

TRANSLATION AND VALIDATION OF A KOREAN SOCIAL JUSTICE SCALE

(K-SJS)

by

ALAN JONG-HA JEONG

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Student: Alan Jong-Ha Jeong

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This thesis has been accepted and approved in partial fulfillment of the requirements for the Master of Arts degree in the Department of Psychology by:

Holly Arrow	Chairperson
Gerard Saucier	Member

and

Janet Woodruff-Borden	Vice Provost and Dean of the Graduate School
-----------------------	--

Original approval signatures are on file with the University of Oregon Graduate School.

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THESIS ABSTRACT

Alan Jong-Ha Jeong

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Title: Translation and Validation of a Korean Social Justice Scale (K-SJS)

The 24 items of the original English version of the Social Justice Scale (Torres-Harding et al., 2012) were translated into Korean by four translators, who discussed and agreed upon consensus versions. Four different translators then back translated this version into English. The resulting Korean version of SJS (K-SJS) was completed by 537 adult native Korean speakers. Confirmatory factor analysis, exploratory factor analysis, and multi-group confirmatory factor analysis indicated that the K-SJS has high internal consistency, factors appropriately, fits the original model well, and demonstrates invariance across Korean men and women. Structural equation modeling indicated that the effects of attitude, perceived behavioral control, and subjective norms on behavioral intentions were positive and significant. In short, the K-SJS showed acceptable reliability and validity based on a large sample of South Korean adults and shows promise as a new tool to study social justice attitudes among Korean speakers.

CURRICULUM VITAE

NAME OF AUTHOR: Alan Jong-Ha Jeong

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene
Handong Global University, Pohang, Republic of Korea

DEGREES AWARDED:

Master of Arts, Psychology, 2018, University of Oregon
Bachelor of Arts, Counseling Psychology, 2016, Handong Global University
Bachelor of Arts, International Studies, 2016, Handong Global University

AREAS OF SPECIAL INTEREST:

Social Psychology

PROFESSIONAL EXPERIENCE:

GE (Graduate Employ), University of Oregon, September 2018 - December 2018]
KRN 201 2nd Yr Korean

GE (Graduate Employ), University of Oregon, January 2018 - March 2018]
PSY 306 Social Psychology

GE (Graduate Employ), University of Oregon, January 2018 - March 2018]
PSY 307 Personality Psychology

Intern, Simei Care Center (Singapore), June 2016 - August 2016]

GRANTS, AWARDS, AND HONORS:

Graduate Education Committee Travel Award, University of Oregon, 2016

Research Fund for Undergraduate Research Project, Handong Global University,
2016

Research Fund for Undergraduate Research Project, Handong Global University,
2015

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CHAPTER I

INTRODUCTION

The jump in the number of published articles in Korean on social justice, from 69 articles between 1800 and 1999 to 614 articles between 2000 and 2017, shows the growing interest in social justice by South Korean academics.¹ Articles from diverse fields include both theoretical and empirical work. Theoretical reviews or conceptual articles cover social justice in social work practices (Jeon, 2004), counseling (Park, 2015), social media (Ihm, 2010), school bullying (Goo, 2010), politics (Suh, 2014), religion (Jeon, 2016), and education (Kim & Lee, 2011; Nam, 2015). Quantitative studies in social science related to social justice have focused on attitudes toward minority groups (Kim, 2007), differences between political liberal and conservatives (Ahn, Lee, & Jung, 2013), economic inequality (Kim et al., 2011), and criminal punishment for a just society (Choi & Huh 2011).

Despite the increasing interest on social justice in various fields of study in South Korea, the number of psychological studies on social justice in South Korea is limited. Korean articles that take a psychological approach to social justice didn't appear until 2006 (2 articles) and remain scarce.² Compared to the overall growth across disciplines, and compared to the growth in psychological studies in English, Korean psychological studies on social justice seem to be developing slowly. Based

¹ Based on the Korea University online library archive, searched by "Social Justice." In the three-year cycles, 15 articles from 2000 to 2002, 50 from 2003 to 2005, 74 articles from 2006 to 2008, 129 articles from 2009 to 2011, 151 articles from 2012 to 2014, and 195 articles from 2015 to 2017.

² Based on the Korea University online library archive, searched by "Social Justice" and "Psychology".

on Fietzer and Ponterotto (2015)'s study, the number of psychological studies on social justice in English is steadily increasing, as shown by comparing 1879 to 1999 (514 articles) and the 21st century (2000 to 2012, 4737 articles). In South Korea, only 11 psychological studies related to social justice were included among the 683 available articles we found in a review of published articles in Korean. Since 2006 when the two psychological studies related to social justice were published, one article was published in 2007, one in 2009, two in 2011, two in 2013, one in 2014, and two in 2015. Among the 11 articles mentioned above, eight articles (Ahn et al., 2013; Cha, 2009; Choi & Huh, 2011; Kim, 2007; Kim, 2013; Kim & Kim, 2006; Kim et al., 2011; Park & Jeong, 2006) used ad hoc scales for the specific aims of study. For example, studies on perception toward whistleblowers (Kim & Kim, 2006), prejudice and stereotyping on minority groups (Kim, 2007; Park & Jeong, 2006), perception on country and politics (Ahn et al., 2013; Cha, 2009), criminal punishment for a just society (Choi & Huh, 2011), income polarization (Kim et al., 2011), and adolescent's perception on just society (Kim, 2013) used ad hoc scales to measure attitudes on social justice.

The slow pace of publishing psychological articles on social justice might be due in part to the lack of generalized Korean language instruments or scales that measure beliefs about and attitudes toward social justice. This limitation could be addressed by developing a new scale in Korean or translating and validating an existing scale into Korean. The current study takes the latter approach. It analyzes the validity and reliability of a translated version of the Social Justice Scale (Torres-Harding, Siers, & Olson, 2012) using participants from the Republic of Korea.

In the United States, where psychological studies on social justice are

relatively more active than South Korea, Fietzer and Ponterotto (2015) reviewed promising instruments measuring variables related to social justice published since 2000. Among the peer-reviewed journals from the years 2000 to 2012, they identified four instruments that met their inclusion criteria: published in English, reported psychometric properties, not focusing on specific group or component (e.g., women, Christian-based social justice), peer-reviewed, and sound research design: the Activism Orientation Scale (AOS; Corning & Myers, 2002), the Social Issues Questionnaire (SIQ; Miller et al., 2009), the Social Issues Advocacy Scale (SIAS; Nilsson, Marzolek, Linnmayer, Bahner, & Misalek, 2011), and the Social Justice Scale (SJS; Torres-Harding et al., 2012). The four instruments all have strengths. One limitation that they share is that the samples on which the scales were developed were homogeneous in terms of demographics, primarily White students in college or higher education, and predominantly female samples (Fietzer & Ponterotto, 2015).

Among the four scales identified, Min (2014) translated the Social Issues Questionnaire (SIQ; Miller et al., 2009) into Korean, and used this scale (K-SIQ) in two of the 11 articles mentioned above (Chun & Min, 2015; Min, Lee, & Ahn, 2015). Although the SIQ is based on a sound theory and provides important insights for an individual's perception towards social justice, it is somewhat narrowly focused. The scale is based on social-cognitive career theory (SCCT; Lent, Brown, & Hackett, 1994) and explains the development of social justice interests by factors such as self-efficacy, outcome expectations, interest, commitment, supports, and barriers. SCCT model has been a sound theoretical and practical tool to explain the career development of students and professionals in science, technology, mathematics etc. (Lent et al., 2003). However, its reliance on a career-orientation framework to

examine how students develop interests in social justice has limited its potential for broader use. The Activism Orientation Scale (Corning & Myers, 2002) measures an individual's propensities to engage in social action. This scale assesses activist propensity on social action behaviors, ideological positions, and social issues (Corning & Myers, 2002). The AOS is on a Likert scale from 0 (extremely unlikely) to 3 (extremely likely) to measure activism, and the scale measures how likely an individual to act in each situation (example: How likely is that you will display a poster or bumper sticker with a political message?). The Social Issues Advocacy Scale (Nillson et al., 2011) measures an individual's social justice advocacy. The SIAS is on a Likert scale from 1 (strongly disagree) to 5 (strongly agree) to measure social advocacy (example: I make telephone calls to policy makers to voice my opinion on issues that affect my profession) , political awareness (example: I keep track of important bills/legislative issues that are being debated in Congress that affect my profession), social issues awareness (example: Societal forces affect individuals' health and well-being), and confronting discrimination (example: I am professionally responsible to confront colleagues who display signs of discrimination toward the elderly). The items of SIAS are interested in social justice advocacy related to individuals' profession. Therefore, the AOS and SIAS are somewhat limited in addressing the general attitudes related to social justice.

Taking a much broader approach, Torres-Harding et al. (2012), developed the Social Justice Scale (SJS) based on Ajzen's (1991) theory of planned behavior (TPB), which is theoretically more appropriate to measure attitudes related to social justice and predict social justice behavior in general. TPB is "one of the most frequently cited and influential models for the prediction of human social behavior", and "has the

highest scientific impact score among the US and Canadian social psychologists" (Ajzen, 2011, p. 1113). The theory of planned behavior predicts behavior using 4 factors; attitudes, perceived behavioral control, subjective norms, and intentions. It is based on the insight that behavioral intentions are a strong proximal predictor of actual behaviors, and intentions are in turn motivated by three antecedents; "attitudes", "perceived behavioral control", and "subjective norms". Attitude toward a behavior is the "degree to which a person likes or dislikes the behavior in question"; perceived behavioral control is how easy or difficult the person feels it will be to act based on past experience; and subjective norms are "perceived social pressure that supports or opposes the behavior" (Ajzen, 1991, p. 188). Behavioral intention is simply whether a person intends to do something or not (Ajzen, 1991). Ajzen's model has been supported in the studies of physical activity (Plotnikoff et al., 2011), pro-environmental behavior (Steg & Vlek, 2009), aggressive driving (Efrat & Shoham, 2013), and cyberloafing (Askew et al., 2014). Along with its strong and sound theoretical background, the SJS has already been successfully translated and validated in Turkish (Cirik, 2015), so it looked promising as a cross-culturally valid instrument.

The Social Justice Scale (Torres-Harding et al, 2012) has 24 items that measure the four elements of Azjen's (1991) model; social justice attitudes (11 items), perceived behavioral control (5 items), subjective norms (4 items), and behavioral intentions (4 items). Responses use a 1-7 Likert-type scale, from strongly disagree (1) to neutral (4) to strongly agree (7). The first factor (attitude towards social justice) measures endorsement of social justice values, goals, and behaviors. An example is "I believe that it is important to make sure that all individuals and groups have a chance to speak and be heard, especially those from traditionally ignored or marginalized

groups”. The second factor (perceived behavioral control) measures perceived behavioral control over social justice related goals. An example is “If I choose to do so, I am capable of influencing others to promote fairness and equality”. The third factor (subjective norms) measures subjective norms by assessing whether participants’ social context supports social justice-related activities. An example is “Other people around me are engaged in activities that address social injustices”. The fourth factor (behavioral intentions) measures intentions to engage in social justice-related actions. An example is “In the future, I will do my best to ensure that all individuals and groups have a chance to speak and be heard”. The SJS has proven to be a useful tool to examine how intention and related factors might predict social justice behaviors (Torres-Harding et al, 2012).

Translating SJS into Korean will ideally help encourage research and intervention to promote social justice research in South Korea. Along with providing a useful tool for Korean researchers, this study can also provide some information on how well Ajzen’s theory (1991) can be generalized for social justice behaviors in a non-Western country. This research reported here has two main objectives (1) analyzing the validity and reliability of the initial Korean version of SJS (K-SJS) and (2) examining the relationship between “social justice attitudes”, “perceived behavioral control” “subjective norms”, and “behavioral intentions” based on Ajzen’s (1991) model using structural equation modeling (SEM).

CHAPTER II

METHOD

Participants

A total of 716 adult Koreans accessed the survey. Of these, 179 responses were excluded from data analysis for not giving consent to the survey (10 participants), not being an adult (5 participants), stopping short before finishing the survey (151 participants), and not answering all the questions in the scale (13 participants). The responses of 537 individuals were analyzed. Among 537 participants, 296 (55.1%) individuals were male, 221 (41.2%) were female, and 20 (3.7%) preferred not to answer. The mean age of each group was male 25.32 ($SD = 4.13$), female 24.39 ($SD = 4.76$), and preferred not to answer 24.45 ($SD = 1.54$).

Regarding education level, 6 (1.1%) were high school graduates, 5 (0.9%) were in some college, didn't complete, 383 (71.5%) were currently in college, 75(14.0%) completed college degree, 1 (0.2%) were in some graduate school, didn't complete, 53 (9.9%) were currently in graduate school, and 13 (2.4%) completed graduate degree.

Research Instrument

Before proceeding with data collection, the original SJS scale was translated into Korean. To deal with the linguistic and cultural obstacles that might undermine the validity of translation process from English to Korean, forward-translation and back-translation processes were used (Regmi, Naidoo, & Pilkington, 2010).

Forward translation. Four native Korean speakers who are acquaintances of the first author with good English Skills and paid experience of English to Korean translation independently translated the original English SJS items into the Korean. Three of the native Korean translators were master's students in South Korea familiar with translation process and surveys written in Korean (two in psychology, one in economics), and the fourth Korean translator works for an international trading company as a marketer and translator. All have high official English test scores, such as higher than 100 score for TOEFL, or equivalent. The original English items were typed in an Excel file and sent to the translators independently, and they all completed the forward translation within a week or so. After receiving the four versions of their translated items, the first author compiled the 4 versions in an Excel file and sent back to the translators. To generate a unanimous agreed version, the first author consulted on the translated items with the four translators via Facebook group chat, and the first author tuned the discrepancies between the four versions of Korean items. The discussion continued until a satisfactory version was reached. See Table 1 for the list of agreed and disagreed items.

Back translation. After the translation process of SJS to Korean was completed, the agreed version of Korean SJS scale was translated back to English by a separate set of four Korean-American bilinguals. Three of the bilingual translators were born in the United States and completed their education in the United States (one is studying in a graduate school of counseling, one is studying in a graduate school of theology, one completed a master's degree in speech therapy). The fourth bilingual translator was born in South Korea but completed his education in the United States from high school to law school. All translators are acquaintances of the first author.

The unanimously agreed Korean version of SJS scale in an Excel file was sent to the translators independently for the back translation. After one week or so, the first author received the four versions of translated items. A set of 4 versions of back-translated English items in an Excel file was sent back to the translators, and the first author tuned the discrepancies between the four versions of back-translated English items via Facebook chat to choose the best items and identify possible mistranslated items. The English version of SJS generated by the back-translation was compared to the original English version. A native English speaker was consulted to further discuss the terminology in the original English version.

Discussed discrepancies. The translated items were categorized into five categories.

Table 1. Discussed Discrepancies in Forward and Back Translation

Type	Item numbers
Forward Translation	
1. All translations said the same thing just using different sentence structure. The best example was chosen.	1, 4, 5, 6, 7, 9, 11, 12, 15, 16, 17, 18, 19, 20, 21, 23, 24
2. Three results the same, but one is not.	8
3. Two verses two	14
4. Lots of disagreement (untranslatable concept)	NA
Back Translation	
5. All translated items said basically the same thing, but the interpretation of a phrase in the item varied somewhat in the United States and South Korea.	2, 3, 10, 13

Items fell into category 2 and 3 were discussed with the translators who did forward translation, and the translators chose the unanimously agreed items. Items that fell into category 5 were discussed with a native English speaker. Upon closer

examination, we decided that the variations in meaning for the back translations were not serious enough to disqualify the items from inclusion. No adjustments were made to the Korean version of the item. Here is one example of the four different back translations for item number 3:

Table 2. An Example of the Type 5 Back Translation: Item Number 3

Original Item (SJS)	I believe that it is important to talk to others about societal systems of power, privilege, and oppression.
Translator 1	I believe it is important to talk about social systems of power, privilege, and oppression with one another.
Translator 2	I believe discussing among people societal systems of power, privilege and oppression is important.
Translator 3	I believe it is important to have discussions with others about the societal systems of power, privilege, and oppression.
Translator 4	I believe it is important to have conversation about social systems of power, privilege and oppression.

Data Collection

The Korean version of SJS (K-SJS) was distributed through Qualtrics, an on-line survey platform, and the data was collected from adult native Korean speakers. The items of the scale were in one fixed order as it appears on the Appendix 1. A recruiting notice that included an URL to the survey was distributed to the potential participants through three mediums. First, the invitation to the survey was posted on the first author’s personal Facebook wall, and several Facebook pages where users might have interest in the survey. Second, the recruiting notice was posted on the internet bulletin boards of the official community web pages of several universities in the Republic of Korea. For each university, a friend or former colleague of the first author who attends that school posted the recruiting notice. Third, the recruiting notice was shared through “Kakao-Talk”, a mobile messenger application that is

commonly used in South Korea (and is similar to Facebook messenger or Slack). The invitation was shared on the Kakao-Talk group chatrooms. The period for data collection was from May 30, 2017 to October 11, 2017.

The inclusion criterion for the participant was to be a native Korean-speaking adult, as stated on the recruiting letter of invitation. Participants also provided their year of birth after they agreed to the consent form. If their year of birth indicated they were younger than 18, the survey was terminated. Participation was expected to take approximately 15 minutes including answering basic demographic questions regarding age, gender, and education and the Korean version of Social Justice Scale (K-SJS). With reference to the ‘Rule of 500’ of Comrey and Lee (1992) urging researchers to obtain samples of 500 or more for factor analysis, the target number for the survey was 500 complete responses. To allow for incomplete or otherwise unusable data, the survey was left open until 716 participants had accessed the survey.

To encourage participation, participants were offered a 1 of 50 chance of winning a \$25 iTunes gift card. Ten \$25 iTunes gift cards were purchased before the survey was posted, and the sweepstake logic was implemented as the survey option a priori so that the investigators wouldn’t be able to know to whom and when the prizes would be given. To ensure that no link could be made between winning a gift card and the survey responses, the gift-card winners were directed to a separate Qualtrics page. At the end of the original survey, participants were asked if they would like the chance to win a gift card. If they answered “no”, their participation was completed, and the survey was terminated. If they answered “yes” and didn’t win, the survey was terminated with a message indicating that they didn’t win the prize. However, if they answered “yes” and won, they got a message indicating that they won the prize

and asking them to click on a link that redirected them to a separate “incentives” page where their contact information was collected for accounting purposes to show that they received the gift. The list of winners, along with the code for the gift card for each winner, will be retained by the authors’ department’s accountant for 3 years in case of a financial audit.

All procedures were reviewed and approved by the University of Oregon Institutional Review Board (May 11, 2017). See Appendix 1 for the Questionnaire.

CHAPTER III

RESULTS

All analyses were conducted with R program (version 3.3.3, released on March 6, 2017) to assess the reliability and validity of the K – SJS. We completed the following procedures.

- A. Preliminary Checks of the Data
- B. Factor Analysis
- C. SEM (Structural Equation Modeling)
- D. MGCFA (Multi-Group Confirmatory Factor Analysis)

Preliminary Checks of the Data

Kaiser-Meyer-Olkin Test (KMO) and Bartlett's test of sphericity both indicate whether data are appropriate for factor analysis. The KMO measure of sampling adequacy (MSA) takes values between 0 and 1, and a value close to 1 indicates factor analysis would give distinct and reliable factors. MSA should ideally be .60 or higher. For our data, the KMO overall MSA was .94. Bartlett's test for sphericity tests the null hypothesis that the correlation matrix of the data is an identity matrix, which indicates that the variables are unrelated and unsuitable for structure detection. For our data, Bartlett's test of sphericity was significant ($\chi^2(276) = 6274.99, p < .001$), indicating that the null hypothesis of an identity matrix could be rejected, and the data was appropriate for factor analysis.

Cronbach's alpha coefficients for the total scale and each subscale measure the internal consistency of the K - SJS. Kline's (2015) guidelines define 0.90 or

higher as “excellent”, 0.80 as “very good”, and 0.70 as “adequate”. The Cronbach’s alpha of the total scale was excellent at .93. For each subscale, observed alphas were .91 for attitude, .81 for subjective norms, .83 for perceived behavioral control, and .85 for intentions, indicating very good internal consistency for all four factors. The results are comparable to the published Cronbach’s alpha results for the English (Torres-Harding et al., 2012) and Turkish (Cirik, 2015) versions of the SJS, see Table 3.

Table 3. The Cronbach’s Coefficients of the SJSs

Factors	Cronbach Alpha Coefficients		
	English	Turkish	Korean
Total	NA	.92	.93
Attitude	.95	.92	.91
Behavior	.84	.84	.83
Norms	.82	.88	.81
Intention	.88	.90	.85

Note. English (Torres-Harding et al., 2012), Turkish (Cirik, 2015).

The correlations between the four factors were all significant ($p < .001$) and ranged from .325 to .543. The significant, but modest inter-correlations between the factors indicated that the four factors measured four related but different constructs. See Table 4.

Table 4. Correlation Coefficients for the Factors of the K-SJS

Factors	1	2	3	4
1. Attitude	-	.370***	.325***	.504***
2. Behavior		-	.397***	.543***
3. Norms			-	.534***
4. Intention				-

Factor Analysis

We assessed the results of CFA and SEM analyses using the following statistical fit indexes; Root Mean Square Error of Approximation (RMSEA), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI) Normed Fit Index (NFI), Tucker Lewis index (TLI), and Comparative Fit Index (CFI) (Hooper, Coughlan, & Mullen, 2008). See Table 5.

Table 5. Fit Indexes

Fit index	Name	Excellent	Acceptable
RMSEA	Root Mean Square Error of Approximation	<.05	.05~.10
GFI	Goodness-of-Fit index	>.95	>.90
AGFI	Adjusted Goodness-of-Fit index	>.95	>.90
NFI	Non-normed fit index	>.95	>.90
TLI	Tucker-Lewis index	>.95	>.90
CFI	Comparative fit index	>.95	>.90

We conducted both confirmatory factor analysis (CFA) and exploratory factor analysis (EFA). CFA results are reported first given that the SJS was designed to follow a four-factor model. CFA was conducted in two phases, first-order CFA, then second-order CFA, following the approach used for the Turkish version of SJS (Cirik, 2015). First-order CFA tested whether the 24 items of K - SJS fit under the respective factors. Second order CFA is a statistical method to confirm if a theorized

construct in a study loads into certain number of underlying sub-constructs or components (Zainudin, 2012; Kline, 2015). Theoretically, the four sub-constructs (attitude, behavior, norms, and intention) of SJS predict social justice behavior. Therefore, in this study, a second order CFA was conducted to check that the theorized construct in this study (social justice behavior) loads into the four sub-constructs (attitude, behavioral control, norms, and intention) that were measured by the 24 items of the K-SJS. Through the second order CFA, we estimated the effect of social justice behavior (second order construct) on the four factors (first order constructs).

First-Order Confirmatory Factor Analysis

The factor structure of the Korean version of SJS was analyzed through confirmatory factor analysis (CFA). The fit indices for CFA showed an acceptable fit: $\chi^2=722.31$, $df=246$, $p=.00$, $RMSEA=.06$, $TLI = 0.91$, $CFI=.92$. However, $GFI=.89$, $AGFI=.87$, and $NFI=.89$ were slightly lower than the acceptable threshold ($>.90$). The standardized factor loadings ranged from .61 to .74 for attitude items, .66 to .73 for behavioral control, and .7 to .82 for norms, .7 to .82 for intentions (see Figure 1). Figure 1 also shows the covariance among the four factors. The explained variances at the item level ranged from .38 to .55 for the attitude factor; from .43 to .53 for the behavioral control factor; from .32 to .67 for the norms factor; and from .49 to .67 for the intention factor. These findings showed that the 24 items of K-SJS fall under the respective factors.

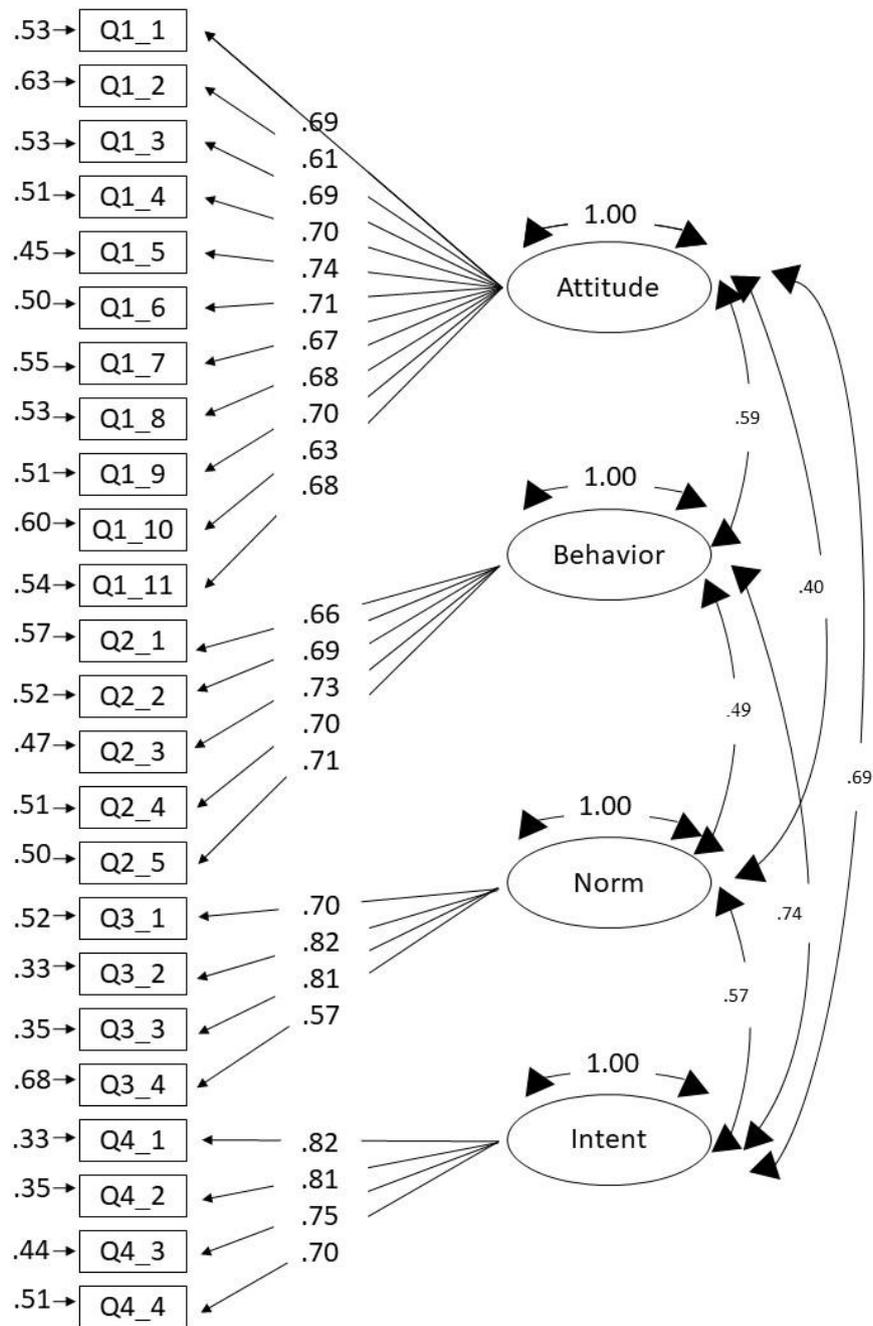


Figure 1. K-SJS First-Order Confirmatory Factor Analysis

See Table 6 and 7 to check the results of first order CFA of K-SJS and compare them to the English and Turkish versions of SJS.

Table 6. K-SJS First Order CFA

Fit index	Name	Excellent	Acceptable	First order CFA
RMSEA	Root Mean Square Error of Approximation	<.05	.05~.10	.06
GFI	Goodness-of-Fit index	>.95	>.90	.89
AGFI	Adjusted Goodness-of-Fit index	>.95	>.90	.87
NFI	Non-normed fit index	>.95	>.90	.89
TLI	Tucker-Lewis index	>.95	>.90	.91
CFI	Comparative fit index	>.95	>.90	.92

*Indices that show acceptable fit are in bold

Table 7. First Order CFA Fit Indices for Korean, English, and Turkish SJS

Fit index	Korean	English		Turkish
		Sample1	Sample2	
RMSEA	.06	.08	.09	.05
GFI	.89	.65	.80	.90
AGFI	.87	.66	.75	.88
NFI	.89	.87	.95	.96
TLI (NNFI)	.91	NA	NA	.97
CFI	.92	.94	.97	.97

*Indices that show acceptable fit are in bold

Second-Order Confirmatory Factor Analysis

The second-order CFA was applied and the fit indices for second order CFA showed an acceptable: $\chi^2=724.21$, $df=248$, $p=.00$, RMSEA=.06, TLI = 0.91, CFI=.92. However, GFI=.89, AGFI=.87, and NFI=.89 were slightly lower than the acceptable threshold (>.90). The standardized factor loadings ranged from .61 to .74 for social attitude items, .66 to .73 for behavioral control, .6 to .82 for norms, .7 to .82 for

intention (see Figure 2). Second order CFA is a theory-based approach, and theoretically the four sub-constructs (attitude, behavior, norms, and intention) of SJS predict social justice behavior. The explained variances showed that 53% of the variability of social justice behavior (theorized construct in this study) was explained by the attitude factor; 62% by the behavioral control factor; 36% by the norms factor; and 88% by the intentions factor. The standardized direct effects of the factors were .73 for attitude, .79 for behavioral control, .79 for norms, and .94 for intentions. Kline's (2015) guidelines define standardized direct effect over .5 as large. These findings suggest that the four factors significantly explain the second order factor, which is the social justice behavior.

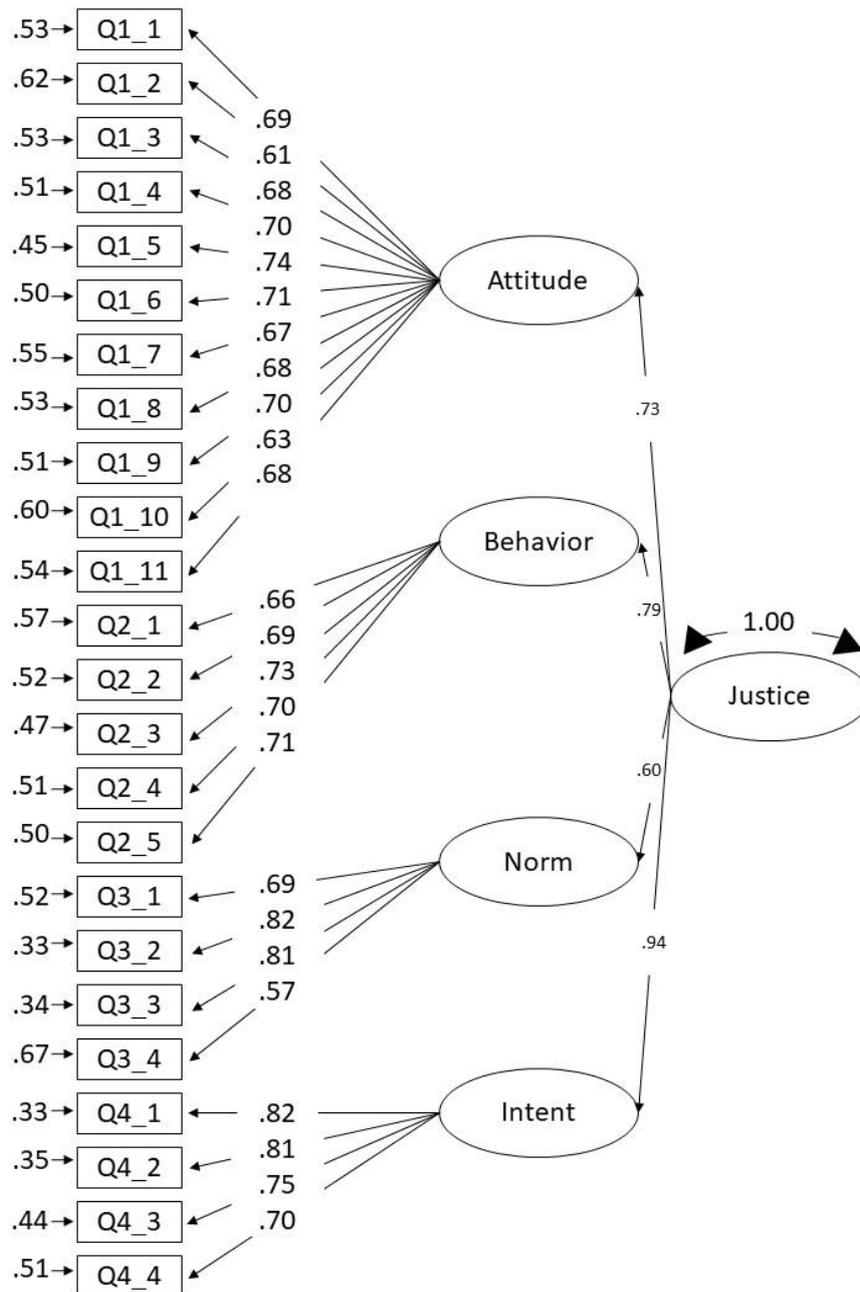


Figure 2. K-SJS Second-Order Confirmatory Factor Analysis

*The variance of the higher order was set to be 1.00 to achieve identification and standardize the latent variables.

See Table 8 and 9 to check the results of second order CFA of K-SJS and compare them to the results for Turkish version of SJS (Cirik, 2015).

Table 8. K-SJS Second Order CFA

Fit index	Name	Excellent	Acceptable	Second order CFA
RMSEA	Root Mean Square Error of Approximation	<.05	.05~.10	.06
GFI	Goodness-of-Fit index	>.95	>.90	.89
AGFI	Adjusted Goodness-of-Fit index	>.95	>.90	.87
NFI	Non-normed fit index	>.95	>.90	.89
TLI	Tucker-Lewis index	>.95	>.90	.91
CFI	Comparative fit index	>.95	>.90	.92

*Indices that show acceptable fit are in bold

Table 9. Second Order CFA Fit Indices for Korean and Turkish SJS

Fit index	Korean	Turkish
RMSEA	.06	.05
GFI	.89	.90
AGFI	.87	.88
NFI	.89	.96
TLI (NNFI)	.91	.97
CFI	.92	.97

*Indices that show acceptable fit are in bold

Exploratory Factor Analysis

Exploratory factor analysis (EFA) was conducted to assess the internal factor structure of 24 items of the K-SJS. EFA is commonly used to explore an initial factor model of a new instrument when the factor structure is unknown. One of the differences is that unlike confirmatory factor analysis (CFA), EFA does not require a priori specification of the number of factors (Kline, 2015). EFA analyzes unrestricted measurement models, where items can depend on all factors (which makes it less conservative than CFA) and sometimes this technique is needed when a measurement model is based on a weak theory (Kline, 2015). Although the K-SJS items and factors

were developed from Torres-Harding et al. (2012) and the scale is based on the strong theory (Ajzen, 1991), we conducted an EFA to check the interpretability of retained factors (factor-indicator associations) in a Korean setting. Also, because it is harder for a desired structure to emerge in an EFA than in a CFA (because EFA does not force the factor structure) conducting an EFA in a Korean population would help validate the scale in a sense by a different approach. We identified two studies that validated SJS (Cirik, 2015; Torres-Harding et al., 2012), and neither study provided EFA results.

First, we found out the number of factors that we will select for the factor analysis by assessing the results of parallel analysis and eigenvalues. The parallel analysis suggested that the maximum number of factors we can consider, which was 5. A scree plot is a graph of eigenvalues (y-axis) of all the factors in the data, and it gives a guess for the number of factors. When considering a scree plot, researchers can decide on how many factors to retain based on the number of factors above the point of inflection. Visual inspection of the scree plot (see Figure 3) showed 2-4 is one good guess for the number of factors.

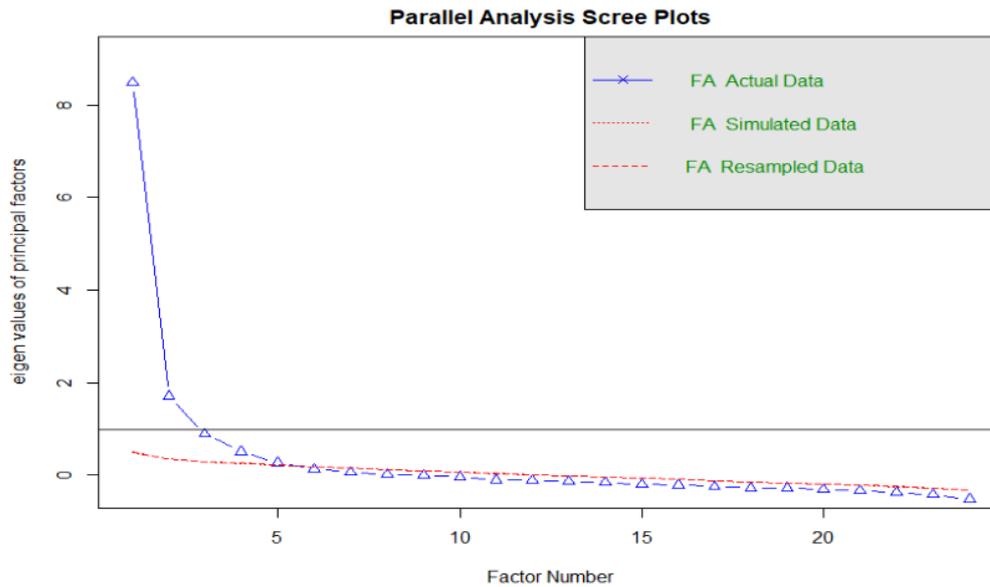


Figure 3. K-SJS EFA Scree Plot

Analysis of eigenvalues showed the eigenvalues of 8.48, 1.71, 0.87, 0.51, 0.27, etc. There were three eigenvalues greater than .7, which means K-SJS could be a three-factor model. In a conservative approach, researchers retain factors with eigenvalues greater than 1.0. However, .7 is also a less-conservative cutoff for retaining factors. Based on Ajzen’s (1991) theoretical implication, we chose to retain factors with eigenvalues greater than .7. In EFA, researchers should decide on how to identify the model to enhance the interpretability of factors by specifying which method of rotation that the computations will use. Orthogonal rotations assume that the factors are not correlated, and oblique rotations allow correlated factors. Oblique rotation was used because both the CFA results and the theoretical foundation on of the scale (Ajzen, 1991; Torres-Harding et al., 2012) indicate that the factors should be correlated. This decision was made because the SJS has a hypothesized and verified known structure.

A three-factor model was tested, and no item was eliminated because all items contributed to a simple factor structure by satisfying the minimum criteria of having a factor loading of .4 or above, and no cross loading of .3 or above (Neill, J., 2008). All items fell into the respective factors, but the items for the perceived behavioral control and intentions behaved differently in EFA (see Table 10).

Table 10. Factor Loadings and Communalities Based on a Three-Factor Model EFA with Oblimin Rotation for 24 Items from the K-SJS (N = 537)

		Factor 1	Factor 2	Factor 3	Commonality	Uniqueness
Attitude	Q1_1	.74	-.04	-.05	.50	.50
	Q1_2	.57	.01	.11	.38	.62
	Q1_3	.62	.10	.01	.46	.54
	Q1_4	.75	-.05	.00	.51	.49
	Q1_5	.75	.00	-.02	.55	.45
	Q1_6	.76	-.06	-.02	.53	.47
	Q1_7	.67	.01	.01	.45	.55
	Q1_8	.60	.16	-.05	.47	.53
	Q1_9	.59	.14	.03	.48	.52
	Q1_10	.58	-.02	.16	.40	.60
	Q1_11	.59	.12	.02	.46	.54
Behavioral control	Q2_1	.04	.64	-.12	.39	.61
	Q2_2	.07	.58	.01	.39	.61
	Q2_3	-.07	.75	-.01	.49	.51
	Q2_4	-.05	.68	.12	.51	.49
	Q2_5	-.03	.74	-.08	.48	.52
Norms	Q3_1	-.16	.06	.75	.55	.45
	Q3_2	.03	-.03	.83	.69	.31
	Q3_3	.10	.02	.75	.63	.37
	Q3_4	.17	.12	.42	.33	.67
Intentions	Q4_1	.28	.47	.13	.55	.45
	Q4_2	.21	.50	.16	.54	.46
	Q4_3	.12	.51	.15	.45	.55
	Q4_4	.05	.62	.06	.46	.54

A four-factor model was also tested based on Azjen's (1991) theoretical foundation and previous studies on SJS (Cirik, 2015; Torres-Harding et al., 2012). No item was eliminated because all items contributed to a simple factor structure by

satisfying the minimum criteria of having a factor loading of .4 or above, and no cross loading of .3 or above (Neill, J., 2008). All items fell into the respective factors, suggesting the four-factor model is also appropriate to explain the data (see Table 11). The results found through EFA will be discussed on the discussion section.

Table 11. Factor Loadings and Communalities Based on a Four-Factor Model EFA with Oblimin Rotation for 24 Items from the K-SJS (N = 537)

		Factor	Factor	Factor	Factor	Commonality	Uniqueness
		1	2	3	4		
Attitude	Q1_1	.71	-.06	-.04	.04	.50	.50
	Q1_2	.55	.12	.01	.02	.38	.62
	Q1_3	.60	.01	.04	.10	.46	.54
	Q1_4	.72	-.01	-.07	.06	.51	.49
	Q1_5	.75	.01	.08	-.08	.57	.43
	Q1_6	.76	.00	.04	-.10	.54	.46
	Q1_7	.66	.02	.02	.01	.46	.54
	Q1_8	.60	-.03	.15	.03	.47	.53
	Q1_9	.57	.02	.05	.15	.48	.52
	Q1_10	.55	.15	-.07	.09	.40	.60
	Q1_11	.55	.00	-.03	.23	.47	.53
Behavioral control	Q2_1	.07	-.05	.69	-.02	.49	.51
	Q2_2	.10	.10	.70	-.12	.54	.46
	Q2_3	-.06	.03	.61	.20	.51	.49
	Q2_4	-.04	.13	.42	.33	.50	.50
	Q2_5	.00	-.02	.68	.11	.53	.47
Norms	Q3_1	-.16	.75	.03	.04	.55	.45
	Q3_2	.03	.84	-.03	-.01	.70	.30
	Q3_3	.09	.75	.01	.02	.64	.36
	Q3_4	.17	.44	.13	-.01	.34	.66
Intentions	Q4_1	.22	.06	.08	.57	.62	.38
	Q4_2	.16	.10	.08	.59	.62	.38
	Q4_3	.02	.04	-.03	.81	.67	.33
	Q4_4	-.01	-.01	.20	.61	.53	.47

SEM (Structural Equation Modeling)

The theory of planned behavior argues that behavioral intentions are a strong proximal predictor of actual behaviors, and intentions are in turn motivated by three

antecedents; “attitudes”, “perceived behavioral control”, and “subjective norms”.

Therefore, the effects of attitude toward social justice, perceived behavioral control, and subjective norms on behavioral intentions were analyzed using structural equation modeling (SEM). However, as mentioned on the previous study on this scale (Torres-Harding et al., 2012), the fact that behavioral intentions don’t equal to actual behavior should be noted. Through SEM, the relationship between variables of K - SJS and the explanatory power of Ajzen’s (1991) model were assessed.

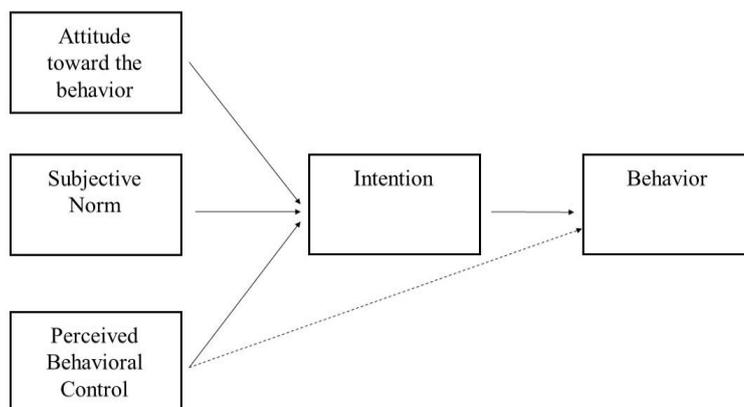


Figure 4. Ajzen’s (1991) Theory of Planned Behavior

Note: This is a hypothesized model of Ajzen (1991) and does not equal to the K-SJS factor model.

Among the fit indices, the values of $\chi^2=731.31$, $df=249$, $\chi^2/df=2.94$, $RMSEA=.06$, $TLI=.91$, $CFI=.92$, showed an acceptable fit. However, $GFI=.89$, $AGFI=.86$, and $NFI=.89$ were slightly lower than the acceptable threshold ($>.90$). The standardized direct effect on intentions was .70 for attitude, .76 for behavioral control, and .58 for norms. Taking Kline’s (2015) guidelines into consideration, attitude, behavioral control, and norms affected behavioral intentions at a high level.

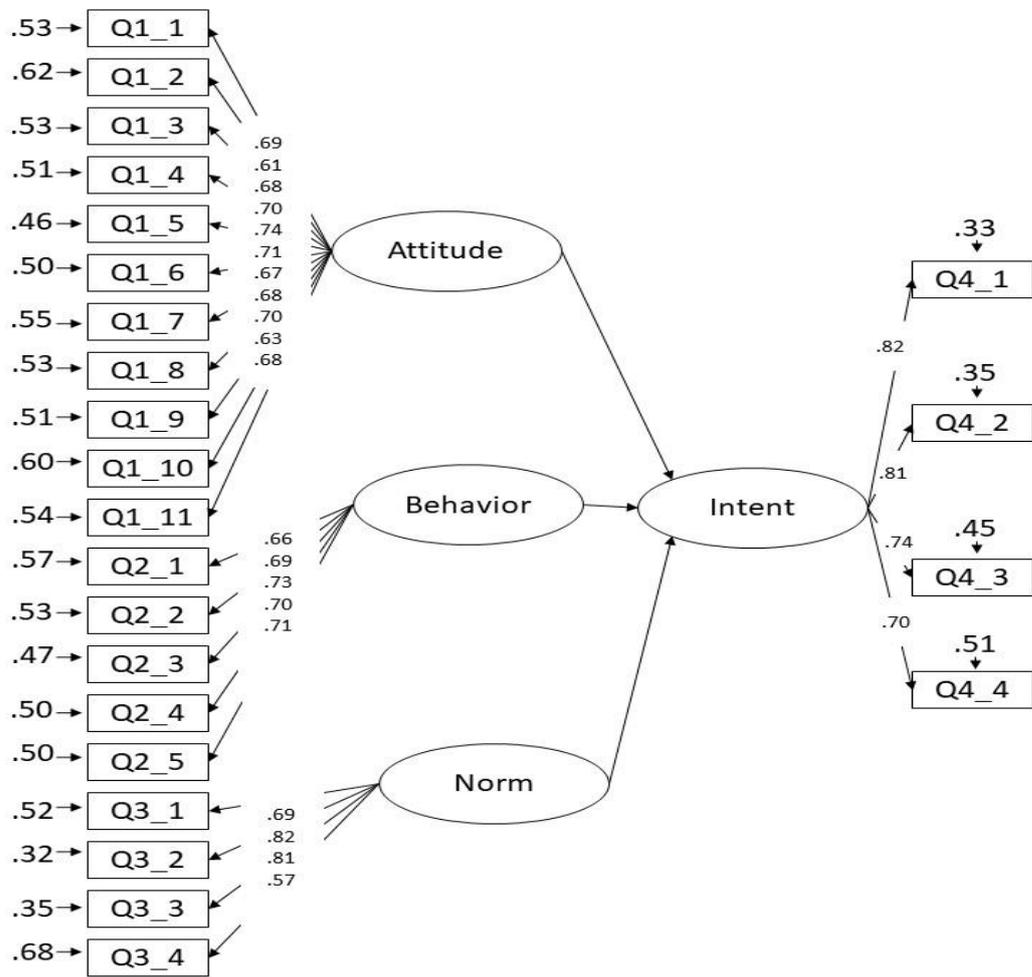


Figure 5. K-SJS Structural Equation Modeling

See Table 12 and 13 to check the results of SEM of K-SJS and compare them to the Turkish version of SJS.

Table 12. K-SJS Structural Equation Modeling

Fit index	Name	Excellent	Acceptable	SEM
RMSEA	Root Mean Square Error of Approximation	<.05	.05~.10	.06
GFI	Goodness-of-Fit index	>.95	>.90	.89
AGFI	Adjusted Goodness-of-Fit index	>.95	>.90	.86
NFI	Non-normed fit index	>.95	>.90	.89
TLI	Tucker-Lewis index	>.95	>.90	.91
CFI	Comparative fit index	>.95	>.90	.92

*Indices that show acceptable fit are in bold

Table 13. Structural Equation Modeling Fit Indices for Korean, English, and Turkish SJS

Fit index	Korean	Turkish
RMSEA	.06	.05
GFI	.89	.90
AGFI	.86	.87
NFI	.89	.95
TLI (NNFI)	.91	.97
CFI	.92	.97

*Indices that show acceptable fit are in bold

MGCFA (Multi-Group Confirmatory Factor Analysis)

We conducted a multi-group confirmatory factor analysis (MGCFA) to see whether the concepts of K-SJS are invariant across the male and female Korean demographic groups. A MGCFA assesses whether the scale measures the latent variables across groups in the same way. Among 537 responses that were used for the data analysis, 296 (55.1%) individuals were male, 221 (41.2%) were female, and 20 (3.7%) preferred not to answer. The following is a table of means and standard deviations for each gender groups and subscales.

Table 14. Table of Means and SDs of Each Gender Groups and Subscales

	Male (296)	Female (221)	Prefer not to answer (20)	Total (537)
Attitude	61.83 (9.82)	64.98 (8.34)	55.4 (4.63)	62.89 (9.32)
Behavior	26.48 (4.8)	26.63 (4.39)	24.75 (2.99)	26.48 (4.59)
Norms	18.92 (4.07)	19.68 (4.42)	19.6 (2.26)	19.26 (4.18)
Intention	21.03 (3.95)	21.39 (4.17)	19.15 (2.08)	21.22 (4.01)

*out of Attitude (77), Behavior (35), Norms (28), Intention (28)

As a preliminary check, we tested male and female groups separately, and both groups showed an acceptable fit to the model (see Table 15). When testing for measurement invariance across groups, three invariances are examined in a sequence of nested multi-group models: (1) configural, (2) metric, and (3) scalar (Steenkamp & Baumgartner, 1998).

The first step is the establishment of configural invariance. Configural invariance is a baseline model, which assumes an equal measurement structure by specifying the same structure of measured items to latent constructs in the groups. The results showed that the configural model significantly explains the data, so the configural invariance of the model across males and females was supported. (see table 15) Therefore, we could use the model assuming only configural invariance (baseline model) to compare subsequent models with additional equality constraints on model parameters. To assess whether the model fit does not change significantly when adding more restriction, the difference of CFI value with the more conservative invariance model should be less than .01 (Cheung & Rensvold, 2002).

The next step was to test for metric invariance, which holds if the factor loadings of individual items on the factors can be held equal across the two groups. Invariance of factor loading means that the constructs have the same meaning to the

participants across the groups. The factor loadings were constrained to be equal across the two groups. The change in CFI compared to the configural invariance model was less than .01, so we concluded that there was no difference between the configural model and the metric model. This means two groups can be assumed to have the same factor loadings (see table 15).

The third, most restrictive step was to test for scalar invariance which holds if the scoring tendency is the same across groups. The item intercepts and means were compared by constraining the regression coefficients of the latent variables to be equal across the groups. If the intercepts are invariant, the participants are not responding to the items differently. The change in CFI was less than .01, so we concluded that there was no difference between the metric model and scalar model, which means two groups can be assumed to have the same intercepts. (see table 15) Based on the results of these three checks, the K-SJS appears to be equivalent across Korean males and females.

Table 15. The MGCFA Results of the K-SJS

Model	$X^2(df)$	RMSEA	GFI	AGFI	NFI	TLI	CFI	Change CFI	Different
All Groups	722.31 (246)	.06	.89	.87	.89	.91	.92	n/a	n/a
Male	597.86 (246)	.07	.85	.81	.84	.89	.90	n/a	n/a
Female	480.38 (246)	.07	.84	.81	.83	.89	.91	n/a	n/a
Configural Invariance	1078.24 (492)	.07	.97	.97	.84	.89	.90	n/a	n/a
Metric Invariance	1095.66 (512)	.07	.97	.97	.83	.90	.90	.00	No
Scalar Invariance	1113.39 (532)	.07	.97	.97	.83	.89	.90	.00	No

CHAPTER IV

DISCUSSION

The purpose of this study was to translate and validate a Korean language version of the Social Justice Scale (Torres-Harding et al., 2012). Developed by Torres-Harding et al. (2012), the scale has four factors that correspond to the four constructs proposed by Ajzen's Theory of Planned Behavior (1991). Ajzen proposed that intentions to perform behaviors can be predicted by attitude toward the behavior, perceived behavioral control, and subjective norms, and that behavioral intentions can explain considerable variance in actual behavior. Based on Azjen's (1991) theory, the Social Justice Scale (Torres-Harding et al., 2012) is composed of four factors: social justice attitudes, social justice perceived behavioral control, social justice subjective norms, and social justice behavioral intentions. The original English version of the scale was translated into Korean by forward-translation and back-translation.

The high Cronbach's alpha coefficients for the total scale and each subscale indicated that the K-SJS has high internal consistency. The intercorrelations between the latent variables were significant but modest, which means that the four factors are related but measure distinct constructs. The results of the first-order CFA showed that the four-factor model of K-SJS adequately explained the data. Like the English and Turkish versions of SJS, the Korean version of SJS also showed that the 24 items fall under the four previously established factors. The results of the second order CFA showed that the four factors significantly explained the second-order factor, which is the hypothesized construct of this scale, the social justice behavior.

For the EFA, we tested a three-factor model based on the number of eigenvalues greater than .7, and a four-factor model based on Ajzen's (1991) theoretical foundation and previous studies on SJS (Cirik, 2015; Torres-Harding et al., 2012). For the three-factor model, no item was eliminated because all items met the criteria of factor loading and cross loading. In this model, all attitude and norms items fell under the expected factors, while behavioral control and intentions items factored together. This might support the argument of Ajzen's (1991) theory. Based on Ajzen's (1991) Theory of Planned Behavior (TPB), the behavioral control factor was reported to be more highly correlated with intentions compared to the other factors. The results of EFA (the three-factor model) shows the behavioral control factor is related to the intentions the most, which is consistent with Ajzen's TPB. Neither the three-factor nor the four-factor model identified items to eliminate, and both were appropriate to explain the data. In conclusion, the K-SJS showed acceptable reliability and validity based on the collected data from adult South Koreans.

We analyzed the effects of attitude, perceived behavioral control, and subjective norms on behavioral intentions using structural equation modeling (SEM). Overall, the model and the data showed an adequate fit, and the effects of independent variables on the dependent variable were positive and high. A multi-group confirmatory analysis (MGCFA) indicated that the most restrictive invariance (scalar invariance) was supported, which confirmed K-SJS invariance across Korean males and females. Future studies might want to test invariance across cultures to check if the SJS holds across both gender and culture.

There are several limitations of this study. First, although the survey was open to all adult Koreans, most of the responses were from college students (71.5%).

Therefore, we could not test whether K-SJS is invariant across the groups from diverse educational levels in South Korea. However, the college attendance rate in South Korea was above 67 % from 2008 to 2017, so invariance across education levels is less of a concern. Second, because participants who agreed to participate in this study may have been more interested in social justice issues in South Korea, there could be some selection bias. An interest in social justice could also have led participants to provide socially desirable responses. Thirdly, the K-SJS's criterion-related validity was not analyzed in this study. Future work should analyze the degree to which the operationalization of this scale is similar to other theoretically similar scales (convergent validity) and different from scales measuring theoretically distinct constructs (discriminant validity). Fourth, the numbers of items for each factor are not the same, and there are no reverse coded items. Lastly, as Torres-Harding et al. (2012) mentioned, the SJS doesn't have items to measure actual behavioral performance. Instead, it measures intentions to engage in social justice related behaviors. Therefore, now that the internal structure of the scale is validated, it should be used to predict actual social justice behavior. This was, in fact, a primary motivation for developing the K-SJS.

This study has strengths as well. First, while previous studies on this scale (Cirik, 2015; Torres-Harding et al., 2012) didn't have a balanced number of male and female participants, this study had 296 males (55.1%) and 221 females (41.2%) (the remaining participants declined to answer the gender question). Moreover, through a MGCFAs, we found that K-SJS is invariant across Korean males and females. Secondly, we followed an appropriate translation process. A total of eight translators participated in the translation process, and discussions on the discrepancies ensured

full consultation on both forward-translation and back-translation. Third, this study was preregistered and posted on the Open Science Framework (OSF) website. After publication, we will make the data set publicly available as well. We specified our hypothesis, variables, survey questions, target number of participants, data exclusion strategy, etc. before collecting the data. Lastly, the K-SJS could be a contribution to an academic community (Korean psychological researchers) that have a few validated instruments to measure psychological variables related to the social justice. We could identify only one study (Min, 2014) that translated Social Issues Questionnaire (SIQ; Miller et al., 2009) into the Korean language; other studies used ad hoc scales.

Despite the limitations of this study, it is expected that the validation and translation of SJS into Korean language might help researchers measure psychological variables related to social justice in various fields of study. In summary, the current study suggests that the K-SJS is a reliable and valid tool to measure attitudes, norms, perceived behavioral control, and behavioral intentions related to social justice. Yet the fact that the SJS does not have items to measure actual behavioral performance should be noted.

APPENDIX

Original SJS and K-SJS items

Original SJS	K-SJS
Social Justice Attitudes	
1 I believe that it is important to make sure that all individuals and groups have a chance to speak and be heard, especially those from traditionally ignored or marginalized groups.	나는 모든 개인과 집단, 특히 무시당하고 소외되었던 집단의 발언권을 보장하는 것과 그들의 의견이 존중받는 것이 중요하다고 생각한다.
2 I believe that it is important to allow individuals and groups to define and describe their problems, experiences and goals in their own terms.	나는 개인과 집단이 그들만의 언어로 자신의 문제, 경험, 목표를 정의하고 설명할 수 있도록 하는 것이 중요하다고 믿는다.
3 I believe that it is important to talk to others about societal systems of power, privilege, and oppression.	나는 타인에게 권력, 특권과 압제의 사회적 체제에 대하여 의사를 밝히는 것이 중요하다고 생각한다.
4 I believe that it is important to try to change larger social conditions that cause individual suffering and impede well-being.	나는 개인의 고통을 야기하거나 삶의 질을 저하시키는 근본적인 사회적 여건의 변화를 꾀하는 것이 중요하다고 생각한다.
5 I believe that it is important to help individuals and groups to pursue their chosen goals in life.	나는 개인과 집단이 그들이 선택한 목표를 삶에서 추구할 수 있도록 돕는 것이 중요하다고 믿는다.
6 I believe that it is important to promote the physical and emotional well-being of individuals and groups.	나는 개인과 집단의 신체적, 정서적 안녕을 증진시키는 것이 중요하다고 믿는다.
7 I believe that it is important to respect and appreciate people's diverse social identities.	나는 사회 구성원들의 다양한 사회적 정체성을 존중하고 인정하는 것이 중요하다고 생각한다.
8 I believe that it is important to allow others to have meaningful input into decisions affecting their lives.	나는 어떠한 결정이 사람들의 삶에 영향을 미칠 때 영향을 받는 당사자들이 결정 과정에 참여할 수 있도록 하는 것이 중요하다고 믿는다.
9 I believe that it is important to support community organizations and institutions that help individuals and group achieve their aims.	나는 개인과 집단이 그들의 목표를 이룰 수 있도록 돕는 공동체 단체와 기관을 지원하는 것이 중요하다고 믿는다.

- | | | |
|----|--|--|
| 10 | I believe that it is important to promote fair and equitable allocation of bargaining powers, obligations, and resources in our society. | 나는 우리 사회의 영향력 및 의무, 자원의 공정하고 평등한 분배를 촉진시키는 것이 중요하다고 믿는다. |
| 11 | I believe that it is important to act for social justice. | 나는 사회 정의를 위해 행동하는 것이 중요하다고 믿는다. |

Social Justice Perceived Behavioral Control

- | | | |
|----|--|--|
| 12 | I am confident that I can have a positive impact on others' lives. | 나는 내가 다른 사람의 삶에 긍정적인 영향을 미칠 수 있음을 확신한다. |
| 13 | I am certain that I possess an ability to work with individuals and groups in ways that are empowering | 나는 개인 및 집단과 일 할 때에 그들에게 권한과 자율권을 주는 방향으로 함께 일해 나갈 수 있는 능력이 있음을 확신한다. |
| 14 | If I choose to do so, I am capable of influencing others to promote fairness and equality. | 내가 하고자 한다면, 나는 다른 사람들이 공정성과 평등을 신장시키도록 영향을 줄 수 있다. |
| 15 | I feel confident in my ability to talk to others about social injustices and the impact of social conditions on health and well-being. | 나는 사회부조리와 사회적 조건이 건강과 삶의 질에 미치는 영향에 대해 다른 사람들과 이야기 할 능력이 있다고 확신한다. |
| 16 | I am certain that if I try, I can have a positive impact on my community. | 나는 내가 노력한다면, 내가 속한 공동체에 긍정적 영향을 줄 수 있다고 확신한다. |

Social Justice Subjective Norms

- | | | |
|----|--|---|
| 17 | Other people around me are engaged in activities that address social injustices. | 내 주변 사람들은 사회부조리를 다루는 활동에 참여하고 있다. |
| 18 | Other people around me feel that it is important to engage in dialogue around social injustices. | 내 주변 사람들은 사회부조리에 대한 대화에 참여하는 것이 중요하다고 생각한다. |
| 19 | Other people around me are supportive of efforts that promote social justice | 내 주변 사람들은 사회 정의를 신장하려는 노력에 지지적이다. |
| 20 | Other people around me are aware of issues of social injustices and power inequalities in our society. | 내 주변 사람들은 우리 사회의 사회적 불의와 권력 불평등에 대한 사안들을 인지하고 있다. |

Social Justice Behavioral Intentions

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| 21 | In the future, I will do my best to ensure that all individuals and groups have a chance to speak and be heard. | 향후 나는 모든 개인과 집단들의 발언권이 보장되고 의견이 존중될 수 있도록 최선을 다할 것이다. |
| 22 | In the future, I intend to talk with others about social power inequalities, social injustices, and the impact of social forces on health and well-being. | 향후 나는 사회적 권력 불평등, 사회적 불의와 사회적 영향력이 건강과 행복에 미치는 영향에 대하여 다른사람들과 이야기할 것이다. |
| 23 | In the future, I intend to engage in activities that will promote social justice. | 향후 나는 사회 정의를 촉진하는 활동에 참여할 것이다. |
| 24 | In the future, I intend to work collaboratively with others so that they can define their own problems and build their own capacity to solve problems. | 향후 나는 다른 사람들과 협력적으로 일하여 그들 자신의 문제를 인지하고 스스로 해결할 수 있는 능력을 배양하도록 할 것이다. |
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