



The Greek elementary “What Is Happening In this Class?” (G-EWIHC): A three-phase multi-sample mixed-methods study



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ABSTRACT

Students' perceptions of their classroom psycho-social climate (CPSC) have been found to relate significantly to students' learning outcomes. The What Is Happening In this Class? (WIHC) being one of most prominent instruments in measuring these perceptions. The purpose of the present study was to thoroughly examine the structure of preadolescents' perceptions of the CPSC, through an elaborate mixed-methods three-phase design, in the Greek elementary school context. The study included semi-structured interviews with students and teachers, and two large-scale administrations of the qualitatively adapted WIHC version. Both qualitative and quantitative results supported the seven-subscale structure of the instrument and identified potential issues with the conceptual content of two of the subscales. Quantitative findings also supported the theoretical second-order factorial structure of the instrument, but with different subscale allocation. The advantages of mixed-methodology in the cross-cultural examination of student's perceptions of the learning environment and implications for research are discussed.

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1. Introduction

The classroom psycho-social climate (CPSC) has been shown to be consistently associated with students' cognitive and affective learning outcomes (Chionh & Fraser, 2009; Fraser, 1981, 1986, 2007, 2012; Fraser, Walberg, Welch, & Hattie, 1987; Koul, 2003; MacAuley, 1990; Walberg, Pascarella, Haertel, Junker, & Boulanger, 1981). The long-standing investigation of the CPSC has led researchers to develop a plethora of valid and reliable CPSC measuring instruments, which have been applied in various educational contexts (Fisher & Khine 2006; Fraser, 1998, 2012). The “What Is Happening In this Class?” (WIHC; Fraser, McRobbie, & Fisher, 1996) is one of the most frequently used CPSC instruments today (Dorman, 2008; Fraser, 2012). Previous research has provided strong support for the psychometric properties and the cross-cultural validity of the WIHC when used with adolescent students (Aldridge & Fraser, 2000; Aldridge, Fraser, & Huang, 1999; den Brok, Fisher, Rickards, & Bull, 2006; Dorman, 2003, 2008). However, studies with pre-adolescents in different cultural and

educational contexts have produced inconsistent results in terms of the scale's factorial structure (Aldridge, Fraser, & Ntuli, 2009; Allen & Fraser, 2007; Zhang & Campbell, 2012). In addition, although the mixed methods research design (Creswell & Plano Clark, 2011) has been used extensively in CPSC research, no study has used this approach to adapt the WIHC for use with pre-adolescents or to investigate the sources of deviation (age- or context-specific) between the conceptualization of adolescents and pre-adolescents WIHC-based CPSC perceptions. What's more, although the WIHC and the majority of CPSC instruments are based on Moos' (1974a, 1974b) theoretical three-dimensional scheme, which relates to second-order factors, no study has provided empirical evidence regarding the WIHC's second-order factorial structure. The purpose of the present study was to thoroughly examine pre-adolescents' perceptions of their CPSC, based on the WIHC scale, by implementing an elaborate mixed-methods research design in the Greek elementary school context, and to provide empirical support to Moos' three-dimensional scheme.

1.1. The classroom psycho-social climate

A significant amount of research has dealt with CPSC in the past 50 years signalling significant advancements in the

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conceptualization and measurement of the CPSC, as well as its association with students' learning outcomes (Fisher & Khine 2006; Fraser & Walberg, 1991; Fraser, 1986, 1998, 2012; Freiberg, 1999; Goh & Khine 2002; Moos & Trickett 1986; Walberg & Anderson, 1968). One of the most enduring traditions in this line of research, based on the pioneering work of Walberg (1969, 1976; Walberg & Anderson, 1968), is measuring the CPSC through participants', i.e. students' and teachers', perceptions regarding various CPSC indicators (for example, Student Cohesiveness, Teacher Support, etc).

Considering the elusiveness of the CPSC concept (Adelman & Taylor, 2005; Freiberg & Stein, 1999; Paoletti, 1990), most researchers agree that it represents a multidimensional construct, comprising indicators which are constantly under examination. As a result these indicators are refined or renewed based on the accumulation of empirical evidence and theoretical breakthroughs, thus providing the construct with a dynamic status. As an example, the WIHIC (Fraser et al., 1996), which is considered as the most widely used CPSC measuring instrument today (Dorman, 2008; Fraser, 2012), has five of its seven subscales selected from previous scales, and at the same time, all seven of its subscales have been used in more recently developed instruments (e.g., Aldridge & Fraser, 2008).

1.2. The "What Is Happening In this Class?"

The WIHIC is one of the first CPSC instruments to limit the number of subscales, by setting criteria for its constituent subscales such as their empirical contribution to the measurement of the CPSP, their association with student learning outcomes, and whether they address modern educational concerns (e.g., educational inequality, and the constructivist approach to learning) (Fraser et al., 1996; Fraser, Walberg, Welch, & Hattie, 1987; Rainer & Guyton, 1999). The seven subscales of the WIHIC along with subscale description and a representative item are presented in Table 1.

The WIHIC was developed based on several field tests, including a mixed-method cross-cultural study with Australian and Taiwanese secondary students, where quantitative data was supplemented by classroom observations and interviews with student and teacher participants (Aldridge & Fraser, 2000; Aldridge, Fraser, & Huang, 1999). Subsequent studies furnished strong evidence to support the WIHIC's psychometric properties when used with secondary students (Chionh & Fraser, 2009; Dorman, 2003, 2008; Koul, 2003; den Brok et al., 2006 Wolf & Fraser, 2007). For example, support for the WIHIC's factorial invariance was provided in a study with students from Australia, UK and Canada (Dorman,

2003), and support for the instruments' construct validity was provided with the use of the multitrait-multimethod analysis (Dorman, 2008) using students' perceptions of their actual and preferred CPSC.

However, although the WIHIC's psychometric properties are generally supported, the scale's ability to differentiate between classes/teachers is generally not that strong (e.g. η^2 values of .25 or less for most scales, e.g., Aldridge, Laugksch, Seopa, & Fraser, 2006; Allen & Fraser, 2007; Fraser et al., 1996; den Brok et al., 2006).

1.3. Applications with pre-adolescents

While the application of the WIHIC with pre-adolescent students has shown a notable increase in recent years, support of the WIHIC's factorial structure in its original form is limited (e.g., Aldridge et al., 2009; Allen & Fraser, 2007; Chapman, 2012; Zhang and Campbell, 2012). For example, in two studies in Florida (Allen & Fraser, 2007; Pickett & Fraser, 2009), a modified 6-subscale version, of 36 and 39 items respectively, survived statistical examination, with the exclusion of the Investigation subscale (for different reasons in each study). In a study in Georgia, USA, the author merged two pairs of subscales (Student Cohesiveness – Cooperation and Involvement – Investigation) and chose to reduce items to 25. The statistical examinations led to the exclusion of the merged Involvement-Investigation subscale and to the subsequent elimination of eight items. Inconsistent item and subscale reduction patterns were also present in a study in Texas (Sinclair & Fraser, 2002) and in a study with a Spanish version of the WIHIC in Florida (Adamski, Fraser, & Peiro, 2013). Although it is not unusual for researchers to adapt an instrument (including shortening and amendments) to their particular needs, context, age group or research project aims, in the case of the WIHIC in elementary classrooms shortening seems to be the rule and not the exception.

Similar findings have been reported in studies implementing the WIHIC in pre-adolescent students in Singapore (Ching-Tse, 2013; Fen, 2014; Peer & Fraser, 2015), China (Zhang & Campbell, 2012), and South Africa (Aldridge et al., 2009).

The potential differences of adolescents' and pre-adolescents' perceptions of the CPSC have been also supported in studies examining the same cohort of students during these two developmental stages. For example, in a longitudinal study by Ferguson and Fraser (1998), students' perceptions for their CPSC were less reliable in preadolescence than in adolescence (one year later) for all 13 subscales used in the study.

Table 1
Subscale Description and Sample Item for the What Is Happening In this Class (WIHIC) Subscales.

Subscale	Description	Sample item
Student Cohesiveness	The extent to which students are friendly and supportive of each other.	<i>I make friends among students in this class</i>
Teacher Support	The extent to which the teacher helps, befriends and is interested in students.	<i>The teacher is interested in my problems</i>
Involvement	The extent to which student have attentive interest, participate in discussions and enjoy the class.	<i>I give my opinion during class discussions</i>
Investigation	The extent to which there is emphasis on skills and inquiry and their use in problem-solving and investigation.	<i>I carry out investigations to answer the teacher's questions</i>
Work Orientation	The extent to which it is important for students to complete activities planned and to stay on the subject matter.	<i>I know what I am trying to accomplish in this class</i>
Cooperation	The extent to which students cooperate with each other during activities.	<i>I cooperate with other students when doing assignment work</i>
Equity	The extent to which the teacher treats students equally, including distributing praise, questions and opportunities to be included in discussions.	<i>I get the same amount of help from the teacher as do other students</i>

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