



Career Development Style of Japanese University Students: A comparison of Universities with Different Levels of Admission Difficulty

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Abstract

Although universities with a wide range of academic levels exist in Japan, few studies on career development consider the differences in students attending universities ranked at different academic levels. Such a study is important because career counseling approaches need to capture the unique features of students' career development according to the academic level of the universities they are enrolled in. This paper compares the career development characteristics of Japanese undergraduates attending middle-ranked universities ($n = 471$) with undergraduates attending a highly selective top-ranked university ($n = 335$). Career development characteristics were measured using an Identity Status Scale comprising the three subscales of inexperienced critical decision, exploration, and commitment, and a loneliness (individuality) scale, with subscales derived from factor analysis that were labelled as tapping experiences of isolation, destined aloneness, and mutual empathy, important culturally-embedded constructs within Japanese philosophy of life and living. Correlational analysis and structural equation modeling showed the presence of different career development processes in the two student groups. Destined aloneness was positively related to exploration and led to commitment in undergraduates attending middle-ranked universities. The implications for career counselling services suggest that the career guidance for the students attending middle-ranked universities need to foster their maturing sense of destined aloneness. They also suggest that career guidance for students attending highly selective universities need to support the shift from exploration to commitment to actions for future career goals.

Keywords: career development, identity, individuality, achievement deviation value, university students, Japan

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Introduction

In Japan, enrollment in higher education institutions has increased to its highest rate ever at 82.5% (MEXT, 2019), while the population of 18-year-olds in the country, the age band that typically enter these institutions, has been decreasing since 1992 (MEXT, 2018) reflecting the general shrinking seen in the Japanese population as a whole. One implication of the reduced population growth is that approximately 26% of private universities do not reach their student enrollment capacity (PMAC, 2019). In addition, universities in Japan may be ranked from the highly selective universities to *border-free* universities, where only remedial education is needed. Thus, most students can enter universities without intensive preparation for entrance examinations as long as they do not aim for the top-ranking, selective universities.

Japan is not a social class-conscious society like Western countries but is an academic-conscious society (Takeuchi, 1995). All Japanese high schools, as well as universities, are carefully ranked based on academic ability, which is a unique feature of the Japanese selection system. For Japanese people, making effort is a virtue. Nakane (1970) indicated that Japanese virtue is traditionally rooted in the philosophy that everyone is equal to one's ability, so in the Japanese educational culture, importance is attributed to making an effort. In the Japanese ranking system, even if students fail and move to a lower rank, they can maintain their aspirations because the competition is still active within the new rank. This is the reason why the ranking of universities is remarkable in Japan (Takeuchi, 1995).

In general, there are three levels of universities in Japan: highly selective universities, middle-ranked universities, and border-free universities. Highly selective universities refer to national universities such as former imperial universities as well as non-former imperial universities, public universities, and prestigious private universities.

Based on government reports of private universities (e.g., the “Two thousand nineteen *nendo nyushi joho*”, 2019, and the “*Tokushu hensachi*”, 2019), it is estimated that approximately 85% of students attend middle-ranked or lower universities. This means that the students attending middle-ranked universities constitute the majority of Japanese university students and thus represent a large part of the potential labor force in Japan.

Future Workers

Japanese firms hire new graduates based on the membership model (Hamaguchi, 2013), while Western organizations operate from the job model. In Western countries, there is a stronger relationship between one's undergraduate field of study and job content than in Japan. In other words, in Japan, there is a weaker connection between a person's undergraduate major and the content of his/her first job. Japanese companies do not explicitly specify a position when they employ new graduates but instead aim to develop new graduates as generalists who are expected to manage staff in the future. As companies bind their workers through comprehensive employment contracts, employees recognize that they are members of the organization (Koyama, 2014). Instead of viewing job searching as an act of seeking employment, it might be more contextually relevant to view job searching as membership hunting in Japan. Therefore, it is difficult for Japanese university students to visualize their career paths by connecting what they are learning with the kind of vocational expertise they will be required to have after entering firms.

Large enterprises represent only 0.3% of all companies in Japan, while small and medium-sized enterprises account for 99.7% (METI, 2016). New graduates from highly selective universities tend to be hired by large enterprises. As Japan recruits new graduates during a fixed period of time and as there is now no limitation to the number of potential recruits due to online application which means that Japanese new graduates no longer have to physically

come to apply, the competition rate has dramatically increased. To select excellent students from the large number of applicants, informally, firms sometimes filter candidates at the first stage of selection only based on their academic background, which is called the *Gakureki filter* (education background filter, Fukushima, 2018).

As we mentioned previously, Japan faces depopulation. Nearly one-in-three people will be aged 65+ years in 2030, while fertility and birth rates will continue to be among the lowest globally (“Japan in 2030”, 2018). This situation suggests that Japan’s labor market and employment policies need to be altered drastically. To guide university students in becoming efficient future workers, each university provides career development programs because of the various aspects of one’s academic background that become important in the real world. In the past two decades, several Japanese psychologists have been researching career development issues associated with university students (Adachi, 2001, 2010; Hanai & Shimizu, 2014; Suyama, 2012, Nakahara & Mizokami, 2014, Mizokami & Matsuishita, 2014). However, a gap in the literatures is the study of differences in career development according to the academic rank of students’ universities. This paper reports a study to describe the career development of undergraduates attending middle-ranked universities and who constitute a large portion of the future Japanese labor force.

Theoretical Framework

This study, is based on several theories including the constructs of identity formation, individuality, and career development.

The first body of theory concerns identity formation. According to Côté & Levine (1987), Erikson defined the concept of ego identity based on two dominant characteristics: (a) the sense of the temporal-spatial continuity of the ego and (b) the configuration of positive and

negative self-concepts that underlie individuals’ experiences of themselves during their interaction with the social world. Thus, identity formation is considered a process by which personality characteristics are formed and continually transformed throughout the life circle. Erikson (1959) suggested that career decisions, which involve obtaining a social role, have a significant meaning in identity achievement. Marcia (1966, 1980) elaborated Erikson’s view of the process of identity formation and extended it to develop the identity status model, which is based on two underlying developmental questions: Has the individual experienced an identity crisis? Has the individual committed to roles, goals, and values to define him/herself? Here, crisis refers to the individual’s period of engagement in choosing among meaningful alternatives, and commitment refers to the degree of personal investment the individual exhibits. In this study, we adapted Marcia’s identity status paradigm to measure the state of identity formation.

The second body of theory is on individuality which is distinct from the more researched construct of individuation. Seen usually within the context of one’s family, individuation is argued to be critically important to establish a mature ego identity during late adolescence (Blos, 1967; Erikson, 1968; Josselson, 1980). According to Anderson and Fleming (1986), Erikson (1968) emphasized the need for self-certainty as a critical aspect of adolescent identity development because self-certainty is an inner conviction to accomplish one’s life aims; therefore, identity development requires a “definite sense of independence from family as the matrix of self-images and sureness of anticipation” (p.183). Individuation from one’s family of origin in adolescence might be the root of Western young adults’ development of their careers. In Japan, the study of individuation has been less popular than in the West. Instead, the concept of individuality has been analyzed in the study of loneliness. Ochiai (1983) investigated the construct of loneliness by studying Japanese high school students

and university students and developed the Loneliness Scale of Ochiai (LSO). The scale consists of two variables: *awareness of individuality* and *comprehension and sympathy with others*. Ochiai (1989, 1999) indicated that it is important for late adolescents to develop mature aloneness, whereby students can acknowledge that people are destined to be alone because of their individuality and, at the same time, can understand others. In a recent study, Masubuchi (2014) revealed that, similar to Ochiai's notion, the sense of fulfillment gained from properly spending time alone might support identity formation. In this study, we adapted the LSO to measure individuality, in other words, independence.

The third body of theory concerns career development. Super (1990) developed the lifespan-life space career development theory, which has served as a foundation for the development of contemporary career theories. Career development is a life-long process and has several stages connected to each age period. Given the age of undergraduate students, our study can be said to examine Super's exploration stage (ages 14 to 24). The developmental concept by age period was first proposed by Erikson (1950) and he postulated that adolescence (from the beginning of puberty until the late teens) was followed by young adulthood (from late teens to about age 40). However, Arnett (2000) insisted that the transition to adulthood was now long enough that it constituted not merely a transition but a separated period of the life course. He proposed the age period from the late teens through the mid-to late 20s (roughly ages 18-25) as the term *emerging adulthood*. In the exploration stage, adolescents and emerging adults are focused on the goals of crystallizing (developing a clear and stable vocational self-concept reflecting one's preferences for occupational fields and ability levels), specifying (recognizing educational and vocational choices in line with the vocational self-concept, which results from broadly exploring preferred occupations and forming a vocational identity) and implementing (making an occupational

choice, which entails preparing for and obtaining a position) the vocational self-concept in an occupational role (Hartung, 2012). Especially, according to Arnett (2004), the period of the emerging adulthood reflects distinctive feature of identity explorations.

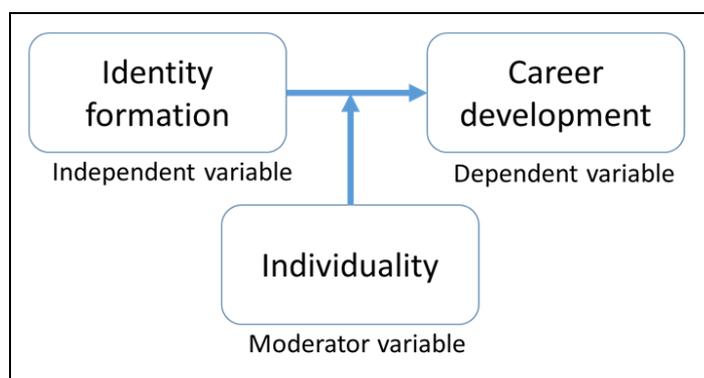
The initial identity is formed in childhood. Then, the adolescent and emerging adult identity reform through exploration. Given the representative studies on career development, there might be strong communality between career development and identity development. Further, Côté (2000) and Heinz (2002) emphasized how in recent decades the life course in industrialized societies has become increasingly characterized by *individualization*, which means that institutional constraints and supports have become less powerful and important and people are increasingly left to their own resources in making their way from one part of the life course to the next. Thus, the sense of individuation might affect the process of identity formation for emerging adults who are in transition through socialization. Against this background, Figure 1 shows the conceptual framework of this study. We expect that identity formation would affect career development under the impact of individuality.

Purpose and Objectives of the Study

The purpose of this study was to investigate the career development of students attending middle-ranked universities and compare their development with that of students attending a highly selective university to determine the differences. Specifically, the research objectives were:

1. To analyze the differences in career development between students attending middle-ranked universities and those attending a highly selective university to determine the specific features of students attending middle-ranked universities.

Figure 1: Conceptual framework



2. To examine the career support provided according to the context of differing academic ranking of universities.

Methods

In this paper, we define middle-ranked universities as universities with a deviation value of approximately 45 to 55. All Japanese universities were minutely ranked by academic ability from top to bottom according to the deviation value. Such total seriation is unique and Takeuchi (1995) insisted that it was the specific feature of the Japanese selection system. Because of the minutely ranked system, universities are encouraged to make an effort to attain a higher step than their current ability. For Japanese people, to make an effort is a virtue. Nakane (1970) also indicated that Japanese virtue traditionally is rooted in the philosophy that everyone is equal in one's ability to put in effort, so that they are recognized for their endeavor within this educational culture. In the Japanese system of minutely ranking, even though students failed and moved to the lower rank, they can maintain their aspiration because the competition is still active within the rank they moved to. That is the reason why the ranking of universities is remarkable in Japan.

Participants and Procedure

A total of 471 undergraduates attending seven middle-ranked private

universities in Tokyo completed a survey during their classes in 2015, and after incomplete responses were eliminated, there were 428 participants whose responses were eligible for analysis (46 freshmen, 76 sophomores, 146 juniors, 40 seniors, and 120 unanswered but confirmed as undergraduates; 183 males, 242 females, and 3 unanswered). In addition, a total of 335 undergraduates attending a highly selective national university in Osaka participated in the survey in 2019, and after incomplete responses were eliminated, there were 311 participants whose responses were eligible for analysis (269 freshmen, 35 sophomores, 1 junior, 5 seniors, and 5 unanswered; 158 males, 150 females, and 3 unanswered). All of the participants were informed that participation was voluntary and that their names would not be requested. Additionally, they were told that the survey investigated the career development of university students and that the data would be kept confidential. All the data from the students from middle-ranked and highly selective universities were combined, resulting in the analysis of data from a total of 739 students. The analytic plan for the study was as follows: to first conduct an exploratory factor analysis (EFA) to confirm the factors, and to then examine the hypothesized model of career development using the confirmed factors. Finally, to conduct multiple group structural equation modeling (Oshio, 2014; Toyoda, 2007) with maximum likelihood estimation to test the model.

Measures

Identity Status Scale. Using Marcia's identity status model, Kato (1983) developed the Identity Status Scale. This scale measures how well students form their identities. It is composed of four items related to *commitment in the present*, such as "I'm trying hard to achieve my goals", four items related to *crises in the past*, such as "I've deliberated over what kind of person I was and what I wanted to do in my life", and four items related to the *desire for future commitment*, such as "I am eager to find something I can deeply commit myself to". All 12 items are rated on a 5-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*).

Loneliness Scale. To examine individuality, we used the Loneliness Scale of Ochiai (LSO, 1983). The scale assesses two variables: *comprehension and sympathy with others* and *awareness of individuality*. Ochiai noted that it is

important for late adolescents to develop sufficiently high scores for both variables. He suggested that high scores indicated the achievement of mature aloneness, with students being able to admit that people are destined to be alone because individuality is what allows people to interact with others. The LSO consists of 16 items rated on a 5-point Likert scale ranging from 1 (*disagree*) to 5 (*agree*). The scale is composed of nine items related to "whether or not the student realizes that people can understand and sympathize with each other" and seven items related to "whether or not the student realizes that each person has individuality". Items of the Identity Status Scale with communality values of less than 0.2 were excluded before the survey was conducted. We conducted EFA on 11 items using the principal factor method with Promax rotation and confirmed a three-factor structure (Table 1).

Table 1. Factor loadings from the exploratory factor analysis with Promax rotation of the Identity Status Scale of students attending middle-ranked and highly selective universities

Items	f1	f2	f3	M	SD
	Commitment	Exploration	Inexperienced Critical Decision		
Cronbach's alpha	$\alpha=.639$	$\alpha=.581$	$\alpha=.518$		
M	2.668	2.727	1.854		
SD	1.091	1.053	1.053		
3 I know what kind of person I am, what I hope and what I try to do.	.755	-.052	.164	2.391	1.074
1 I'm trying hard to achieve my goals.	.668	.106	.087	2.562	1.058
11 I am thinking seriously about what kind of person I am and what I am trying to do, comparing some possible options.	.467	.394	.041	2.593	1.058
2 I don't have anything special to apply myself to. R	.437	.151	.285	3.064	1.115
4 I don't have a clear image of what I want to do. R	.407	.249	.217	2.732	1.152
6 I've deliberated over what kind of person I was and what I wanted to do in my life.	.013	.752	-.101	2.892	1.159
8 I had a time when I had lost my confidence in my previous way of life.	-.216	.536	.022	2.612	1.163
9 I am eager to find something I can deeply commit myself to.	.139	.456	-.048	2.678	1.127
5 I've never made a critical decision about my own life independently.	-.084	-.003	.555	1.859	1.099
7 I've never had doubts about spending my life meeting the expectations of my parents or other people.	.223	-.099	.521	1.962	1.021
12 I am not sure that I will be able to do anything meaningful in my life.	-.181	-.124	.389	1.740	1.040
Correlation between factors:					
Commitment	—	.473	-.618		
Exploration		—	-.268		
Inexperienced Critical Decision			—		

The first factor was named *commitment* because it contained five items that represented a situation in which an individual carries out actions to achieve his/her goals that are supposed to be connected to his/her future career. The second factor was named *exploration* because the three items referred to a situation in which an individual engages in autonomous exploration to determine who he/she is and what he/she wants to do. The third factor was named *inexperienced critical decision* because the three items indicated a situation in which an individual had never made an important critical decision before.

The correlations between factors

were examined, and it was found that commitment (f1) and exploration (f2) were positively correlated with each other but that they were both negatively correlated with the inexperienced critical decision factor (f3), see bottom panel of Table 1.

For the LSO, we excluded items with communality values of less than 0.2 before the survey was conducted. We conducted Exploratory Factor Analysis on the remaining 13 items using the principal factor method with Promax rotation and excluded two items that were found to contribute to lowering the Cronbach's alpha. We confirmed next that the 11 remaining items formed a three-factor structure (Table 2).

Table 2 Factor loadings from the exploratory factor analysis with Promax rotation of the Loneliness Scale of Ochiai (LSO) students attending middle-ranked and highly selective universities

Items	f1	f2	f3	M	SD
	Isolation	Destined Aloneness	Mutual Empathy		
Cronbach's alpha	$\alpha = .816$	$\alpha = .766$	$\alpha = .679$		
M	1.705	2.498	4.074		
SD	0.990	1.376	0.994		
7 I think nobody understands what I think and how I feel.	.875	-.020	.051	1.662	1.005
10 I think no one understands my way of life.	.663	.174	.033	1.816	1.090
14 I feel nobody understand me.	.642	.146	.022	1.813	1.041
6 I believe somebody understands my way of life. R	.553	.163	.297	1.530	0.825
9 I find people lonely by nature.	-.110	.899	.042	2.614	1.433
11 I think people are ultimately destined to live alone.	.234	.596	.050	2.143	1.245
5 I think I am nothing but a loner in the end.	.089	.525	-.117	2.735	1.450
3 I feel other people understand me.	.084	-.072	.691	3.739	1.108
4 I believe somebody understands my way of life.	-.166	.088	.624	4.073	1.039
2 I believe people can share joys and worries with others.	-.050	-.032	.489	4.507	0.814
15 I believe people can understand each other's feelings.	.083	-.133	.479	3.977	1.015
Correlation between factors: Isolation	—	.538	-.631		
Destined Aloneness		—	-.374		
Mutual Empathy			—		

We named the first factor, which contained four items, *isolation* because it represented a student's feeling that he/she was completely isolated from others. We named the second factor, which contained three items, *destined aloneness* because it

explained the belief that individuals are fundamentally alone. The third factor, which contained four items, was named *mutual empathy* because it indicated the belief that individuals could understand and sympathize with each other. The factors of

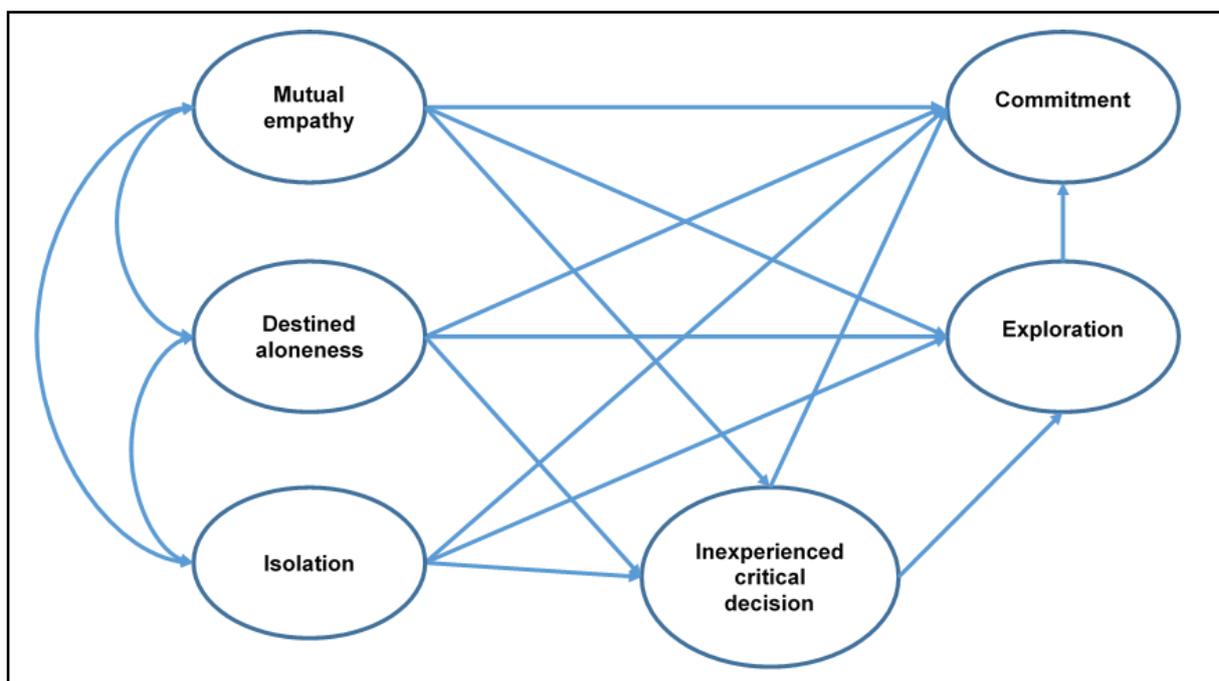
isolation (f1) and destined aloneness (f2) were positively correlated and both these factors were negatively correlated with mutual empathy (f3), see bottom panel in Table 2.

The hypothesized model

The isolation, destined aloneness, and mutual empathy factors were considered to represent students' personal beliefs regarding whether relationships with others and the real world developed individually and independently. The sense of individuality might affect the identity formation of the emerging adults as previously mentioned. On the other hand, the inexperienced critical decision, exploration, and commitment factors represents the process of identity formation by which an individual expects him/herself to commit to accelerating his/her career development. Banda, Sugimori, Sato, Yasuda & Toyoda (in press) conducted a longitudinal study focused on the Japanese students attending middle-ranked universities. Based on the results of the

cluster analysis of identity status in their study, these researchers found that the identity development process of the students whose job-hunting activities were successful might be a transition consisting of (a) nonactivation (which involves a low level of exploration and commitment, a low level of experience of crises, and a high level of inexperience of critical decision), (b) nonactivation with experience of crises, (c) activation, and (d) achievement (which involves a high level of exploration and commitment, a high level of experience of crises, and a low level of inexperience of critical decision). Thus, it would be remarkable that the process of career development of the students might trace the path of inexperienced critical decision, exploration and commitment. Based on the factors confirmed by the EFA, we proposed a model in which the difference in personal beliefs might affect the status of identity formation, transforming commitment to be a goal of career development. We drew the paths to all combinations of each variable to reveal the hidden causal relation (Figure 2) and examined these.

Figure 2. The hypothesized model of university students' career development explained by the factors of individuality and identity formation



Results

Measurement model

For the two groups of students, i.e., those attending middle-ranked universities and those attending the highly selective university, the descriptive statistics and Pearson correlation coefficients for the mean item scores of all variables are shown in Table 3.

We conducted a t-test to compare the mean scores of all variables between the

two groups. There were significant differences in the exploration, inexperienced critical decision, and isolation scores between the middle-ranked group ($M = 2.63$, $SD = .91$; $M = 1.95$, $SD = .80$; $M = 1.75$, $SD = .82$) and highly selective group ($M = .286$, $SD = .73$; $M = .172$, $SD = .65$; $M = .164$, $SD = .77$); $t(730) = -3.81$, $p < .001$, $d = .28$, 95% CI[-.35, -.11]; $t(728) = 4.27$, $p < .001$, $d = .32$, 95% CI[.12, .33]; $t(737) = 1.98$, $p < .05$, $d = .15$, 95% CI[.00, .23], respectively.

Table 3 Means, standard deviations, and correlations among variables

	Middle-ranked		Highly selective		1 Isolation	2 Destined Aloneness	3 Mutual Empathy	4 Commitment	5 Exploration	6 Inexperienced Critical Decision
	M	SD	M	SD						
1 Isolation	1.755	0.819	1.637	0.766	—	.593**	-.542**	-.102*	-.087	-.001
2 Destined aloneness	2.437	1.158	2.581	1.108	.460**	—	-.446**	-.027	.037	-.077
3 Mutual empathy	4.034	0.731	4.129	0.687	-.500**	-.280**	—	.185**	.091	-.043
4 Commitment	2.629	0.787	2.722	0.656	-.282**	-.040	.268**	—	.440**	-.489**
5 Exploration	2.630	0.913	2.861	0.730	.049	.106	-.130*	.102	—	-.299**
6 Inexperienced critical decision	1.950	0.804	1.721	0.652	.194**	.129*	-.107	-.355**	-.120*	—

Note: In the correlation panel (left), the values above the diagonal show the data from middle-ranked university students and the values below the diagonal show the data from highly selective university students.

** $p < .01$. * $p < .05$

In both groups, there was a significant negative correlation between inexperienced critical decision and commitment ($r = -.49$, $p < .01$; $r = .36$, $p < .01$). Specifically, for the group of students attending middle-ranked universities, there was a significant negative correlation between inexperienced critical decision and exploration ($r = -.30$, $p < .01$) and a positive correlation between exploration and commitment ($r = .44$, $p < .01$). In contrast, for the group of students attending the highly selective university, there was a significant positive correlation between mutual empathy and commitment ($r = .27$, $p < .01$).

Structural model

We performed multiple group structural equation modeling to investigate

whether a specific model fit the data equally well in the two groups of middle-ranked and highly selective university students.

First, we examined the differences in the path coefficients between two pairs of parameters. Table 4 shows the parameters with significant differences in the path coefficients. The paths from destined aloneness to commitment ($z = 2.31$) and to inexperienced critical decision ($z = 2.01$) were significantly different. The paths from mutual empathy and from inexperienced critical decision to exploration showed a significant difference ($z = 2.31$; $z = 2.07$). Moreover, the paths from isolation and from exploration to commitment were significantly different ($z = 3.29$; $z = 3.29$).

Table 4. Test statistics on the differences between parameters

	parameter	z
Mutual empathy	↔ Destined aloneness	2.59 ***
Destined aloneness	↔ Isolation	2.29 **
Mutual empathy	→ Exploration	2.31 **
Destined aloneness	→ Commitment	2.31 **
Destined aloneness	→ Inexperienced critical decision	2.01 **
Isolation	→ Commitment	3.29 ***
Inexperienced critical decision	→ Exploration	2.07 **
Exploration	→ Commitment	3.29 ***

Note : ***p < .001. **p < .01

Second, we confirmed the measures of the overall fit of a series of models (Table 5), starting with the most restricted model as model 1, where all parameters were equal. Model 2 restricted the only covariance. Model 3 included an equality constraint on the parameters that showed

no significant difference between the two groups, in other words, parameters that did not appear in Table 4. As a result, model 3 showed the most acceptable goodness-of-fit statistics ($\chi^2(7) = 5.964, p = .544, n.s.$ GFI = .997, AGFI = .984, RMR = .015, RMSEA (90% CI =.00, .0041) = .0).

Table 5: Overall fit results for the multigroup comparison of middle-ranked and highly selective university students

	CMIN	df	GFI	AGFI	RMR	RMSEA	AIC
Model 1	56.624 ***	16	.976	.936	.057	.059	108.62
Model 2	9.799 n.s	5	.996	.964	.041	.036	83.799
Model 3	5.964 n.s	7	.997	.984	.015	0	75.964

Note: *** p < .001, n.s. = not significant; CMIN = Minimum Chi-square (χ^2) Value; GFI = Goodness of Fit Index; AGFI = Adjusted GFI; RMR = Root Mean Square Residual; RMSEA = Root Mean Square Error of Approximation; AIC = Akaike's Information Criterion.

Finally, we compared the structural model between the two groups with model 3 and confirmed the difference in the career development models between the students

attending the middle-ranked universities (Figure 3) and those attending the highly selective university (Figure 4).

Figure 3. A path model of the career development of students attending middle-ranked universities (Model 3).

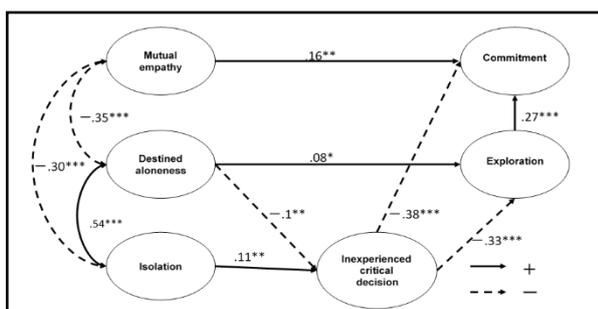
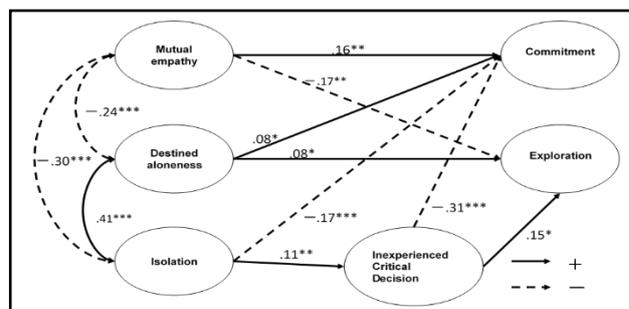


Figure 4. A path model of the career development of the students at a highly selective universities (Model 3).



*** p < .001 ** p < .01 * p < .05. Bold lines indicate statistically significant paths; statistically nonsignificant paths are deleted.

Discussion

This study investigated the differences in career development between students attending middle-ranked universities and those attending a highly selective university and examined how individuality factors affected their identity formation. The path analyses revealed that each individuality factor influenced the process of identity formation differently.

Implications

Both groups showed positively related paths from mutual empathy to commitment and from destined aloneness to exploration. These findings strongly supported Ochiai's (1989, 1999) and Masubuchi's (2014) assertion that late adolescents develop mature aloneness, whereby students can acknowledge that people are destined to be alone because of their individuality and, at the same time, can understand others.

Second, the path analyses in both groups indicated that isolation was positively related to inexperienced critical decision and that inexperienced critical decision was negatively related to exploration as well as commitment. Aoki (2009) reviewed papers on career support in higher education to find that, in middle-ranked or less selective universities, isolated students without friends or anyone to turn to for advice had a low rate of obtaining an official job offer from a firm. Aoki (2009) also noted that middle-ranked and less selective universities need to provide continuous support for isolated students. However, our findings revealed that isolation might hinder exploration and commitment not only in students attending middle-ranked universities but also in those attending highly selective universities. Furthermore, we found that isolation may hinder students' exploration and commitment because they have less experience in critical decision making if they are isolated.

Third, destined aloneness was negatively related to inexperienced critical

decision only in the middle-ranked group, which indicated that destined aloneness might positively affect critical decision making. In addition, exploration positively affected commitment. According to Ohno, Mogaki, & Uchimura (2004) and Tani (2001), the sense of fulfillment gained from properly spending time alone may support identity formation. Recently, career education at middle-ranked universities has tended to focus on communication skills as well as collaborative skills due to the introduction of active learning. However, based on the results, we concluded that a sense of destined aloneness might encourage middle-ranked students to develop their career exploration into commitment.

Last, isolation negatively related to commitment only in the highly selective group. In addition, mutual empathy was negatively related to exploration, but destined aloneness was positively related to commitment. We considered that the students attending the highly selective university might have been independent in cultivating their knowledge and that this independence might have encouraged their exploration and commitment. However, collaborating with someone who is sympathetic might prevent a student from exploring. Moreover, there was no significant path from exploration to commitment. These findings suggest that career support should place more emphasis on the development of students' collaborative ability and commitment to alternative choices about what to explore.

Limitations and future directions

First, our data are from students attending a middle-ranked university in 2015 and a highly selective university in 2019, so the result might be affected by the time lapse of four academic years (that is approximately a distance of four cohorts gaining entry into the sampled universities). Ideally, the data should have been taken in a same year.

Second, most of the participants in the highly selective group were freshmen,

so the result that showed that exploration did not influence commitment might be explained by the fact that the freshmen might have been on the path to commitment. Ideally, the data would have been more equally distributed across grades.

MEXT (2012) suggested an educational shift at higher education institutions from passive learning to active learning, whereby students can carry out autonomous learning as an approach to career education. Professors have been contemplating how they can change their teaching methods to help develop active learners. In reality, there are few universities that have introduced active learning to intrigue students to solve problems that have no correct answers. Nevertheless, numerous cases of failure in

active learning have been reported in middle-ranked universities (Kamekura, 2015). In this study, we revealed that destined aloneness affected exploration and led to commitment among the students attending middle-ranked universities. However, the relationship between learning motivation and career development has been overlooked and should be examined in future research.

Conclusion

The findings from this study indicated differences in the career development process between undergraduates from middle-ranked and highly selective universities. More importantly, our findings suggested the importance of a sense of destined aloneness for undergraduates attending middle-ranked universities.

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