

Secondary Students' Self-Perceptions of School Climate and Subjective Well-Being: Invitational Education Meets Positive Psychology

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Abstract

This study investigated the relationship between secondary students' self-perceptions of school climate and subjective well-being based upon the tenets of Invitational Education Theory and Positive Psychology. The present study not only examined the relationship between the two constructs but also, if Gender and Year Level mediate such a relationship. School climate was operationally defined according to Invitational Educational Theory while student well-being was defined according to positive psychology's PERMA model of well-being. The participants included 120 students from a large high school in the state of New York. Findings indicated evidence for a significant relationship between students' self-perceptions of school climate and subjective well-being and insignificant mediation by various demographic factors. Implications for practice include providing a method for educational administrators to evaluate and improve their school climate for the promotion of student well-being. Further research on a larger sample is recommended to understand the relationships between student well-being and perceptions of school climate in various contexts.

Keywords: invitational education theory, positive psychology, school climate, secondary students, self-perceptions, subjective well-being

Introduction

The well-being of Australian young people has received significant focus in education policy, research, and practice. In Australian young people aged 4 to 17 years old, 13.9% have experienced a mental health disorder. In terms of the impact on functioning, the severity ranges from mild (8.3%), moderate (3.5%), to severe (2.1%) (Australian Bureau of Statistics, 2007; Lawrence et al., 2015). Educational settings are optimally placed to address the concerning prevalence of mental health disorders in young people (Aldridge, Fraser, Fozdar, Ala'i, Earnest, & Afari, 2016; Cohen, 2006). Extensive research has placed school climate as the most prominent target for the promotion of student well-being in educational institutions (Koth, Bradshaw, & Leaf, 2008; Mitchell, Bradshaw, & Leaf, 2010; Voight & Nation, 2016). Additionally, a wide range of school-based student well-being initiatives, including programmes such as KidsMatter, Mind Matters, Positive Psychology, and the National Safe Schools Framework have been initiated in schools (Lawrence et al., 2015; McKenzie, Vidair, Eacott, & Sauro, 2017).

School climate is represented by the pattern of student's experiences of school life that are reflected in the people, places, policies, programs, and processes of a school (Purkey & Novak, 2016). While well-being may be defined in a variety of ways, Seligman's (2011) well-being theory reflects the multidimensional nature of the construct as comprised of positive emotions, engagement, relationships, meaning, and accomplishment. The current study seeks to understand the relationship between students' perceptions of their school climate and their self-reported perceptions of their well-being.

Literature Review

The Importance of Perception

Perceptual psychology states that our perceptions, which are the way we think about others and ourselves, direct our behavior (Beck, 2011; Meichenbaum, 1977). Our perceptual systems provide a representation of reality rather than one of objective reality (Burton, Westen, & Kowalski, 2011; Rogers, 1951). Both the perceptual tradition and social cognitive theory recognize the meaningfulness of perceptions for understanding and predicting individual behavior (Bandura, 1986, 2001; Purkey & Novak, 2016). Student perceptions are a reflection and product of school climate that provide an individual-level analysis of the perceived school climate that differs based on individual characteristics and experiences (Carmen & Mantak, 2011; Cohen, 2006; Ng & Yuen, 2011). Perceptions are shaped by both individual and school-level factors with individual-level factors, such as gender and ethnicity being responsible for much of the variance in student perceptions of school climate. This is compared to school-level factors such as school size, staff turnover, and socioeconomic area (Fan, Williams, & Corkin, 2011; Koth et al., 2008; Ng & Yuen, 2011).

Student perceptions of a positive school climate are associated with a range of positive outcomes for psychological well-being, academic engagement, academic performance, and student behavior (Berg & Aber, 2015; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Waters, 2011). While a negatively perceived school climate is associated with behavior problems, that may support a culture of victimisation, which has detrimental long-term effects on mental health (Cornell, Shukla, & Konold, 2015; Ferrás & Selman, 2014; Kutsyuruba, Klinger, & Hussain, 2015; Wang, Selman, Dishion, & Stormshak, 2010). A positive school climate based on social, emotional, and physical support and safety is related to academic success, student health,

the prevention of violence, and positive psychosocial adjustment (Cohen, McCabe, Michelli, & Pickeral, 2009; Haynes, Emmons, & Ben-Avie, 1997; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013).

Student Well-Being and Flourishing

Positive psychology focuses on the development of well-being with the goal to achieve flourishing. Flourishing is defined as living “within an optimal range of human functioning, one that connotes goodness, generativity, growth, and resilience” (Fredrickson & Losada, 2005, p. 1). Positive psychology highlights the need to focus on the promotion of student well-being, rather than a focus on the presence or absence of a condition (Donovan et al., 2003). In schools, the positive education movement applies positive psychology research to promote student well-being (Green & Norrish, 2013; Kristjánsson, 2012; Oades, Steger, Fave, & Passmore, 2017; Seligman, 2011). Positive education approaches may be either explicit programs or implicit practices that aim to increase positive emotions, individual strengths, and resilience. Positive education interventions have been increasingly associated with positive social, emotional, and academic outcomes (Durlak et al., 2011; Shoshani & Steinmetz, 2014; Waters, 2011; Zhang, 2016). For example, a meta-analysis of over 200 social and emotional learning (SEL) programs revealed that there was an 11% improvement in student’s academic performance compared with students not attending a SEL program (Durlak et al., 2011). Despite these findings, there is limited empirical basis in the literature to understand how and why positive interventions achieve these beneficial outcomes (Ciarrochi, Atkins, Hayes, Sahlra, & Parker, 2016).

The current study seeks to measure student well-being according to Seligman’s (2011) well-being theory. Well-being theory (Seligman, 2011) consists of five measurable elements that make-up the mnemonic PERMA:

- Positive emotions are one’s subjective feelings of happiness in the present moment; such as joy, excitement, and contentment.
- Engagement represents one’s intense involvement, concentration, or interest in life’s activities.
- Relationships represent an individual’s perception of their connection to others, including their feelings of being supported and cared for by others.
- Meaning represents an individual’s perception of a sense of purpose and a valuable and worthwhile life.
- Accomplishment refers to an individual’s persistent or determined pursuit of and desire for success and accomplishment.

The PERMA elements demonstrate independent empirical support to predict individual well-being and flourishing (Coffey, Wray-Lake, Mashek, & Branard, 2016; Seligman, 2011). While empirical validity and longitudinal stability of the PERMA model of well-being has been demonstrated in college and community samples (Coffey et al., 2016) there is only one study that has developed and utilised the PERMA elements to investigate student well-being in adolescents (Kern, Waters, Adler, & White, 2015).

Invitational Education

Invitational Education is a whole school approach that aims to address school climate and has been supported as a method to increase student well-being (Ng & Yuen, 2011; Purkey & Novak, 2016). The invitational education approach is based on Invitational Theory and Practice (ITP), an education practice model that focuses on the systems that promote the intellectual, psychological, social, moral, and physical potential of individuals (Purkey & Novak, 2016). Invitational education is a humanist approach built upon Dewey's 'democratic ethos' (Dewey & Ratner, 1939; Evans, 2000), self-concept (Burton et al., 2011; Shaw, Siegel, & Schoenlein, 2013), and perceptual theory (Beck, 2011; Meichenbaum, 1977; Rogers, 1951). Invitational education contributes to the larger array of pedagogical strategies found in positive education by promoting inviting school climates with the goal of positively benefiting student well-being and achievement (Haigh, 2011; Smith, 2012; Smith, Gregory, & Turner, 2016; Welch & Smith, 2014).

In invitational education, the five areas of a school interact to establish an inviting school climate. When these areas are inviting in ways that are inclusive, collaborative, engaging, respectful, and optimistic they contribute to flourishing. According to ITP (Purkey & Novak, 2016), the five areas of a school are people, places, policies, programs, and processes:

- People are central to the quality of school climate as it is the people who determine the planning, development, and implementation of the other areas, such as relationships, interactions, and processes.
- Places refer to the quality of the physical settings in which interactions typically occur. Places can be representative of the school's policies, programs, processes, and people (Hobday-North & Smith, 2014).
- Policies are the rules, codes, and procedures, which inform the ongoing running and regulation of the school, such as student attendance and discipline policies. Policies reflect the policy-maker's views of students and the emphasis is on the communication of policies, their use, and how they are perceived.
- Programs are formal and informal organised curricula and extra-curricula activities. Programs that are inviting cater to a range of student needs and interests, and respect the growth and development of individuals.
- Processes are the daily operations of a school and behavior of the people. Processes are a pattern of actions that are directed towards a purpose.

ITP recognizes the importance of student perceptions for academic engagement and performance through promoting positive self-concept (Stanley & Purkey, 1994). Self-concept guides how individuals think and remember information about themselves, and influences our perceptions (Burton et al., 2011; Shaw et al., 2013). Positive self-concept in students has been associated with beneficial outcomes for student academic engagement and performance (Grobel & Schwarzer, 1982; Haynes et al., 1997; Hoge, Smit, & Hanson, 1990; Stanley & Purkey, 1994). Invitational education aims to teach positive self-concept through targeted actions that influence people to see themselves as "able, valuable, and responsible" (Purkey & Novak, 2016, p. 12). This is described as the educator adopting an inviting stance that is characterised by the assumptions of optimism, trust, respect, care, and intentionality (Purkey & Novak, 2016).

Invitational education as a framework for developing inviting schools has been adopted in schools internationally (Purkey & Novak, 2016; Smith, 2016). Qualitative studies of schools in Hong Kong adopting ITP have demonstrated improvement in student's academic performance (Ng & Yuen, 2011; Poon & Leung, 2010). However, additional empirical investigation of invitational education is required to support whether it is an effective educational approach to promote student

well-being (Carmen & Mantak, 2011; Ng & Yuen, 2011). ITP theory has been criticised by Fink (2013) who argues for the consideration of the political context of the school system. Politics is described as the sixth area of school climate, characterised by individuals acting politically through collaborative decision-making based on a vision of implementing change (Fink, 2013). To understand a total school system, there needs to be recognition of the relationships of power and the unique distinct culture of each school. This is because change cannot be enacted within a school without a consideration of the politics, which potentially undermine the success of the other five dimensions (Fink, 2013).

The School as a Positive Institution

The school as a positive institution is yet to be thoroughly investigated (Kristjánsson, 2012); however, the research literature warrants a greater investigation of the role of schools in promoting student well-being. The school plays a profound role in shaping young people's social and emotional development (Bronfenbrenner, 1979; McKenzie et al., 2017; Neal & Neal, 2013). For adolescents especially, most of their time is spent at school where their relationships outside the family are a source of increasing reliance and support (Eccles et al., 1993; Erikson, 1963; Gerard & Booth, 2015; Newman & Newman, 2015; Shochet, Dadds, Ham, & Montague, 2006). These relationships at school with school staff and peers are key to well-being and when positive may act as social buffer for those students who lack support in other environments (Buehler, Fletcher, Johnston, & Weymouth, 2015; Grover, Limber, & Boberiene, 2015; Hopson, Schiller, & Lawson, 2014). Positive teacher-student relationships are key to meeting student's academic and emotional needs (Graham, Powell, & Truscott, 2016; Kutsyruba et al., 2015; Osterman, 2000; Wiltz, 2008) and have been found to moderate negative perceptions of school (Berg & Aber, 2015). Furthermore, longitudinal data demonstrates that students with positive school engagement and relationships in early adolescence have decreased risk of mental health problems (including depression and anxiety) and substance use in later years (Bond et al., 2007).

The promotion of student well-being has occurred primarily through positive education approaches. Despite the increasing popularity of positive education, the movement risks being dismissed based on a lack of clear communication of the benefits of positive psychology, positive education, and well-being (Kristjánsson, 2012; White, 2016). In addition, the long-term efficacy of interventions within schools is difficult to maintain, as school staff are often overwhelmed with the responsibility to deliver a broad range of programs and activities to support students (Forman, Olin, Hoagwood, Crowe, & Saka, 2009; McKenzie et al., 2017). The viability of interventions for student well-being must appeal to schools' interests in positive academic outcomes, consider the unique culture of each school, and be realistic to implement in the long-term.

Aims of the Current Study

This study will investigate student perceptions of school climate, defined by an invitational education theory (Purkey & Novak, 2016), and student subjective well-being defined by tenets of positive psychology theory (Seligman, 2011). Previous research has not incorporated a positive psychology framework in conjunction with the invitational education approach. The invitational education approach offers a promising tool to develop an inviting whole school climate and to promote student well-being (Purkey & Novak, 2016).

Invitational education's foundations in perceptual and self-concept theories recognize the significance of student perceptions of their school climate for well-being. Well-being theory complements invitational education by providing a measurable definition and an optimistic perspective of student well-being (Seligman, 2011). In addition, well-being theory has been

recognized as a useful and practical framework for schools to target effectively positive education interventions to enhance student well-being to promote flourishing (Kern et al., 2015). The study proposes to investigate the following hypotheses:

1. Student’s perception of school climate is positive and statistically significantly related to student’s perception of well-being.
2. Student’s perception of school climate and well-being will significantly (statistically) differ based on Gender and Year Level.

Methodology

Participants

The participants included 143 students from a large public high school in the state of New York. However, only 120 students completed the questionnaire satisfactorily, met the criteria of being at the school for two or more years, and were in Years 9-11. Statistical details of the relevant demographics are found in Table 1.

Table 1

Number of Participants by Gender, Year Level, Years at School, and Age

	Male (N=62; 51.7%)	Female (N=58; 48.3%)	Total (N=120)
<u>Year Level</u>			
9	13 (21.0%)	8 (13.8%)	21 (17.5%)
10	26 (41.9%)	26 (44.8%)	52 (43.3%)
11	23 (37.1%)	24 (41.4%)	47 (39.2%)
<u>Years at School</u>			
2	15 (24.2%)	8 (13.8%)	23 (19.2%)
3	26 (41.9%)	27 (46.6%)	53 (44.2%)
4	21 (33.9%)	23 (39.7%)	44 (36.7%)
<u>Age</u>			
14	12 (19.4%)	5 (8.6%)	17 (14.2%)
15	21 (33.9%)	21 (36.2%)	42 (35.0%)
16	23 (37.1%)	30 (51.7%)	53 (44.2%)
17	6 (9.7%)	2 (3.4%)	8 (6.7%)

Measures

Personal Description Questionnaire (PDQ). A personal description questionnaire was completed to obtain information about the students' gender, age, year level, and duration at school.

The Inviting School Survey- Revised (ISS-R). The 50-item Inviting School Survey Revised (ISS-R), developed by Smith (2005, 2016) was used to measure school climate. The ISS-R is based on ITP, investigating students' perceptions of the invitingness of their school in the five areas 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 (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree). The ISS-R produces a total composite score and five sub-scale scores of school invitational qualities. A high ISS-R score indicates the participant perceives the school climate to be more inviting. 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). Refer to Appendix A for details of the ISS-R instrument.

The PERMA. The 34-item adapted PERMA, developed by Kern and colleagues (2015) was used to measure student well-being. The PERMA is based on well-being theory that is comprised of five well-being elements: positive emotion, engagement, positive relationships, meaning, and accomplishment (Seligman, 2011). The PERMA was developed on Australian male students aged between 13 and 18. Factor analyses retained four of the five PERMA elements; Positive Emotion, Engagement, Relationships, Accomplishment. The two sub-scales associated with ill-being (Anxiety and Depression) were excluded, as the purpose of the current study was to investigate well-being from a positive perspective. Participants were asked to respond to each item using a 5-point Likert-type response (Almost Always, Very Often, Often, Sometimes, Never). A high PERMA score indicates a high self-perception of well-being. Previous research has shown that the PERMA total scale and the four subscales demonstrate acceptable reliability (Kern et al., 2015). Refer to Appendix B for details of the PERMA instrument.

Procedure

Following ethical approval from the Australian Catholic University Human Research Ethics Committee and with the principal's approval, invitations to participate in the study were distributed to parents of participating students. Once informed consent had been received from parents of students, the researcher's representative introduced the self-report questionnaire package to students in class groups of approximately 20 students. Students completed an online web-based questionnaire package (Qualtrics, 2017) on their personal electronic devices (including laptops and tablets). The questionnaire package was expected to take approximately 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 Analyses

All data analyses were conducted using the Statistical Package for the Social Sciences (SPSS), Version 25 (IBM Corp, 2017). No outliers were identified as requiring deletion. Missing values were replaced with the subscale mean for participants with less than five missing responses. To make comparative interpretations raw scores were converted to percentages as there were a different number of items loaded onto each subscale. Normality and homogeneity of variance assumptions were met. Descriptive analyses were conducted to generate means and standard

deviations for the variables of interest. Pearson correlational analyses were performed to investigate associations between variables of school climate, student well-being, and demographic data. Inferential statistics were used to investigate possible statistically significant differences between the subscales and total scales of school climate and well-being as measured by the ISS-R and PERMA. A Two-Way GLM Univariate ANOVA was conducted to investigate differences between the significant demographics (Gender and Year Level) and perceptions of school climate and student well-being. When the ANOVA indicated a significant effect of Year Level, post hoc paired-samples *t* tests were conducted to compare group means. As Year Level has 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, 2013).

Results

Descriptive Analyses

Descriptive statistical analyses of the variables of interest (refer to Table 2) revealed that the PERMA mean total scale score was 64.53% (SD = 14.86%) for the total sample. PERMA subscale scores ranged from a low of 57.17% (SD = 15.10%) [Engagement subscale] to a high of 66.28% (SD = 17.69%) [Accomplishment subscale].

Student's ISS-R mean total scale score was 64.87% (SD = 9.92%). ISS-R subscale scores ranged from a low of 58.31% (SD = 12.60%) [Place subscale] to a high of 69.37% (SD = 11.18%) [Program subscale].

Reliability Analyses

The internal consistency of the PERMA and ISS-R total scales and subscales were investigated, results are presented in Table 3. The PERMA ($\alpha = .96$) and ISS-R ($\alpha = .94$) total scales had high reliabilities. Subscale alphas ranges from .66 (Program subscale) to a high of .95 (Positive Emotion subscale) indicating high internal consistency.

Correlational Analyses

Pearson correlational analyses were conducted to assess the simple bivariate relationships among the independent variables of well-being and school climate, results are presented in Table 3. There was a significant and positive relationship ($p < .001$) between the total ISS-R scale and the Total PERMA scale ($r = .58$). The total ISS-R scale was positive and significantly related ($p < .001$) with the Positive Emotions ($r = .52$), Relationships ($r = .49$), Engagement, ($r = .50$), and Accomplishment ($r = .49$) subscales of the PERMA. While, the Total PERMA scale was positive and significantly related ($p < .001$) with the People ($r = .56$), Program ($r = .46$), Process ($r = .56$), Policy ($r = .51$), and Place ($r = .47$) subscales of the ISS-R. Both instruments' subscales relationships, within and between, were statistically significant ($p < .001$).

Factor Analyses: Gender and Year Level

A Two-Way Univariate ANOVA was conducted to investigate if there were statistically significant differences in student perceptions of school climate and well-being based on the main factors of Gender and Student Year Level. The demographic variables of Age and Duration at School were not analyzed as these were statistically significant and positively related to Year Level in the sample.

Table 2

Descriptive Statistics for PERMA Total Scale, ISS-R Total Scale, and Subscales by Gender by Year Level

SCALE	GENDER	YEAR LEVEL	Mean	Std. Deviation	N
TOTAL PERMA	Male	Year 9	69.37%	13.60%	13
		Year 10	66.95%	17.21%	26
		Year 11	67.39%	14.08%	23
		Total	67.62%	15.17%	62
	Female	Year 9	60.88%	12.98%	8
		Year 10	64.14%	14.80%	26
		Year 11	58.21%	13.04%	24
		Total	61.24%	13.89%	58
	Total	Year 9	66.13%	13.70%	21
		Year 10	65.54%	15.95%	52
		Year 11	62.70%	14.19%	47
		Total	64.53%	14.86%	120
POSITIVE EMOTION	Male	Year 9	69.47%	16.24%	13
		Year 10	65.33%	20.62%	26
		Year 11	66.69%	16.39%	23
		Total	66.70%	18.04%	62
	Female	Year 9	61.54%	16.36%	8
		Year 10	55.98%	17.01%	26
		Year 11	54.87%	14.64%	24
		Total	56.29%	15.84%	58
	Total	Year 9	66.45%	16.36%	21
		Year 10	60.65%	19.30%	52
		Year 11	60.65%	16.47%	47
		Total	61.67%	17.73%	120
ENGAGEMENT	Male	Year 9	62.31%	17.29%	13
		Year 10	56.92%	15.55%	26
		Year 11	63.04%	15.86%	23
		Total	60.32%	16.03%	62
	Female	Year 9	52.92%	7.65%	8
		Year 10	55.77%	14.74%	26
		Year 11	51.94%	13.44%	24
		Total	53.79%	13.37%	58
	Total	Year 9	58.73%	14.89%	21
		Year 10	56.35%	15.01%	52
		Year 11	57.38%	15.56%	47
		Total	57.17%	15.10%	120
RELATIONSHIPS	Male	Year 9	76.24%	10.63%	13
		Year 10	75.30%	18.81%	26
		Year 11	71.98%	13.89%	23
		Total	74.27%	15.49%	62
	Female	Year 9	68.33%	18.43%	8
		Year 10	76.75%	17.94%	26
		Year 11	64.35%	16.57%	24
		Total	70.46%	18.11%	58
	Total	Year 9	73.23%	14.22%	21
		Year 10	76.03%	18.21%	52
		Year 11	68.09%	15.63%	47
		Total	72.43%	16.85%	120
ACCOMPLISHMENT	Male	Year 9	65.90%	16.45%	13
		Year 10	67.95%	19.32%	26
		Year 11	66.38%	15.47%	23
		Total	66.94%	17.13%	62
	Female	Year 9	56.25%	12.90%	8
		Year 10	71.28%	19.12%	26
		Year 11	62.50%	17.70%	24
		Total	65.57%	18.39%	58
	Total	Year 9	62.22%	15.61%	21
		Year 10	69.62%	19.10%	52
		Year 11	64.40%	16.58%	47
		Total	66.28%	17.69%	120

Table 2 continued

SCALE	GENDER	YEAR LEVEL	Mean	Std. Deviation	N
TOTAL ISS-R	Male	Year 9	68.22%	9.51%	13
		Year 10	66.10%	8.59%	26
		Year 11	65.77%	11.18%	23
		Total	66.42%	9.69%	62
	Female	Year 9	67.59%	7.33%	8
		Year 10	64.75%	11.57%	26
		Year 11	60.08%	8.03%	24
		Total	63.20%	9.96%	58
	Total	Year 9	67.98%	8.55%	21
		Year 10	65.42%	10.11%	52
		Year 11	62.86%	10.02%	47
		Total	64.87%	9.92%	120
PEOPLE	Male	Year 9	72.40%	9.66%	13
		Year 10	69.69%	9.78%	26
		Year 11	69.62%	12.56%	23
		Total	70.23%	10.76%	62
	Female	Year 9	72.31%	6.12%	8
		Year 10	67.21%	11.47%	26
		Year 11	64.46%	8.77%	24
		Total	66.78%	10.00%	58
	Total	Year 9	72.37%	8.31%	21
		Year 10	68.45%	10.63%	52
		Year 11	66.98%	10.99%	47
		Total	68.56%	10.50%	120
PROGRAM	Male	Year 9	71.17%	10.55%	13
		Year 10	70.88%	7.88%	26
		Year 11	69.09%	13.58%	23
		Total	70.28%	10.71%	62
	Female	Year 9	67.14%	8.22%	8
		Year 10	70.70%	13.57%	26
		Year 11	66.31%	10.28%	24
		Total	68.39%	11.67%	58
	Total	Year 9	69.64%	9.72%	21
		Year 10	70.79%	10.99%	52
		Year 11	67.67%	11.96%	47
		Total	69.37%	11.18%	120
PROCESS	Male	Year 9	66.92%	13.70%	13
		Year 10	65.85%	11.40%	26
		Year 11	68.96%	11.24%	23
		Total	67.23%	11.74%	62
	Female	Year 9	68.30%	12.08%	8
		Year 10	66.83%	12.86%	26
		Year 11	59.58%	9.52%	24
		Total	64.03%	11.89%	58
	Total	Year 9	67.45%	12.81%	21
		Year 10	66.34%	12.04%	52
		Year 11	64.17%	11.32%	47
		Total	65.68%	11.87%	120
POLICY	Male	Year 9	63.52%	7.66%	13
		Year 10	62.55%	9.45%	26
		Year 11	62.73%	11.08%	23
		Total	62.82%	9.62%	62
	Female	Year 9	65.00%	8.33%	8
		Year 10	63.63%	10.37%	26
		Year 11	58.27%	8.60%	24
		Total	61.60%	9.68%	58
	Total	Year 9	64.08%	7.75%	21
		Year 10	63.09%	9.84%	52
		Year 11	60.46%	10.04%	47
		Total	62.23%	9.63%	120
PLACE	Male	Year 9	64.55%	11.51%	13
		Year 10	60.76%	11.24%	26
		Year 11	58.33%	11.66%	23
		Total	60.65%	11.49%	62
	Female	Year 9	62.58%	9.41%	8
		Year 10	57.25%	15.68%	26
		Year 11	51.98%	10.64%	24
		Total	55.80%	13.34%	58
	Total	Year 9	63.80%	10.56%	21
		Year 10	59.00%	13.62%	52
		Year 11	55.09%	11.49%	47
		Total	58.31%	12.60%	120

Table 3

Cronbach's Alpha Reliability Coefficient (α) and Pearson Correlation Matrix for the ISS-R Total Scale, PERMA Total Scale, and Subscales (N= 120)

Scale	α	2	3	4	5	6	7	8	9	10	11
1. Total ISS-R Scale (# of items= 50)	.94	----	----	----	----	----	.58	.52	.49	.50	.49
2. People (# of items = 16)	.85	—	.77	.79	.73	.73	.56	.51	.48	.48	.46
3. Program (# of items = 7)	.66	—	—	.74	.67	.65	.46	.41	.38	.38	.41
4. Process (# of items = 8)	.73	—	—	—	.73	.71	.56	.49	.49	.46	.51
5. Policy (# of items = 7)	.67	—	—	—	—	.63	.51	.40	.39	.49	.52
6. Place (# of items = 12)	.86	—	—	—	—	—	.47	.45	.39	.41	.34
7. Total PERMA Scale (# of items = 34)	.96	—	—	—	—	—	—	—	—	—	—
8. Positive Emotion (# of items = 13)	.95	—	—	—	—	—	—	—	.74	.73	.62
9. Engagement (# of items = 6)	.73	—	—	—	—	—	—	—	—	.61	.58
10. Relationships (# of items = 9)	.90	—	—	—	—	—	—	—	—	—	.60
11. Accomplishment (# of items = 6)	.86	—	—	—	—	—	—	—	—	—	—

Note: All Pearson correlation coefficients are statistically significant, $p < .001$

Table 4 presents the results of the Two-Way ANOVAs with effect size estimates (partial eta-squared - η_p^2) and power estimates.

Table 4

ISS-R Total Scale, PERMA Total Scale, and Subscales Univariate Analysis of Variance Summary for the Main Effects (Gender and Year Level)^a

Scale	F^b	p	η_p^2	Power
<u>ISS-R Total</u>				
Gender	1.698	.195	.015	.253
Year Level	1.973	.144	.033	.401
<u>People</u>				
Gender	1.522	.220	.013	.231
Year Level	1.831	.165	.031	.375
<u>Program</u>				
Gender	1.059	.306	.009	.175
Year Level	0.930	.397	.016	.208
<u>Process</u>				
Gender	0.995	.321	.009	.167
Year Level	0.696	.501	.012	.165
<u>Policy</u>				
Gender	0.107	.744	.001	.062
Year Level	1.407	.249	.024	.297
<u>Place</u>				
Gender	2.565	.112	.022	.355
Year Level	3.460	.035*	.057	.638
<u>PERMA Total</u>				
Gender	5.346	.023*	.045	.630
Year Level	0.461	.632	.008	.124
<u>Positive Emotion</u>				
Gender	7.857	.006**	.064	.794
Year Level	0.641	.529	.011	.155
<u>Engagement</u>				
Gender	5.832	.017*	.049	.668
Year Level	0.093	.911	.002	.064
<u>Relationships</u>				
Gender	1.992	.161	.017	.288
Year Level	2.787	.066	.047	.539
<u>Accomplishment</u>				
Gender	0.920	.339	.008	.158
Year Level	2.052	.133	.034	.415

^a There were no statistical significant 2-Way interaction effects ($p > .05$)

^b Gender $df = 1, 114$ Year Level $df = 2, 114$.

* $p < .05$; ** $p < .01$.

There were no statistical significant two-way interaction effects (Gender by Year Level, $p > .05$). The univariate ISS-R scales F -tests revealed that there was no significant Gender difference but there was one significant Year Level scale difference, namely the Place subscale. Post Hoc analysis of pairwise differences (using the LSD procedure to control for Type I errors) identified that Year 9 students perceived Place significantly higher than Year 11 students (63.80% versus 55.09%). As depicted in Table 4 the strength of relationship between Year Level and the Place subscale, as assessed by η_p^2 , was large, with the Year Level factor accounting for 5.7% of the variance of the dependent variable (Cohen, 1988).

However, there were no statistically significant Year level differences on the PERMA scales, but there were three significant PERMA scale differences between Gender (PERMA Total, Positive Emotion, and Engagement). As depicted in Table 2 Males scored significantly higher than Females on the PERMA scales: PERMA Total: 67.62% vs 61.24%; Positive Emotion: 66.70% vs 56.29%; and Engagement: 60.32% vs 53.79%.

As shown in Table 4 the strength of relationship between Gender and the three scales as assessed by η_p^2 , was large, with the Gender factor accounting for 4.5%, 6.4%, and 4.9% respectively of the variance of the dependent variable (Cohen, 1988).

Discussion

Hypothesis 1: Student's perception of school climate is significantly related to student perception of well-being.

The present study provided strong support for the hypothesis that student perceptions of school climate are statistically significant and positively related to student perceptions of well-being. Additionally, within the current sample, there were differences in student's well-being in areas of positive emotions, relationships, engagement, and accomplishment. For example, students within this school rated their experience of relationships higher than other areas of well-being. While, student perceptions of school climate in the sample were relatively consistent across the school areas of people, places, process, programs, and policies. However, People subscale was rated highest in the ISS-R subscales. These results suggest that further research is required to understand the complexity of the school climate and well-being measures relationships.

Student's overall perceptions of a positive and inviting school climate were significantly related to student's positive ratings of positive emotions, relationships, engagement, and accomplishment. While, student's overall self-rated well-being was significantly related to the areas of school climate, including people, programs, places, processes, and policies. The findings are consistent with research that suggests that there is a bidirectional relationship between school climate and student well-being (Cohen, 2006). The relationship found between student self-perceptions of school climate and well-being indicates that students who report positive emotions, positive relationships, engagement, and a desire for accomplishment are more likely to attend a positive and inviting school. The findings support research that associates student perceptions of a positive school climate with positive psychological well-being and academic engagement (Berg & Aber, 2015; Durlak et al., 2011; Waters, 2011; Zhang, 2016).

The importance of positive interactions and relationships were supported in the results as a significant factor contributing to the quality of school climate, consistent with ITP (Purkey & Novak, 2016; Smith et al., 2016). A significant relationship was found between relationships and people in student self-perceptions of school climate and subjective well-being. These results suggest that perceptions of positive and meaningful relationships are associated with positive and

inviting interactions with people within the school environment. This is consistent with research that emphasises the importance of positive relationships within the school for student well-being (Graham, Powell, & Truscott, 2016; Kutsyuruba et al., 2015).

Upon closer investigation, elements of student well-being including positive emotions, relationships, and engagement were significantly related to all of the areas of school climate as defined by Invitational Education Theory.

It is noted that the school climate areas of policies and processes had low internal consistency which suggests that student's responses to these areas were inconsistent. It is suggested that this may be because processes and policies within a school are less directly observable to students than the other areas assessed by school climate. The low reliability of the subscales may also be due to inconsistent responses, diversity of the constructs, or the reduced number of items on the scale (Cortina, 1993).

Hypothesis 2: Student's perception of school climate and well-being will differ based on Gender and Year Level.

The hypothesis that student's perception of school climate and subjective well-being will differ based on Gender and Year Level was not totally supported by the current study.

Only one ISS-R subscale was mediated by Year Level, Place, while the Total PERMA scale and two of the subscales (Positive Emotion and Engagement) were mediated by Gender.

The difference between the Year Levels on one aspect of school climate can be the result of a range of reasons (e.g. real differences between facilities for Year 9 versus Year 11 students) it probably requires a focus group of students to determine why this perception exists. However, this difference did not have a significant impact on the total perception of school climate

The Gender differences are a bit more problematic and requires further research in understanding why gender is moderating, not only the Total PERMA score but two of the four subscales. While there is a vast knowledge of gender differences in subjective well-being there is still a lack of consensus why this is so. When attempting to explain gender differences in subjective well-being there are several themes that emerge from the literature, including structural factors (i.e., differences in institutional arrangement and opportunities between boys and girls) socio-cultural factors (i.e., differences in societal expectations and norms for boys and girls, and biological differences (i.e., physical and physiological differences) (Fujita, Diener, & Sandvik, 1991; Russo & Green, 1993; Tesch-Römer, Motel-Klingebiel, & Tomasik, 2008; Wood, Rhodes, & Whelan, 1989).

While the question of whether boys and girls differ in levels of well-being is a seemingly straight-forward one, there are numerous complexities involved in answering it. First, it is important to consider the different types, and components, of well-being as a construct. Second, it is important to understand that depending on numerous biological, individual, and environmental factors the difference in subjective well-being may be more or less apparent. Third, one must consider the present limitations in the research and act on the necessary future directions to provide further clarity and understanding (Batz & Tay, 2018; Froh, Yurkewicz, & Kashdan, 2009).

Research Limitations

The study has a limited scope and focused approach towards evaluating school climate according to ITP and Positive Psychology well-being theory (PERMA). It is acknowledged that there are many factors supported in the research literature that interrelate to influence student's perceptions of climate; such as school-level and individual-level factors (Kutsyuruba et al., 2015).

The sample was small and convenience-based, which limits both the findings and their generalisability. The sample was delimited to students at secondary level from Years 9 to 11. In addition, students must have attended the school for a minimum of two years; this was to ensure that students were familiar with the school climate. A further limitation was the use of self-report methodology, which poses a threat to internal validity based on social desirability bias and the student's level of motivation.

Conclusion and Future Direction

The findings support the use of the invitational education approach and well-being theory as a methodological framework to evaluate the whole school climate and student well-being. This framework does not require extensive training or resources and can be used to measure, monitor, and evaluate a school's climate and identify areas for improvement for the benefit of student well-being. Such a framework has the potential to enable schools to effectively target initiatives, as well as improve the state of the research in the areas of school climate and positive education. This could contribute to professional knowledge regarding what elements of school climate are essential for fostering and supporting positive outcomes and well-being in students.

Further research with a larger sample is recommended to understand the relationships between student well-being and perceptions of school climate and to determine if there are gender, age, and duration at school differences. Additionally, further research is required that investigates the relationship between these and academic performance to strengthen the argument for the implementation of positive education approaches in schools.

Acknowledging the political context of a school and appealing to key educational stakeholder's interests in the academic performance of students will support policy changes (Fink, 2013; McKenzie et al., 2017). It is hoped that further research should expand the evidence evaluating the impact of whole-school positive education approaches on student well-being.

Additionally, further research is required to extend understanding of how student perceptions of school climate, based on their individual characteristics and experiences, may influence such students' perception of well-being (Fan et al., 2011; Koth et al., 2008). Given the limitation of the present research, it was not possible to investigate the potential of a moderating relationship between student perceptions of positive relationships and school climate (Berg & Aber, 2015).

The current study extends the wealth of school climate research to demonstrate the importance of understanding student self-perceptions' of school climate. Indeed, student's perceptions determine their behavior and as a result are a more reliable indicator of outcomes rather than objective accounts of school climate (Bandura, 1986, 2001; Fan et al., 2011; Koth et al., 2008; Purkey & Novak, 2016). A significant relationship exists between student self-perceptions' of well-being and school climate, which emphasises the importance of understanding student's perceptions for improving well-being. It is prudent given the high incidence of mental health disorders in young people (ABS, 2007; Lawrence et al., 2015) for education's focus to broaden to promoting positive school environments that support holistic development and education for students. Invitational education and positive psychology together promote inviting school climates for the benefit of student well-being that supports young people not only to have satisfactory mental health and well-being, but also to flourish in life.

A most interesting question to investigate is that which has confounded self-concept and academic achievement research. As we have very strong support for the relationship between self-perceptions of well-being and school climate, what is the temporal ordering? Does perception of

school climate affect perception of well-being? Alternatively, does perception of well-being impact on the perception of the school climate? For both questions, what are the significant mediating factors?

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Appendix A: Inviting School Survey – Revised (ISS-R)

DIRECTIONS

Following are a series of 50 statements concerning **YOUR SCHOOL**.
Please use the five-point response scale and select how much you agree or disagree for each item.

SA=Strongly Agree A=Agree U=Undecided D=Disagree SD=Strongly Disagree
Select 'N/A' only if the question does not apply to your school

Statements	SA	A	U	D	SD	N/A
1. Student discipline is approached from a positive standpoint.						
2. Everyone is encouraged to participate in athletic (sports) programs.						
3. The principal involves everyone in the decision-making process.						
4. Furniture is pleasant and comfortable.						
5. Teachers are willing to help students who have special problems.						
6. Teachers in this school show respect for students.						
7. Grades are assigned by means of fair and comprehensive assessment of work and effort.						
8. The air smells fresh in this school.						
9. Teachers are easy to talk with.						
10. There is a wellness (health) program in this school.						
11. Students have the opportunity to talk to one another during class activities.						
12. Teachers take time to talk with students about students' out-of-class activities.						
13. The school grounds are clean and well-maintained.						
14. All telephone calls to this school are answered promptly and politely.						
15. Teachers are generally prepared for class.						
16. The restrooms in this school are clean and properly maintained.						
17. School programs involve out of school experience.						
18. Teachers exhibit a sense of humor.						
19. School policy encourages freedom of expression by everyone.						
20. The principal's office is attractive.						
21. People in this school are polite to one another.						
22. Everyone arrives on time for school.						
23. Good health practices are encouraged in this school.						
24. Teachers work to encourage students' self-confidence.						
25. Bulletin boards are attractive and up-to-date.						

Statements	SA	A	U	D	SD	N/A
26. The messages and notes sent home are positive.						
27. The principal treats people as though they are responsible.						
28. Space is available for student independent study.						
29. People often feel welcome when they enter the school.						
30. Students work cooperatively with each other.						
31. Interruptions to classroom academic activities are kept to a minimum.						
32. Fire alarm instructions are well posted and seem reasonable.						
33. People in this school want to be here.						
34. A high percentage of students pass in this school.						
35. Many people in this school are involved in making decisions.						
36. People in this school try to stop vandalism when they see it happening.						
37. Classrooms offer a variety of furniture arrangements.						
38. The school sponsors extracurricular activities apart from sports.						
39. Teachers appear to enjoy life.						
40. Clocks and water fountains are in good repair.						
41. School buses wait for late students.						
42. School pride is evident among students.						
43. Daily attendance by students and staff is high.						
44. There are comfortable chairs for visitors.						
45. Teachers share out-of-class experiences with students.						
46. Mini courses are available to students.						
47. The grading practices in this school are fair.						
48. Teachers spend time after school with those who need extra help.						
49. The lighting in this school is more than adequate.						
50. Classes get started quickly.						

Appendix B: PERMA Inventory

DIRECTIONS

Following are a series of 34 statements **ABOUT YOU**.

Please use the five-point response scale and select how much each statement describes you.

AA=Almost Always **VO=Very Often** **OF=Often** **SO=Sometimes** **AN=Almost Never**

Statements	AA	VO	OF	SO	AN
1. I feel cheerful.					
2. When I am reading or learning something new, I often lose track of how much time passed.					
3. My relationships are supportive and rewarding.					
4. I finish whatever I begin.					
5. I feel joyful.					
6. I often get completely absorbed in what I am doing.					
7. I actively contribute to the happiness and well-being of others.					
8. Once I make a plan to get something done, I stick to it.					
9. I feel energetic.					
10. I get so involved in activities that I forget about everything else.					
11. I generally feel that what I do in my life is valuable and worthwhile.					
12. I am a hard worker.					
13. I feel delighted.					
14. When I see beautiful scenery, I enjoy it so much that I lose track of time.					
15. When something good happens to me, I have people in my life that I like to share the good news with.					
16. I keep at my schoolwork until I am done with it.					
17. I feel proud.					
18. I feel interested.					
19. I have friends that I really care about.					
20. Most days I feel a sense of accomplishment from what I do.					
21. I feel fearless.					
22. I feel active.					
23. There are people in my life who really care about me.					
24. During the past two weeks, I have been pleased about completing something that was hard to do.					
25. I feel calm.					
26. I feel daring.					
27. When I have a problem, I have someone who will be there for me.					
28. I feel alert.					
29. I feel happy.					
30. I feel lively.					
31. I feel that I am loved.					
32. I feel strong.					
33. I feel excited.					
34. I feel that my life has a purpose.					