
Short Report

Initial Validity Evidence for a Japanese Version of the Motivation to Study Abroad Scale (MSA)

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In recent years, many Japanese universities, recognizing the value of high-impact learning experiences provided through sojourns abroad, have developed an increasingly wide array of study abroad programs. Students have diverse reasons for deciding to study abroad. However, no instrument which quickly and accurately gauges the strength of the various motivational factors compelling a student to pursue study abroad opportunities appears to exist in the Japanese context. Tertiary educators and administrators in Japan might find such an instrument useful. This poster presentation shared an initial attempt at validating a Japanese version of Anderson and Lawton's (2015) four-factor Motivation to Study Abroad (MSA) scale among Japanese university students ($N = 165$). The results of both exploratory and a confirmatory factor model matching the original authors' conclusions are presented first, followed by an examination of construct-specific results following the Rasch rating scale model approach. Initial results, limitations, and future directions for the development of this instrument are discussed.

Study abroad programs vary widely in length, destination, and amount and structure or coursework (Engle & Engle, 2004). Moreover, the objectives of study abroad vary program-by-program. Options for study abroad, in particular short study tours lasting from several days to a few weeks, are increasing in Japan. This growth appears fueled, at least in part, by Japanese universities' desire to maintain good image among international peers (Yonezawa, 2010).

Research on study abroad abounds, but remains primarily focused on outcomes related to growth in linguistic proficiency or changes in intercultural attitudes. There is little empirical evidence exploring what specifically motivates

students to pursue study abroad opportunities. While the practical implications of developing a reliable instrument capable of quantifying such motivations would clearly be useful for educators and administrators hoping to increase student engagement in their study abroad offerings, a search for relevant literature based in the Japanese context yielded no results. Widening the scope beyond Japan, studies focused on the motivations of sojourners engaged in study abroad are still relatively few. Three such studies (Anderson & Lawton, 2015; Nyaupane, Paris, & Teye, 2010; Sanchez, Fornerino, & Zhang, 2006) have attempted to measure sojourner motivation. Anderson and Lawton's (2015) study built its item inventory off the work of Nyaupane, Paris, and Teye (2010) and Sanchez, Fornerino, and Zhang (2006), and makes a cogent argument that the underlying factor structure for each of these respective instruments is quite similar. This study, therefore, will attempt to build upon Anderson and Lawton's (2015) work as a step toward a useful instrument in the Japanese context.

Methods

Participants & Procedures

The Motivation to Study Abroad Scale (MSA) was operationalized with first-, second-, and third-year undergraduate students ($N = 165$, M age = 19, 66.5% female) from a national university in western Japan. Participants were from majors including education, law, science, medicine, and engineering. Around 45% ($n = 74$) of these students were headed for two-week, university-led study tours to Australia or Vietnam. Study tours to these destinations were focused primarily on learning about local culture, though the Australia-bound students were also to participate in English courses while abroad. These students were recruited during program-specific pre-departure coursework, thus comprising a convenience sample. The remaining 55% ($n = 91$) had no immediate plans to study abroad and were recruited from among the general student body through compulsory English courses required of all students.

The original English items from the MSA were translated into Japanese by three individuals before being evaluated by a fourth individual. All those involved in the translation process translated from English into their L1

(Japanese). Two were doctoral students studying English language pedagogy and second language acquisition. The third earned a PhD focused on sociology and survey methodology from a major research university in the United States. These translations were then shared with a tenured professor of English language and literature who drew upon the three translations to arrive at a final judgement on how the item translations would most appropriately convey the meaning of the original English items.

All participants in this study were personally informed that their participation was optional, held no bearing on their grade in any course(s), that they could withdraw at any time and for any reason, and that their responses would remain entirely confidential. Data collection was part of a much larger project of which the MSA was only a small part. Participants who completed the MSA were therefore offered a gift card of between 500 and 2000 yen depending on their level of participation in the larger project. All participants signed consent forms provided in Japanese. Upon providing consent they were emailed a link to complete the survey within approximately one week. All responses were gathered online over the course of a three-week period via a survey created using the Qualtrics.com survey platform, responses to the survey required participants to provide their email address to ensure responses came from those who had agreed to participate in the study.

The MSA: An instrument to measure aspects of motivation to study abroad

The Motivation for Study Abroad questionnaire (Anderson & Lawton, 2015) consists of 23 Likert-style items measuring underlying motivations for studying abroad. The instrument yields scores for four underlying dimensions related to study abroad motivation: *World Enlightenment*, *Personal Growth*, *Career Development*, and *Entertainment*. See the appendix for the full list of items in both English and Japanese.

The original authors employed a five-point response scale ranging from 1 (not at all important) to 5 (absolutely essential). The middle point on the original scale (3) was not labeled *neutral* but as *important*. However, such a

midpoint might represent a de facto neutral option to participants and therefore the following response scale was employed:

- 1 – *not at all important*; 全く重要でない
- 2 – *not important*; 重要でない
- 3 – *not very important*; あまり重要でない
- 4 – *a little important*; 少し重要である
- 5 – *important*; 重要である
- 6 – *very important*; 非常に重要である

Statistical analysis

The original MSA validation study by Anderson and Lawton (2015) took an exploratory factor analytic (EFA) approach to reduce an original pool of 53 items to 23 items and four constructs. They then conducted a confirmatory factor analysis to test their model. Therefore, an EFA and a CFA were used in this study to test the Japanese version of that same 23-item model.

Rasch rating scale modeling (Andrich, 1978) was also used to further explore test item and scale quality. While factor analytic approaches remain the standard practice throughout the social sciences, they have two flaws. First, such approaches are predicated on the erroneous assumptions that the data being analyzed are interval in scale. Such data are actually ordinal. Second, these approaches fail to provide item level fit statistics. Researchers must then turn to internal consistency measures such as Cronbach's Alpha to argue for unidimensionality of construct, when such measures are actually evidence for little more than correlation. Rasch also handles missing data points with ease and quickly identifies extreme outliers.

Results

Exploratory factor analysis

Four distinct factors emerged from an EFA of the 23-item data (JASP, Version 0.8.6, <https://jasp-stats.org/>), as expected. Four items (MSA 1, 4, 14, and 19) showed evidence of potentially loading on two constructs, MSA item 4 (*Become acquainted with people different from me*) loaded more strongly onto Personal

Growth scale (.444) than on the World Enlightenment scale (.404) in the EFA. Given the aim of this project was to provide an initial test of Anderson and Lawton's (2015) instrument in the Japanese context, and given these loadings were both relatively low and produced by a fairly small sample of participants, MSA item 4 was kept with its original construct throughout this study despite this cross-loading. See Table 1 for item loadings.

Confirmatory factor analysis

Analysis of Moment Structures (AMOS) (Arbuckle, 2014; Version 22) was used to test the four-factor, 23-item model (See Figure 5). Reliability (Cronbach's α and MacDonald's ω) for *Personal Growth* ($\alpha = 0.861, \omega = 0.864$), and *World Enlightenment* ($\alpha = 0.873, \omega = 0.882$) indicated good (α and ω above 0.8) internal consistency. Reliability was lower but still good to acceptable for *Entertainment* ($\alpha = 0.804, \omega = 0.808$) and *Career Development* ($\alpha = 0.800, \omega = 0.820$).

Goodness of model fit was checked using the following cutoff criteria set by Hu and Bentler (1999) (see Table 2).

Three within-construct modification indices of the error variance were used to improve model fit:

Personal Growth:

MSA 1 (Gain maturity) and MSA 14 (Grow as a person)

MSA 20 (Become more independent) and MSA 22 (Learn to stand on my own two feet)

World Enlightenment:

MSA 8 (Increase my understanding of the world) and MSA 11 (Expand my world view)

With these modification indices, the finalized CFA fit indices were as follows: $\chi^2(221) = 100.735, p < .001; \chi^2/df = 1.937, CFI = 0.872; SRMR = 0.088; RMSEA = 0.081$. The final fit indices for the Japanese version of the MSA tested here are lackluster when compared to the fit indices of the original study ($CFI = 0.910; SRMR = 0.062; RMSEA = 0.074$). See Figure 1 for the full model.

Table 1
Results of Exploratory Factor Analysis

Items	Components and Item Loadings			
	1	2	3	4
MSA1 Gain maturity	0.422	0.528	-0.09	0.248
MSA2 Experience the local nightlife (clubs, bars, etc.)	0.115	0.029	0.721	0.065
MSA3 Prepare for my career	0.276	0.16	0.182	0.718
MSA4 Become acquainted with people different from me	0.409	0.444	0.243	0.185
MSA5 Better understand myself	0.238	0.669	0.145	0.151
MSA6 Increase my self-confidence	0.088	0.791	0.196	0.191
MSA7 Enhance my employment prospects	0.145	0.224	0.173	0.753
MSA8 Increase my understanding of the world	0.827	0.043	0.132	0.046
MSA9 Gain career skills	0.244	0.092	0.008	0.817
MSA10 Have a romantic encounter	0.112	0.173	0.638	0.096
MSA11 Expand my world view	0.769	0.225	-0.014	0.11
MSA12 Go out drinking	0.084	0.039	0.865	0.037
MSA13 Make my friends a little envious of me	-0.069	0.149	0.712	-0.032
MSA14 Grow as a person	0.433	0.632	0.033	0.117
MSA15 Enhance my understanding of global affairs and events	0.791	0.176	0.048	0.075
MSA16 Do some serious partying	0.003	0.217	0.682	0.268
MSA17 Gain in-depth knowledge in my chosen field	-0.025	0.141	0.003	0.726
MSA18 Interact with people from other countries	0.554	0.353	0.022	0.259
MSA19 Build my resume	-0.101	0.325	0.42	0.502
MSA20 Become more independent	0.248	0.739	0.255	0.113
MSA21 Better understand different cultures	0.704	0.324	0.055	0.04
MSA22 Learn to stand on my own two feet	0.31	0.668	0.261	0.221
MSA23 Learn about the world	0.813	0.222	0.033	0.128

Notes: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 5 iterations.

Table 2

Hu and Bentler's (1999) Suggested Cutoff Criteria for Evaluating Goodness of CFA Model Fit

Measure	Terrible	Acceptable	Excellent
CMIN/DF	> 5	> 3	> 1
CFI	< 0.90	< 0.95	> 0.95
SRMR	> 0.10	> 0.08	< 0.08
RMSEA	> 0.08	> 0.06	< 0.06
PClose	< 0.01	< 0.05	> 0.05

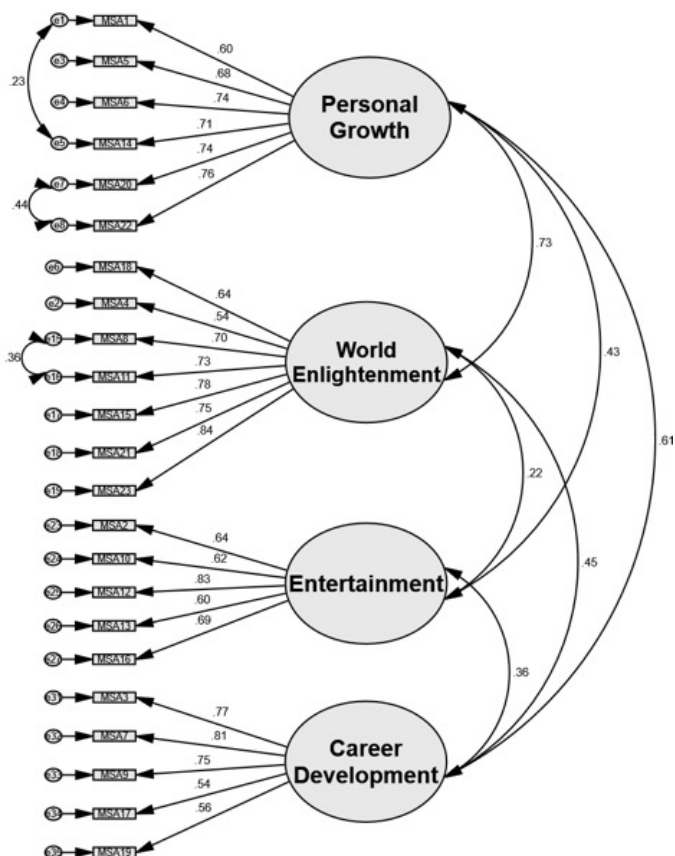


Figure 1. CFA with standardized estimates for a Japanese version of the MSA.

Rasch rating scale modeling

The technical quality of items was evaluated using Winsteps (Linacre, 2006; Version 3.73). Appropriateness of rating scale functioning was confirmed using Linacre's (2002) criteria for minimum number of observations (10), outfit mean square (< 2.0 at all levels), and level gaps (between .59 and 5 logits). The item fit criteria (Infit MNSQ ranging from .6 to 1.4) advised by Smith (2001) was used. Item reliability of 0.90 or greater and person reliability of 0.80 or greater are commonly used as reliability thresholds. See Table 3 for item and person reliability and separation.

The item reliability and separation on these constructs appear good-to-great. Each construct also shows strong evidence of being unidimensional.

Unfortunately, the response scale functioning was inadequate for both *Personal Growth* and *World Enlightenment*. The minimum number of observations at response 1 and 2 were not met for either scale, which resulted in the collapsing of the three negatively valenced response scale categories into a single category in order to meet the minimum threshold for subsequent analysis. The low use negatively valenced response categories indicates that items on these constructs were easily endorsed by almost all participants. While rating scale use was adequate at all levels for the construct *Entertainment*, that scale had the opposite problem in that its items were almost universally unendorsed. *Career Development* items had adequate rating scale functioning, person reliability, and item reliability. However this scale also had one rather large gap between

Table 3
Item and Person Reliability and Separation

Scale	Item reliability	Item separation	Person reliability	Person separation
Personal Growth	.97	6.13	.75	1.73
World Enlightenment	.94	3.81	.77	1.81
Entertainment	.95	4.17	.80	1.98
Career Development	.98	6.58	.80	1.99

its most difficult to endorse item (*build my resume*) and its second most difficult to endorse item (*gain in-depth knowledge in my choice field*). Each of these constructs, therefore, appears to suffer from an item pool that is inadequate insofar as the items either skew heavily one direction or leave large logit gaps which would ideally be filled with an additional item(s). Figures 1 through 4 show item-person maps (also called Wright maps) for each of the four constructs.

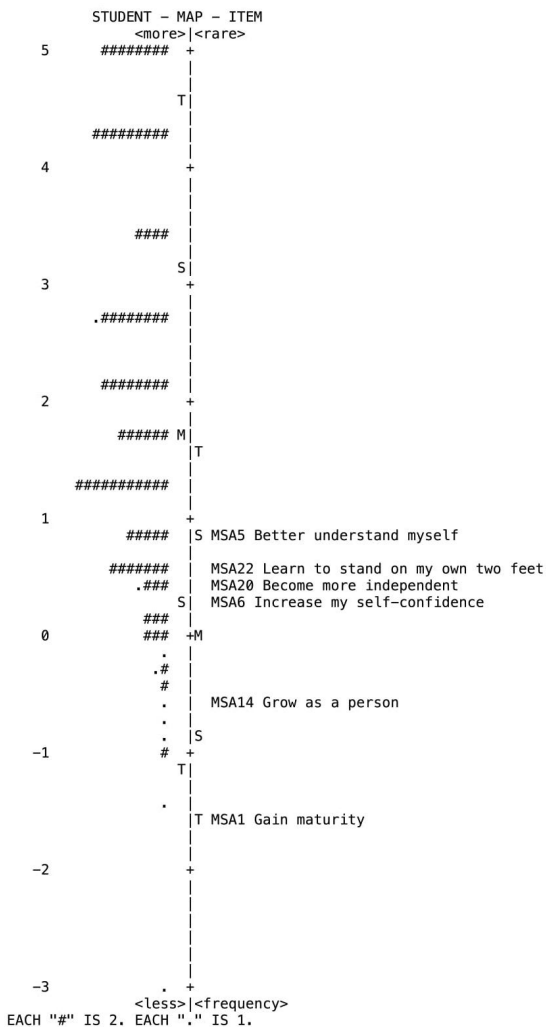


Figure 2. Item-person map of the Personal Growth construct

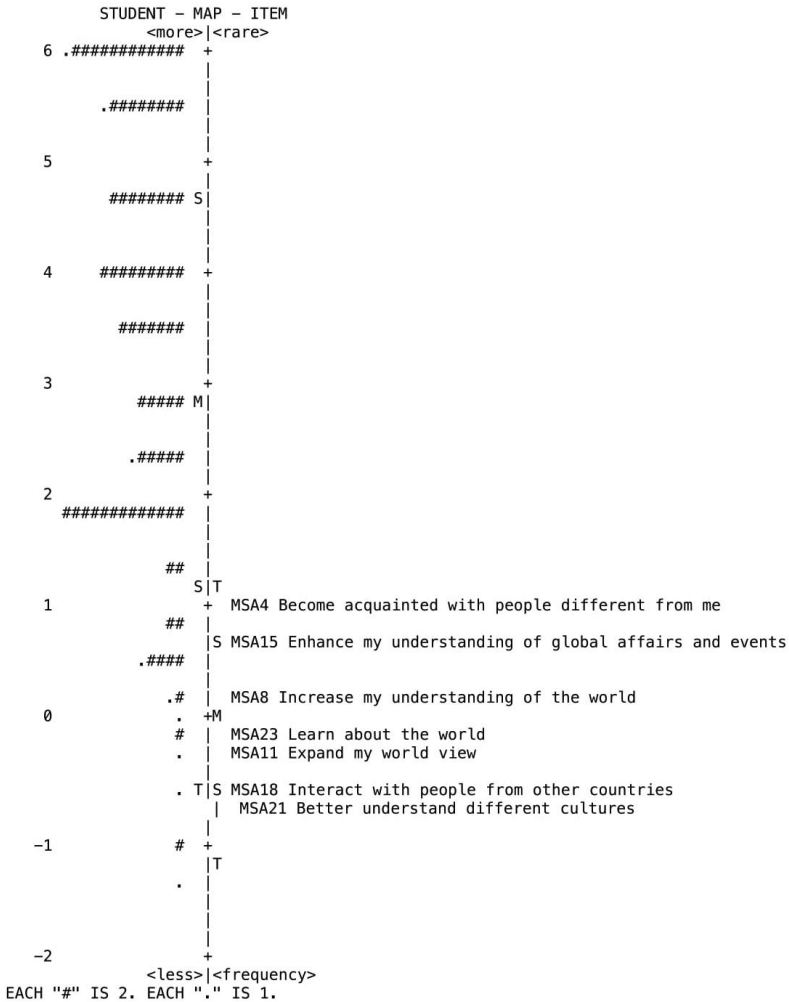


Figure 3. Item-person map of the World Enlightenment construct.

Conclusion

The results presented here represent an initial step toward the development of an instrument capable of measuring different aspects of Japanese students' motivation(s) to engage in sojourns. The MSA results presented here are far from complete. While there is evidence the four motivational constructs theorized in the original study might be valid in the Japanese context, collection of a larger

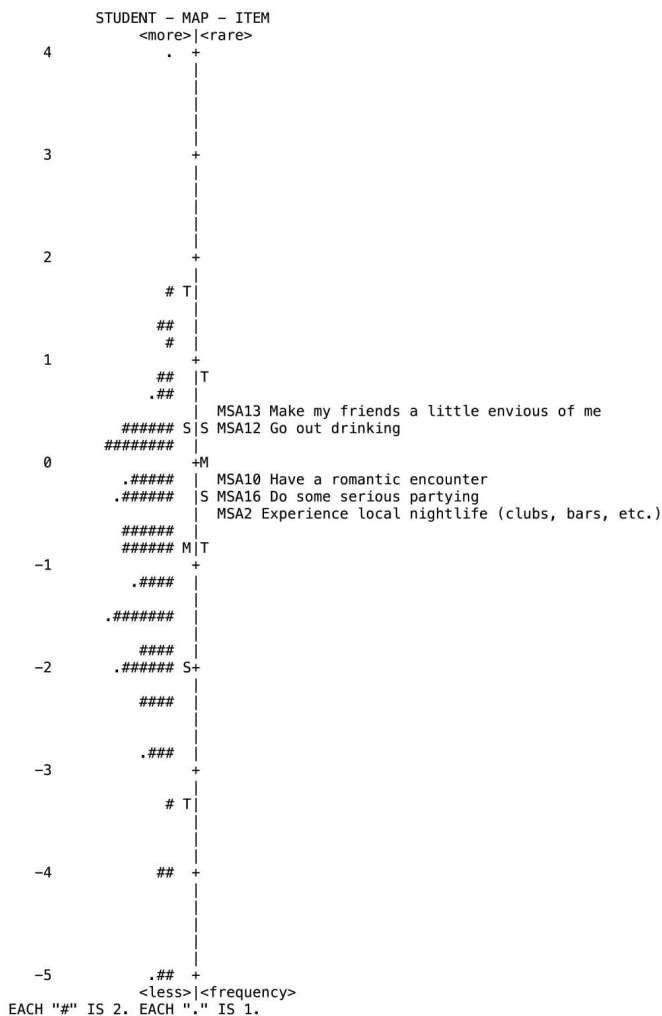


Figure 4. Item-person map of the Entertainment construct.

sample, expansion of the item pool, and possibly revising the Japanese translation of some problematic items (perhaps items MSA10, MSA16, and MSA19) could potentially address some of these issues exposed by the CFA and Rasch analyses. Such efforts are valuable, as a validated MSA promises to be a parsimonious instrument capable of differentiating between aspects of motivation which inform student desire to study abroad.

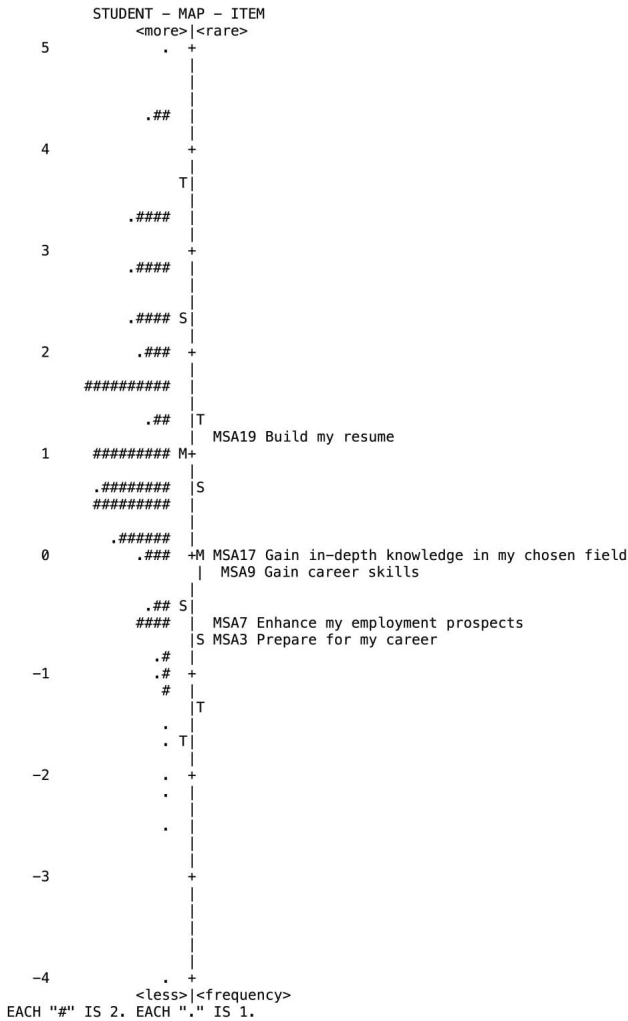


Figure 5. Item-person map of the Career Development construct.

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Appendix

Motivation to Study Abroad (MSA) items listed by construct

PERSONAL GROWTH

- MSA 1 Gain maturity (成長すること)
- MSA 5 Better understand myself (自分をよりよく知る)
- MSA 6 Increase my self-confidence (自信を高める)
- MSA 14 Grow as a person (人として成長する)
- MSA 20 Become more independent (より自立する)
- MSA 22 Learn to stand on my own two feet (自立する事を学ぶ)

WORLD ENLIGHTENMENT

- MSA 4 Become acquainted with people different from me (自分から人と知り合いになる)
- MSA 8 Increase my understanding of the world (世界をより理解する)
- MSA 11 Expand my world view (世界を見る目を広げる)
- MSA 15 Enhance my understanding of global affairs and events (世界的な出来事や事柄をより理解する)
- MSA 18 Interact with people from other countries (他国のの人々と交流する)
- MSA 21 Better understand different cultures (多文化を理解する)
- MSA 23 Learn about the world (世界を学ぶ)

CAREER DEVELOPMENT

- MSA 3 Prepare for my career (自分のキャリアの準備)
- MSA 7 Enhance my employment prospects (就職の将来性を高める)
- MSA 9 Gain career skills (職業的スキルを上げる)
- MSA 17 Gain in-depth knowledge in my chosen field (自分の専攻における知識を増やす)
- MSA 19 Build my resume (履歴書に書く)

ENTERTAINMENT

- MSA 2 Experience the local nightlife (clubs, bars, etc.) (その地域のナイトライフ)

(クラブ、バーなど)の体験)

MSA 10 Have a romantic encounter (異性との出会い)

MSA 12 Go out drinking (飲みに行く)

MSA 13 Make my friends a little envious of me (友だちに少し羨ましいと思わせる)

MSA 16 Do some serious partying (パーティーをする)