Japanese Psychological Research
2010, Volume 52, No. 1, 1–11
doi: 10.1111/j.1468-5884.2009.00417.x

Development of the State Impostor Phenomenon Scale

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Abstract: The purpose of this study was to develop a State Impostor Phenomenon Scale (SIPS). Participants (344 graduate and undergraduate students) were asked to complete the SIPS, the State Self-Esteem Scale, and the State-Trait Anxiety Scale in three situations, followed by the Trait Self-Esteem Scale. Results showed that the SIPS had stable factor structure, and adequate reliability. In addition, the predicted correlational patterns among the scales demonstrated the construct validity of the SIPS. Moreover, the SIPS was responsive to different situations, as evidenced by significant differences between the scores in the three situations.

Key words: impostor phenomenon, self-esteem, anxiety.

The impostor phenomenon has been defined as "an internal experience of intellectual phoniness that those who feel fraudulence and worthlessness in spite of outstanding academic or professional accomplishments have" (Clance, 1985). Clance and Imes (1978), after working with more than 150 highly successful women for 5 years, found that they nourished a certain common feeling. This is why they proposed the concept of the impostor phenomenon. Initially, they concluded that the impostor phenomenon was experienced strongly only by women (Clance & Imes, 1978). Most studies, however, have suggested that there is no difference between men and women in their level of experience of this phenomenon (Bussotti, 1990; Casselman, 1992; Castoro, Jones, & Mirsalimi, 2004; Chae, Piedmont, Estadt, & Wicks, 1995; Dingman, 1987; Fried-Buchalter, 1997; Imes, 1979; Langford, 1990; Sonnak & Towell, 2001). At the same time, precise definitions of the impostor phenomenon have varied in past studies. For example, Holmes, Kertay, Adamson, Holland, and Clance (1993) referred to it as the inner experience of intellectual phoniness in high-achieving women who seemed to be unable to internalize their experiences of success. In contrast, Chrisman, Pieper, Clance, Holland, and Glickauf-Hughes (1995) referred to it in terms of individuals who are successful by external standards but who maintain the illusion of personal incompetence. In the present study, descriptions of the impostor phenomenon in past studies were integrated, resulting in the following definition: "the experience of people who attribute their success to luck, while feeling that they are truly incompetent, with the consequent anxiety that others may discover

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[1]This dissertation could not have been written without the valuable cooperation of Professor Kenji Hiraishi (Nagoya University), and the author acknowledges the useful comments of Ken Kameda (Nagoya University), of Takahiro Yoshizumi (Nagoya University) and of Ryo Okada (Nagoya University). Thanks are also due to Yo Fumino (reader at Tokyo Metropolitan University) and Takamitsu Hashimoto (part-time teacher at Sensyu University) who helped to collect data, and the students who participated in this research project. The author wishes to thank Professor Jiro Takai (Nagoya University) and Fermirina, F. Mahardiyanti (Nagoya University) for their help in back-translating the State Impostor Phenomenon Scale. The author would also like to express deep appreciation to Rosemary Coffey for her assistance in checking the English in the manuscript.

that they are incompetent in the field where they have objectively outstanding accomplishments." Furthermore, the trait that tends to engender such an experience is hereon named the "trait impostor phenomenon."

The characteristics of those who tend to experience the impostor phenomenon are as follows: First, because they attribute success to external sources such as luck (Chae et al., 1995; Imes, 1979; Ross, Stewart, Mugge, & Fultz, 2001; Topping & Kimmel, 1985), they experience only passing satisfaction. Therefore, they display a low level of confidence in their own competence, and cannot acknowledge the evidence of their high ability (Clance, 1985). Because they believe they are not as capable as others think they are, they fear that they will not be able to fulfil the expectations of others at some future date (Casselman, 1992). In addition, the demands they make on themselves are extraordinarily high, to the point where they sometimes expect perfection (Clance, 1985; Thompson, Davis, & Davidson, 1998).

As predicted in past studies, there is a relationship between the tendency to experience the impostor phenomenon (i.e. trait impostor phenomenon) and a low level of self-esteem. This relationship has been pointed out many times (Harvey, 1981; Sonnak & Towell, 2001; Steinberg, 1986; Topping & Kimmel, 1985). This tendency, in fact, is a strong one, and is supported even if the specific self-esteem scale used varies (Castoro et al., 2004). The mental state of those who experience the impostor phenomenon tends to fall into present psychological distress (Henning, Ey, & Shaw, 1998), anxiety (Clance & O'Toole, 1987; Steinberg, 1986), depression (Bernard, Dollinger, & Ramaniah, 2002; Oriel, Plane, & Mundt, 2004; Steinberg, 1986), and so forth.

Impostor phenomenon scales

As various researchers have investigated the impostor phenomenon, scales that measure it have been developed. Three of these are explained below.

The first one is the Harvey Impostor Phenomenon Scale (HIPS; Harvey, 1981). It is designed to measure the presence of cognitions and affects associated with the impostor phenomenon. HIPS consists of items that appear to measure such feelings as, "In general, people tend to believe I am more competent than I really am," and "Sometimes I am afraid I will be discovered for who I really am." Harvey also reported substantial internal consistency and good convergent and discriminant validity for HIPS. Subsequent investigations, however, showed HIPS to have an unacceptably low level of internal consistency ($\alpha = .34$, Edwards, Zeichner, Lawler, & Kowalski, 1987; $\alpha = .64$, Kolligian & Sternberg, 1991). Furthermore, it did not prove adequate in differentiating impostors from nonimpostors (Holmes et al., 1993). Chrisman et al. (1995) also suggested that the wording of the HIPS might be perceived as negative by respondents and thus might inhibit accurate self-reporting.

The second scale is the Clance Impostor Phenomenon Scale (CIPS; Clance, 1985). In addition to the attributes tapped by HIPS, CIPS incorporates the fears of being evaluated, of not being able to repeat success, and of being less capable than others. It consists of items that seem to measure such feelings as, "Sometimes I'm afraid others will discover how much knowledge or ability I really lack," and "If I receive a great deal of praise and recognition for something I've accomplished, I tend to discount the importance of what I have done." CIPS has a high level of internal consistency ($\alpha = .84$, Prince, 1989; $\alpha = .96$, Holmes et al., 1993). In addition, three primary factors (Fate, Discount, and Luck) have been identified (Kertay, Clance, & Holland, 1991). Thus, CIPS seems to have remedied some of the problems identified in HIPS (Campbell, 1986; Chrisman et al., 1995; Holmes et al., 1993). Further, CIPS has been translated into Japanese by Okonogi and Ono (1988).

Against this background, Cozzarelli and Major (1990) questioned the impostor phenomenon as a separate psychological phenomenon. They suggested that the impostor phenomenon may simply reflect a general propensity to experience negative affect. In response, Kolligian and Sternberg (1991) developed the Perceived

Fraudulence Scale (PFS), providing evidence for its construct, convergent, and discriminant validity. Kolligian and Steinberg claimed that the term "impostor phenomenon" denotes a specific diagnostic category, proposing the alternate term "perceived fraudulence." In their study, they found that those with a high score on the trait impostor phenomenon could be distinguished from those with a high general propensity to experience negative affect. In other words, indications were that the trait impostor phenomenon was an independent concept. Kolligian and Sternberg (1991) did suggest as a limitation of the PFS that it does not address the effects of different types of situational factors.

All the scales developed so far have been worded to measure traits that are independent of specific situations. Harvey and Katz (1985), however, argued that many people experience the impostor phenomenon in association with certain situations; if this is the case, then the impostor phenomenon may be one that is strongly influenced by situations, and cannot be adequately accounted for only by traits. However, scales catering to situations have yet to be developed. Instead of focusing on traits, such as the tendency to experience the impostor phenomenon, more attention needs to be paid to how much the impostor phenomenon is experienced in various situations.

The present study

The purpose of the present study is to develop a State Impostor Phenomenon Scale (SIPS) that measures the impostor phenomenon as a state. In this study, the factor structure, construct validity, reliability, and sensitivity to the situations of the SIPS were also examined.

Construct validity was examined through theoretically expected correlations with other instruments, such as the state self-esteem scale and the state anxiety scale. The impostor phenomenon has been shown to correlate strongly with low self-esteem (Harvey, 1981), and high general anxiety (Clance & Imes, 1978). Therefore, it was predicted that the impostor phenomenon correlates negatively with state self-esteem, and positively with state anxiety.

CIPS was not used in this study to examine validity, because CIPS and SIPS closely resemble each other in their wording, although they are aimed at different targets. The former is intended to measure trait, while the latter is for state. Because of this strong similarity, we believed that participants may be subject to ordering effects should they have responded to both.

Method

Participants

The participants were 344 Japanese undergraduate and graduate students (153 female, 188 male, 3 unknown, with an average age of 21.5 years) from the Kanto, Kansai, Tokai, and Chugoku regions. Most of them attended national universities, characterized by academic prestige and excellence.

Setting of the situations in which one tends to experience the impostor phenomenon

Past studies have adduced some situations in which one tends to experience the impostor phenomenon. These may include situations in which one is under pressure to display self-confidence, in which one succeeds unexpectedly, in which one is a new student (Harvey, 1981), and in which one receives evaluative feedback (Cozzarelli & Major, 1990), and so on. There is also a study noting that the impostor phenomenon is easily experienced in the academic field (Fruhan, 2002). In this study, 26 situations in which one tends to experience the impostor phenomenon were extracted from past studies. Then these situations were categorized by four undergraduate students who majored in clinical psychology, along with the author, by using the Affinity Diagram (Kawakita, 1967), which organized large amounts of data (opinions, ideas, etc.) into groupings based on their relationship to each other. On this basis, three situations were configured in which college students may be expected to experience

the impostor phenomenon: "New experience" is a situation such as writing a paper on a topic outside of one's expertise; "Receiving evaluation" is a situation such as taking an examination that greatly affects one's grade; and "Unexpected experience" is a situation such as getting a good grade in a tough course.

Measures

SIPS. The SIPS was derived by changing the wording of the original items of the Japanese version of the CIPS so as to focus on the present (e.g. "I'm often afraid that I may fail at a new assignment or undertaking even though I generally do well at what I attempt" was changed to "I'm afraid that I may fail at a new assignment even though I've done well at what I attempt").

The CIPS consists of a 20-item instrument that measured tendencies such as concerns about one's competence (Fake), feelings of not being able to accept compliments (Discount), and attributions of successes to luck (Luck). The scale uses a 5-point Likert scale (1 = not at all true to 5 = very true), with high scores denoting increasing levels of the state impostor phenomenon. In the SIPS, the original items 1 ("I have often succeeded on a test or task even though I was afraid that I would not do well before I attempted it"), 2 ("I can give the impression that I'm more competent than I really am"), 19 ("If I'm going to receive a promotion or gain recognition of some kind, I hold back to tell others until it is an accomplished fact"), and 20 ("I feel bad and discouraged if I'm not 'the best' or at least 'very special' in situations that involve achievement") of the CIPS were omitted because of low between-item correlation (Kertay et al., 1991); the remaining 16 items were used.

State Self-Esteem Scale (SSES). The SSES was originally developed as a 20-item measure by Heatherton and Polivy (1991). It was designed to assess aspects of self-esteem that fluctuate depending on the situation. The scale uses a 5-point Likert scale (1 = not at all true to 5 = very true), with high scores denoting increasing levels of state self-esteem. The scale used in this study was the Japanese version of the SSES (Tachi & Uno, 2000), composed of the factors of Academic Ability, Evaluation Concern, Inner Displeasure, Appearance, and Self-Consciousness. The validity and reliability of the scale has been well confirmed.

In the present study, we used two of the five subscales: the Academic Ability Factor and the Evaluation Concern Factor. Item 5 ("I feel that I am having trouble understanding things that I read") in the Academic Ability Factor was omitted because it was unsuitable for the situations used in this study. The top three items, which have a high factor loading on the Academic Ability Factor, were adopted, and one self-consciousness factor item that loaded more strongly on the Academic Ability Factor was added. This factor represents a total of eight items.

State-Trait Anxiety Scale – State (STAI-S). The STAI was developed as a 40-item instrument designed to assess state anxiety and trait anxiety (Spielberger, Gorsuch, & Lushene, 1970). There are 20 items on the trait anxiety scale and another 20 on the state anxiety scale. The scale uses a 4-point Likert scale with high scores denoting increasing levels of anxiety. Sufficient reliability has been reported for the STAI (Spielberger, 1983). The Japanese version of the STAI was developed, and both validity and reliability have been confirmed (Shimizu & Imae, 1981). For this study, five items of the 20 on the state anxiety scale that have particularly high reliability (Spielberger, Gorsuch, & Luchene, 1990) were used. The scale uses a 5-point Likert Scale (1 = not at all true to 5 = very true), with high scores denoting increasing levels of state anxiety; this was changed from the original 4-point scale to conform to the other scales.

Trait Self-Esteem (Rosenberg Self-Esteem Scale (RES)). The RES (Rosenberg, 1965) is a 10-item instrument designed to measure self-evaluation of worth, usefulness, self-respect, and competence. The scale uses a

Table 1 Means, standard deviations, internal consistencies, skewness, and kurtosis on total and subscales of the State Impostor Phenomenon Scale for each situation

Variable	*Mean*	*SD*	α	Skewness	Kurtosis
New experience					
Feelings of Fraudulence toward Others	14.66	4.66	.87	−.07	−.50
Subjective Incompetence	20.38	5.00	.71	.12	.24
Total	35.04	7.99	.79	.01	.17
Receiving evaluation					
Feelings of Fraudulence toward Others	14.14	4.89	.87	.08	−.62
Subjective Incompetence	19.60	5.47	.78	.01	−.33
Total	33.74	8.92	.85	.03	−.12
Unexpected success					
Feelings of Fraudulence toward Others	13.19	4.68	.83	.40	−.10
Subjective Incompetence	19.50	5.80	.80	.01	−.36
Total	32.69	9.14	.86	.00	−.13

5-point Likert scale (1 = not at all true to 5 = very true), with high scores denoting increasing levels of trait self-esteem. High internal consistency has been reported. The Japanese version was developed by Yamamoto, Matsui, and Yamanari (1982), and validity and reliability have been confirmed. In this study, it was used without change.

Procedure

In the questionnaire, each situation was presented first. Then, after the question, "How do you feel in these situations?," participants were administered the SIPS, the SSES, the STAI-S, and the RES. All participants were required to respond to a series of situations in the following order: new experience, receiving evaluation, and unexpected success.

The survey was conducted in November, 2005. Most participants were education majors, who were administered the questionnaire during a lecture in groups, under the supervision of the professor, while some responded individually with the author. It took approximately 15 min to complete the questionnaire. Participation was voluntary, and participants were instructed to start responding after reading the instructions, assuring them of their privacy. To ensure anonymity, all participants were instructed to omit their names from questionnaires. Participants were given feedback on another day.

Results

Descriptive statistics of the SIPS

The means and standard deviations of each item, and the skewness and kurtosis of subscales on the SIPS were calculated in every situation. Then the ceiling and floor effects were examined based on the score of means $\pm$ 1 standard deviation. The results showed that none of the items indicated either a ceiling or a floor effect (Table 1).

Factor structure of the SIPS

Factor analysis was conducted on all 16 items of the SIPS in each situation. The results are shown in Table 2.

In the situation of new experience, factor analysis, based on a principal factor solution, was conducted on the SIPS, and an attenuation condition of the eigenvalue was taken into consideration. On this basis, factor analysis with promax rotations and the request command of extracting two, three, and four factors was performed. Item 10 was deleted due to low commonality. Two factors were adopted based on interpretability, and item 13 was deleted because its factor loading was $\leq$.40 (.39). Although one of the loadings of item 3 was also $\leq$.40 (.37), it was not omitted for the sake of content reliability, because the factor loadings in the other two situations were $\geq$.40 (.47 and .44, respectively). Additional factor analysis of

Table 2 Rotated factor analysis of the State Impostor Phenomenon Scale for each situation

	Item	New experience		Receiving evaluation		Unexpected success	
		F1 Factor loading	F2	F1 Factor loading	F2	F2 Factor loading	F1
11	I fear that people will be able to detect aspects of me in which I do not actually have any ability.	**.83**	–.07	**.79**	.05	**.71**	.09
4	I am afraid that someone important to me will find out that I have less ability than what people think I have.	**.81**	–.13	**.77**	.01	**.70**	.05
1	I worry a lot about how others evaluate me.	**.63**	–.10	**.82**	–.21	**.79**	–.20
12	I have been able to achieve success so far, but I fear that I will fail in any new tasks.	**.57**	.17	**.52**	.19	**.44**	.28
2	Even when I achieve results that are praised by others, I worry that I might not be able to fulfill their expectations in the future.	**.55**	.16	**.75**	.09	**.70**	.01
8	I cannot sincerely accept people's praise of my ability.	–.14	**.59**	–.17	**.73**	–.08	**.73**
7	I feel that my success to this point has just been some mistake.	.17	**.58**	.09	**.64**	.04	**.72**
6	It is unlikely that I will be able to achieve tasks the way I wanted to.	–.03	**.55**	.07	**.54**	.05	**.66**
5	I remember the events in which I could not do my best, rather than the times that I did do my best.	.06	**.54**	.16	**.43**	.16	**.39**
9	I think that I had just been lucky when achieving success.	.02	**.49**	–.06	**.62**	–.10	**.65**
14	When my achievements are recognized, and even when I receive high praise, I slight the importance of such recognition.	–.15	**.47**	–.01	**.57**	–.03	**.61**
3	I think that my success up to now has been dependent on being at the right place at the right time, and knowing the right people.	.16	**.36**	.06	**.47**	.04	**.44**
	Inter-factor correlation	.45		.54		.58	

the same sort was conducted. Although the factor loading of item 15 was ≥.40 (.42) in this situation, this item was deleted because the loadings in the other situations were ≤.40 (.33). Likewise, while item 16 loaded ≥.40 (.42), it too was deleted because it also loaded highly on another factor, and also the loadings for this item were ≤.40 (.37) in the other two situations. Again, factor analysis of the same sort was performed on the remaining items.

In the situation of receiving evaluation, factor analysis, based on principal factor solution, was conducted, and the attenuation condition of the eigenvalue was taken into consideration. On this basis, factor analysis with promax rotations and the request command of extracting two and three factors was performed. As a result, two factors were adopted based on interpretability, and item 10 was deleted due to low commonality. Moreover, item 15 was deleted because its factor loading was ≤.40 (.36). Although the factor loading of item 13 was .47 in this situation, this item was deleted because its loadings in the other two situations were ≤.40 (.39 and .39, respectively). Furthermore, the factor loading of item 16 was .46 in this situation, but it was deleted because it loaded strongly on a different factor from the other two situations. Subsequent factor analysis of the same sort was performed on the remaining items.

In the situation of unexpected success, factor analysis, based on the principal factor solution, was conducted, and the attenuation condition of the eigenvalue was taken into consideration. On this basis, factor analysis with promax rotations with two and three factor extraction was performed. As a result, two factors were adopted based on interpretability, and item 10 was deleted due to low commonality. Moreover, items 13, 15, and 16 were deleted because their factor loadings were ≤.40 (.39, .36, and .37, respectively). Although the loading of item 5 was also ≤.40 (.39) in this situation, this item was kept because the loadings in the other two situations were ≥.40 (.54 and .43, respectively). Subsequent factor analysis of the same sort was performed on the remaining items.

Factor 1 items in the situations of new experience and receiving evaluation were consistent with Factor 2 items in the situation of unexpected success. In contrast, Factor 2 items in the situations of new experience and receiving evaluation were consistent with Factor 1 items in the situation of unexpected success.

The items in the former factor were related to the respondents' fear that their lack of ability might be discovered (e.g. "I fear that people will be able to detect aspects of me in which I do not actually have any ability" and "I am afraid that someone important to me will find out that I have less ability than what people think I have"). This factor is supposed to be consistent with the fake factor found by Chrisman et al. (1995). Therefore, this factor was labelled "Feelings of Fraudulence toward Others."

The latter factor involved items related to respondents' lack of confidence in their ability, for example, "It's hard for me to accept compliments or praise about my ability" and "I hardly do a task as well as I'd like to do it." This factor is supposed to be consistent with the discount factor found by Chrisman et al. (1995). Therefore, this factor was labelled "Subjective Incompetence."

Internal consistency

Cronbach's alphas were computed in each situation to examine the internal consistency and reliability of the total and subscale scores of the SIPS. As a result, Cronbach's alphas for the total scores of the SIPS ranged from a low of .79 to a high of .86: for the Feelings of Fraudulence toward Others from a low of .83 to a high of .87, and for the Subjective Incompetence from a low of .71 to a high of .80. All achieved sufficient reliability (Table 1).

Examination of the construct validity

Internal consistency of SSES and STAI-S. When the internal consistency (Cronbach's α) was examined for the total and the two subscales of the Japanese version of SSES (Tachi & Uno, 2000), every scale was found to have good internal consistency: Total, $\alpha = .69 - .77$; Evaluation Anxiety Factor, $\alpha = .82 - .85$; Academic Ability Factor, $\alpha = .73 - .81$.

Subsequently, when the internal consistency of five items from the Japanese version of the STAI-S (Shimizu & Imae, 1981) was examined, it was found to have sufficient reliability ($\alpha = .68 - .73$).

Correlations between the SIPS and other state individual difference measures (the SSES, the STAI-S). The total and the subscales of the SIPS were correlated with the total and the subscales of the SSES, the STAI-S, and the RES (Table 3).

The total of the SSES correlated negatively with the total of the SIPS in every situation (new experience, $r = -.51$, $p < .001$; receiving evaluation, $r = -.59$, $p < .001$; unexpected success, $r = -.56$, $p < .001$). These were larger than the correlations between the SIPS and the RES (new experience, $r = -.44$, $p < .001$; receiving evaluation, $r = -.45$, $p < .001$; unexpected success, $r = -.37$, $p < .001$). Moreover, the total SSES score was significantly negatively correlated with Feelings of Fraudulence toward Others ($r = -.45 - - .55$, $p < .001$) and Subjective Incompetence ($r = -.41 - - .48$, $p < .001$). In addition, with regard to correlations between the subscales of SIPS and SSES, Feelings of Fraudulence toward Others was strongly correlated with the Evaluation

Table 3 Correlations between the SIPS, SSES, and STAI-S

	SIPS	SSES			RES	STAI-S
	Subjective incompetence	Evaluation anxiety	Academic ability	Total		
New experience						
Feelings of Fraudulence toward Others	.37***	.58***	–.06	–.45***	–	.24***
Subjective Incompetence	–	.23***	–.37***	–.41***	–	.26***
Total		–	–	–.51***	–.44***	.30***
Receiving evaluation						
Feelings of Fraudulence toward Others	.48***	.65***	–.15**	–.55***	–	.31***
Subjective Incompetence	–	.29***	–.40***	–.46***	–	.27***
Total		–	–	–.59***	–.45***	.33***
Unexpected success						
Feelings of Fraudulence toward Others	.52***	.54***	–.22***	–.51***	–	.26***
Subjective Incompetence	–	.34***	–.39***	–.48***	–	.25***
Total		–	–	–.56***	–.37***	.29***

Note. RES = Rosenberg Self-Esteem Scale; SIPS = State Impostor Phenomenon Scale; SSES = State Self-Esteem Scale; STAI-S = State-Trait Anxiety Inventory-State.
$^{**}p < .01$. $^{***}p < .001$.

Anxiety Factor ($r = .54 – .65$, $p < .001$), and Subjective Incompetence was strongly correlated with the Academic Ability Factor ($r = –.37 – – .40$, $p < .001$).

STAI-S showed significant positive correlation with the total of SIPS in every situation ($r = .29 – .33$, $p < .001$). Moreover, there were significant positive correlations between STAI-S and Feelings of Fraudulence toward Others ($r = .24 – .31$, $p < .001$) and Subjective Incompetence ($r = .25 – .27$, $p < .001$).

Examination of responsiveness to a change of situation

One-way repeated measures ANOVAS were performed on the total and subscale scores of the SIPS, with situation as the within-subject variable. The analyses revealed significant effects of situation (total SIPS: $F(2,686) = 23.41$, $p < .001$; Feelings of Fraudulence toward Others: $F(2,686) = 27.19$, $p < .001$; Subjective Incompetence: $F(2,686) = 9.28$, $p < .001$). The Bonferroni multiple comparison procedure was performed, yielding a difference between the three situations at the significance level of 5% in the total score of the SIPS ($M = 35.04, 33.74$, and 32.70) and Feelings of Fraudulence toward Others ($M = 14.66, 14.14$, and 13.19). There was also a significant difference between the situation of new experience and the situation of receiving evaluation, and between the situation of new experience and the situation of unexpected success in Subjective Incompetence ($M = 20.30$, 19.60, and 19.50). The results are shown in Table 4.

Discussion

The purpose of this study was to develop the SIPS. First, a factor analysis conducted on the SIPS yielded two common factors in all three situations. The items that loaded highly on each factor were identical. In addition, two factors seemed to correspond to the factors of Fake and Discount found by Chrisman et al. (1995). One factor, labelled Feelings of Fraudulence toward Others, taps the fear that others will detect the respondents' incompetence, and another factor, labelled Subjective Incompetence, taps their low self-confidence toward their own competence. This result indicates that

Table 4 Result of the Bonferroni multiple comparison on the SIPS with the situation as a within-subject variable

	New experience	Receiving evaluation	Unexpected success
Feelings of Fraudulence toward Others			
New experience	–	>*	>*
Receiving evaluation		–	>*
Unexpected success			–
Subjective Incompetence			
New experience	–	>*	>*
Receiving evaluation		–	*ns*
Unexpected success			–
Total score of the SIPS			
New experience	–	>*	>*
Receiving evaluation		–	>*
Unexpected success			–

Note. RES = Rosenberg Self-Esteem Scale; SIPS = State Impostor Phenomenon Scale.
*$p < .05$.

SIPS has a stable factor structure across situations. Items that seemed to load strongly on luck, such as "I feel that my success to this point has just been some mistake" and "I think that my success up to now has been dependent on being at the right place at the right time, and knowing the right people," did not form an independent factor, but loaded heavily on Subjective Incompetence. Various reasons could be considered. First, this result may reflect the difference in the view of luck between the West and Japan. Liu and Yussen (2005) suggested that Chinese teachers generally do not encourage students to benefit from luck, while on the other hand, American parents or friends are more likely to say "good luck." This indicates the possibility that, in Eastern cultures, dependence on luck or fate may be construed as incompetence, but in Western cultures, that might not be the case. Second, the domain of this study was limited to an academic one, and thus may not be applicable to the general population. Kitayama, Takagi, and Matsumoto (1995) interpreted Haraoka's (1991) insistence that one tends not to attribute his/her academic result to luck, but to effort, regardless of whether the result is good or bad. This, perhaps, is because learning requires daily effort, and the result is more easily attributed to it. There is a possibility therefore that "luck" was short of an independent factor in this study because it was not emphasized as a cause for academic achievement. Further exploration is required.

Second, the Cronbach's alpha coefficients were computed on the total and subscale scores of the SIPS in each situation to determine internal consistency. It was revealed that the total and subscales of the SIPS had sufficient reliability. At the same time, they indicated significant negative correlations with the total and subscales of SSES, and significant positive correlations with the STAI-S in every situation. These results supported the predictions, and thus substantiated the construct validity of the SIPS.

Furthermore, there were significant differences in the total and subscale scores of the SIPS between situations. This suggests that the SIPS measures state varying with situation. Moreover, there were differences in score variance by situation between the two subscales of the SIPS. This finding suggests that Feelings of Fraudulence toward Others and Subjective Incompetence measure two different concepts.

Future issues related to the SIPS are described below. A discussion of the validity, reliability or back translation was not described in the Japanese version of the CIPS, which was the source of the SIPS (Okonogi & Ono, 1988). In contrast, the SIPS is an independent scale of the state impostor phenomenon, and essentially different from the CIPS, which measures trait

and not state, although the CIPS is still the source of the SIPS. Therefore, continuous examination of validity and reliability are necessary through administration of the SIPS to other participant groups, and examination of correlation with a trait scale measuring similar concepts.

The present scale involved items whose meaning was confusing depending on the situation, such as "It is unlikely that I will be able to achieve tasks the way I wanted to" in the situation of unexpected success. Some sort of modification of these items is needed. Furthermore, as the field dealt with in this study was confined to the academic, additional studies are needed to ascertain if the same factor structure can be confirmed in other domains, such as business.

This study contributes an important perspective on the impostor phenomenon, which has traditionally been considered as a trait. Past studies have focused on one's trait by asking how frequently a person tends to go through these phenomena. They have not questioned how deeply a person experiences this state. Further work regarding this issue will enable us to understand what kind of situational or trait factors pertain to experience, and lead to a better idea of how we can treat this phenomenon.

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(Received June 26, 2008; accepted September 26, 2009)