Perceptions of School Climate: Views of Teachers, Students, and Parents

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Abstract

It has been widely documented that positive school climate significantly contributes to academic success and student well-being. This study explored teachers, students, and parents' perceptions of school climate as measured by the Inviting School Survey-R (ISS-R). The ISS-R was administered to over 10,000 school community members from over 60 schools across the United States. The ISS-R was used to identify perceptions of school climate between factors such as participants, gender, type of school, size of school, and student age. Results showed there were statistically significant association with self-reported perceptions of school climate and these five factors on the six ISS-R scales. The implications of the results are discussed, and it is concluded that the study's findings will facilitate the development of more inviting schools.

Keywords: Measurement and Evaluation; Invitational Education Theory and Practice; Psychometric Properties; Student, Parent, Teacher Perceptions; Student Well-Being; School Climate

Introduction

Research has shown that school climate is one of the most important contributors to student achievement, success, and psychological well-being (Cohen, McCabe, Michelli, & Pickeral, 2009; Fan, Williams, & Corkin, 2011; Steyn, 2009; Zullig, Koopman, Patton, & Ubbes, 2010). School climate also heavily influences healthy development as well as effective risk prevention, positive youth development, and increased teacher and student retention (Cohen et al., 2009; Huebner & Diener, 2008). School climate reflects a personal evaluation of the school (Cohen, 2006; Freiberg, 1998). In particular, school climate reflects the perceptions of the social, emotional, and academic experiences of school life by students, administrators, teachers, parents, support staff, and the wider community. In order to make informed decisions regarding school development, it is paramount for school administrators to be aware of perceived school experience (school climate) of the major stakeholders in the school.

At the heart of any student's school experience is the campus culture or climate that can be either inviting or disinviting. Originally found in the literature on organizations (James & Jones, 1974), climate has emerged to help explain the perceptions of not only students but other groups such as patients (Colla, Bracken, Kinney, & Weeks, 2005), business-people (Anderson, 1982), and

even online social networks (Bargh & McKenna, 2004). Many factors have contributed to the inviting or disinviting climate students perceive in schools thereby resulting in over 100 school climate instruments and measurements created and implemented since the 1960s.

There are diverse factors that contribute to school climate. Depending on the type of school stakeholder: Teacher, parent, staff, or student, some factors are experienced differently. As such, it is imperative that all major school stakeholders are invited to express and share their perception of the school environment to reliably assist school administrators in making informed decisions related to the development of an inviting school.

Literature Review

School Climate and School Culture

According to the National School Climate Centre, school climate refers to "the quality and character of school life as it relates to norms and values, interpersonal relations and social interactions, and organizational processes and structures" (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2007, p. 2). In the Association for Supervision and Curriculum Development's (ASCD) online dictionary called, *A Lexicon of Learning,* school climate and school culture are defined as:

> The sum of the values, cultures, safety practices, and organizational structures within a school that cause it to function and react in particular ways. Some schools are said to have a nurturing environment that recognizes children and treats them as individuals; others may have the feel of authoritarian structures where rules are strictly enforced, and hierarchical control is strong. Teaching practices, diversity, and the relationships among administrators, teachers, parents, and students contribute to school climate. Although the two terms are somewhat interchangeable, *school climate* refers mostly to the school's effects on students, whereas *school culture* refers more to the way teachers and other staff members work together.

During 1990 William Purkey developed a model to change school climate through invitational education research and practice. The "Five-P Relay" identified how a school's 5-Ps: People, Places, Policies, Programs, and Processes, could improve the academic climate to nurture quality teaching, learning, and enhance a student's overall development (Purkey & Stanley, 1991). Purkey and Novak (2016) believed the interrelationship among and between the "5 Ps" of invitational education can improve the quality of academic life, thereby transforming a school in an ongoing manner.

According to Cohen (2006), a school's climate often reflects a student's personal evaluation of a school, from the way they are treated, to the overall quality of the school experience. This perceived quality is reflected in the people the students interact with on campus, the places students go, the policies that nurture or restrict them, the programs they participate in and the processes the school implements to live up to their mission and maintain a supportive nurturing academic climate that is welcoming for students. Invitational theory and practice is a powerful structure for schools to use as a guide to positively enrich the lives of all members of a campus community.

In 2007, Thompson used a case study to investigate ethics of care within an elementary school whose culture had been identified as being highly inviting to students. With Invitational Education as the conceptual framework, Thompson's primary goal was to describe the inviting

characteristics of the school that set them apart from others and identify any obstacles educators faced and how they overcame these during the teaching and learning process. Data was collected from onsite observations, semi-structured interviews, a focus group, and the review of several school documents. The study provided two major findings. First, relationships that valued caring, strived to be invitational, and nurtured a sense of community through intentional actions were critical to success. Second, strong principal leadership with shared decision-making, optimism, and care needed to be present when creating a successfully inviting elementary school culture.

Seymour Sarasin, Professor Emeritus in the department of psychology at Yale University is the author of over forty books and in the words of Carl Glickman is "one of America's seminal thinkers about public education." According to Sarasin (1996), it is difficult to determine the nature of a school's culture because in our own personal experiences and values, we tend to "put blinders on what we look at, choose to change, and evaluate … Because our values and assumptions are usually implicit and 'second nature,' and we proceed as if the way things are is the way things should or could be" (pp.136-137).

Based on Sarasin's seminal work, Hinde (2004) asserted that, "In order for the culture of schools to adjust to allow for change, then power must be wielded in such a way as to allow others to gain a sense of ownership with the goals and process of change. It is often a delicate balance between mandating change and bringing teachers to believe in the need for and efficacy of the reform, so that they feel a sense of ownership. Schools that are successful in this Endeavor will be able to enact lasting and effective change" (p. 10).

According to Freiberg (1998), "The elements that make up school climate are complex, ranging from the quality of interactions in the teachers' lounge to the noise levels in hallways and cafeterias, from the physical structure of the building to the physical comfort levels (involving such factors as heating, cooling, and lighting) of the individuals and how safe they feel. Even the size of the school and the opportunities for students and teachers to interact in small groups both formally and informally, add to and detract from the health of the learning environment. The support staff—cafeteria workers, bus drivers, custodians, and office staff—adds to the multiple dimensions of climate… No single factor determines a school's climate" (p. 22). Freiberg compares school culture to breathing air, and argues that no one pays much attention to it, until it starts to stink.

Invitational Theory and Practice

The Invitational Education (IE) model embraces inviting school practices in all areas of a school. In an effort to intentionally support the positive development of each individual student intellectually, emotionally, socially, physically, and morally, IE relies on the following five domains in any school: People, Places, Policies, Programs, and Processes. The most important of these is people because they are responsible for fulfilling the mission of the school. Within the places and through the policies, programs, and processes, it is people who intentionally plan, develop, and implement. As stakeholders, people include but are not limited to academic administrators, faculty, researchers, counsellors, other staff, parents, and students (Purkey & Novak, 2016).

One might argue that processes are the second most important, because they determine how the other "Ps" functions. The framework of Invitational Theory is based on five key assumptions that serve as a guide to help create and maintain an inclusive and inviting campus climate. These systemic assumptions include intentionality, care, optimism, respect, and trust (I-CORT) and should be evident throughout the system's 5-Ps. The acronym I-CORT is used by

Purkey and Novak (2016) to emphasize the need to be intentionally inviting, further stating, "an invitation is an intentional choice someone makes and an intentional chance someone takes" (p.15). The quantitative instrument used in this study is based on the theoretical, five-factor model of invitational theory and practice. In their seminal paper, Purkey and Novak (1993) discussed a method for guiding and maintaining the highest level of invitational performance. This guidance system is called the "Helix," because it spirals through 12-steps of development. Stillion and Siegel advanced the “Helix” in 1994 and advocated for a hierarchy existing within invitational theory.

Aims of the Present Study

The current study seeks to understand if responses to the Inviting School Survey-R are associated with significant educational institutions’ factors. Specifically, this study aims to identify if the following factors have a significant association with each of the ISS-R subscales and the Total scale: Type of Participant: Teachers, Students, Parents; Gender, Type of School, Size of School, and Student Age.

The over-arching null hypothesis is there is no statistically significant association between each of the five ISS-R subscales and the total scale with each of the five identified educational domains and factors as listed above.

Methodology

Participants

Between the years 2005-2019 a total of 11,214 major school stakeholders, Teachers, Student, and Parents, from 64 public schools were administered the ISS-R. Following data cleaning: Removing participants who had more than five missing responses and trimming the data of 5% controlling for outliers and inappropriate responses at each end of the highest and the lowest total ISS-R scale; 9,000 participants from 50 public schools remained. Details of demographic variables can be found in Table 1.

Table 1
Demographic Variables by Type of Participant

Demographic Variables	**Teachers** (N=1344; 14.9%)	**Students** (N=6184; 68.7%)	**Parents** (N=1472; 16.4%)	**Total** (N=9000; 100%)
Gender				
Female	1053 (78.3)	3174 (51.3)	1289 (87.6)	5516 (61.3)
Male	291 (21.7)	3010 (48.7)	183 (12.4)	3484 (38.7)
Type of School				
Elementary	583 (43.4)	1891 (30.6)	938 (63.7)	3412 (37.9)
Middle	462 (34.4)	3070 (49.6)	320 (21.7)	3852 (42.8)
High	299 (22.2)	1223 (19.8)	214 (14.5)	1736 (19.3)
Size of School				
Under 250	52 (3.9)	147 (2.4)	136 (9.2)	335 (3.7)
250-500	270 (20.1)	731 (11.8)	387 (26.3)	1388 (15.4)
Over 500	1022 (76.0)	5306 (85.8)	949 (64.5)	7277 (80.9)
Student Age				
8-11		2209 (35.7)		2209 (35.7)
12-13	N/A	2262 (36.6)	N/A	2262 (36.6)
14-20		1712 (27.7)		1712 (27.7)

Measure

Inviting School Survey-R (ISS-R). The 50-item Inviting Schools Survey Revised (ISS-R), developed by Smith (2005, 2016) was used to measure school climate. The ISS-R is based on Invitational Theory and Practice (Purkey & Novak, 2016), investigating significant school stakeholders' perceptions of the invitingness of their school in the five domains of invitational school climate: People, Places, Processes, Policies, and Programs. Participants are asked to respond to each positively worded item using a 5-point Likert-type response (1 = Strongly Disagree to 5 = Strongly Agree, 0 = Not Applicable is treated as missing if a question is not relevant to the participant's school context).

The ISS-R produces a total composite score and five sub-scale scores of school invitational qualities. The ISS-R is based on the 100-item Inviting School Survey (Purkey & Fuller, 1995) and can be used with fourth grade students and above. The ISS-R demonstrates strong face and content validity aligned with ITP theory (Purkey & Novak, 2016). The ISS-R demonstrates reasonable internal consistency, evaluated by Cronbach's alpha coefficient and Guttman's split-half alpha coefficients (Smith, 2005).

Procedure

With each school principal's approval, invitations to participate in the study were distributed to teachers, students, and parents of students. Once informed consent had been received from parents of students, participants completed an online web-based questionnaire package (Qualtrics, https://www.qualtrics.com) on their personal electronic devices. The questionnaire package was expected to take approximately 20-30 minutes to complete.

Participants were informed that all information they provided would remain confidential and that they had the right to withdraw from the study at any time.

Data Preparation and Analysis

As per the ISS-R manual, if there are less than six 'N/A' responses these items' scores are replaced by the participant's subscale item mean. As such, questionnaires with more than 5 missing responses are not scored. Additionally, 5% of the data was trimmed on each end of the sort ISS-R Total (lowest to highest) to remove any outliers and inappropriate responses.

All descriptive and inferential analyses were conducted using IBM PASW Statistics 26 (IBM, 2019) and significant levels for the analyses were maintained at $\alpha < .05$.

A series of univariate GLM analysis of variance were conducted to determine if participants' ISS-R average scale scores differed significantly on the basis of Type of Participant, Gender, Type of School, Size of School, and Student Age.

When the ANOVA indicated a statistically significant effect difference, post hoc paired-samples *t* tests were conducted to compare group means. As five of the six main effects have three levels, the LSD method for control of Type I error for pairwise comparisons was utilised. The LSD procedure is a powerful method to control for Type I errors across all pairwise comparisons if a factor has three levels (Tabachnick & Fidell, 2019).

To investigate subscale relationships, Pearson's correlation coefficient (Pearson's *r*) was calculated. In order to assess subscale reliability Cronbach's alpha (α) was utilized.

Results

For details of ISS-R scales descriptive statistics (means and standard deviations) for each of the main effects refer to Table 2.

Table 2
Inviting School Survey–Revised (ISS-R) Total Scale and Subscales Raw Score Means and Standard Deviations by Main Effects (Type of Participant, Gender, Type of School, Size of School, Student Age)

Main Effect	People (16-80)		Program (7-35)		Process (8-40)		Policy (7-35)		Place (12-60)		ISS-R Total (50-250)	
	M	*SD*	M	*SD*	M	*SD*	M	*SD*	M	*SD*	M	*SD*
All Participants												
	59.65	*11.84*	26.18	*4.54*	29.58	*5.77*	25.99	*5.02*	42.31	*9.64*	183.71	*34.10*
Type of Participant												
Teacher	67.08	*8.43*	27.29	*4.32*	32.32	*4.85*	28.88	*3.58*	47.02	*7.60*	202.59	*26.22*
Student	56.53	*11.65*	25.60	*4.50*	28.19	*5.62*	24.83	*5.03*	39.81	*9.46*	174.96	*33.27*
Parent	65.93	*9.60*	27.56	*4.44*	32.91	*4.78*	28.25	*4.24*	48.54	*7.33*	203.19	*28.38*
Gender												
Female	60.61	*11.82*	26.34	*4.50*	30.06	*5.69*	26.42	*4.91*	43.28	*9.44*	186.71	*33.71*
Male	58.12	*11.72*	25.91	*4.60*	28.82	*5.80*	25.32	*5.12*	40.78	*9.75*	178.96	*34.18*
Type of School												
Elementary	64.74	*9.88*	27.45	*4.47*	32.05	*4.82*	28.17	*4.16*	46.61	*8.22*	199.03	*28.56*
Middle	56.43	*11.31*	25.53	*4.23*	28.16	*5.46*	24.62	*4.88*	39.49	*9.08*	174.24	*32.00*
High	56.76	*13.01*	25.11	*4.79*	27.86	*6.41*	24.76	*5.38*	40.14	*10.36*	174.61	*37.57*
Size of School												
Under 250	68.53	*8.93*	28,79	*4.40*	33.86	*4.60*	29.48	*3.86*	49.18	*8.74*	209.83	*27.82*
250-500	64.78	*9.99*	27.29	*4.75*	32.05	*4.86*	28.14	*4.22*	46.16	*8.13*	198.42	*29.06*
Over 500	58.26	*11.84*	25.84	*4.44*	28.91	*5.76*	25.42	*5.03*	41.27	*9.63*	179.70	*33.96*
Student Age												
8-11	61.67	*10.31*	27.03	*4.37*	30.62	*4.89*	26.98	*4.41*	43.53	*8.78*	189.83	*29.44*
12-13	54.40	*11.13*	25.18	*4.31*	27.28	*5.36*	23.89	*4.92*	38.15	*9.11*	168.89	*31.72*
14-20	52.74	*11.62*	24.33	*4.42*	26.25	*5.74*	23.30	*4.97*	37.21	*9.27*	163.82	*33.08*

Inferential Analyses

The Pearson's *r* intercorrelation coefficients subscales are presented in Table 3. All correlations, ranging from .694 to .964 for the ISS-R Total scale and the 5 subscales, were statistically significant at $p < .001$.

Table 3
Intercorrelations of the Inviting School Survey–Revised (ISS-R) Total Scale and Subscales by Type of Participant

Scale	Program	Process	Policy	Place	ISS-R Total
People					
Teacher	.750	.870	.851	.753	.940
Student	.747	.863	.844	.828	.960
Parent	.820	.892	.899	.813	.961
Total	.754	.883	.870	.843	.964
Program					
Teacher		.754	.728	.741	.859
Student		.731	.700	.694	.823
Parent		.807	.804	.812	.899
Total		.749	.722	.718	.831
Process					
Teacher			.823	.786	.929
Student			.814	.799	.920
Parent			.863	.830	.940
Total			.840	.828	.933
Policy					
Teacher				.751	.900
Student				.768	.897
Parent				.795	.930
Total				.796	.913
Place					
Teacher					.902
Student					.919
Parent					.919
Total					.928

Teachers: n = 1344, Students: n = 6184, Parents: n = 1472, Total: n = 9000.
All correlations are statistically significant ($p < .001$).

All of the ISS-R subscales and Total scale Cronbach's Coefficient Alpha reliability coefficients for the total sample were >.7 suggesting that these measures demonstrated acceptable levels of reliability. As depicted in Table 4, subscales showing the greatest reliability ($r > .9$), across all participants were the People subscale and the Total scale.

Table 4

Inviting School Survey–Revised (ISS-R) Total Scale and Subscales Cronbach's Coefficient Alpha by Type of Participant

SCALE	Teachers (N=1344; 14.9%)	Students (N=6184; 68.7%)	Parents (N=1472; 16.4%)	Total (N=9000; 100%)
People (16 items)	.919	.910	.944	.925
Program (7 items)	.790	.743	.852	.771
Process (8 items)	.839	.813	.878	.843
Policy (7 items)	.770	.773	.852	.805
Place (12 items)	.884	.881	.917	.900
ISS-R Total (50 items)	.965	.963	.977	.969

A series of univariate GLM analysis of variance were conducted to determine if participants' ISS-R average scale scores (refer to Table 2) differed significantly on the basis of Type of Participant, Gender, Type of School, Size of School, and Student Age. Table 5 presents the results of the ANOVAs with effect size estimates (partial eta-squared - η_p^2) and power estimates.

As depicted in Table 5 the univariate *F* tests revealed that there were statistically significant main effects scale differences.

Table 5

Inviting School Survey–Revised (ISS-R) Total Scale and Subscales Univariate Analysis of Variance Summary for the Main Effects (Type of Participant, Gender, Type of School, Size of School, Student Age)

Scale/Main Effects	*F*	*p*	η_p^2	Power
People				
Type of Participant	807.73	.000	.15	1.000
Gender	94.94	.000	.01	1.000
Type of School	574.54	.000	.11	1.000
Size of School	292.23	.000	.06	1.000
Student Age	386.23	.000	.11	1.000
Program				
Type of Participant	163.46	.000	.04	1.000
Gender	18.68	.000	.00	0.991
Type of School	231.65	.000	.05	1.000
Size of School	119.80	.000	.03	1.000
Student Age	201.67	.000	.06	1.000
Process				
Type of Participant	663.18	.000	.13	1.000
Gender	100.52	.000	.01	1.000
Type of School	571.77	.000	.11	1.000
Size of School	285.63	.000	.06	1.000
Student Age	380.07	.000	.11	1.000
Policy				
Type of Participant	609.20	.000	.12	1.000
Gender	103.49	.000	.01	1.000
Type of School	585.98	.000	.12	1.000
Size of School	269.17	.000	.06	1.000
Student Age	357.28	.000	.10	1.000
Place				
Type of Participant	796.14	.000	.15	1.000
Gender	146.00	.000	.02	1.000
Type of School	624.74	.000	.12	1.000
Size of School	251.78	.000	.05	1.000
Student Age	296.79	.000	.09	1.000
ISS-R Total				
Type of Participant	759.08	.000	.14	1.000
Gender	111.72	.000	.01	1.000
Type of School	632.57	.000	.12	1.000
Size of School	295.86	.000	.06	1.000
Student Age	399.91	.000	.12	1.000

Type of Participant, Type of School, Size of School $df = 2,8997$; Student Age $df = 2,6181$; Gender $df = 1,8998$

Post Hoc Multiple Pairwise Comparisons

As the ANOVA indicated a statistically significant difference for all main effects, post hoc multiple pairwise comparisons tests were conducted to evaluate pairwise differences.

Results of these post hoc pairwise analyses are shown in Table 6.

Table 6

Post Hoc Pairwise Differences in the Inviting School Survey–Revised (ISS-R) Scale Measures by Main Effects

Main Effect	People	Program	Process	Policy	Place	ISS-R Total
Type of Participant						
Teacher vs Parents	T > P	T > P	P > T	T > P	P > T	T > P
Teachers vs Students	T > S	T > S	T > S	T > S	T > S	T > S
Parents vs Students	P > S	P > S	P > S	P > S	P > S	P > S
Gender						
Females vs Males	F > M	F > M	F > M	F > M	F > M	F > M
Type of School						
Elementary vs Middle	E > M	E > M	E > M	E > M	E > H	E > M
Elementary vs High	E > H	E > H	E > H	E > H	E > M	E > H
Middle vs High	M = H	M > H	M = H	M = H	H > M	M = H
Size of School						
Small vs Medium	S > M	S > M	S > M	S > M	S > M	S > M
Small vs Large	S > L	S > L	S > L	S > L	S > L	S > L
Medium vs Large	M > L	M > L	M > L	M > L	M > L	M > L
Student Age						
Group 1 vs Group 2	G1 > G2	G1 > G2	G1 > G2	G1 > G2	G1 > G2	G1 > G2
Group 1 vs Group 3	G1 > G3	G1 > G3	G1 > G3	G1 > G3	G1 > G3	G1 > G3
Group 2 vs Group 3	G2 > G3	G2 > G3	G2 > G3	G2 > G3	G2 > G3	G2 > G3

> denotes statistically significant difference $p < .05$; = denotes non-statistically significant difference $p > .05$.
Small = Under 250; Medium = 250 vs 500; Large = Over 500.
Group 1 = 8-11; Group 2 = 12-13; Group 3 = 14-20.

Discussion

As shown in Table 5 all of the univariate GLM analyses of variance probability results were statistically significant, $p < .001$. That is, these analyses support the assertion that the ISS-R average scale scores (refer to Table 2) differed significantly on the basis of Type of Participant, Gender, Type of School, Size of School, and Student Age.

However, probability results only inform the researcher the direction of the difference. In order to evaluate the how large of a difference requires analysis of effect size, namely the partial eta-squared-η_p^2 (Sullivan & Feinn, 2012).

Reviewing Table 5, according to Cohen (1988), of the six ISS-R scales all but the Program subscale had significant partial eta-squared effects within the major factors. The Program subscale partial eta-squared effects of the educational factors ranged from .00 (Gender) to .06 (Student Age). These effect sizes are very low and are interpreted as non- significant. As such, it can be concluded that the Program subscale scores are not associated with any of the major factors under study.

In addition, Gender and Size of School have very small partial eta-squared effects in all the subscales and the Total scale. The partial eta-squared effects for these two factors ranged from .00 to .06. As such, while probability significant differences are noted, it can be assumed that neither of these factors had any significant association with the ISS-R subscales and Total scale.

The remaining major effects had medium to large partial eta-squared effects sizes (.09 to .15): Type of Participant, Type of School, and Student Age and will be discussed within each relevant ISS-R scale.

People Subscale Scores

Type of Participant differences. The strength of relationship between the People subscale and Type of Participant, as assessed by η_p^2, was large with the Type of Participant factor accounting for 15% of the variance of the People subscale. Summary of post hoc multiple comparisons in Table 6 show that Teachers had statistically higher mean scores than Parents and Students, while Parents had statistically higher mean scores than Students (refer to Table 2 for details of mean scores).

Type of School differences. The strength of relationship between the People subscale and Type of School, as assessed by η_p^2, was medium with the Type of School factor accounting for 11% of the variance of the People subscale. Summary of post hoc multiple comparisons in Table 6 show that Elementary schools had statistically higher mean scores than Middle and High schools, while there was no statistically significant mean score difference between Middle and High schools (refer to Table 2 for details of mean scores).

Student Age differences. The strength of relationship between the People subscale and Student Age, as assessed by η_p^2, was medium with the Type of Participant factor accounting for 11% of the variance of the People subscale. Summary of post hoc multiple comparisons in Table 6 show that the 8-11 years of age group had statistically higher mean scores than the other two age groups, 12-13 and 14-20; while the 12-13 age group had statistically higher mean scores than the 14-20 age group (refer to Table 2 for details of mean scores).

Process Subscale Scores

Type of Participant differences. The strength of relationship between the Process subscale and Type of Participant, as assessed by η_p^2, was large with the Type of Participant factor accounting for 13% of the variance of the Process subscale. Summary of post hoc multiple comparisons in Table 6 show that Teachers had statistically higher mean scores than Students but equal mean scores with Parents, while Parents had statistically higher mean scores than Students (refer to Table 2 for details of mean scores).

Type of School differences. The strength of relationship between the Process subscale and Type of School, as assessed by η_p^2, was medium with the Type of School factor accounting for 11% of the variance of the Process subscale. Summary of post hoc multiple comparisons in Table 6 show that Elementary schools had statistically higher mean scores than Middle and High

schools, while there was no statistically significant mean score difference between Middle and High schools (refer to Table 2 for details of mean scores).

Student Age differences. The strength of relationship between the Process subscale and Student Age, as assessed by η_p^2, was medium with the Type of Participant factor accounting for 11% of the variance of the Process subscale. Summary of post hoc multiple comparisons in Table 6 show that the 8-11 years of age group had statistically higher mean scores than the other two age groups, 12-13 and 14-20; while the 12-13 age group had statistically higher mean scores than the 14-20 age group (refer to Table 2 for details of mean scores).

Policy Subscale Scores

Type of Participant differences. The strength of relationship between the Policy subscale and Type of Participant, as assessed by η_p^2, was large with the Type of Participant factor accounting for 12% of the variance of the Policy subscale. Summary of post hoc multiple comparisons in Table 6 show that Teachers had statistically higher mean scores than Parents and Students, while Parents had statistically higher mean scores than Students (refer to Table 2 for details of mean scores).

Type of School differences. The strength of relationship between the Policy subscale and Type of School, as assessed by η_p^2, was large with the Type of School factor accounting for 12% of the variance of the Policy subscale. Summary of post hoc multiple comparisons in Table 6 show that Elementary schools had statistically higher mean scores than Middle and High schools, while there was no statistically significant mean score difference between Middle and High schools (refer to Table 2 for details of mean scores).

Student Age differences. The strength of relationship between the Policy subscale and Student Age, as assessed by η_p^2, was medium with the Type of Participant factor accounting for 10% of the variance of the Policy subscale. Summary of post hoc multiple comparisons in Table 6 show that the 8-11 years of age group had statistically higher mean scores than the other two age groups, 12-13 and 14-20; while the 12-13 age group had statistically higher mean scores than the 14-20 age group (refer to Table 2 for details of mean scores).

Place Subscale Scores

Type of Participant differences. The strength of relationship between the Place subscale and Type of Participant, as assessed by η_p^2, was large with the Type of Participant factor accounting for 15% of the variance of the Place subscale. Summary of post hoc multiple comparisons in Table 6 show that Teachers had statistically higher mean scores than Parents and Students, while Parents had statistically higher mean scores than Students (refer to Table 2 for details of mean scores).

Type of School differences. The strength of relationship between the Place subscale and Type of School, as assessed by η_p^2, was large with the Type of School factor accounting for 12% of the variance of the Place subscale. Summary of post hoc multiple comparisons in Table 6 show that Elementary schools had statistically higher mean scores than Middle and High schools; while High Schools had statistically higher mean scores than Middle Schools (refer to Table 2 for details of mean scores).

Student Age differences. The strength of relationship between the Place subscale and Student Age, as assessed by η_p^2, was medium with the Type of Participant factor accounting for 9% of the variance of the Place subscale. Summary of post hoc multiple comparisons in Table 6 show that the 8-11 years of age group had statistically higher mean scores than the other two age

groups, 12-13 and 14-20; while the 12-13 age group had statistically higher mean scores than the 14-20 age group (refer to Table 2 for details of mean scores).

Total ISS-R Scale Scores

Type of Participant differences. The strength of relationship between the Total Scale and Type of Participant, as assessed by η_p^2, was large with the Type of Participant factor accounting for 14% of the variance of the Total Scale. Summary of post hoc multiple comparisons in Table 6 show that Teachers and Parents did not have a statistically higher mean score difference but that both groups had statistically higher mean scores than Students (refer to Table 2 for details of mean scores).

Type of School differences. The strength of relationship between the Total Scale and Type of School, as assessed by η_p^2, was large with the Type of School factor accounting for 12% of the variance of the Total Scale. Summary of post hoc multiple comparisons in Table 6 show that Elementary schools had statistically higher mean scores than Middle and High schools, while there was no statistically significant mean score difference between Middle and High schools (refer to Table 2 for details of mean scores).

Student Age differences. The strength of relationship between the Total Scale and Student Age, as assessed by η_p^2, was large with the Type of Participant factor accounting for 12% of the variance of the Total Scale. Univariate ANOVA (Table 5) and summary of post hoc multiple comparisons in Table 6 show that the 8-11 years of age group had statistically higher mean scores than the other two age groups, 12-13 and 14-20; while the 12-13 age group had statistically higher mean scores than the 14-20 age group (refer to Table 2 for details of mean scores).

Conclusion and Future Direction

The present study has shown that there are significant factors that impact the self-reported perceptions of school climate as measured by the Inviting School Survey-R. These factors include the type of school stakeholder: Teacher, Student, Parent, the type of school: Elementary, Middle, High, and the age of the students, which is highly correlated with the type of school. Gender and size of school did not seem to have a significant impact on self-reported school climate perceptions. The results suggest it is important to consider environmental factors to comprehensively understand and to act on changes to the school environment. Not addressing or acknowledging the impact of these characteristics of the school community has the potential of hindering the development of an inviting school.

The current study extends the wealth of school climate research to demonstrate the importance of understanding individual self-perceptions of school climate in particular contexts. Indeed, perceptions determine an individual's behaviour. As a result, these perceptions are a more reliable indicator of outcomes than objective accounts of school climate (Bandura, 1986, 2001; Fan et al., 2011; Koth, Bradshaw, & Leaf, 2008; Purkey & Novak, 2016).

In conclusion, in addition to survey/questionnaires, it is recommended additional information be obtained, such as systematic observations, document analyses, interviews, focus groups, etc. in order to make more informed decisions regarding implementing changes within the school that will influence perceptions of the invitational qualities of the school by the relevant school community members.

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