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EDUCATION POLICY | RESEARCH ARTICLE

Developing a composite indicator to measure civic participatory potential in two Chinese societies

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Abstract: This study examined whether there is evidence in Hong Kong and Taiwan students' early attitudes to civic participation that suggests they will adopt radical forms of civic participation and whether civic participatory potential of students from these two Chinese societies differed in early adolescence. To achieve these purposes, we used a Rasch measurement approach to construct comparable profiles. In doing so, we adopted conceptual and empirical approaches to construct a composite indicator and then tested validity and reliability of this indicator for the two societies, respectively. Such an approach is based on the assumption that reliable and accurate measurement is essential for theorizing the results of empirical studies. The data from the 2009 International Civics and Citizenship Education Study were also used for comparing the potential participation profiles. The results suggested that the unidimensional profile has good item fit and model fit for both societies, thereby valid and reliable. Preliminary findings suggest that inclination towards radical action can be identified during early adolescence and students from the two Chinese societies differed in civic participatory potential. Taiwanese students appear to be more radical than Hong Kong students while maintaining less positive attitudes to conventional forms of citizenship engagement.

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During the one year collaboration, the authors have been working on a General Research Fund project, *Asian Students Conceptions of Citizenship*. The present paper is part of their comparative studies on citizenship education in East Asia.

PUBLIC INTEREST STATEMENT

Student social movements in Hong Kong and Taiwan took a radical turn in 2014 reflected in the Umbrella and Sunflower movements. University students used public protests to signal their support for democratic developments. While both Hong Kong and Taiwan are Chinese societies, their historical and political development differs. Their political positioning remains so today. Hong Kong is a Special Administrative Region of the People's Republic of China (PRC), while Taiwan refuses to recognize the sovereignty of the PRC. Nevertheless, these societies share the same cultural heritage and many values. Some of these are traditional but there is strong commitment in both societies to democracy. It is this commitment that seems to have united students across the Taiwan Straits. This study examined the attitudes of these university students at age 15 to explore whether there was any evidence to suggest that radicalism formed part of their early attitudes to civic engagement.

Subjects: Education Policy & Politics; Educational Psychology; International & Comparative Education

Keywords: civic and citizenship education; civic values; civic participatory potential; composite indicator

1. Introduction

Like conventional forms of citizenship engagement, protest, either legal or illegal, is a common form of civic engagement in both Taiwan and Hong Kong (Cheung, 2015). Protests have surged in recent years in these two Chinese societies, particularly as part of vibrant student social movements such as the Sunflower Movement in Taiwan and Umbrella Movement in Hong Kong. Taiwanese students' engagement in the most recent Anti-Brainwashing Curriculum Protest is even more striking, which echoes the Hong Kong students' boycott of the government initiated moral and national education in 2012. Students from both societies viewed the top-down curriculum modification as a "sociopolitical exercise of reselection and re-politicization" (Law, 2004, p. 253).

Student social movements in these two Chinese societies are strategically similar and active, following each in the same year and attracting worldwide attention. Both deeply influenced by the Chinese Confucian tradition, Hong Kong and Taiwan have undergone clashes between traditional civic values and western democratic values in contemporary times. In these circumstances, people face tensions between the two value systems whenever and whatever social and political events occur. In turn, peoples' civic values may exert an influence on their participation intentions, behaviors, and potential. Knowles (2015) asserted that "Asian civic values have a positive association with democratic citizenship" (p. 1). Some others have insisted on the incompatibility and hindrance of Confucian values to the development of democratic values (He, 2010; Huntington, 1991; Park & Shin, 2006; Shin, 2012). The reason can be partly attributed to the varied structural elements between Chinese civic tradition and that of the western democracies. For example, Pye (1999) pointed out that one of the key features of Confucian civic culture is the lack of involvement of average people. A more recent study using the International Civics and Citizenship Education Study (ICCS) (Schulz, Ainley, Fraillon, Kerr, & Losito, 2010) 2009 Asian data reported that, students in Thailand and Indonesia indicated significantly stronger intentions of future political participation than their peers from Confucian influenced Hong Kong, Taiwan, and Korea (Chow & Kennedy, 2013). Meanwhile, other studies have found that attachment to conservative Confucian values was diminishing among youngsters in Asia (Hyun, 2001; Park & Shin, 2006). This does not necessarily contradict Kennedy, Kuang, and Chow's (2013) finding that traditional citizenship values still exert an influence on East Asian adolescents.

Apart from civic values, "the dominant political paradigm of a country," or more explicitly, regime type, also interacts with many other factors to form the context for interpreting socio-political phenomenon (Hoskins, Saisana, & Villalba, 2014, p. 3). From a broad perspective, Li (2015) has shown with particular reference to these two societies that regime type does make a difference to students' attitudes to citizenship and students' conceptions of being a good citizen. Hong Kong, is classified by Li (2015).

As a hybrid regime, with democratic and authoritarian elements in its political structure, while Taiwan is a democracy having emerged from authoritarianism in the 1980s. Different regime types result in differences in the school curriculum and produce different civic attitudes among students, in spite of the common goal of developing active and knowledgeable future citizens (Law, 2004; Li, 2015). Taiwan's democratic trajectory and Hong Kong's semi-democratic governance have produced over time quite different approaches to civic education.

As a consequence of these, it might be expected that students in Hong Kong and Taiwan would have different attitudes to civic participation. The above-mentioned value clashes and contextual differences might also have affected the formation of young people's civic identities, which in turn

could lead to attitudinal differences. Despite the explicit or implicit differences, the rise of student social movements in the two Chinese societies suggests some commonality in civic purposes. In order to create a more holistic reflection of the reality in each society, comparable profiles of civic participation potential were constructed for each society using Rasch measurement. Measurement instruments validated through Rasch modeling method will enable rigorous comparisons to be made between the two societies and implications to be drawn about similarities and differences.

While citizenship is a legal status over which citizens have little control, civic identity is a social construction that can take multiple forms amongst citizens of the same society. Students' civic identity may depend on how they interpret and respond to their social and political contexts (Kennedy, Li, & Cheung, 2015). The way citizens interpret and respond may be influenced, to a certain extent, by civic and citizenship education (CCE), which plays an implicit role in transmitting civic ideologies and molding students' civic identity (Fairbrother, 2008; Kerr, 1999). The role of CCE may explain why the authorities have taken every effort to keep the contents of school curriculum and pedagogical approaches under control. It is especially so during the transitions of governments or sovereignties (Law, 2004; Tse, 2006, 2007). As asserted by Kerr (1999), "changes in social-political structure have had, and continue to have, a profound effect on civic education" (p. 4). Corresponding to the social-political changes, both Hong Kong and Taiwan authorities have used CCE to link broader political chances to the political socialization of young people at school. Additionally, these societies share the same cultural heritage and both have had to face the challenges of their respective relationships with mainland China. In these contexts, CCE has had an important role to play.

Yet the status of Hong Kong as a "non-sovereign state and non-political entity" (Rao & Wang, 2007, p. 342) and Taiwan as a nation state with limited international recognition, may make it harder for either a global or cosmopolitan identity that goes beyond "conventional geopolitical borders" to be constructed (Law, 2004, p. 253). The irresistible trend of globalization makes civic identity a more complex issue for nation states that want their economies integrated globally but also wish to maintain the loyalty of their citizens at the national level. What is worse, the lack of a common civic identity, premised on independent nation states, creates confusion and tensions among people who hold different civic values, thus having different levels of expectation to their future participation as well as their loyalties.

1.1. Comparative perspectives on civic participatory potential

The existence of differences between societies provides a platform for conducting comparative study (Bray & Thomas, 1995; Cheung, 2015, p. 2). While adopting a comparative approach, Law's (2004) study traced changes in the focus of CCE in both Taiwan and Hong Kong in line with the contemporary sociopolitical shifts. By doing so, he examined the possibility of the two societies developing multileveled citizenship identity through the "tripartite frameworks for CCE at local, national, and global levels" (Law, 2004, p. 253). Li's (2015) study also took a retrospective look over not only Taiwan and Hong Kong but also mainland China. She adopted a comparative qualitative methodology to explore how the concept of "good citizen" was reflected in CCE and perceived by students in the three Chinese societies. Au (2014) used Rasch modeling to compare two cohorts of Hong Kong students' attitudes to future civic engagement across a 10-year period from 1999 to 2009. After demonstrating the longitudinal changes in the two cohorts of Hong Kong students, she further probed into the reasons behind with interview data. The focus of the current study is to use a similar analytic technique to that of Au (2014), while using a quantitative comparative methodology that enabled Hong Kong and Taiwanese students' future intentions towards civic engagement to be compared. The ICCS 2009 Hong Kong and Taiwan data will be regarded as baseline data that have revealed the civic potential of some of the large groups of active young adults in recent student social movements when they were secondary students at age 14. In this sense, this study will update the research frontlines of the two Chinese societies in order to keep abreast with the rest of the world.

1.2. Defining civic participatory potential

The adolescent student profiles to be developed in this study can be regarded as potential “action orientated participation” profiles signaling students’ potential for future participation in the two Chinese societies. In a similar vein, Hoskins and Mascherini (2009) developed their civic competence composite indicator, measuring active citizenship in the European context. In line with the participatory dimensions used in their study, we also drew their basic ideas from the civic republican traditions of participation and measured students’ intentions for active citizenship. Likewise, the dimensions also consisted of critical citizenship ideals such as liberal activities and protest (Hoskins & Mascherini, 2009). In brief, included in our indicator are both conventional civic participation, such as voting and joining a political party, and participation of “unconventional” legal and illegal forms such as collecting signatures for a petition, blocking traffic, and occupying public buildings. Our inclusion of illegal forms of participation may provide supplementary information to Hoskins and her colleagues’ studies.

Instead of borrowing the term “civic competence” from Hoskins and Mascherini (2009), the current study took Chow’s (2013) proposition of the concept of “civic potential” due to the fact that what is to be measured is the students’ “intention to participate” or “directional tendency” but not yet “citizenship-as-practice” (Chow, 2013, p. 206; Lawy & Biesta, 2006). The scales were used in ICCS 2009 to have the students rate their self-reported intention of civic participation in the future. The “civic potential” measured then may be regarded as an indicator of later “civic competence” of the university students who were active in the recent social movements. In this sense, “civic potential” is better at addressing the trajectory of the development of students’ “civic competence” (Chow, 2013).

To make the definition operational, civic activities included were made explicit in three forms. The first is *Legal Protest*, a combination of six indicators referring to students’ intention of “taking part in a peaceful March or rally,” “collecting signatures for a petition,” and the like. The second is *Illegal Protest*, comprised of three types of frequently seen activities, “spray-painting protest slogans on walls,” “blocking traffic,” and “occupying public buildings.” In this composite metric, the legal and illegal protests resemble more of two ends of a continuum rather than the two sides of a coin. Lastly, *Conventional Citizenship* activities included some regular forms of civic activities, such as “joining a political party” and “voting in every national election.” We assumed that students’ current perceptions of the importance of conventional citizenship might be taken as an indicator that they themselves may also act as “good adult citizens” when later in life they are confronted with choices about these forms of civic engagement. Of course, we cannot be certain about that but it does not seem to be an unreasonable assumption.

The three measurable concepts were theoretically three separate dimensions, as designed by ICCS 2009 thereby operational on their own. They complement each other and jointly sketch the profiles of expected civic participation for future citizens. To make participatory potential as an overall concept thereby easy to interpret, we first of all tested the validity, reliability, and dimensionality of the composite indicator. It should be noted that the construction of a composite indicator is not the ends but the means for more accurate and complete measurement of students’ future civic participation. Provided that the indicator is simple and reliable for the measurement of students’ civic participatory potential, the findings are likely to be more robust for public information and policy formulation.

To match the two-step inquiries, the questions for this paper are two-fold:

- (1) Is the proposed composite indicator, civic participatory potential, valid and reliable and unidimensional to measure Hong Kong and Taiwanese students’ attitudes to selected civic engagement variables?
- (2) What are the similarities and differences between Hong Kong and Taiwanese students in terms of their civic participatory potential as measured at age 14?

2. Methods

This is a quantitative comparative study based on psychometric analysis of the measurement properties of the selected civic participation scales portraying Hong Kong and Taiwanese students' participatory potential profiles. Using the secondary data from the ICCS 2009, we first examined item and model fit, and dimensionality of the participatory potential profiles. Next we probed into how different the perceptions of the Hong Kong and Taiwanese students were in terms of future participation in legal and illegal protests, and their recognition of the importance of conventional citizenship activities. Given the accurate measurement with the reliable and valid composite indicator, the results from the subsequent empirical explorations provided a sound basis for theorizing and assessing implications.

In the Rasch framework, psychometric properties, as indicators of construct validity, provide less ambiguous statistical information. Rasch analysis, unlike Classical Test Theory (CTT)-based factor analysis, produces sample-free item locations and scale-free person measures (Wang, 2010; Wright & Masters, 1982). In addition, Rasch modeling is “less sensitive to markedly-skewed distributions of the item ratings,” which in CTT is considered as “serious violation of the normality assumption with factor analytic procedures, and, thus, to inaccurate factor solutions” (Wu & Chang, 2009, p. 14; also see in Welch, Hall, & Walkey, 1990). Last, the use of Rasch modeling approach avoids controversies on composite indicators used as aggregators or non-aggregators (Hoskins & Mascherini, 2009). Rather, the Rasch approach generates graphics to visualize item-level information for direct comparison. This might partly explain why the International Association for the Evaluation of Educational Achievement (IEA) used Rasch modeling method to calibrate the samples and develop the scales. However, in the ICCS Study Hong Kong was not included in the calibration samples because the sampling requirements of the ICCS study were not met due to the insufficient number of participating schools and as a consequence insufficient student data. Despite that, it suffices for the current comparative study that attempted to measure civic participatory potential profiles of Hong Kong and Taiwanese youths through the development of a composite indicator using the raw measures. By contrast, with data from countries which met the sampling requirements the IEA used Rasch modeling method to calibrate the samples in order to “safeguard the comparability of international variables across national datasets” (Schulz et al., 2010). Although the sample of 76 Hong Kong schools with 2,902 students did not meet the IEA requirement of 150 schools, accounting roughly 15% of the some 500 secondary schools territory wide then, the sample was and still is proportionally large and considered as random sampling. Meanwhile, considering the number of items used in the survey and the item and respondents ratio, the sample size has far exceeded required.

2.1. Sample

The sampling procedures and approaches are reported in the ICCS 2009 technical report (Schulz, Ainley, & Fraillon, 2011). The details of the Hong Kong and Taiwan samples are extracted from the report and summarized in Tables 1 and 2, respectively (see Appendix A). The student respondents were all Secondary Grade Two students, aged 14.2 (Taiwan) and 14.3 (Hong Kong) on average when the surveys were conducted in 2009 by the IEA.

2.2. Instruments

The instruments used in the student surveys are provided in the ICCS 2009 Technical Report (Schulz et al., 2011). The scales used in this study are *Expected Participation in Future Legal Protest*, *Expected Participation in Future Illegal Protest*, and *Importance of Conventional Citizenship*. A total of 15 indicators were used.

2.3. Measures

For the student surveys, the IEA provided raw data measured through four-point Likert scales, which the current study used to construct a measurement model through Rasch scaling method. Before the modeling procedures, the measures were reversed to keep the levels of engagement from low to high, so that “higher values on this scale denote stronger degrees” of participatory intentions (Schulz et al., 2010, p. 174).

2.4. Analytical method

Comparability of the data from the two samples was assured with the use of a common instrument, similar sampling procedures, and the use of the raw data in the ICCS data base. The common instrument used was validated for the purposes of this study using the full sample of each society. Instrument validation is a primary concern for quantitative studies that employ forced-choice items (Sakui & Gaies, 1999). To validate rating scales within the Rasch framework, fundamental psychometric properties, such as item and model fit, and dimensionality of the participatory potential profile were examined closely. The software program WinStep 3.72.3 was used to convert the ordinal raw scores into interval data and construct a common measure model. It was also used to sketch a vertical map for the comparison of the range of intended participation between the Hong Kong and Taiwan samples. To further examine whether the differences between the two student samples were significant, SPSS 21 was used to conduct one-way ANOVA for each domain of the civic participatory potential profile.

3. Results

To develop a valid and reliable unidimensional composite indicator for the measurement of Hong Kong and Taiwanese students' civic participatory potential, psychometric analysis of the scales was conducted. The results of the psychometric analysis are reported in Table 3 (see Appendix B), providing evidence to answer Research Question 1.

On account of item fit, the infit, and outfit MNSQ values of all the 15 items were well within the acceptable ranges, .5–1.5, suggesting appropriate for measurement. Most of them were ideally close to one. The PTME, i.e. item by test-score correlation, were all within .5 for the Taiwan data, and below or reasonably close to .6 for the Hong Kong data.

The measurement produced a person reliability of .77 for the Hong Kong sample and .70 for the Taiwan sample. Person reliability is a "Rasch analogue" to the conventional index of internal consistency, Cronbach's alpha (Lombaerts, De Backer, Engels, Van Braak, & Athanasou, 2009), but slightly underestimated (Cavanagh & Romanoski, 2006). Person separation indices of 1.85 for the Hong Kong sample and 1.51 for the Taiwan sample were reported. The person separation indices can be transformed into person strata index¹ to indicate the degree to which locations of students were spread across a continuum (Wu & Chang, 2009). The person strata indices x in this study were 2.8 for the Hong Kong sample, suggesting that with the 15 items the civic participatory profile split the sampled Hong Kong students into roughly 3 groups. In the similar vein, with the 15 items the civic participatory potential profile split the Taiwanese students into roughly 2 groups. As claimed by Wright and Masters (2002), to reflect real differences the person strata index should be greater than three. In this sense, the items separated the Hong Kong students to larger extent. Further, the person strata indices are more relevant to variations within each population rather than variation between populations. That is to say, the Hong Kong students are split into three groups according to the differences in their own attitudes to civic participation but these are not comparable to the attitudinal differences of their Taiwanese peers. This is more of a hierarchical grouping of the students based on their intra-society but not inter-society differences of inclinations to civic engagement.

Although both item fit and model fit statistics are within acceptable ranges, it is still inadequate to say that the scales measured a single construct, the students' participatory potential profile. The principal component analysis (PCA) of standardized residuals demonstrated the partitioning of variances explained by students (11.7% for the Hong Kong sample, and 9.5% for the Taiwan sample) and by items (38.5 and 38.1, respectively), which together constituted the proportion of variance explained by measures, as large as 50.2% and 47.8% for the two societies, respectively. With the Hong Kong sample, the eigenvalue of the first unexplained component reached 4.0, above the cut value, 2, and assumed 13.1% of the empirical residual variances. It was substantially larger than the eigenvalue of the second residue component, 2.6, which accounted for less than 10% of variance unexplained. Therefore, the unidimensionality assumption of the participatory potential profile was demonstrated (Chou & Wang, 2010). The case was similar with the Taiwan sample.

As evidenced from the stepwise scale validation, we have used multiple measures to ensure the validity, reliability and unidimensionality of the composite indicator. The purpose was to provide accuracy of the measurement thus ensuring rigorous findings in the steps to follow, and consequently robust interpretations (Hoskins & Mascherini, 2009; Saisana & Tarantola, 2002). Provided with the valid, reliable and unidimensional measures, we proceeded to find answers to Research Question 2 by identifying similarities and differences between Hong Kong and Taiwanese students on the measured dimensions and indicators. The discussion will focus on the substantive rather than technical findings relating to Research Question 2.

Figures 1 and 2 (see Appendix C) show person traits and item difficulties calibrated on the same measurement scale. To avoid difficulties to understand the Rasch jargons, in the current study person traits would be interpreted as students' "capacity" to undertake certain civic activities, and item difficulties as levels of students' "intention" to engage in certain civic activities.

Towards the top end are students with higher traits and items that are harder to endorse. These are students who showed higher civic capacity and intentions to participate than students at the other end of the scale. For both societies, students showed different levels of intentions regarding the range of civic activities. Items measuring student future participation in legal protest and perceptions of the importance of conventional citizenship were spread across the scale showing that these items discriminated Hong Kong students distinctively, as was not the case with the Taiwanese sample.

3.1. Legal protest

On the whole, Hong Kong youths (Person mean = 45.25, SD = 18.65) scored substantially lower than their Taiwanese counterparts (Person mean = 55.24, SD = 14.54) in terms of the capacity of engaging in future legal protest ($F(1, 7850) = 61.991, p < .001$). In other words, Hong Kong students were less inclined to take part in legal protest.

Regarding student intentions (i.e. item difficulty), Taiwanese students showed higher intention of writing letters to newspapers than their Hong Kong peers did. Similarly, they showed higher intention to wear a badge or T-shirt expressing their opinion and contacting an elected representative. As opposed to their Hong Kong peers, students in Taiwan had slightly higher intention to take part in a peaceful march or rally and choosing not to buy certain products. Students from the two societies displayed similar levels of intention to collect signatures for a petition.

3.2. Illegal protest

Hong Kong students (Person mean = .81, SD = 34.13) scored noticeably lower than their Taiwanese counterparts (Person mean = 8.01, SD = 32.95) when it came to their capacity to join illegal protest in future ($F(1, 8036) = 122.864, p < .001$). In other words, Taiwanese students appeared to be more ready to join in the future. Although it should be noticed that for both groups of students illegal protest was the least preferred form of future civic engagement.

However, the circumstances differed when it comes to their intention to join illegal protests. Students from both societies showed relatively and equally high intention of spray-painting protest slogans on walls and blocking traffic. Taiwanese students had lower intention to occupy public building. Although Hong Kong students generally had higher intention to all the illegal behaviors, they did not show higher capacity of taking action. This may sound contradictory but can be true: students who were more capable at illegal protest did not necessarily have higher intention to join particular activities. This, however, technically reflects the property of Rasch modeling to produce scale-free person ability measures and sample-free item difficulty measures.

3.3. Conventional citizenship

Hong Kong youths (Person mean = 62.11, SD = 18.13) slightly outscored their Taiwanese counterparts (Person mean = 61.02, SD = 17.75) on their capacity of participating in conventional citizenship

activities ($F(1, 8036) = 454.947, p < .001$). This means that Hong Kong students were more optimistic about their intention of being involved in conventional citizenship than their Taiwanese peers.

Across the range of civic activities measured, students in both societies displayed the highest intention to participate in conventional citizenship activities. When engaged in conventional activities, they had the highest intention to follow political issues, voting in national elections, and learning about the country's history. Showing respect for government representatives is slightly less intended, followed by engaging in political discussions. Joining a political party was rated as the activity they least wanted to engage.

4. Discussion

Findings from the validated scales suggested that the participatory potential profiles (i.e. attitudes to civic engagement) of Hong Kong and Taiwanese students are more similar than different. Strong in conventional citizenship engagement and with moderate levels of intention for legal protest, students from both societies appeared to be on the right trajectory for becoming "active citizens". At the same time, they showed potential for more radical forms of illegal protests, such as blocking traffic and occupying public buildings. These findings are consistent with quite a few previous studies while some youngsters were found radical but not dangerous on the whole—most of them might have the capacity or intention to behave radically but withhold before taking action (Au, 2014; Chow, 2013). One example is another comparative study of the authors (Kennedy et al., 2015) on effects of civic values on student future conventional citizenship and social movement participation. In that study the multilevel regression analyses with student data from the same two societies demonstrated noticeable inclinations of the same student samples to radical action in their early adolescence. Likewise, in the current study, Taiwanese students appeared to be more radical than Hong Kong students; meanwhile, they displayed less positive attitudes to conventional forms of citizenship engagement than their Hong Kong peers. The less positive attitudes of the Taiwanese students to civic participation might be attributed to turmoils of democratic politics that Taiwan has undergone since the 1980s (Almond & Verba, 1963). Whereas, living through rather limited democratic legacy of the previous 150 years of British colonization and the authoritarian sovereignty to China since 1997, Hong Kong students tended to have a more idealized vision of political participation.

These two societies were chosen not only because they have deep historical and cultural ties and have taken similar route for CCE but also because student social movements have been similarly active in recent years. With a heritage from conservative Confucian civic values, Hong Kong and Taiwan have undergone varied regime changes that led to contextual differences. Taiwan's shift from autocratic to democratic political system in the 1980s should have provided a more conducive environment for the development of western civic values. This may explain why Taiwanese students showed higher capacity of joining both legal and illegal protests, though they were relatively more reluctant to join the latter than the former, as their Hong Kong counterparts were. As a matter of fact, Taiwanese students have a longer history of civic engagement. Early in 1990, around 6,000 students were involved in the well-known Wild Lily Student Movement in 1990; while Hong Kong students' voices were not heard until the Choi Yuen Village Land Resumption and Anti-Express Rail Link Movement between 2008 and 2010. It was until the anti-moral and national education campaign in 2011 and the Umbrella Movement in 2014 that the two students' organizations, the Schoarism led by secondary students and Students' Federation led by the university students, took the lead.

Meanwhile, the scope of Taiwanese students' protests has far exceeded those of their Hong Kong counterparts. Under the pressure from all aspects, the Hong Kong students engaging in the Umbrella Movement retreated from the Government Headquarters after 79 days of occupation. While the Taiwanese students confronted for less than one month from 18 March 2014 to 10 April 2014, they moved further to destroy the facilities violently after breaking into the legislative Yuan. They were even more radical in the most recent Anti Brainwashing Curriculum Protest, during which a student physically attacked his parents when asked to go back to school and another student committed

suicide to display his political stance. Some students did not hesitate to express rather striking political viewpoints, e.g. the appreciation of Japan's colonization in Taiwan over the five decades from 1895 to 1945, and the support of Japanese army enforced sexual slavery during World War II. By contrast, Hong Kong students' involvement in the illegal protests has not yet turned out to be as challenging as these to some basic values of a civic society.

While taking the civic environment of Confucius influenced Taiwan as more conducive for the development of Western democratic values, we would bring the compatibility of the two value systems into question. As reported in Knowles (2015) study using data from South Korea that, whilst Asian Confucian political values were found positively related to western democratic values, one of the domains of Confucian values, obedience to authority, "displays an inverse relationship" (p. 1). We hereby suggest that the sets of Asian Confucian values and western democratic civic values should be decomposed rather than taking as a whole. In other words, the relation of the two value systems should be examined in the form of multiple separate dimensions or components. In this way, construction of a theoretic model combining dimensions or components of traditional Confucian values and Western democratic values would be possible.

Also in this way, it would be easier to understand why a group of students were active at civic activities representing the seemingly conflicting extremes of the two civic value systems. This does not imply that in the current study the passive legal forms of civic behaviors incline to conservative Confucian values, whereas those illegal and violent are products of Western democracy, or all illegal protests are bound to be irresponsible or hazardous to a healthy civic society.

One possible explanation for the civic value conflicts might be that, the students had different recognition of their civic identities, so they held different understanding and intentions to controversial civic activities. On the other hand, students' civic identities may depend on how they interpret and respond to their social and political contexts. In the meantime, the social and political contexts affect the construction or transformation of their civic identity. Students of certain civic identity may accept or reject part or all values of a confrontational civic value system. For young people, civic identity is a key part of their emergence from childhood to adolescence and subsequently to adulthood. Across the same time span, their civic values are formed. In turn, students' internal value systems might affect the formation of their civic identities.

Another possible explanation is that the students had not received sufficient CCE and were not yet politically mature. As a consequence, they may simply regard any radical actions opposing to the authorities as for democracy and justice, which are deemed to be the panacea for all social and political conflicts. As found in some other studies (e.g. Au, 2014; Chow, 2013; Kuang, 2016), lower endorsement for illegal protest and higher civic capacity is one of the most controversial findings from the ICCS data. It suggests that those students who intended to engage in illegal protests might do so because of a lack of civic knowledge. Conversely, students with high levels of civic knowledge or capacity indicated they will not engage in illegal protest (Kuang, 2016). Yet the finding was confirmed in Chow's (2013) study using very different methods and vastly different sample. By and large, we remain skeptical that the students moved forward in the acceptable way by their yet fixed civic values and passion in the changing political landscape.

5. Conclusion

This study first attempted to construct a composite indicator of civic participatory potential that would enable comparisons to be made between students in two Chinese societies, Hong Kong and Taiwan. We developed the composite indicator through conceptual and empirical approaches, based on the conceptualization of students' civic participatory potential as expressed intentions to engage in the range of future civic activities. The composite indicator, Participatory Potential, combined three

dimensions of civic activities, i.e. conventional, legal, and illegal. The dimensions and indicators (i.e. types of activities) covered are specific but not comprehensive. They overlap partly with Hoskins and Mascherini (2009) “civic competence,” and Chow’s (2013) “civic potential.” Despite the fact that composite indicators are “increasingly recognized as a useful tool for policy-making and public communication,” it is not our intention to “squeeze any complex system into a single metric” to create an all-embracing composite indicator per se (Hoskins & Mascherini, 2009, p. 470).

Based on the validated composite indicator, these substantive findings suggest that there are noticeable differences between the participatory potential of Hong Kong and Taiwanese students to important civic activities, including illegal protest. Further work is needed to explore how these attitudes expressed at the age of 14 might stay with students as they mature as active citizens. It needs to be kept in mind that at such an age students are expressing their ideas about the future but it is a future that is at best unclear and uncertain. Yet do these attitudes linger with students and do they resurface when future contexts are clearer and real-life options for civic engagement are available? These are the ongoing issues with which this research will be concerned.

Future research will be more informative if integrated with real life stories to describe how the measured civic intentions turned into action and how the Hong Kong and Taiwanese students’ participatory trajectories have developed from early to late adolescence. We assume that CCE plays a pivotal role for developing “an informed and engaged citizenry” who have both participatory attitudes and skills (Avery, 2003; Parker, 2008; Tudball, 2015, p. 162). In this sense “civic-minded teaching” is a prerequisite, which requires teachers to have “immense skill, patience and courage—and a consistent reflexiveness about what is appropriate for teachers to do” (Hess & McAvoy, 2015, p. xv). Provided civic-minded teaching, students will be more capable of cultivating adequate civic values and providing proper responses to social and political events at adult age (Kennedy et al., 2015).

Meanwhile, considering that conservative Confucian values will remain with Western democratic values in the Chinese societies in the foreseeable future, more empirical work to examine the relation between these two value systems has been on the agenda. Also on the agenda is the policy concern for the construction of a “democratic civic culture” and a “just and responsive” society (Hess & McAvoy, 2015, p. vix).

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Note

1. The person strata index can be calculated through the formula: $(4 \times \text{Person separation index} + 1)/3$ (Andrich, 1982; Wright & Masters, 1982, 2002).

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Appendix A

Table 1. Sample sizes and weighted participation rates in the Hong Kong surveys (after school replacement)

	School participation status	School type			No. of participating students	Weighted participation rate		
		Government	Aided/caput	Direct subsidy scheme		School participation rate	Student participation rate	Overall participation rate
Student survey	76	9	58	9	2,902	50.7%	97.0%	49.2%

Note: Based on Schulz et al. (2011).

Table 2. Sample sizes and weighted participation rates in the Taiwan surveys (after school replacement)

	School participation status	School type		No. of participating students	Weighted participation rate		
		Private	Public		School participation rate	Student participation rate	Overall participation rate
Student survey	150	16	134	5,167	100.0%	99.0%	99.0%

Note: Based on Schulz et al. (2011).

Appendix B

Table 3. Item difficulty, standard error, and infit and outfit statistics for the Hong Kong and Taiwan samples

Item	Hong Kong (N = 2,902)					Taiwan (N = 5,167)				
	Measure	SE	Infit MNSQ	Outfit MNSQ	PTME	Measure	SE	Infit MNSQ	Outfit MNSQ	PTME
<i>Legal protest scale</i>										
(1) Writing a letter to a newspaper	49.18	.25	.74	.75	.61	40.19	.2	.42	.44	.50
(2) Wearing a badge or T-shirt expressing your opinion	53.03	.25	.84	.84	.59	49.9	.19	.98	.99	.42
(3) Contacting an elected representative	52.38	.25	.81	.81	.59	46.02	.19	.84	.85	.48
(4) Taking part in a peaceful March or rally	47.42	.25	.97	.99	.58	45.18	.19	.99	1.00	.45
(5) Collecting signatures for a petition	45.79 *	.26	.95	.96	.59	45.69 *	.19	.91	.92	.48
(6) Choosing not to buy certain products	48.74	.25	1.22	1.28	.42	47.58	.19	1.32	1.35	.32
	Person mean = 45.25, SD = 18.65					Person mean = 55.24, SD = 14.54				
	$F(1, 7850) = 61.991, p \text{ value} = .000$									
<i>Illegal protest scale</i>										
(7) Spray-painting protest slogans on walls	67.12*	.31	1.15	1.11	.56	67.39*	.22	1.22	1.20	.50
(8) Blocking traffic	70.02*	.33	1.11	1.07	.57	70.03*	.23	1.22	1.17	.48
(9) Occupying public buildings	71.19	.34	1.14	1.07	.56	72.24	.24	1.25	1.20	.47
	Person mean = .81, SD = 34.13					Person mean = 8.01, SD = 32.95				
	$F(1, 8036) = 122.864, p \text{ value} = .000$									
<i>Conventional citizenship scale</i>										
(10) Voting in every national election	36.17	.28	1.14	1.19	.35	40.34	.2	1.08	1.10	.40
(11) Joining a political party	55.78	.26	.70	.77	.43	58.89	.19	.67	.69	.46
(12) Learning about the country's history	36.69	.27	1.19	1.23	.39	38.85	.21	1.22	1.25	.35
(13) Following political issues in the newspaper, on the radio, on TV, or on the Internet	32.78	.29	1.03	1.10	.36	34.76	.22	1.07	1.08	.38
(14) Showing respect for government representatives	37.03	.27	1.19	1.29	.28	43.4	.2	1.04	1.09	.38
(15) Engaging in political discussions	46.68	.25	.91	.95	.43	49.54	.19	.90	.92	.48
	Person mean = 62.11, SD = 18.13					Person mean = 61.02, SD = 17.75				
	$F(1, 8036) = 454.947, p \text{ value} = .000$									
Dimensionality	Raw variance explained by measures = 50.2%					Raw variance explained by measures = 47.8%				
	Raw variance explained by persons = 11.7%					Raw variance explained by persons = 9.5%				
	Raw variance explained by items = 38.5%					Raw variance explained by items = 38.1%				
Model fit	Person reliability: .77					Person reliability: .70				
	Pearson separation index: 1.85					Pearson separation index: 1.51				
	Item reliability: 1.00					Item reliability: 1.00				
	Item separation index: 40.70					Item separation INDEX: 52.68				

*No significant differences across the Hong Kong and Taiwan societies are identified with item measures.

Appendix C

Figure 1. Hong Kong students' expected participation in future legal and illegal protest, and their perceptions of the importance of conventional citizenship activities.

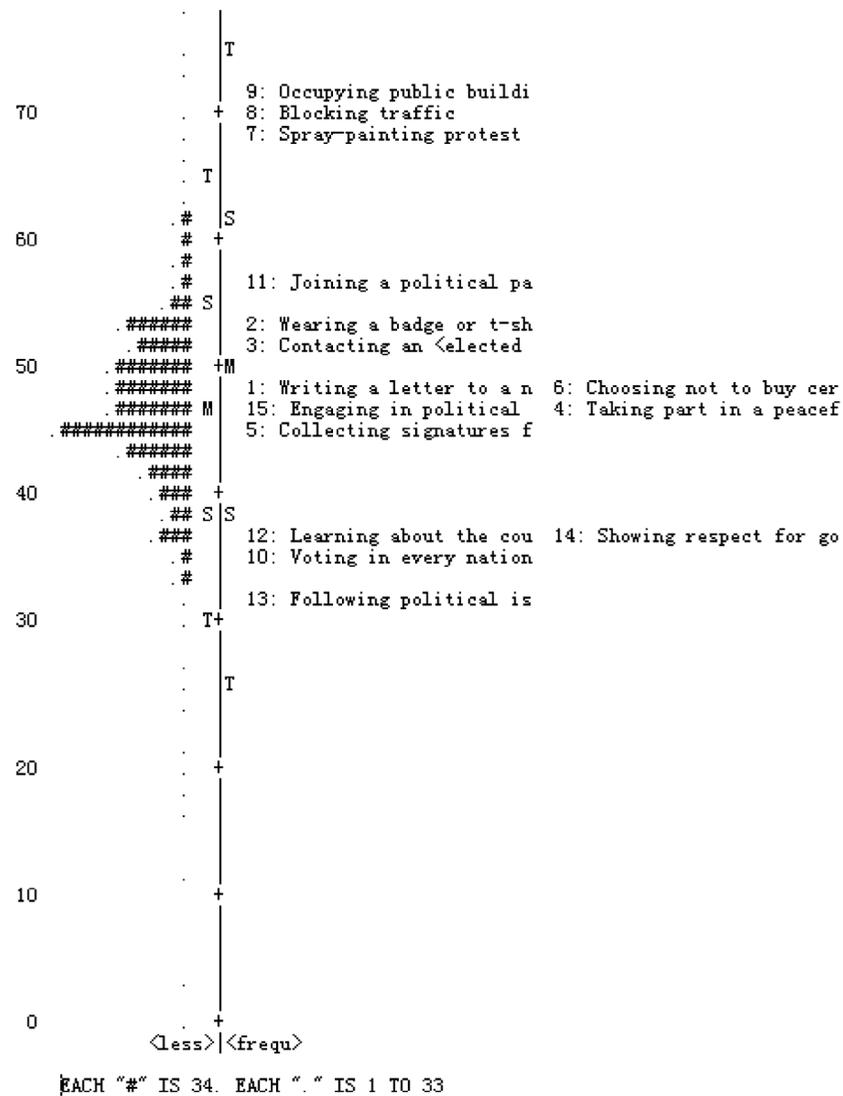
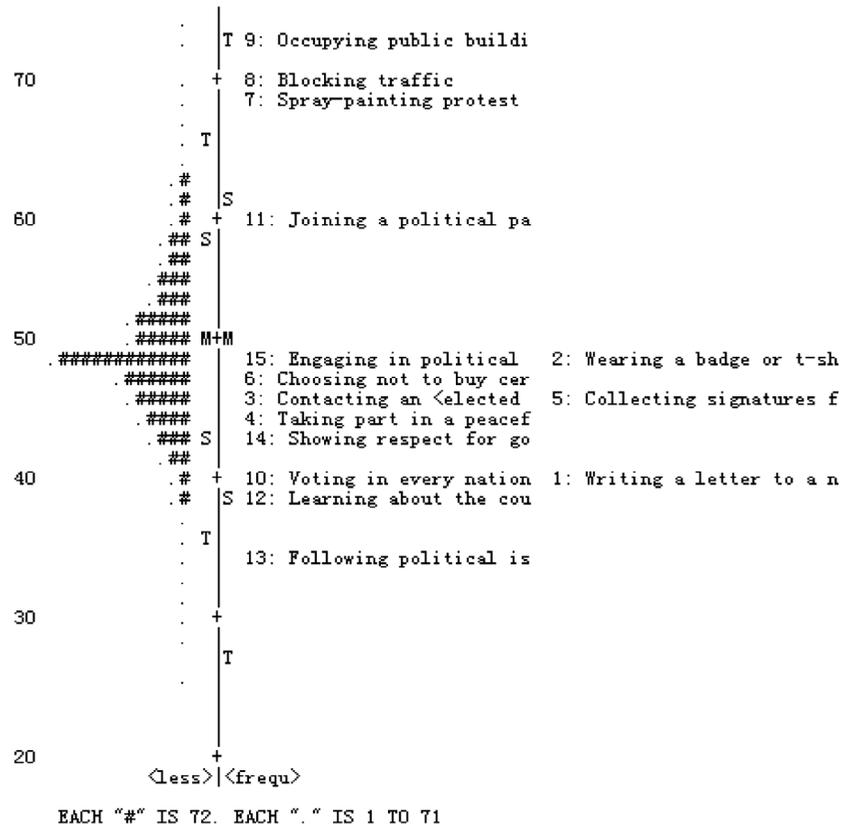


Figure 2. Taiwan students' expected participation in future legal and illegal protest, and their perceptions of the importance of conventional citizenship activities.



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