked to forward the email request to their faculty. To complete the survey, participants were provided a hyperlink via an email message inviting them to participate in this study. Upon completion of an online consent form, participants were linked to an online survey created in Microsoft FrontPage. No identifying data was collected from participants and the data file contained only survey responses. Upon submission, data were electronically appended to a database file that was stored on a secure university server. Access to the data was password protected and only the online methodologist had access.

Study participants completed a 10-item version of the Teacher Efficacy Scale (Gibson & Dembo, 1984) adapted by Woolfolk and Hoy (1990). An exploratory factor analysis yielded two clear, independent factors consisting of five items each: Personal Teaching Efficacy (PTE) and General Teaching Efficacy (GTE). Cronbach's coefficient alphas were .80, and .76 for Personal Teaching Efficacy and General Teaching Efficacy subscales, respectively. Scores were determined by totaling each subscale.

The PS Questionnaire is based on self-determination theory and assesses teachers' interpersonal motivation styles (Deci, Schwartz, Sheinman, & Ryan, 1981). The measure is composed of eight vignettes. Five vignettes depict direct interactions between a teacher and student while the remaining three scenarios describe interactions with another teacher or parent about a child. Each hypothetical situation is followed by four possible responses to the scenario: one is Highly Autonomy Supportive (HA), one is Moderately Autonomy Supportive (MA), one is Moderately Controlling (MC), and one is Highly Controlling (HC). Respondents rate the degree of appropriateness of each of the four options (on a 7-point scale) for each of the eight situations. The moderate autonomy (MA) subscale has been found to be psychometrically problematic and was omitted from analysis (Reeve, et al., 1999). Therefore, a total of 24 ratings were included in the analysis (rather than the entire 32). As recommended by Reeve, et al. (1999) and in keeping with its theoretical underpinnings, the following formula was used to calculate a full-scale score: Motivating Style = 2(HA) + 0(MA) - MC - 2(HC). Lower scores indicate a more controlling orientation. Higher scores point to the degree of teacher support for student autonomy. Internal consistency was .84.

Data Analysis

Principal Component Analysis with orthogonal rotation was used to identify the factors underlying the hypothesized dimensions of classroom management styles. Unweighted

least square extraction was applied to reduce the correlation among the three factors. The analysis was refined to identify factor structures consistent with the hypothesized three-factor construct, based on scree plot and Eigan values. A factor loading of .40 (12% variance) was used as the cut-off to consider an item's salience in a factor.

Reliability analysis was performed on the subscales of the ABCC-R to assess the internal consistency of the questionnaire items. An internal consistency coefficient (Cronbach's alpha) that exceeds .70 is considered acceptable (Cronbach, 1950). A corrected item to total correlation was used to evaluate the unique contribution of each item to the subscale. A minimum of .20 was expected of the corrected item to total correlation.

A univariate F test was used to test differences on subscale scores due to the level of teaching, gender and years of teaching experience. Pearson correlation coefficients were used to test the hypothesized associations between the ABCC-R subscales and the criterion measures. A significance level of 0.05 was used. All data analyses were performed using SPSS 15.0 for Windows.

RESULTS

Exploratory Factor Analysis of the Attitudes and Beliefs on Classroom Control Inventory-Revised (ABCC-R)

The scree plot of initial principal component analysis revealed three prominent factors that were clearly separated from the rest of the factors. This was consistent with the hypothesized construct. Therefore, it was decided to re-estimate the factor structure, restricting the number of factors to three. Using a factor loading of .40 as the cut-off, 10 items were loaded on the Instructional Management dimension, 10 items on the People Management dimension, and 4 items on the Behavior Management dimension. The remaining items either did not meet this standard or were cross-loaded on more than one subscale. With only 4 items moderately loaded, the Behavior Management dimension did not seem to adequately measure the classroom management construct and was removed from subsequent analyses.

Based on results of the principal component analysis, a revised ABCC (ABCC-R) has been constructed with two subscales: Instructional Management and People Management. Questionnaire items were retained from the early version of the ABCC if they reached or exceeded .40 factor loading and had acceptable scores of content validity. Questionnaire items, factor loadings, means, and standard deviations of each item in the ABCC-R are displayed in Table 1.

Reliability Assessment

Internal consistency coefficients for each subscale in the ABCC-R were calculated for the total sample and separately by level of certification, gender and years teaching experience (see Table 2). Cronbach's alphas exceed .70 in the Instructional Management and People Management subscales. The reliability coefficients for different levels of certification, gender and years teaching experience were all above .70 for the Instructional Management and People Management subscales with one exception (see table 2). At the item level, the corrected item to total correlation coefficients all exceeded .30 in the Instructional Management and

TABLE 2

Reliability Coefficients for All Subscales

		Item-total-		Item-total
	Factor 1	correlation	Factor 2	correlation
All Subjects	.78	.20	.77	.21
Certification level				
All level	.70	.16-.51	.76	.29-.49
Elementary	.79	.27-.52	.77	.28-.53
Secondary	.78	.28-.52	.77	.31-.59
Gender				
Male	.78	.16-.45	.76	.29-.59
Female	.70	.31-.49	.78	.29-.50
Years of teaching experience				
> = 5	.72	.19-.47	.80	.29-.59
6-20	.77	.24-.49	.77	.28-.55
20+	.83	.28-.58	.71	.21-.53

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A univariate F test was used to test differences on subscale scores due to the level of teaching, gender and years of teaching experience. Pearson correlation coefficients were used to test the hypothesized associations between the ABCC-R subscales and the criterion measures. A significance level of 0.05 was used. All data analyses were performed using SPSS 15.0 for Windows.

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> = 5	.72	.19-.47	.80	.29-.59
6-20	.77	.24-.49	.77	.28-.55
20+	.83	.28-.58	.71	.21-.53

TABLE 3

Means and Standard Deviations for All Subscales

	Instructional Management		People Management		
	Mean	SD	Mean	SD	N
Total	2.26	0.51	2.46	0.47	489
All Level	2.27	0.47	2.49	0.47	95
Elementary	2.33	0.53	2.46	0.47	238
Secondary	2.17	0.50	2.42	0.48	156
Male	2.30*	0.52	2.46	0.47	82
Female	2.08*	0.45	2.41	0.49	407
Teaching Experience					
> =5 Years	2.22	0.45	2.53	0.51	139
6-20 Years	2.28	0.52	2.44	0.46	226
20 + Years	2.28	0.56	2.41	0.45	124

** indicates significant difference between males and females (P <.05)*

People Management subscales. The mean inter-item correlations were .24 and .23 for the Instructional Management (IM) and People Management (PM) subscales, respectively (see Table 1).

Table 3 displays the means and standard deviations of the ABCC-R subscales for the total sample, gender, teaching level and years of teaching experience. Results of a univariate F test found that there was a significant difference between male and female teachers on Instructional Management scores ($F(1,487) = 8.02$, $p < .005$). Males were more interventionalist compared to females in Instructional Management. There was a marginally significant difference on People Management scores associated with years of teaching experience ($F(1,487) = 2.71$, $p < .068$). Less experienced teachers tended to be more interventionalist in People Management than their more experienced counterparts.

Concurrent Validity

Table 4 presents the correlation coefficients of the ABCC-R Inventory subscales with scores of the Teacher Efficacy subscales, General Teaching Efficacy (GTE) and Personal Teaching Efficacy (PTE) and the Problems in Schools (PS) Questionnaire.

IM subscales yielded significant negative correlations with both GTE and PTE subscales. In addition, PM scores were significantly associated with PTE scores in a negative direction. These findings were consistent with the hypothesized relationship between classroom management styles and teacher efficacy. As teachers' senses of personal efficacy and general efficacy increase, their beliefs and attitudes toward instruction and the students they teach become less controlling and directive.

The PS scores yielded significant negative correlations with IM ($r = -.46$) and PM ($r = -.16$). This is in keeping with the hypothesized relationship. As teachers become more controlling regarding their beliefs toward instructional practice (IM) and their interactions with students (PM), they take on a more controlling orientation toward student motivation and are less supportive of student autonomy.

DISCUSSION

The development of the ABCC-R is a step forward in clarifying the construct of classroom management. This study presented a revised version of the Attitudes and Beliefs on Classroom Control Inventory (ABCC-R) and further refined its ability to measure the construct. The results indicate acceptable levels of reliability and construct validity for the ABCC-R for the IM and PM subscales. Results of the current study confirmed findings from other researchers that questioned the three-factor solution (Henson, 2003; Savran & Cakiroglu, 2003). The People Management and Instruction Management are independent dimensions. Finally, the

TABLE 4

Pearson Correlations of the ABCC-R Inventory Subscales with the Teacher Efficacy Scale and Problems in Schools Inventory

	Instructional Management-r	People Management-r
GTEfficacy	-0.40***	0.04
PTEfficacy	-0.15***	-0.23***
PS_r	-0.46***	-0.16***

* p < .05** p < .01 *** p < .001

Behavior Management subscale is no longer part of ABCC-R. Future research needs to reconsider the definition of this dimension and perhaps broaden it to include teacher attitudes and beliefs toward reactive, disciplinary measures to inappropriate behavior in addition to the current definition that only includes proactive means of preventing misbehavior.

The ABCC-R also showed acceptable concurrent validity. In keeping with the construct, significant, negative relationships were determined between IM and both GTE and PTE and between PM and PTE. Teachers with higher levels of efficacy are less likely to take a directive approach in implementing tactics to manage the instructional milieu (instructional management) or in developing teacher-student relationships (people management).

As expected, inverse relationships were also found between the PS Questionnaire and the IM and PM subscales. The purpose of the PS Questionnaire is to assess the teacher's interpersonal motivational style. As these results indicate, the teacher's interpersonal style is related to how (s)he approaches the oversight of the instructional environment (IM) and the manner in which (s)he attempts to develop relationships with students (PM).

These results should be interpreted with caution. As there are limitations with all research, this study is no exception. These results could be sample specific and teachers who responded may be qualitatively different from the population at large. In addition, it is important to note that the ABCC-R is a self-report instrument that attempts to measure teachers' attitudes and beliefs. The validity of the instrument would be greatly enhanced by including observational data.

The data in this study was collected using an online survey. Web-based surveys are increasing in popularity because of the efficient manner in which data can be collected and then analyzed. Other advantages of web-based surveys include "a high response rate, short time frame for the collection of responses, and time and cost savings. The web certainly addresses the need for less expensive and more expedient method of data collection" (Mertler, 2002). Online surveys also allow for protection against the loss of data, as the instant the data is submitted it can be backed up on multiple servers.

Survey research conducted on the World Wide Web has been examined extensively over the last five years. Cronk and West (2002) found no significant differences among groups when examining the comparability of online and in-person data using a 2 (online vs. paper-pencil) X 2(in class vs. outside class) analysis of variance design. Similarly, Krantz and Dalal (2000) have concluded that in-person versus online surveys yield results that are fundamentally interchangeable. Moreover, Meyerson and Tryon (2003)suggest that data collection using the web is "reliable, valid, reasonably representative, cost effective, and efficient."

In summary, the Attitudes and Beliefs on Classroom Control Inventory-Revised (ABCC-R) appears to be a reliable instrument useful in the empirical examination of classroom management styles and valid for use with certified, in-service teachers. Additional research is necessary to learn more regarding the scale's psychometric properties, particularly the Behavior Management dimension.

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