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The 'Civic Potential' of Students: An Investigation of Students' Civic Knowledge and Conceptions of Active Citizenship in Five Asian Societies

Abstract

This paper contains a person-centered analysis of Asian young adolescents' intention to participate in the future through political participation including electoral and other active political participation. It is based on the IEA International Civic and Citizenship Education Study 2009 which investigated the ways in which young people in lower secondary schools were being prepared to undertake their roles as citizens. Data from approximately 23,000 students from five Asian societies, i.e. Taiwan, Hong Kong, Korea, Indonesia and Thailand, were analyzed to inform the homogeneity and heterogeneity of adolescents' intention to participate within and between societies as well as sub-regions in Asia.

This study indicated that these Asian students' conceptions of active citizenship are not unidimensional. Based on their expected participation in five kinds of civic activities, they can be classified into four distinct types: 1) *Active Participators*: students who are relatively most enthusiastic in participating in various kinds of civic activities; 2) *Conventional Participators*: students who favour voting most but rejects illegal protest while holding possibilities with other activities; 3) *Radical Participators*: students who are generally not certain about any kinds of activities but hold possibilities about them; and 4) *Minimal Participators*: students who are relative least motivated to participate across various activities except they are still positive about voting. The proportion of types varies across the five societies. For example, Taiwan and Hong Kong share parallel proportions across four citizen types. Unlike her East Asian peers, Korea has an exceptionally large proportion of 'Radical Participators' students. Despite sharing similar proportion of 'Minimal Participators', Indonesia and Thailand showed large differences in proportions of the other types.

In relation to civic knowledge, it is observed across the four participator types that Active Participators possess on average the highest civic knowledge score while Radical Participators the least. Conventional Participators and Minimal Participators are associated with comparable average civic knowledge score. The results, in general, suggest there may be both complementarity and trade-off between civic knowledge and intention to participate. The findings reported here relate the current literature on students' civic competence, which commonly conceptualize and measure the term by summing up in multiple dimensions but ignore their possible contested and diverse

nature.

Keywords

ICCS, civic and citizenship education, comparative citizenship education studies, civic knowledge, active citizenship, Asia

Introduction

Transforming civic knowledge into civic action is a key aspect of citizenship education in every society. In liberal democratic societies it is commonly accepted that citizenship education has an ultimate goal of preparing students for active citizenship in the future (Kennedy, 2006; Ross, 2007; Sherrod, 2007; Westheimer & Kahne, 2004). As students grow from adolescence into adulthood, it is expected that their political socialization will prepare them for active citizenship. Peterson (2012) stated 'If there is a common aim and purpose of citizenship education, it is that it should prepare students to be active within their communities'. In other words, active citizenship is one of the ultimate goals of citizenship education meaning it should be effective and beneficial to the society. In this connection, citizenship education's aim is to provide opportunities that enable students to learn how to become active citizens.

Much of the research on students' conceptions of citizenship has relied on samples of students from Western societies living in social and political contexts characterized by liberal democracy. Only recently has there been a focus on students in Asia and Asian conceptions of citizenship in general. The importance of context alone might suggest that students experiencing different cultural, social and political environments may develop differing conceptions of citizenship. A key focus of this study, therefore, is on Asian students' conception of citizenship, especially the much studied concept of 'active citizenship'. Do students in selected Asian societies have a shared understanding of 'active citizenship'? How do they perform in civic knowledge proficiency? These questions have guided this study and its investigations.

Research gap

Research gap in the literature is evident in three broad areas. The first area is that little empirical research has been conducted on Asian citizenship education. The second area is that little work has been carried out using a person-centered approach to analyze citizenship education. The third area relates to the current literature of studies that conceptualized and measured students' civic competence.

Regarding the first research gap, the need for this study arises because the literature to date has inadequately addressed the question of how Asian students conceptualize active citizenship using evidence from students themselves. Regarding the second research gap, growing consensus has emerged that person-centered analysis, as an alternative approach to variable-centered analysis, can yield meaningful results,

especially when analyzing large-scale assessment data. Regarding the third research gap, in contrast with the current literature on conceptualizing and measuring civic competence, alternatively, 'civic potential' is introduced in the current study, and proposed to be useful in addressing the issues of assessment of students' citizenship outcomes.

To address these research gaps, this study focuses on how students across five Asian societies interpret their intention to participate in a range of political activities. The person-centered approach analysis is adopted to explore "clusters or groups of persons (i.e., students) who have similar patterns or profiles of attitudes" (Torney-Purta & Amadeo, 2013). The notion of civic potential is used to guide the discussion of student intention to participate in the future and their civic knowledge proficiency.

Comparative perspectives on citizenship education studies

As citizenship education and its investigation have grown internationally, a range of studies on citizenship education has been conducted locally, nationally, cross-nationally, and internationally (Torney-Purta, & Amadeo, 2003), resulting in the development of what Hahn (2010) referred to as "comparative civic [citizenship] education." She argued that the field of comparative citizenship education has gone global (Hahn, 2010). This argument is also reflected by the prominence of international large-scale assessment studies on citizenship education, and the growing prominence of comparative perspectives about and developments in citizenship education. "Policy makers, practitioners, stakeholders and researchers have shown a keen appetite for learning more about what others are doing in citizenship education and using that learning to progress their own actions" (Kerr, 2012, p. 19).

Although citizenship education is implemented in different educational systems around the world with a variety of approaches and models as described above, citizenship education is primarily constructed on Western models of politics and the state. Alternative views of citizenship have rarely been considered, given that liberal democracy has been the dominant paradigm influencing the development of citizenship education. This case is evident in successive international civic education assessment projects (Schulz, Ainley, Fraillon, Kerr, & Losito, 2010; Torney-Purta, Lehmann, Oswald, & Schulz, 2001; Torney, Oppenheim, & Farren, 1975).

Hahn (2010) recommended further research on the field of comparative citizenship education, specifically including indigenous research focused on local contexts and

issues on citizenship education. Existing theoretical work has argued that Western models have a different perspective on citizenship compared to models based on the context of other regions, particularly that of Asia. Emerging literature has attempted to address issues specifically prevalent in Asia and the Pacific. In particular, literature on citizenship and citizenship education in Asia has been growing (Grossman, Lee, & Kennedy, 2008; Kennedy, Fairbrother, & Zhao, 2013; Kennedy, Lee, & Grossman, 2010; Lee, 2004, 2008, 2009; Lee, Kennedy, Grossman, & Fairbrother, 2004). These efforts have recognized the importance of tapping diverse views of citizenship in the Asian region and identifying other models of citizenship aside from those based on the Western context.

Citizenship in the Asian region

Research on citizenship education in the Asian region highlights a number of major issues emerging from this conceptual research. Kennedy and Fairbrother (2004) provided several descriptions. First, Asian countries are characterized by multiple modernities that provide rich and complex contexts for the development of citizenship education. Second, Asian citizenship education is characterized more by conceptions of moral virtues and personal values than by civic and public values. Third, although civil society is constructed differently in the West and in Asian countries, it nevertheless can play an important role. Fifth, the nation-state plays the same role in Asian and Western societies in relation to citizenship education. Finally, student agency in responding to citizenship education needs to be considered.

The investigation of Asian citizenship education started with the consideration of conceptual and theoretical perspectives. Interest in empirically examining these regional perspectives has also been demonstrated. Asian students' conceptions of citizenship have been one of the focal points of these studies, enabling comparisons among the views of students from different parts of the world as well as assessments of the distinctiveness or otherwise of the views of Asian students. Both theoretical and empirical studies on Asian citizenship education are expected to contribute to the discussion of regional emphasis of citizenship education beyond the Western liberal traditions. Several empirical studies have emphasized the distinctiveness of citizenship issues in the Asian region (Kennedy, Kuang, & Chow, 2013; Kennedy, Mok, & Wong, 2011). These studies focused on five Asian societies, namely, Hong Kong, Korea, Indonesia, and Thailand: Kennedy et al. (2013) focused on the interplay of traditional values in Asia and western citizenship values and the influence on students' civic knowledge proficiency and their participation in schools, and

compared their effects in Confucian tradition. Kennedy et al. (2011) reported the variety of roles of schools in developing students' political trust in different societies.

These empirical analyses also supported the notion that the Asian conception of citizenship can be understood from a perspective that deviates from the traditional western perspective. In sum, these existing studies have provided a better understanding of the Asian students' conception of citizenship by investigating their attitudes and assessing the implications of understanding the nature and purpose of citizenship education in the Asian context. Hence, Asian societies may be regarded as an independent entity on studying citizenship education in the region.

Whether in Western or Asian regions, citizenship education is inevitably embedded in the contexts of where it is implemented. In general, students form their conception of citizenship under the interplay of the context and citizenship education within the context. In particular, students form their conception of active citizenship under these influences.

Conceptualization of active citizenship

The term "active citizenship" has yielded a great deal of discussion and research across multiple disciplines. 'There is not a single definition of 'active citizenship' – different contexts create different understandings of what it means to be an 'active citizen'' (Kennedy, 2007). The literature of citizenship education studies has shown how students themselves construct their own conceptions of active citizenship (see, for example, Kennedy, 2007, 2010, 2012; Kennedy, Hahn, & Lee, 2008). While it is generally observed that students are quite capable of constructing their own conceptions of active citizenship, it is worth noting that there is an extensive literature on the fundamental assumptions and conceptualizations of active citizenship.

Kennedy (2007) considered 'active citizenship' in three perspectives. First, the 'popular' approach is often adopted by governments as part of policy prescriptions. Second, the conceptual approaches have more theoretical foundation for the meaning of active citizenship, in contrast with the popular approach, to support various ideological positionings. Third, the empirical approaches attempts to summarize what to identify what 'active citizens' think and do with their attitudes, values and behaviours within the actual community. One of the emphases in this approach is the use of empirical observation and data to inform the very nature of active citizenship within and across contexts. Kennedy (2007) also highlighted that it is important to

note that these approaches are compatible and understanding of one helps understanding of the others. Different parties including researchers conceptualized the term 'active citizenship' by using varied items and dimensions (Kennedy, 2007). This suggests the importance attached to understanding how students perceive their roles as active citizenship in the society. Besides, the search for the meaning of active citizenship is a cross-national phenomenon where different parties in various contexts are involved. With such variations, it also highlights the complexity of active citizenship as a meaningful dimension.

It is thus expected that students' conception of active citizenship is influenced by the contexts of both citizenship education is implemented and how active citizenship is expressed since students have their own civic learning and their own construction of active citizenship. For example, students in the western contexts and students in the Asian context may hold different conceptions in active citizenship since they are learning and living in different contexts. One of the ways to tap these conceptions of active citizenship and their differences, if any, is by collecting empirical evidence of how students themselves across specific regions or contexts understand active citizenship respectively, and interpreting them from a comparative perspective.

Research questions

We would propose a study of adolescents' civic outcomes within and between five Asian societies—Taiwan, Hong Kong, Korea, Indonesia and Thailand—via secondary analysis of ICCS data to address the two research questions: 1) *How students' intention to participate compare within and between five Asian societies?* 2) *How civic knowledge proficiency compares across different orientations of active citizenship?*

[Insert Table 1]

[Insert Table 2]

Data

The ICCS was carried out in 2008-2009 in 38 societies (Schulz et al., 2010) to investigate how adoelscents are prepared to undertake their roles as citizens. Students were asked in 20 items how likely they would participate in civic-political

participation in the future in a 4-point scale (Table 1). This resulted in five Rasch-calibrated scales for the five kinds of activities. Table 2 shows a comparison between five Asian societies and the international average. A higher score means a higher intention to participate in that sort of activities. The students' civic knowledge scores will also be analyzed to address the second Research Question.

Methodology

Traditional variable-centered approach in large-scale assessments

This study has employed a person-centered approach to analysis of the ICCS data, which is alternative to the traditional variable-centered approach. Traditionally, the focus of large-scale assessment such as CivEd and ICCS is often country-by-country comparisons. According to their performance on various citizenship outcomes, participating countries in these studies are ranked on lists often referred as 'league tables'. This approach of comparisons emphasizes both within a single country and across countries the uniformity of the single variable or multiple variables concerned.

For example, in ICCS the participating countries were ranked in a 'league table' according to the students' average level of voting expectation in each country (Schulz et al., 2010, pp. 141-142). A country where students had a high average voting expectation was ranked higher than a country where students showed a lower expectation. In other words, these traditional analyses produce scale scores to represent the average level of students' voting expectation and thus make comparisons cross-nationally or internationally. Similar comparisons are done for other variables such as expected protest and other political participation.

Focusing on the differences in the means of various variables, this approach has thus best reflected in the notion of 'variable-centered approach' to analysis, which ensures that different countries are compared on a common metric. This is especially so in most large-scale assessment projects where variables are constructed from testing items to allow cross-national comparisons among the participating countries (Rutkowski & Engel, 2010).

Person-centered approach

Besides the 'variable-centered' approach, the 'person-centered' approach has been suggested for re-analysis of the large-scale assessment data (Torney-Purta, 2009; Torney-Purta & Amadeo, 2013; Torney- Purta & Barber, 2011). Person-centered

analysis has a relatively long history in developmental psychology (Bergman, Magnusson, & El Khouri, 2003; Mahoney, Stattin, & Magnusson, 2001). Besides, it has been applied in recent years in a wide range of disciplines outside developmental psychology such as alcohol and substance use (Hill, White, Chung, Hawkins, & Catalano, 2000; Muthén & Muthén, 2000), personality research (Furr & Funder, 2004; Smeekens, Riksen-Walraven, & van Bakel, 2008), students' motivation of learning in schools (Murdock & Mille, 2003; Roeser, Strobel, & Quihuis, 2002), academic performance (Feinstein & Peck, 2008; Hayde & Roeser, 2002; Lau & Roeser, 2008), achievement goal orientation (Stuntz & Weiss, 2009; Tuominen-Soini, Salmela-Aro, & Niemivirta, 2008), social competence (Mendez, Fantuzzo, & Cicchetti, 2002; Mendez, McDermott, & Fantuzzo, 2002) and computational biology (Do & Choi , 2008). Examples of analytical methods in person-centered approaches are cluster analysis, latent class analysis, and mixture modeling (Jung & Wickrama, 2008).

In contrast with the variable-centered approach as mentioned above, the person-centered approach focuses on the relationships among persons rather than the variables, particularly on relationships among persons. It aims to identify distinct groups of individuals based on response patterns of the persons in the sample resulting in that persons with more similarities are classified into the same groups whereas individuals with more differences are classified into different groups (Jung & Wickrama, 2008).

As reflected from their names, the person-centered approach is different from the variable-centered approach in the way that the former focuses on 'persons' whereas the latter focuses on the 'variables' as Torney-Purta and Amadeo (2013) commented "Instead of looking at mean differences on variables, in this approach one looks for clusters or groups of persons who have similar patterns or profiles of attitudes." Torney-Purta (2009) also suggested person-centered analysis allows "attention to individuals and not only to variable-centered analysis of group differences".

As a result of a typical person-centered analysis, persons in a sample are divided into several groups; within each group, persons often show similar patterns in the variables of concern while across groups persons often show different patterns in the variables of concern. The benefit of such a "person-centered" approach is thus that it can take on a comparative perspective looking within a sample to explore at the same time both commonality and difference in persons' characteristics. This is "especially useful for large-scale studies where there are multidimensional outcomes" (Torney-Purta & Amadeo, 2013).

Person-centered analysis, therefore is an alternative tool for analysis of data from large-scale assessment, and is consistent with the Torney-Purta's (2009) advocacy for person-centered analysis that can produce research findings that provide better understanding of the samples under investigation.

Usefulness of person-centered analysis

As Torney-Purta and Amadeo (2013) stated "[person-centered analysis] can identify different profiles that characterize individuals within and across countries aids in interpreting the information gained from cross-national summary statistics" and thus it is "more likely to understand the strengths and weaknesses found in patterns of civic engagement than when they are told only about averages and statistical trends". They further added: "This person-centric cluster analyses along multiple dimensions allowed us to examine trends and patterns both within and across several countries."

These claims are evident in some recent citizenship education studies. For example, Torney-Purta (2009) combined both the person-centered approach and variable-centered approach by using cluster analysis with cross-national data from the CivEd. In her study, Torney-Purta (2009) adopted to the CivEd data two cluster analyses, a method for person-centered approach to analysis, separately in five Eastern European countries and five Western European countries, and showed that both these samples can be summarized in five clusters which she called: social justice cluster, conventionally political cluster, indifferent cluster, disaffected cluster, alienated cluster. These different clusters showed distinctive profiles in their attitudes and values. Besides, these clusters were distributed unevenly across each of the countries that were analyzed. For example, according to her study, across the Eastern European countries, the conventionally political cluster is of 25% in Hungary but only 10% in Estonia. To cite another example, across the Western European countries, the social justice cluster is of 25% in England but only 15% in Finland. In this person-centered analysis, it is demonstrated that comparative issues of citizenship education can be investigated in such an alternative way of combining both the person-centered approach and variable-centered approach. However, studies adopting person-centered approach to analysis are rarely seen in citizenship education studies, though there are a few main exceptions (Torney-Purta, 2009; Torney-Purta & Amadeo, 2013; Torney- Purta, & Barber, 2011).

Cluster analysis

Cluster analysis, as a person-centered approach to analysis, was used to examine the potential diversity in students' orientation towards participating in political activities when they become adults. In particular, two-step cluster analysis available in SPSS 19.0 was used to analyze the five scales of 'students' expected political participation' mentioned above. Cluster analysis is "a multivariate statistical procedure that starts with a data set containing information about sample entities and attempts to reorganize those entities into homogeneous groups" (Aldenderfer & Blashfield, 1984, p.7). The number of clusters and the corresponding properties of the members within each cluster are unknown prior to the analysis to be used in this study but need to be inferred from analyzing the data (McLachlan & Peel, 1997). Engelman and Hartigan (1969) have pointed out that the advantage of cluster analysis over factor analysis is that it focuses on individuals rather than variables and therefore can highlight the variability rather than the uniformity in data. In this sense, factor analysis highlights the relationship between variables while cluster analysis focuses on the relationship between individuals. It is the latter that is the focus of this study.

While cluster analysis as a person-centered approach to data analysis is now widely used, as reported above, there is a long history of seeking better ways to ensure the reliability and validity of identified clusters (Aldenderfer & Blashfield, 1984; Everitt, 1979; Sharma & Kumar, 2006, p.18).

Analysis

In this study, the full sample was randomly split into two sub-samples. These two sub-samples were analyzed separately to inform the cluster replication and provide a measure of stability (Norman & Velicer, 2003). Results in both analyses will also be considered in making an overall evaluation of the cluster analysis (Mooi & Sarstedt, 2011). The analyses across the two samples indicate convergent results and therefore the stability of the student distribution in relation to the identified clusters. In this paper, only the results for the first half sample will be presented and discussed.

Research Question 1: Students' intention to participate

Two-step cluster analysis (Chiu et al., 2001) was chosen for analyzing the ICCS data since it can effectively cope with very large datasets. This can be performed in the statistical software, SPSS 19.0. As one of the methods of a person-centered approach to analysis, it is an analytical procedure that was applied in a wide range of areas of research including those studies mentioned above. This analytical procedure was selected to be applied in the current study to explore the students' expected

participation in the five sets of political activities. Technically, the method is enables data with various variables to be clustered by checking the change of distance measure, as reflected in the change of log-likelihood upon merging of cases.

A typical two-step cluster analysis first categorizes cases into a series of "pre-clusters" and then runs a hierarchical cluster analysis on these pre-clusters (Norusis, 2012). According to Oakzaki (2006), two-step clustering is done based on the algorithm in a two-stage approach: the first step is assignation of cases into pre-clusters for a later hierarchical clustering. Starting from the first case in the data set and moving on to next case, each successive case is added to form a new pre-cluster, according to its similarity to existing pre-clusters, In this successive process, the likelihood distance measure will be used as the similarity criterion. As a result, when pre-cluster increases with more cases assigned in, the log-likelihood function will increase too.

Research Question 2: Relation between civic knowledge and active citizenship

Regarding Research Question 2, based on the decided number of clusters of students with regard to differing orientations of intention to participate, civic knowledge score will be compared between clusters via some statistical hypothesis testing such as t-test or ANOVA. To get pure cluster effects, the country effect is first partialed out by estimating the deviance of individual student's civic knowledge proficiency from the country mean score (Cronbach, 1976). Therefore, civic knowledge score will be compared on these individual scores on which the country effects have been partialed out.

In particular, either t-test or analysis of variance (ANOVA) will be used for such comparisons but this depends on the number of clusters. To compare the average civic knowledge score between clusters, t-test will be carried out if there are two clusters identified or ANOVA will be carried out if there are more than two clusters identified. If a multiple-cluster solution is supported, post-hoc comparison tests will also be carried out to reveal how the average civic knowledge score differs between pairs of clusters out of the number of clusters identified. Effect size will also be calculated to describe the differences in civic knowledge score between groups.

Since each student's civic knowledge score is represented by five plausible values (PVs), as mentioned above, all these five plausible values will be analyzed to compare the average civic knowledge score between clusters. The following procedure for analysis will be strictly adopted. The overall conclusions drawn upon the five sets of analyzing five plausible values will inform the similarities and differences between

average civic knowledge score across identified clusters of students across the five societies.

Results

Determining the number of clusters

SPSS 19.0 produced six possible cluster solutions. The average scale scores for each 'intention to participate' scale can be seen graphically for each cluster solution in Figure 1.

[Insert Figure 1]

Based solely on an evaluation of both fit indices in both samples the possible numbers of groups of students could be between two and four. Yet the BIC for two groups is still quite high and therefore this may not be the best solution even though the distance measure is the strongest of all. The difference between the two and three group solutions is relatively small for both indices and the distance measure starts to diminish significantly after the four cluster solution. Thus based on a consideration of these indices, the best fit solution would seem to be either three clusters of four clusters. Moving from the three-cluster solution to a four-cluster solution, there is a smaller BIC (thus more information) with little change in the distance measure. This may suggest that a four cluster solution best represents the heterogeneity in the data.

[Insert Table 3]

Additional criteria for considering the number of clusters

Statistical information is one source to be considered when deciding the number of clusters. In addition, consideration should also be given to substantive considerations related to the theoretical basis of the clusters (Marsh, Hau, & Wen, 2004). A number of additional factors were considered.

First, by plotting and comparing the average scores the five scales across clusters as shown in Figure 1 it is clear that, as the number of clusters increases it becomes very

difficult to tell the difference between some clusters.

[Insert Figure 2]

This is particularly the case with 5 or 6 clusters. The four-cluster solution provided more substantive information compared to both the two-cluster solution and the three-cluster solution.

Characteristics of the four clusters

Distribution of students

The distribution of students across clusters is shown in Table 4.

[Insert Table 4]

This distribution provided a roughly proportional distribution of students across the four clusters with each group having at least 20% of the samples but no group having more than 30%. This also suggests that not a single profile of 'intention to participate' represented by the clusters was dominant.

Given this equitable distribution of students across the four clusters, it is possible to describe the clusters in qualitative terms. Figure 2 shows students in Cluster 1 had the highest 'intention to participate' scores and they could be referred to as the 'Active Participators'. Those in Cluster 4, on the bottom end of the plot, appeared to have the lowest 'intention' in all five sets of activities when compared with the other three clusters and could be referred to as 'Minimal Participators'. Students in Cluster 2 had a high' intention to vote' but very a low 'intention to protest illegally' and might be referred to as the 'Conventional Participators'. In contrast, students in Cluster 3 had lower 'intention to vote' but high 'intention to protest illegally' and might best be referred to as the 'Radical Participators'. Despite these differences, the Conventional Participators and the Radical Participators appeared to show comparable intention in other activities – voting, formal and informal political activities. A very similar pattern of intention to participate across the four clusters is also observed with the analysis of the other half of the sample.

The results suggest that Active Participators will take a very active approach to participate in society. Conventional Participators will emphasize voting behaviour and are likely to reject illegal protest. Radical Participators will open their options to illegal protest and still on average favour voting but to a lesser extent than Active Participators and Conventional Participators. Minimal Participators compared to the others have the least aspirations to engage in any of the five sets of political activities assessed in the questions. These similarities and differences across four clusters add qualitative and theoretical weight to the four cluster solution and enhance the interpretability of the results – a key issue in cluster analysis (Marsh et al., 2004). It should be noted that whether there are statistically significant differences between the 'intention to vote' scale scores underpinning these qualitative profiles remains untested. Aldenderfer & Blashfield, (1984) and Everitt (1979) argue strongly that procedures such as ANOVA cannot be applied to the results of cluster analysis despite what might seem intuitively to be a validating process for the individual profiles.

Variation of students' intention to participate across the five Asian societies

The second step further to the analysis is comparing the cluster proportions across the five Asian societies. The proportion of students in each cluster in each Asian society was thus calculated and is presented in Table 5.

[Insert Table 5]

It is important to note this clustering of students from the five Asian societies in relation to the 'intention to participate' scales was not identified in the ICCS International Report (Schulz et al., 2010). The results presented in Table 4 below are the direct consequence of secondary analysis of the ICCS data in the current study. Everitt (1979, p. 170) has pointed that cluster analysis should really be carried out before any factor analysis in order to identify the heterogeneity in the data that can distort the results of the factor analysis. The result of this study supports Everitt's (1979) view.

Table 5 showed the cluster distribution within each society. Despite different citizenship education, cultural, socio-political contexts between the five societies, the results showed across five societies, only four clusters are adequate to describe the different profiles of students' intended participation.

Across five societies none of one specific cluster classified more than 50% (see Table 5). The cluster with the largest proportion is the Active Participators in Indonesia (44%) whereas no cluster else made up more than 41% of the national sample. In other words, the students' aspiration of participation is distributed in multiple groups. These findings will be discussed further below.

Variation of civic knowledge across four clusters

When clusters of students are identified, their average civic knowledge scores are compared. Based on the above classification of students according to their "intention to participate," the four profiles are compared to check the corresponding average civic knowledge score in each cluster. To obtain pure cluster effects, the country effect is first removed by estimating the deviance of the individual civic knowledge score of students from the country mean score (Cronbach, 1976). This approach is consistent with centering the outcomes on the country means.

[Insert Figure 3]

Civic knowledge proficiency is represented in five plausible values for each student, and each value is considered in each pair-wise comparison. Based on analyzing the first PV, Figure 3 illustrates the score patterns of civic knowledge proficiency across clusters. Clusters 2 and 3 exhibit the highest and lowest scores in all five societies, respectively. Clusters 1 and 4 have comparable scores in civic knowledge.

Table 6 shows the significance tests for the statistics and effect sizes of the five plausible values in each pair-wise comparison. The analysis results for the first and second halves of the sample are presented. The results across five plausible values are largely consistent and show the same conclusion. Below is an overall conclusion based on the summary of the statistics of significance testing on the means and effect sizes from pair-wise comparisons.

[Insert Table 6]

The results show that significant differences exist in the civic knowledge between the

four clusters (Table 6; average $F = 452.64$, $p < .001$). In short, Active Participators and Minimal Participators showed comparable average civic knowledge score; Conventional Participators showed the highest, Radical Participators the lowest,

Discussion on Research Question 1

Heterogeneity

As stated earlier, variable-centered analysis highlights uniformity in a data set. This is reflected in large-scale assessment by the use of single scale scores to summarize the achievement or characteristics of national sample of students. Person-centered analysis, on the other hand, highlights heterogeneity in data, and very often it is heterogeneity that cannot be observed when traditional variable-centered approaches to data analysis are used. Thus students in this study were grouped based on their attitudes towards future civic participation. This resulted in four distinct groups that cut across national boundaries. Representatives of these groups could be found in each Asian society thus demonstrating considerable within society heterogeneity. Since this pattern was repeated in each society it follows that there is also considerable regional heterogeneity. For example, there is no group that is made up of more than 50% of a national sample – the largest being around 40% of Indonesian students who make up the Radical Participants group. The other 60% are made up of the other three clusters: Active Participators, Conventional Participators, and Minimal Participators. Asian students cannot be regarded as a homogonous group and individual Asian societies cannot be regarded as homogenous.

This highlights an important finding of this study: heterogeneity characterizes Asian students' attitudes to future civic participation. As the naming of the cluster groups demonstrates, there are conservatives and radicals and those in between when it comes to future participation. This challenges several assumptions. First, that "Asian" students can be considered an homogenous group underpinned by a common set of "Asian" values related to civic participation. Second, that Asian students' conceptions of civic engagement can be easily classified and understood when it comes to their future intention to participate. Such conceptions are complex and explanations as to why conflicting conceptions coexist within national groups cannot easily be explained. What is clear, is that person-centered analysis has the potential to provide nuanced and insightful representations of students' conceptions and understandings of their attitudes to future civic participation.

Homogeneity

As important is the identification of heterogeneity in Asian students 'intention to participate' is, it should not be allowed to obscure what are also important homogenous aspects of the data. For example, some of the civic activities contained in the scales were endorsed by all groups irrespective of the orientation of the group. Voting-related activities, for example, represented the area of participation with the highest percentage of engagement across all groups from conservative to radical. Although voting may take place in different cultural contexts (for example, different kinds of elections and age for voting might be different in different places), taking part in voting has a long tradition as a citizenship responsibility in different societies. It requires that the voter possess knowledge of electoral processes and appreciate the importance of those processes. Its importance seems to be recognized by students in groups with different orientations to the point where it is endorsed more strongly than the other civic activities > 70% for the first half sample (or > 70% for the second half sample).

The issue to note about the homogeneity described above is that it was identified in the context of a person-centered analysis. Fraillon, Schulz, & Ainley (2012) using variable-centered analysis also identified a degree of homogeneity in the same data set used here when they drew attention to what they saw as the divide between East Asian societies (Korea, Taiwan and Hong Kong) and South East Asian societies (Thailand and Indonesia). This is another way of referring to homogeneity in the data from groupings of different societies in the region. To some extent the person-centered analyses conducted in this study seem to lend some support to the idea of sub regional homogeneity. The three East Asian societies do share a certain degree of homogeneity: they showed a similar proportions of Active Participators are observed: Taiwan (11%), Hong Kong (9%) and Korea (11%). Such similarity is also observed in Minimal Participators: Taiwan (32%), Hong Kong (32%) and Korea (34%). On the other hand, the two South East Asian societies did not follow the same pattern except they shared a similar proportion of Minimal Participators only: Indonesia (7%) compared with Thailand (12%).

Yet a more detailed examination of the data does not support the sub regional homogeneity hypothesis. At a first glance, among the East Asian societies, only Hong Kong and Taiwan, showed a very similar grouping proportion in the other two clusters, i.e. Conventional Participators (33-34%) and Radical Participators (both 25%); however, Korea, on the other hand did not share this similarity with its Radical

Participators high in proportion as high as 40%. The South East Asian societies, Indonesia and Thailand showed more heterogeneity: despite similar proportion in Minimal Participators, they had a gap between the other three clusters, a difference of proportion from 10% (Radical Participators), 14% (Active Participators) to 20% (Conventional Participators).

The subtleties revealed in the above analysis are the result of a person-centered analysis approach and they challenge Fraillon et al.'s (2012) contention of sub-regional homogeneity. The results showed that the attitudes of students within sub regions were much more complex than a regional divide suggested by s comparisons of scale scores. Further studies may follow up to investigate, for example, why Korean students are different from their peers in East Asian societies, as well as why Thailand and Indonesia in the South East Asia showed more differences than might be expected from a sub-regional hypothesis. Perhaps data from more societies in both sub-regions of Asia may also be useful identify contributing factors for these phenomena.

Discussion of Research Question 2

Diversity

First, Conventional Participators, who showed a very high intention to vote and a very low intention to protest illegally, possessed the highest level of civic knowledge. These results are consistent with the literature that civic knowledge is positively associated with expected voting in elections (Ainley & Schulz, 2011). Radical Participators, on the other hand had the lowest civic knowledge and remained open to illegal protest. This is also consistent to the literature that civic knowledge is negatively associated with illegal protest (Ainley & Schulz, 2011).

Commonality

Second, Active Participators and Minimal Participators appeared to have comparable levels of civic knowledge, which lie around the mean civic knowledge score (=0.00, refer Figure 3). Yet their attitudes to expected future participation are reversed –Active Participators were the most active and Minimal Participators were the least active.

These results strongly suggest that much more needs to be known about the relationship between civic knowledge and future civic participation. Is it that civic

knowledge plays an equal and opposite role in shaping student attitudes? For Active Participators, does civic knowledge reinforce their intentions to participate; but a comparable level of civic knowledge for Minimal Participators simply makes them cynical about participation, That is to say a moderate level of civic knowledge may be not be a push factor when it comes to expected future participation containing a single message for all students. Rather, it may inform in different ways, depending on the orientation of students. If this is the case, it has significant implications for citizenship education.

This result suggests that the relation between civic knowledge and active citizenship is complex once the latter is conceptualized as multi dimensional. Much of the literature focuses on single measures of engagement such as voting but the picture changes when consideration is given to different civic activities that are not necessarily related to 'voting' and that do not appear to require high levels of civic knowledge.

Conclusion and significance

Complexity of 'civic potential'

Cognitive outcomes (e.g., civic knowledge) and affective outcomes (e.g., expected participation or 'intention to participate'), are often regarded as additive in nature such as in the work of Hoskins, Barber, Van Nijlen, and Villalba, (2011) and Hoskins, Villalba, Van Nijlen, and Barber (2008). When regarded in this way such additive measures have been used as a single measure of 'civic competence'. Yet for both reasons of measurement and theory the results of this study provide an alternative understanding of such a concept. Rather, they reinforce a broader construct referred to earlier as 'civic potential' to describe young people's expected future civic participation rather than their civic competence'

Theoretically, civic potential is built on the assumption that civic knowledge is not always a prerequisite when students are asked to think about future civic action. In the analysis shown above, Radical Participators appear to have a propensity for action that is not matched with a high level of civic knowledge. Thus their 'competence' in terms of knowledge is low but they are prepared to act radically. What weight should be given to these two components of 'competence'? Put another way, Conventional Participators have high levels of civic knowledge and strong aspirations for contributing to the political system but seem not to think in terms of more radical

action. What weight to give to these different components of 'competence'? These are difficult questions to answer and thus the concept of 'civic potential' may be used to represent the complexity of students' profiles when it comes to their attitudes towards future civic action.

From a measurement perspective, there is the question the validity of developing competency profiles to represent future civic action when such profiles consist of scores from different measures added together and averaged to make a general competence score. These measures are sometimes not positively correlated (Schulz et al., 2011) and do not always exhibit a simple linear relationship (Hart & Gullan, 2010, p. 81). For example, in Hoskins et al., (2008, 2011), created a composite indicator for students' overall level of civic competence, four components—broad domains, namely, citizenship values, social justice values and attitudes, participatory attitudes, and cognition about democratic institutions, 'using an equal weighting scheme with a simple additive method' (Hoskins et al., 2011). In that case, the knowledge component and the participation component were simply added up without taking into account of the fact that students may show variation in the relation between 'participatory attitudes' and 'cognition about democratic institutions'.

Given that it is not useful to talk in terms of students' 'civic competence' and single indicators of future civic participation but rather of their 'civic potential', the issue arises of how to compare students' civic potential in a qualitative sense. There are certainly variations in civic potential as shown by the groups of students in this study make judgments about quality difficult. To a very large extent the quality of civic potential will depend on what outcomes are considered to be important. Voting and engagement in the political system would seem to be associated with high levels of civic knowledge. If such engagement is what is required, then the civic potential of these students would seem to be quite high. Yet there is a trade off— how might such students become more engaged in civil society and engage in other more radical civic action because their profile suggests this is not the kind of engagement they will consider? Similar arguments can be advanced for each group where civic knowledge and civic action need to be balanced and where there appears to be no direct relationship between them, perhaps more comprehensive indicators that tap diverse citizenship issues may be necessary for assessing students' civic potential and broadening concepts of civic learning progress. What is clear is that single composite indicators of expected future participation tap only a part of what is meant by civic competence (e.g. Hoskins et al., 2008, 2011).

Person-centered approach

The results of this study emerged from the use of person-centered analysis in the form of cluster analysis. This contrasts with the literature on measuring 'civic competence' since it is firmly set in a variable-centered approach. This study has shown how students' civic potential can be alternatively assessed using a person-centered analysis to understand better the relationship between civic knowledge proficiency and' intention to participate'. Rather than analyzing single measures of participation (e.g. voting) one at a time (or in a block) in traditional analyses such as regression analyses (see, for, example, Ainley & Schulz, 2011), this person-centered analysis incorporated multiple measures of 'intention to participate'—voting, legal protest, illegal protest, formal political activities, and informal political activities – to provide a more holistic conception of possible future civic actions. It is this broader conception of civic action that has problematized the relationship between civic knowledge and expected future participation and it is person-centered analysis that has highlighted the problem.

On citizenship teaching and learning

One of the most significant problems raised by this study is the possible tension between civic knowledge and active citizenship. Is it possible to increase civic knowledge and the potential for active citizenship simultaneously? Janmaat (2013) argued 'If some competences are unrelated to one another, or worse, mutually exclude each other, it is unlikely that pedagogical approaches can be developed which benefit these competences all equally.' and '…it is next to impossible to develop a teaching programme that benefits all civic competences equally.' The heterogeneity shown amongst Asian students' expected civic participation therefore represents a considerable challenge if multiple competencies ranging from civic knowledge to engagement in protests are to be developed. Janmaat (2013) highlighted the importance of taking local conditions into account when developing civic competences and this may be important but even more important will be the identification of strategies for developing multiple outcomes amongst students already inclined to some but not all and even resistant to some.

Tables and Figures

Table 1

Twenty items of intention of civic and political participation

Listed below are several types of political action what do you expect you will do? (four-point scale : 'I will certainly not do this' – 'I will certainly do this')	
Scale	***Item***
Expected participation in future legal protest (6 items)	Writing a letter to a newspaper
	Wearing a badge or t-shirt expressing your opinion
	Contacting an <elected representative>
	Taking part in a peaceful march or rally
	Collecting signatures for a petition
	Choosing not to buy certain products
Expected participation in future illegal protest (3 items)	Spray-painting protest slogans on walls
	Blocking traffic
	Occupying public buildings
Expected adult electoral participation (3 items)	Vote in <local elections>
	Vote in <national elections>
	Get information about candidates before voting in an election
Expected adult participation in formal political activities (4 items)	Help a candidate or party during an election campaign
	Join a political party
	Join a trade union
	Stand as a candidate in <local elections>
Expected future informal political activities (4 items)	Talk to others about your views on political and social issues
	Write to a newspaper about political and social issues
	Contribute to an online discussion forum about social and political issues
	Join an organization for a political or social cause

Table 2

National measures of five intents to participate across five Asian societies

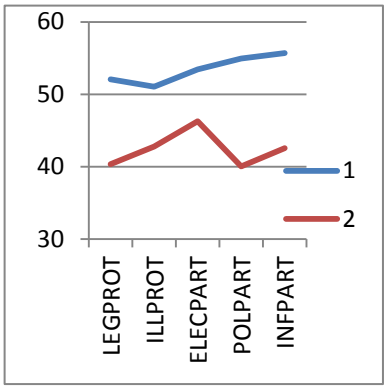
		East Asian			*South East Asian*	
	ICCS average	Taiwan	Hong Kong	Korea	Indonesia	Thailand
Legal protest	50 (0.0)	49 (0.2)	47 (0.3)	45 (0.3)	52 (0.3)	49 (0.3)
Illegal protest	50 (0.0)	46 (0.2)	44 (0.3)	49 (0.2)	54 (0.2)	49 (0.3)
Voting	50 (0.0)	51 (0.3)	49 (0.2)	49 (0.3)	53 (0.3)	54 (0.2)
Formal political activities	50 (0.0)	47 (0.2)	47 (0.3)	46 (0.2)	55 (0.2)	55 (0.3)
Informal political activities	50 (0.0)	49 (0.3)	50 (0.3)	47 (0.3)	56 (0.2)	56 (0.3)

( ) Standard errors

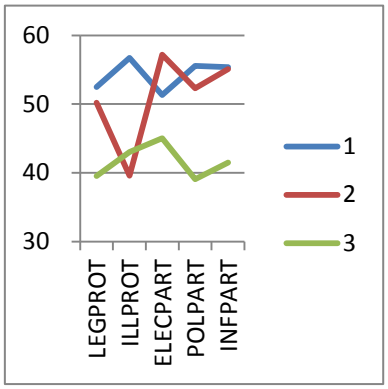
Figure 1

Scale scores across clusters for different cluster solutions

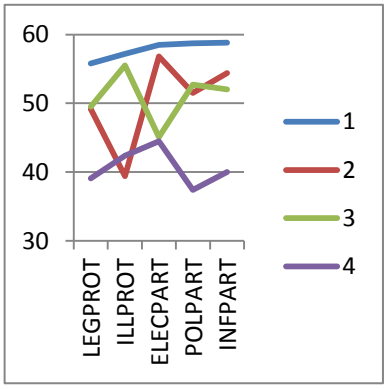
2-cluster solution



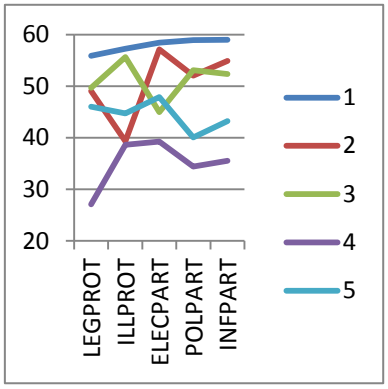
3-cluster solution



4-clsuter solution



5-cluster solution



6-cluster solution

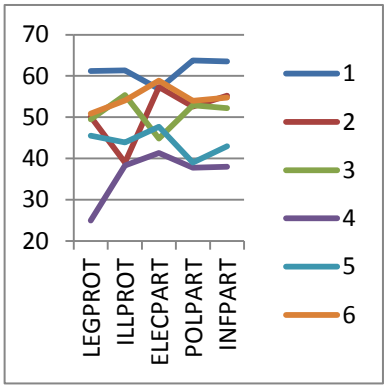


Table 3

Fit indices of different latent cluster solutions for "intention to participate"

Number of Clusters	Schwarz's Bayesian Criterion (BIC)	BIC Change	Ratio of BIC Changes	Ratio of Distance Measures
1	39825.633			
2	32406.537	-7419.096	1	1.759
3	27804.817	-4601.72	0.62	1.6
4	25228.923	-2575.894	0.347	1.64
5	23694.608	-1534.315	0.207	1.172
6	22398.802	-1295.805	0.175	1.194

Figure 2

Scale scores of 'intention to participate' across clusters

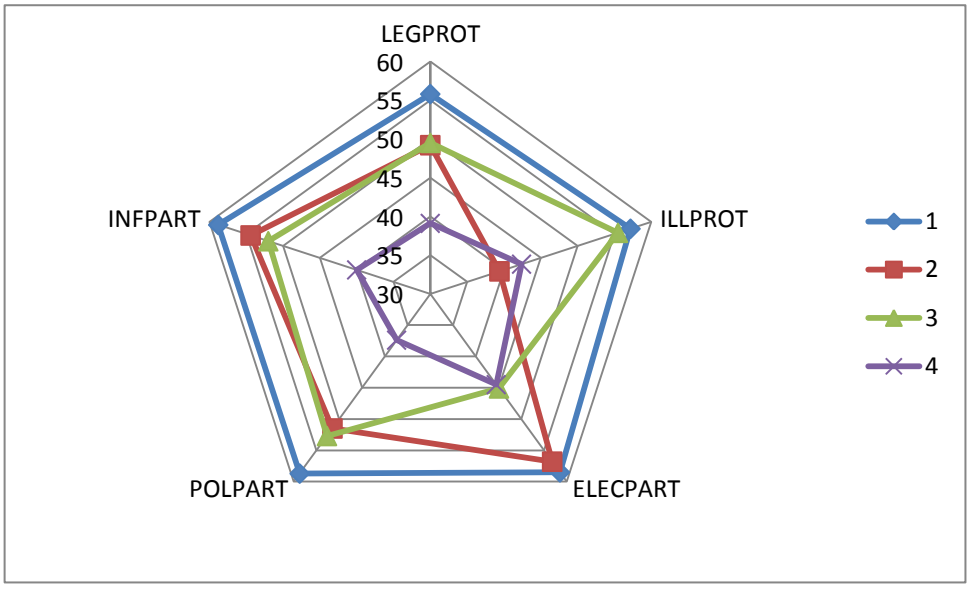


Table 4

Final cluster proportion for the 4-cluster solution

Cluster	Proportion (%)
1	21.7
2	26.1
3	29.4
4	22.8

Table 5

Classification percentage of intention to participate by society

	Active Participators	Conventional Participators	Radical Participators	Minimal Participators
Taiwan	10.8%	32.8%	24.8%	31.6%
Hong Kong	8.8%	34.0%	25.1%	32.2%
Korea	10.5%	15.5%	40.1%	34.0%
Indonesia	44.1%	15.4%	33.1%	7.4%
Thailand	29.9%	35.2%	22.6%	12.2%

Figure 3

Civic knowledge proficiency across 'intention to participate' profiles across five societies (PV1)

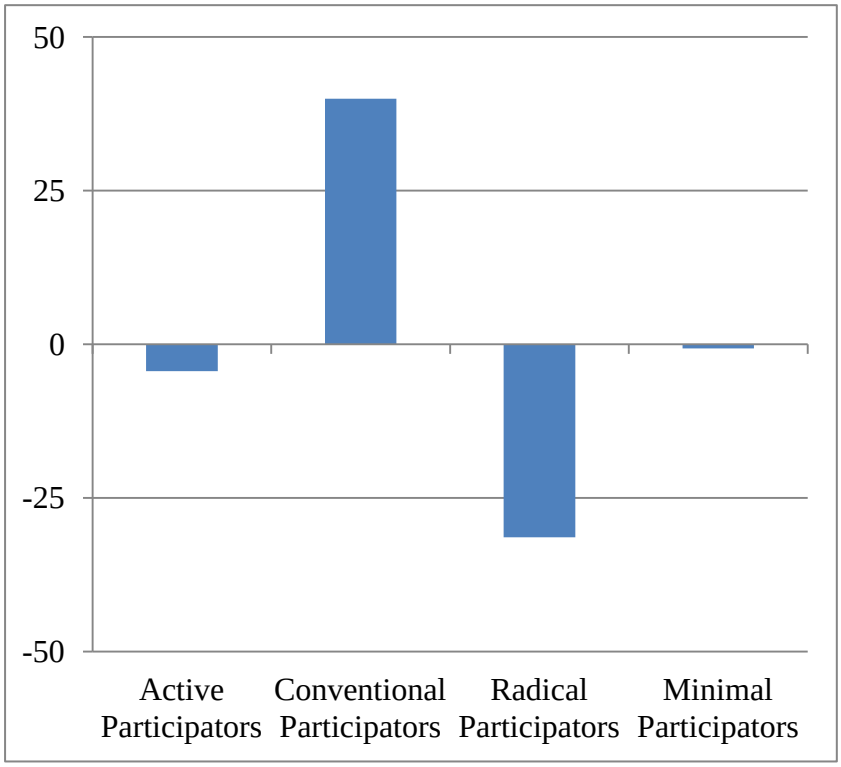


Table 6

Civic knowledge across clusters

ANOVA		PV1 mean	PV2 mean	PV3 mean	PV4 mean	PV5 mean	**Average**
	Active Participators	-5.62	-4.88	-5.48	-5.3	-5.73	
	Conventional Participators	39.85	39.98	40.04	39.55	40.08	
	Radical Participators	-31.56	-31.38	-32.8	-31.26	-32.42	
	Minimal Participators	-1.34	-0.67	-1.59	-1.6	-1.38	
F statistic		451.37	447.82	452.03	450.3	461.7	**452.64**
Pair-wise comparisons							
	Active Participators	-0.58	-0.57	-0.57	-0.57	-0.57	**-0.57**
Cohen's D	v. Conventional Participators						
	Active Participators	0.35	0.34	0.37	0.36	0.36	**0.36**
	v. Radical Participators						
	Active Participators	-0.04	-0.04	-0.03	-0.02	-0.03	**-0.03**
	v. Minimal Participators						
	Conventional Participators	0.94	0.93	0.97	0.93	0.95	**0.94**
* p<0.001	v. Radical Participators						
	Conventional Participators	0.51	0.5	0.52	0.52	0.52	**0.51**
	v. Minimal Participators						
	Radical Participators	-0.37	-0.37	-0.38	-0.36	-0.38	**-0.37**
	v. Minimal Participators						