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Korean Sense of Community Index 2 and Students' Sense of Community in Korean Secondary Schools

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Abstract The purpose of this study was to explore the construct of the Korean version of the Sense of Community Index 2 (KSCI2) applied to data collected in South Korea. The factorial structure of the KSCI2 was examined through an exploratory factor analysis. The extracted common factor model of the KSCI2 was validated through a confirmatory factor analysis. Next, school members' sense of community in Korean secondary schools was described as measured by the KSCI2. A total of 608 students in high schools in South Korea provided usable data. Factor analyses suggested a two-factor model of the KSCI2, and the two factors were named reinforcement of needs and influence. These two factors explained 60.67% of the total variance. The reliability coefficient of reinforcement of needs was .91 and that of influence was .83. Conclusions, limitations, and implications are discussed.

Keywords Korean sense of community index · school community · the ethic of Cheong

Introduction

As children reach school age and attend school, they expand their relationships to more people and become members of a new community, that of the school. Students spend more time at

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school than in any other community outside the home (Grover, Limber, & Boberiene, 2015). Schools play an important role in students' growth in that at school students not only learn academic knowledge and technical skills, but also develop their character, moral behavior, soft skills, and social and emotional skills as citizens (Grover et al., 2015; World Economic Forum, 2016). One of the main goals of personality and character education in South Korea is to raise students to become good citizens who can be emotionally responsive to others, empathetic toward others, care about others, help people who are in need, and collaborate and cooperate with others to make the community they belong to a better place to live rather than a competitive world (Ko, 2014). Schools can be such places where students not only can achieve their learning goals but also develop their social-emotional skills (Ko, 2014).

However, when looking at the current situation in schools in South Korea, there seems to be a huge gap between the ultimate educational goals and the current educational practices (Ko, 2014). In reality, many Korean students spend most of their time in preparing academic knowledge and/or technical skills for the entrance exam for college. Korean society evaluates almost all students with the same ruler, which is academic scores on formative exams. This practice might have brought some positive outcomes for the Korean people. For example, many Korean students have advanced in several subjects such as mathematics and science across the world.

Such practices, however, have also brought side effects to Korean school communities. For example, among the OECD countries, South Korea has the highest rate of suicide (OECD, 2015). In contrast to the second- and third-highest countries, Japan and Hungary, whose rates have declined, that of South Korea has increased (OECD, 2015). Specifically, the suicide rate among teenagers and young adults has not improved in South Korea (OECD, 2015). This has been and will be a significant social issue in South Korea.

Students say that they do not have enough time to ponder their self-identity, their interests, their talents, their characteristics, their relationships with others, and their career. Rather they say they are pushed to study academic subjects more and more. More and more schools have lost their distinctive culture as a school community, and parents and students have lost trust in schools and become less reliant on schools. This can be a critical issue considering that forming good relationships with members of communities and groups is an essential skill to live as a citizen in South Korea (Ko, 2014). Since being a community member is an important part of Korean people's way of living as a citizen, many research studies on communities, organizations, teams, and groups have been conducted in South Korea. Also, many researchers have conducted studies on the educational community (e.g., Park, Na & Shin, 2008). Grover et al. (2015), argue that the term "school community" can embrace the dynamic relationships among school administrators, students, teachers, parents, and school staff. In South Korea, the boundaries between a school community and an educational community are not clearly defined. Some scholars have used the term *educational community* when members of a community outside a school and parents were included (Park et al., 2015), which should be distinguished from the concepts of *school-community engagement* and *school community*. In addition, past studies on educational community in South Korea have mainly focused on characteristics of educational communities such as a democratic leadership style of school administrators and teachers, trust in teachers, constructive elements of a warm-hearted educational community (e.g., Lee, Kim, Hwang, Park, & Lee, 2015), empathetic school community (e.g., Lee & Kim, 2016), and

conceptions of educational community in teachers (e.g., Park, Song, & Lee, 2015). However, studies on how secondary school students sense their school as a community are sparse in South Korea. Specifically, studies comparing the psychological constructs of how secondary school students sense their school as a community have not yet been conducted.

Thus, the primary aim of this study was to provide an instrument for secondary school students to assess their sense of community as a school member. Another aim was to describe school members' sense of community in secondary schools in South Korea, to suggest directions to school stakeholders who want to change and innovate their school culture, and to serve as a reference for the development of relevant programs and curricula.

We therefore developed the following research questions:

1. What constructs make up the sense of a school community for South Korean secondary school students as measured by the Korean Sense of Community Index 2 (KSCI2)?
2. What degree do students sense their school as their community in secondary schools in South Korea as measured by the KSCI2?

Theoretical framework

Albert Schweitzer's ethics of reverence for life

Albert Schweitzer contributed to humanity with his philosophy of Reverence for Life. He asserted, "I am a life which wills to live, and I exist in the midst of life, which wills to live" (Schweitzer, Campion, Russell, & Schweitzer, 1946, p. 253), which means that every life is related to every other, to exist and to sustain life and consequently the universe. He considered that civilizations were decayed because of the lack of reverence for life, which leads to the decay of a culture (Schweitzer et al., 1946). Thus, to restore a culture, the practice of respect for life should occur as a prerequisite. According to Schweitzer, life and love are deeply related to each other because the will to live renews life and also enriches a person's spiritual life (Schweitzer et al., 1946). Therefore, we can suppose that a sound school culture is deeply related to the reverence for life, respect for others' lives, and love of life, and that a school culture can be sustained based on ethics of life.

School culture

Korean schools face similar situations. Korean parents have lost their trust in schools and teachers. People criticize that schools have become a place where competition among students and among schools has been promoted (Ko, 2014). Korean schools have had less *Cheong* (explained below), and students have become more aggressive and less patient (Ko, 2014). It has become a time for Korean people to ponder the current direction of secondary schools in South Korea.

Advanced countries have put into practice new plans, strategies, and/or programs to change their schools. For example, in the U.S, various movements toward reforming education have

been practiced in K-12 school settings for the last few decades. These movements have focused on three primary sectors: (a) a fund to provide adequate and equitable access to education for all children regardless of their ethnicity and socioeconomic status, (b) accountability of evaluation of schools and teachers, (c) school choice (Kaufman, Kaufman, & Nelson, 2015).

Despite the efforts of these movements, people sometimes say that "the public schools are a failure" (Kaufman et al, 2015, p. 134). For example, Deal and Peterson (2016), who are the authors of *Shaping School Culture* and a series of books related to school culture, doubted the outcomes of "external reforms and pressures" (p. ix) such as No Child Left Behind (NCLB) and Every Student Can Succeed (ESCS). They asserted that for schools to restore or sustain a school culture, the efforts and collaboration of educational leaders from various levels such as principals, teachers, parents, students, and community members should be dedicated and committed (Deal & Peterson, 2016). Based on the results of observing successful cases, they also introduced several key elements that shape a school culture: (a) the building blocks that school community members gather together, (b) rituals and traditions to form commitment and motivation, (c) the symbols in everything school members commonly do such as architecture, mottos, words, and actions, (d) the shared values, myths, mission, and purpose that give meaning to school community members' everyday life, which can create a history and provide a school with vitality, and (e) current stories and tales (Deal & Peterson, 2016). As such, restoring or sustaining a productive school culture is important to reform and improve schools today.

Considering that the educational system, the historical context, the culture, and the school laws and regulations in the U.S. are different from those in South Korea, we cannot directly compare public schools in the U.S. to those in South Korea. However, exploring the examples of practices done in the U.S. to restore and sustain a desirable school culture can be meaningful and suggest guidelines or models that school members in South Korea such as school administrators, teachers, parents, school staff, and students can refer to when they want to change their schools and make innovations in their schools. As a preliminary step to make their schools a place where students can feel safe and happy, share values and goals, help each other, and accomplish their learning goals, we need to explore how students sense their schools as key members of a school community.

School as a social community

The importance of the social environment such as a school community is obvious. Many psychologists have emphasized the importance of the environment, which can significantly affect children's development. According to Erikson (1963), the environment where a child lived was critical because it affected children's growth and adjustment, and served as a source of self-awareness and identity. Gilligan (1982) asserted that early social environments are crucial to children, and can even determine children's moral and personal development. Dewey (1966) also emphasized the importance of the role of a school as a social institution. He insisted that a school should be a place where students can not only obtain content knowledge but also learn how to live as a social agent by interacting with the curriculum and other school members.

The ethics of care and the ethic of Cheong

Gilligan (1982) argued that where a relationship exists, a need for care also exists. According to Gilligan (1982, 1993), there are four key elements in the ethics of care: (a) moral attention, which means that one must pay attention to the complexity of the situation, gather information, and immerse oneself into the principle issues, (b) sympathetic understanding, (c) relationship awareness, and (d) harmony, which means that one must respond in a way that preserves and nurtures balance. People have the ability to provide care, with an obligation to care. Care should include care for oneself as well as care for others, without conflicts between them (Gilligan, 1982).

In terms of care, Korean people use the term *Cheong*. Cheong is hard to translate into a single English word, so, as with *kimchi,* Korean scholars prefer to use the Korean term (e.g., Ko, 2014). Ko (2014) defined Cheong as a form of net: "Cheong is the holistic bond forming through the continuous contacts and experiences with others, objects, animals and the environment" (p. 29).

The basic cell in which the feeling of Cheong can develop is a couple or a family. However, Cheong is not limited to family members. Cheong develops among lovers, couples, friends, teachers and students, and colleagues (Choi & Lee, 1999; Ko, 2014), and it can be developed even toward animals and goods such as houses, cars, and hometowns (Ko, 2014). Cheong usually forms unintentionally and develops over time. Signs of a Cheong relationship include "making calls and visits" (Ko, 2014, p. 234) without specific purpose, "giving help and support" (Ko, 2014, p. 234) without expecting any reward or profit, "giving authentic personal mind" (Ko, 2014, p. 234), which can mean "being true and telling the truth from the deepest heart."

However, because Cheong can develop in any environment in which a relationship exists, Cheong can function negatively (Choi & Lee, 1999; Ko, 2014). For example, gang members can help each other commit crimes based on Cheong. An employee can conceal his or her colleague's unethical behaviors or crimes. This type of Cheong can lead to nonobjective decisions that can result in structural failure in the workplace, in institutions, and in a community. Scholars have criticized that a relationship shaped according to Cheong in the workplace was one of the causes that brought the International Monetary Fund (IMF) in 1997 to South Korea (Choi & Lee, 1999).

Despite the negative functions of Cheong, Ko (2014) pointed out potentials of positive functions of Cheong. She developed the concept of Cheong into the *Ethic of Cheong.* Ko (2014) stated: "The ethic of Cheong is based on the relationship of bilateral network and horizontal relation" (p. 29). Ko (2014) also described the ethic of Cheong as *moral Cheong* and insisted that moral Cheong is associated with a good life for oneself and others. Subjects of the ethic of Cheong become "the relational subjects as a being-in-the weness" (p. 29). Every being becomes aware of others as special and meaningful members who can reciprocally interdepend on each other. Cheong can grow through affective co-experiences, tangible relationships, and opportunities and efforts to understand other members. To sustain the positive effects of Cheong, members need to morally balance the activities of a Cheong relationship and those of a relational detachment (Ko, 2014). According to Choi and Lee (1999), people can have a very close relationship with others based on Cheong. They may feel less lonely, feel a sense of

belonging, feel they are cared for, and be attended to (Choi & Lee, 1999). The relationship based on Cheong can bring a synergy to a group of people such as a team, a class, a school, an institute, or a firm. Since the members of the group know and understand one another based on Cheong, they can collaborate with each other better and more efficiently.

Considering that a school is a social community where students can develop social skills as well as knowledge and technical skills, promoting moral activities of Cheong and activities of caring can help develop a meaningful, positive school culture and community. However, understanding how students perceive their school as a community is a prerequisite to design and develop programs and curricula for cultivating a school culture of moral Cheong and ethical caring.

Past studies on the educational community in South Korea

Past studies concerning the sense of a school community in South Korea are sparse. Rather, most studies have focused on educational communities (e.g., Lee, Jin, & Lee, 2016; Shin, 2004), school community and parents (e.g., Jeon, 2009), educational community and teachers (e.g., Choi & Lim, 2012), the relationship among community members (e.g., Jeong, 2009), participation in the school community (e.g., Im, 2005), trust and caring in schools, and the roles of school community members (e.g., Hur, 2005). However, studies directly focused on students' sense of a school community have rarely been conducted. Considering that students are the main members of a school community, understanding how students sense their school as a community could be a fundamental building block to establish and develop a desirable school community as well as an educational community.

For the last several years, the nationwide efforts to innovate public schools from kindergarten through high school are good signs to reconstruct schools at the community level. In addition, some researchers have started studies on educational communities to help schools recover or develop a warm school community where students can trust and rely on the community and the institution. Of these, Ddadeutan Educational Community Research Center (DECRC) at Pusan National University is a good example (DECRC, 2018).

Method

For this study, an ex-post facto research design was employed using a cross-sectional survey method. For all the procedures needed, an IRB was approved by the IRB committee board with which the researcher of this study is affiliated. Data were collected using both a random sampling method and a nonprobability convenience sampling method. The researcher obtained contact information of principals from high school websites in Pusan, Ulsan, and Jeollanam-do. Next, randomly selected principals were contacted, and the researcher initially explained the purpose of the study and asked for permission to collect data in the principal's school. Once a permit was obtained, the researcher visited the school and explained the overall purpose of the study to some teachers who were willing to administer the survey questions and obtain consent forms from participants, parents, or guardians. To schools which the researcher could not visit,

a printed questionnaire package and the gifts were delivered, and several teachers administered the data collection procedures. All the data were collected during a single, relatively brief period of two weeks from December 29, 2017, to January 10, 2018. To secure a sample size big enough to conduct factor analyses, the researcher also recruited potential participants using social and professional networks. The researcher intentionally selected several initial contact persons who are teachers at career and technical education (CTE, also called vocational education) high schools and general high schools, and a part of the data set was collected in this way.

Participants

Participants were 608 high school students from seven high schools in South Korea: three general high schools and four CTE schools. This sample size secured a minimum level of statistical significance according to a recommendation of a sample size of 384 for a population of 100,000 and above (Johnson & Christensen, 2014). One general high school is in Jeollanam-do, another is located in Ulsan, and the other is in Busan. Male students were 312 (51.3%), students from general high schools were 224 (36.9%), and those from CTE schools were 383 (63.1%). In terms of grade levels, 260 (42.8%) were in 10^{th} grade, 245 (40.3%) were 11^{th} graders, and 103 (17%) were in 12^{th} grade. Of the CTE school students, 101 students (16.61%) were from a specialized high school in agriculture, food, and nature resources in Jeollanam-do, 110 students (18.09%) were from an Electronics high school in Jeollanam-do, 71 students (11.68%) attended an Automotive high school, which is one of the Meister high schools in Busan, and 101 students (16.61%) were from a specialized high school in business, marketing, and management in Jeollanam-do.

Instrumentation

The package of the instrument in this study consisted of two parts: (a) a cover letter and a consent form for students and their parents/legal guardians, and (b) a survey questionnaire package with demographic questions and the KSCI2 with 24 items. Demographic items included gender, school level (middle school or high school), type of school (general, CTE, and others), and grade level.

The Korean Sense of Community Index version 2 (KSCI2)

Using Brislin's back-translation method (Brislin, 1970), the Sense of Community Index version 2 (SCI-2; Chavis, Lee, & Acosta, 2008) was translated into the Korean language and named the Korean Sense of Community Index 2 (KSCI2) by the author of this study. When translating, the researcher considered that in Korean culture Korean people tend to use the term "we" for "I," "my," or "this," which can represent a psychological cultural expression of "being-in-the weness" (Ko, 2014). Permission to translate the SCI-2 into the Korean language and to use the KSCI2 in South Korea was granted by David Chavis at Community Science (www.ommunityscience.om). The SCI-2 was revised to be able to cover all the attributes of a sense of

community in the theory of sense of community presented by McMillan and Chavis (1986), which asserted that a sense of community was to perceive four dimensions: "*membership, influence, meeting needs,* and *a shared emotional connection*" (Chavis, Lee, & Acosta, 2008, p. 1).

In contrast to the SCI-1, which has 12 questions, the SCI-2 consists of one initial question and 24 subsequent questions. These 24 questions are divided into four subscales, and each factor has six items: *reinforcement of needs* (Factor 1; e.g., "Community members and I value the same things"; Chavis et al., 2008, p. 1), *membership* (Factor 2; e.g., "Most community members know me"; Chavis et al., 2008, p. 2), *influence* (Factor 3; e.g., "Fitting into this community is important to me"; Chavis et al., 2008, p. 2), and *shared emotional connection* (Factor 4; e.g., "I feel hopeful about the future of this community'; Chavis et al., 2008, p. 2). Ratings of responses to the Korean version of the SCI-2 followed the original SCI-2. The one initial question was rated on a six-point Likert scale: 1 (*prefer not to be part of this community*), 2 (*not important at all*), 3 (*not very important*), 4 (*somewhat important*), 5 (*important*), and 6 (*very important*). Responses to the 24 subsequent questions were made on a four-point Likert-like scale: 1 (*not at all*), 2 (*somewhat*), 3 (*mostly*), and 4 (*completely*). The coefficient alphas of the subscales ranged from .79 to .86, which are acceptable (Chavis et al., 2008).

Data analysis

To justify the validity and reliability of the KSCI2, exploratory and confirmatory factor analyses were performed for the data collected from South Korean students at high schools as measured by the KSCI2. For this, the whole data set was intentionally divided into two even random subsamples: sample one with 304 respondents for EFA and sample two with 304 for CFA (MacCallum, Roznowski, & Necowitz, 1992; Tabachnick & Fidell, 2007). Using the first sample, the researcher identified the optimal constructs of a sense of school community, conducting an exploratory factor analysis as a common factor model of the KSCI2. For the second sample, a confirmatory factor analysis was employed for a validation of the extracted common-factor model of the KSCI2 (Bagozzi, Youjae, & Phillips, 1991; Van Prooijen & Van der Kloot, 2001).

As a guiding step, a principal component analysis (PCA) was employed prior to the EFA and CFA analyses to explore the dimensions of the common factor space (Dunteman, 1989). Principal component analysis examines total variance (Dunteman, 1989) in the diagonal elements of the correlation matrix using the equation of PCA is $Y = \Lambda X$, where Y indicates the observed variables, Λ represents the common factor pattern matrix, and X is the common factors (Crocker & Algina, 1986; Johnson & Wichern, 2007; Mulaik, 2010), while a common factor analysis examines the common variance portion and uses communalities from the diagonal elements in the correlation matrix (Johnson & Wichern, 2007; Mulaik, 2010), applying the fundamental equation, $Y = \Lambda X + \Psi E$, where Y is the observed variables, Λ indicates the common factor pattern matrix, X is the common factors, Ψ indicates the unique factor-pattern coefficients, and E represents the unique factors (Crocker & Algina, 1986; Johnson & Wichern, 2007; Mulaik, 2010). Thus, the underlying statistical model of the common factor analysis partitions the total variance into the common and the unique variances.

As preliminary steps for EFA and CFA, descriptive statistics such as mean, standard

deviation (*SD*), skewness, and kurtosis for each item of the KSCI2 were calculated. To check the modality of the distribution and detect outliers, skewness and kurtosis were calculated (DeCarlo, 1997). Values of skewness less than 2.0 indicate that the items are normally distributed, and values of kurtosis less than 7.0 imply that variables are considered normally distributed (DeCarlo, 1997). Also, the correlation matrix of the KSCI2 was produced to check whether any correlation would exist among the items. Next, a Kaiser-Meyer-Olkin (KMO) test was performed to determine whether the original data set was adequate for factoring. In addition, Bartlett's test of sphericity was conducted to test the null hypothesis that all correlation coefficients between items would be zero, using SPSS 23.

For EFA, supposing that there was no correlation between subscales, the maximum likelihood estimation (ML) with the varimax rotation method was adopted, and communalities and rotated factor loadings were calculated. Several criteria were considered to determine the number of factors and select items for a factor: (1) Kaiser's criterion to retain eigenvalues bigger than one, (2) factor loading values of .40 or above, (3) Cattell's scree test (1966), (4) dropping cross-oading items with factor loading values of .32 or less on two or more factors (Tabachnick & Fidell, 2007), (5) the recommendation of at least three question items as the minimum number of items for a factor (Benson & Nasser, 1998; Comrey & Lee, 1992), and (6) theoretically meaningful membership of items in each factor.

For CFA, the chi-square goodness-of-fit test (x^2) with degrees of freedom and a *p*-value was produced as a model fit index to see how the derived KSCI2 model was related to the observed variables from responses and confirmed. To overcome the limitation of the chi-square that x^2 is sensitive to sample size and to violations of the assumptions of multivariate normal distribution, several other model indices were examined: the root mean square error of approximation (RMSEA; Steiger & Lind, 1980); the standardized root mean square residual (SRMR; Bentler, 1995; Jöreskog & Sörbom, 1986) with 90% confidence intervals; the comparative fit index (CFI; Bentler, 1990); and the Tucker-Lewis index (TLI).

Finally, coefficient alphas of each extracted factor of the KSCI2 were calculated to examine the internal consistency of the KSCI2 (Cortina, 1993; Grayson, 2004) using the two samples combined back.

Findings

As a preliminary stage, sampling adequacy was examined employing the KMO test, and the results suggested that the sample was adequate for factor analysis with a value of .964, which was considered excellent (Hutchen & Sofroniou, 1999). Next, to determine if the original data set was eligible for factoring, Bartlett's test of sphericity was conducted. The results of Bartlett's test indicated that there were some relationships between the variables with the data collected with χ^2 (276) = 9943.582, $p < .001$. The R-matrix of the KSCI2 produced was not an identity matrix, suggesting that correlations between items existed for the collected data set. All of the criteria used to evaluate the adequacy of the sample showed that a factor analysis of the data set should yield reliable factors (see Table 1). Descriptive statistics were calculated, including mean, *SD*, skewness, and kurtosis. All the values of skewness were less than 2.0, and the values of kurtosis of all the items were not greater than 0.7.

Table 1 Sampling adequacy and significance tests (n = 304)

Kaiser's measure of sampling adequacy (MSA): Overall MSA		.933
Significance tests	Chi-Square	4270.688
	df	78
	Sig.	.000

Note. *df* is degrees of freedom. Sig. indicates *p*-value.

Factor structure of the KSCI2

Both PCA and a maximum likelihood estimate (ML) with the varimax rotation method suggested a two-factor model for the KSCI2, while the original SCI-2 has four subscales. Only 13 items met the criteria set for determining the number of factors and the membership of items of a factor. The other nine items were dropped because they cross-loaded on the two factors or they had low loading values. The nine items were repeatedly selected and deselected one by one through several PCAs and MLs to extract an optimized common-factor model of the KSCI2 while examining model indices at the same time. Finally, considering the criteria set in advance, a two-factor model was selected for the KSCI2. Besides model indices and other criteria set in advance, the rule of parsimony was considered to choose the best possible model, which is one of the main goals of factor analyses in that the simpler model is the better (Friendly, 2008). The eigenvalues were 12.81 and 1.41, respectively. Both factor 1 and factor 2 explained 62.00% of the total variance of the KSCI2.

Table 2 Factor 1: reinforcement of needs (요구 강화; *n* = 304)

KSCI2 (in Korean)	Loading	*M*	*SD*
I get important needs of mine met because I am part of this school community. (나는 우리학교 공동체의 구성원이기 때문에, 나에게 필요한 중요한 것들을 충족시키고 있다.)	.78	2.78	0.74
School community members and I value the same things. (우리학교 공동체 구성원들과 나는 가치가 있다고 생각하는 것이 동일하다.)	.78	2.83	0.76
This school community has been successful in getting the needs of its members met. (우리 학교 공동체는 구성원들의 요구를 성공적으로 충족시켜 왔다.)	.83	2.65	0.81
Being a member of this school community makes me feel good. (나는 우리학교 공동체의 구성원이어서 좋다.)	.83	2.80	0.79
When I have a problem, I can talk about it with members of this school community. (나에게 문제가 생기면, 나는 우리학교 공동체의 구성원들과 이야기를 할 수 있다.)	.72	2.87	0.85
People in this school community have similar needs, priorities, and goals. (우리 학교 공동체에 있는 사람들은 비슷한 요구와 우선순위 및 목표를 가지고 있다.)	.62	2.78	0.83
I can trust people in this school community. (나는 우리 학교 공동체에 있는 사람들을 신뢰한다.)	.70	2.72	0.80
I can recognize most of the members of this school community. (나는 우리 학교 공동체 구성원들 대부분을 알고 있다.)	.59	2.74	0.83
Eigenvalue			12.81
Variance explained			36.43%

Factor 1 included eight items, and the loading values ranged from .48 to .70 (see Table 2). Factor 1 accounted for 36.43% of the common variance. Six items were from the first factor of the SCI-2, reinforcement of needs, and two items were from the second factor of the SCI-2, membership. Thus, most items of the first factor of the KSCI2 represented how a school community reinforces students' important needs by getting their needs met, whether a school community and its students value the same things, if a student can share problems with other school members, and how much a student can trust other school members. This was labeled as *reinforcement of needs (요구 강화)*.

Five items loaded on factor 2 and explained 25.57% of the common variance. The loading values ranged from .53 to .79 (see Table 3). Four items were from the third factor of the SCI-2, influence, and only one item was from the second factor of the SCI-2, membership. Factor 2 of the KSCI2 reflected how a school as a community influences students and other communities. Factor 2 was labeled *influence (영향력)*.

Table 3 Factor 2: influence (영향력; n = 304)

KSCI (in Korean)	Loading	*M*	*SD*
This school community has symbols and expressions of membership such as clothes, signs, art, architecture, logos, landmarks, and flags that people can recognize. (우리 학교 공동체는 옷, 상징, 건축물, 로고, 깃발과 같이 사람들이 인식할 수 있는, 학교구성원의식을 표현하는 상징물을 가지고 있다.)	.67	2.97	0.83
Fitting into this school community is important to me. (우리 학교 공동체에 맞추는 것은 나에게 중요하다.)	.64	2.64	0.86
This school community can influence other communities. (우리 학교 공동체는 다른 공동체에 영향을 줄 수 있다.)	.73	2.86	0.78
I care about what other school community members think of me. (나는 우리 학교 공동체 구성원들이 나를 어떻게 생각하는지 신경이 쓰인다.)	.75	2.66	0.87
I have influence over what this community is like. (나는 우리 학교 공동체의 모습에 영향을 미친다.)	.79	2.82	0.81
Eigenvalue			1.41
Variance explained			25.57%

Confirmatory factor analysis

After repeating the EFAs and CFAs with an examination of the model indices of different models with different combinations of items, the two-factor model was finally selected. The results of the confirmatory factor analysis demonstrated a good fit with the second sample collected from secondary school students in South Korea. The values of several model indices of the confirmatory factor analysis were produced, using both SAS 9.4 and Mplus 7.11 (see Table 4). Model indices of the two-factor model of the KSCI2 for the second sample were x^2 (78, n = 290) = 2592.46, p < .001, SRMR = .04, TLI = .92, CFI = .94, AIC = 7019.52, RMSEA = .09 with 90% CI [.05, .07] and p < .001. Therefore, the model indices produced indicated a very good fit (Bentler, 1990; Mulaik, 2010).

Table 4 Model fit indices of the KSCI2 (n = 304)

$x^2(df)$	SRMR	AIC	TLI	CFI	RMSEA (90% CI)
2592.46 (78)*	.04	7019.52	0.92	0.94	0.08*(0.08-0.09)

Note. Number of items = 13. * = p-value < .001.

Correlation coefficients among the subscales, means, standard deviations, skewness, and kurtosis of each subscale of the KSCI2 were calculated (see Table 5). The correlation coefficients were .79 and .61, which indicated that moderate correlation existed among subscales. The means of the subscales were 2.78 for factor 1 and 2.79 for factor 2.

Table 5 Descriptive statistics and correlation coefficients among subscales (n = 304)

	Reinforcement of Needs	Influence
Reinforcement of needs	.79*	.61*
Influence	-.61*	.79*
Mean	2.78	2.79
SD	0.63	0.64
Skewness	-.05	-.21
Kurtosis	-.18	-.14

Note. * indicates p-value < .001. *SD* = standard deviation

Based on the confirmatory factor analysis, a diagram of the common factor model with the two correlated factors and completely standardized robust maximum likelihood parameter estimates produced using Mplus 7.11 was presented (see Figure 1).

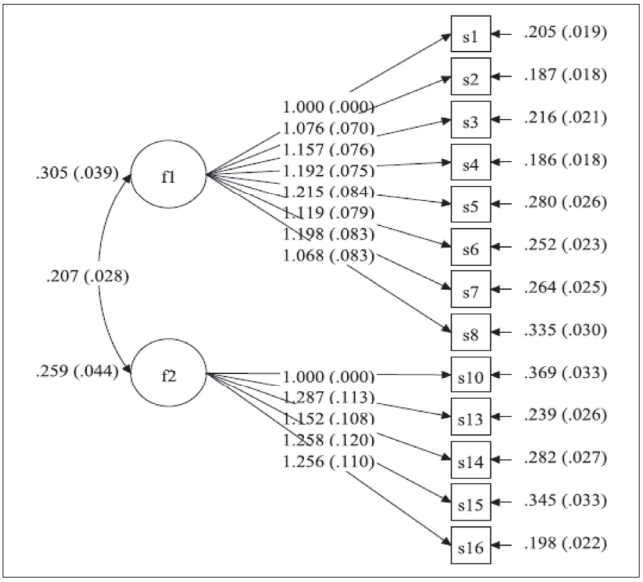

Fig. 1 A diagram of the two-factor model of the KSCI2 with two correlated factors and completely standardized robust maximum likelihood parameter estimates. The residual variance components (error variances) indicated the amount of unexplained variance. Thus, for each observed variable, R^2 = (1-error variance), f1 = reinforcement of needs, and f2 = influence.

Reliability of the KSCI2 subscales

To examine the scale reliabilities of the KSCI2, the researcher combined samples one and two and used the full data set (n = 608). Coefficient alphas were employed because the KSCI2 used a Likert-type scale to assess latent variables (Cortina, 1993; Crocker & Algina, 1986; Grayson, 2004). Since the KSCI2 is multidimensional with two subscales (Cortina, 1993; Grayson, 2004), coefficient alphas of each subscale were calculated separately and are reported (see Table 6). The values of the coefficient alphas of f1 and f2 of the KSCI2 were .92 and .82, respectively, which were excellent and good based on the recommended interpretation that values above .9 are excellent, and those between .7 and .8 are desirable for coefficient alpha (Cortina, 1993; Kline, 2000; Nunnally, 1978). Also, considering that reliability coefficients tend to increase as the number of items of a factor increases and the sample size becomes bigger (Hattie, Jaeger, & Bond, 1999), the values of the coefficient alpha of f2 can be considered a good reliability.

Table 6. Reliability estimates of the two subscales of the KSCI2 (n = 608)

	No. of items	Coefficient alpha
Reinforcement of Needs	8	.92
Influence	5	.83

Discussion

The purpose of this study was to explore the construct of the Sense of Community Index 2 developed in the U.S. by translating it into Korean and providing the Korean people with a scientific research-based measure for sensing community. The SCI-2 was translated using Brislin's back-translation method (Brislin, 1970) and named the Korean Sense of Community Index 2 (KSCI2). Several factor analytic procedures were performed repeatedly to find an optimal model of the KSCI2, including a principal component analysis and a maximum likelihood estimate. Finally, a two-factor model for the KSCI2 was selected based on several criteria set in advance. The first factor included eight items and explained 33.57% of the total variance and was named *reinforcement of needs* since the six items were from the first factor of the SCI-2. The second factor consisted of five items and explained 27.01% of the total variance and was named *influence* in accordance with the third factor of the SCI-2, since four items belonged to the second factor of the SCI-2. A confirmatory factor analysis was performed on another sample for a cross-validation. Model fit indices produced through CFA indicated that the KSCI2 is a good model fit. Finally, the coefficient alphas of the factors were .92 and .83, respectively.

The findings of this empirical study suggest that members of a school community sense their community differently depending on the context, such as culture. The findings revealed that the KSCI2 in the secondary schools in South Korea contained 13 items under two subscales: *reinforcement of needs* and *influence,* while the original SCI-2 has 24 items under four subscales: *reinforcement of needs, membership, influence,* and *shared emotional connection*.

The first factor, reinforcement of needs, represents the degree to which "important needs of school members are met because a school member is a part of the school community" (Chavis et al., 2008, p. 2), the degree to which "a school community and its member value the same things" (p. 2), the degree to which a school community is "successful in getting the needs of its members met" (p. 2), the degree to which a school "community member feels good" (p. 2), the degree to which a school member can talk about problems that he or she has with other members, the degree to which school community members have "similar needs, priorities, and goals" (p. 2), the degree to which "a school community member can trust other members of the school community" (p. 2), and the degree to which "a school member can recognize other members of the school community" (p. 2). Therefore, whether a school is successful in getting the needs of students met as a community is an important factor for students to perceive their school as a community. Needs can be shared goals such as academic success, character development, career advisement, friendship, emotional fulfillment, development of self-esteem, development of self-efficacy, development of self-regulation, development of self-identity, and so on. This finding implies that Korean secondary school students value how much their school is capable of meeting their needs or helping their needs to be met as a community. This result suggests that a school needs to explore and understand what needs a school community member wants to get met in the school community as a prerequisite to shape a more successful school community. Next, a school needs to endeavor to help meet students' needs. A school may cultivate or sustain its own distinctive culture as Deal and Peterson (2016) suggested.

The second factor, influence, assesses the degree to which "a member can fit into his or her school community" (Chavis et al., 2008, p. 3), the degree to which "a school community can influence other communities" (p. 3), the degree to which a school community member cares about other community members' thoughts about him or her, and the degree to which a school member can influence the nature of his or her school community. This result reflects some of the characteristics of the psychological status of Korean people in that Korean people care about others' feelings, emotions, thoughts, opinions, and views about themselves.

Phenomena explained by the ethic of Cheong might also be reflected in the findings of this study. The ethic of Cheong (Ko, 2014) describes how people make relationships based on the culture of a community, the structure of the community, and the shared values of the community. According to Ko (2014), Cheong develops based on such relationships. For members of the school community, behavioral activities of their relationships based on Cheong are thus influenced by a combination of the degree of moral Cheong of a member of a school community, the degree of we-consciousness, and the balance between the relational subject as "being-in-the-weness and awareness of the interdependence of every being" (Ko, 2014, p. 29). Also, sensing community may be affected by the rate of "the opportunities of the affective co-experiences, the embodiment of relationship, Shim-Cheong and meaning, and the relational circle" (Ko, 2014, p. 29). Thus, for a school member to sense their school as a community might be related to the degree of the ethic of Cheong of other school members. As Ko (2014) recommended, if a school promotes the ethic of Cheong and practices moral Cheong, a school can shape a more successful community where students feel safer, feel emotionally warmer, are cognitively moral, are psychologically more sound, are academically successful, are more proud of their school culture, get their important needs met, and are more influential toward other communities.

Despite these findings, there are a few limitations to this study. It is difficult to generalize

the findings of this study to other school communities because factor analytic procedures are subjective (Benson & Nasser, 1998) and different researchers' subjective decisions could lead to different findings. The participants of this study were from schools in the geographical areas of Busa, Ulsan, and Jeollanam-do, so if using different populations and different sample sizes, different factor models of the KSCI2 with different combinations of items and a different number of items could be produced.

Even though there are limitations to this study, it can serve as a basis for future studies on school community in South Korea. Educators and administrators can refer to the findings of this study when they plan and develop curricula and programs for shaping a successful school community and for developing character, social-emotional learning, and citizenship. Scholars of schools have already viewed schools as a community, and we need to distinguish the concept from an educational community in that "educational" may extend to further boundaries such as lifelong education, education in the private sector, and various educational activities offered at the school-district level and at the community level. The researcher of this study limited school community members to school administrators, teachers, students, parents, and school staff. Also, the KSCI2 can be used to assess school members' sense of community in other levels of education such as elementary school, college, university, and different types of high school.

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