Self-monitoring and conformity revisited: A case for four-factor measurement model

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A four-factor scale was proposed for measurement of self-monitoring tendency. Conformity data of 95 Japanese students in the Asch/Crutchfield paradigm were analyzed using its subscales: social sensitivity, other-directedness, acting ability, and persona variability. Conformity pressure level (whether the preceding four or two 'others' unanimously picked a wrong choice) and other-directedness interacted: under high pressure, the higher the other-directedness, the more conforming responses. Also, under low pressure, conformity of those high on other-directedness was significantly lower than under high pressure, but there was no such difference for those low. Persona variability and gender interactively determined judgmental reaction time, as well as responses on a few post-experimental questions. The results indicated usefulness of the proposed four-factor measurement model. Further improvement of the scale through factor analytical methods and construct validation is recommended.

Key words: self-monitoring, self-monitoring scale, conformity, factor analytical method, construct validity.

An individual in a social situation attempts to construct a pattern of social behavior appropriate to that particular setting (Snyder & Monson, 1975). Amongst the diverse sources of information available are cues to situational or interpersonal specification of appropriateness and information about inner states, dispositions, and attitudes. Individuals differ in the extent to which they rely on either source of information, and these individual differences can be conceptualized in terms of self-monitoring (SM), and measured with the Self-Monitoring Scale (Snyder, 1974). A high SM individual is assumed to pay particular attention to situational information when selecting his/her behavior, and a low SM person is thought to attune his/her behavior more to his/her personal characteristics and inner states.

Accordingly, Snyder and Monson (1975) reasoned, social conformity of high SM individuals assigned to different peer reference groups would differ markedly, whereas that of low SM individuals would be relatively insensitive to such a situational manipulation. They observed students in discussion groups, which were randomly assigned to either a public or private condition (Snyder & Monson, 1975, Study 1). The results confirmed their predictions; although social conformity of low SM persons did not differ from condition to condition, that of high SM persons changed. Specifically, high self-monitors in the private discussion condition conformed more, while those in the public condition conformed less, apparently because of social norms of autonomy more salient under the latter condition.

It is important to understand these results in terms of the recently popular perspective of person-situation interaction. A high SM person did not show more conformity than a low SM person. Also, the public discussion condition did not produce more or less conformity than the private condition. Therefore, one had to know who was in which condition, in

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1 The author wishes to thank the experimenters, Mikiko Kanai and Mutsuko Yanagisawa, and the anonymous reviewers.
order to predict the level of conformity. In sum, Snyder and Monson (1975) showed that in a situation where conformity seems appropriate, the high SM individuals show more conformity than the low.

A similar result was obtained with Japanese male students. Using the Asch's experimental paradigm, with line lengths to compare, Mizuno and Hashimoto (1989) found no overall effect of self-monitoring on conformity, but reported that high SM individuals made different judgments under different levels of social pressure, while low SM individuals showed no such changes. However, Santee and Maslach (1982) found no relation between the SM score and conformity under the condition where participants heard others' judgments prior to expressing their own. Among their speculations for explaining the null result were the measurement issues that have often been raised about the Self-Monitoring Scale (cf., Snyder & Gangestad, 1986).

The Measurement Issues

The Self-Monitoring Scale by Snyder (1974) has been criticized mostly in relation to its internal structure. A factor analysis of the scale by Briggs, Cheek, and Buss (1980) found three factors: Acting, Extraversion, and Other-Directedness. Gabrenya and Arkin (1980) found four factors for the scale: Theatrical Acting Ability, Sociability/Social Anxiety, Other-Directedness, and Speaking Ability. These results suggested that the original scale (OSM) was not the unidimensional, and these factors were not the same as the five components of self-monitoring that Snyder theoretically proposed (1974). The researchers cautioned that the scale might not be appropriate to measure the individual differences in self-monitoring tendency.

Based on these and their own research, Lennox and Wolfe (1984) proposed an alternative scale of 13 items with two-factors: Sensitivity to the expressive behavior of others and Ability to modify self-presentation. They also suggested a related scale of Concern for appropriateness with 20 items. Against these criticisms and suggestions, Snyder and Gangestad (1986) maintained that the scale measured a general self-monitoring factor, but dropped several items to make a new, 18-item Self-Monitoring (NSM) Scale.

In Japan, the Self-Monitoring Scale was translated by Iwabuchi, Tanaka, and Nakazato (1982), and the Japanese version was also factor-analyzed. They reported that the same three factors as those found by Briggs et al. (1980) emerged. Horike (1986) separately translated the scale, and found four factors for his version: Entertainer, Other-Directedness, Acting Ability, and a fourth unidentified. In contrast, he found factors that were more stable for a translated version of the two scales by Lennox and Wolfe (1984), and therefore recommended their use instead of the OSM scale. Mizuno and Hashimoto (1990) analyzed their version of OSM, and found three factors: Sociability, Other-Directedness, and Persona Variability (not their terms), and argued that improvements on the construct as well as scale properties were needed.

Four-Factor Self-Monitoring Scale (SM4-J)

Based on the findings by Iwabuchi et al. (1982) and Horike (1986), a four-factor self-monitoring scale in Japanese was developed by Kurosawa (1990). Since there seemed to be four different factors in various versions of self-monitoring scales, he reasoned, items should be selected to fully represent these four dimensions. The four subscales chosen were Social Sensitivity, Other-Directedness, Acting Ability, and Persona Variability. In order to factor-analyze, at the same time making the four factors as uncontaminated by related constructs as possible, items along three related dimensions: extraversion (from MPI) and affiliation and exhibition (both from EPPS) were added to items selected for the four subscales. The responses of 148 undergraduates on 92 items in total were analyzed with varimax rotation, and a seven-factor internal structure was confirmed.

In the seven-factor solution, a high loading
item on Social Sensitivity factor was “Watching facial expressions does not enable me to tell whether the person is telling a lie”, a reverse scoring item not in the OSM scale. For Other-Directedness, Item 17 of OSM, “I would not change my opinions (or the way I do things) in order to please someone else or win their favor” was the best example of reverse scoring items. “I may deceive people by being friendly when I really dislike them (OSM 25)” and “I would probably make a good actor (OSM 8)” were the defining items of Acting Ability. Persona Variability subscale included Item 13 from OSM, “In different situations and with different people, I often act like very different persons.” These subscales are relatively uncorrelated with each other or with extraversion, affiliation, or exhibition, since they are derived from orthogonal factors.

Although none of the Social Sensitivity items has a corresponding item in OSM, the other three subscales are mixture of translated and newly written items. Using the four-factor self-monitoring scale in Japanese, now called SM4-J, Kurosawa (1990) found that it was the participant’s Acting Ability that determined his/her preference of experimental situations (clearly vs. vaguely described). Also, with a revised version, Okumura (1991) found that the participant’s preference of experimental partners (whose prerecorded attractive or dull talks took a side on controversial issues), with whom to supposedly interact in a later session, was influenced jointly by his/her Social Sensitivity and Acting Ability.

The Experiment and Predictions

An experiment studying conformity and anti-conformity responses in the Asch/Crutchfield paradigm was conducted (reported in Kurosawa, 1993). In its report, the data were analyzed and discussed with Self-Consciousness variables as personality predictors of conformity and anti-conformity. Its personality questionnaire also included SM4-J in the original 92-item format. From the studies described above about self-monitoring and conformity (Snyder & Monson, 1975; Mizuno & Hashimoto, 1989), it could be predicted that high SM individuals would display more conformity in a conformity inducing situation. Also, the level of conformity shown by high SM individuals should change under different levels of social pressure.

Which subscale should perform the best as an index of self-monitoring tendency, relative to conformity behavior? Although the SM4-J subscale that has been most useful in the past research was Acting Ability, it seemed more reasonable to expect Other-Directedness to be a better predictor of conformity related behavior, since highly other-directed persons would change their opinions, or the way they do things, in order to please someone else or win his/her favor. Accordingly, the data from the experiment (Kurosawa, 1993) were reanalyzed with the SM4-J variables.

Method

Participants. Ninety-five (95) undergraduates, 49 men and 46 women, from introductory psychology classes participated in the experiment, as a mixed-sex group of five. Since it was not always possible to have exactly five participants at every session, at least one confederate each was used.

Apparatus. Five boxes with switches and lights, controlled by a computer (NEC9801 UV), were used. Each box had a control panel, with five rows of six yellow indicator lights, a row of six switches with a green indicator light each, which came on when the switch was pressed, and a red signal light on the left side of the switch row. The fifth (bottom) row of yellow lights, the rightmost column of yellow lights, and the rightmost switch with its green light were not used in

2 Participation was for extra course credit. The number of each sex in a group was not controlled. The confederates as well as those participants whose data were lost due to floppy-disk errors were not included in the data reported here.
the current experiment. Therefore, \(4 \times 5 \) (columns) = 20 yellow indicator lights, 5 switches with a green indicator light each, and the red signal light only were used for each control panel.

**Procedure.** When students showed up for an experiment about 'relationship of visual-stimulus presentation interval and memory,' they were led to a laboratory, and seated at one of five booths, separated with plywood panels. The experimenter’s initial instructions had been audio recorded, and a tape-recorder was used for standardization. Participants were told that the computer would display a standard line on its screen, and then show five comparison lines of various lengths, after a few seconds of blank screen. The lengths and positions of the five comparison lines were predetermined by the computer program, which was not explained to the participant. The participant’s task was to judge which of the five comparison lines was the same length as the standard line, and indicate his/her judgment by pressing the corresponding switch on the box in front of him/her. However, if everyone rushed to answer, they were told, the computer could not handle the inputs. So, they would be cued with the red signal light, which would be on in a randomized order, and they should answer only after it came on. Specifically, they were told to ‘answer as accurately as possible, as soon as the signal light goes on.' The participant’s response and reaction time for each trial were automatically recorded by the computer.

**Experimental manipulations.** The switch row of the control panel in the first booth was at the top row, and the second booth at the second, and so on. Above and below the switch row were rows of yellow indicator lights, which were not mentioned even once during the experiment. In other words, the participant was left to assume that the indicator lights would correspondingly display the others’ answers. However, the 20 yellow indicator lights and the red signal light on each control panel were controlled by the computer, and turned on and off in the exactly same pattern and timing.

**Pressure and control trials.** After five training trials, forty (40) sets of stimuli were shown and participants’ responses were recorded. Of the forty, twenty were control trials, in which a majority of other participants chose the correct comparison line, or more accurately, computer-controlled yellow lights indicated such a pattern on each control panel. Of the twenty, seven were non-unanimous trials, in which one of the others appeared to disagree and pick a wrong comparison line. All the other 33 trials were unanimous, whether the answers indicated were correct or wrong.

If the other four unanimously picked a wrong answer, it was a pressure trial. Of the twenty such trials, ten were low-pressure trials, with each participant assigned to be the third person to indicate his/her judgment; i.e., it was made to appear that two others answered before him/her, and two afterward. In the other ten, each participant would become the fifth, last person, and these thus became high-pressure trials. In the training and control trials, the participant’s turn was one of the five, from the first to the last. The operation of indicator and signal lights, which displayed exactly the same pattern for each control panel, were computer programmed, and every participant received exactly the same information during the experimental session, regardless of his/her responses or the booth he/she sat in.

**Post-task procedure.** After completion of the experimental task, participants answered the following questions. As they chose a higher number between 1 and 7, they tended to agree more to the question. Q1: Did you understand the experimental instructions well? Q2: Was the experimental task enjoyable? Q3: Was the task difficult? Q4: Were you able to see the lines well? Q5: Were you tense

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3 The instructions and experimental materials were all in Japanese.
Self-monitoring and conformity

Table 1
Means and standard deviations, reliability and correlation coefficients among self-monitoring subscales and original and new SM scales.

<table>
<thead>
<tr>
<th>Subscales</th>
<th>(No. of items)</th>
<th>M</th>
<th>SD</th>
<th>Reliability alpha</th>
<th>Correlation with</th>
</tr>
</thead>
<tbody>
<tr>
<td>OD— Other-Directedness</td>
<td>(10)</td>
<td>42.65</td>
<td>7.99</td>
<td>.803</td>
<td>.060</td>
</tr>
<tr>
<td>SS— Social Sensitivity</td>
<td>(7)</td>
<td>30.58</td>
<td>6.00</td>
<td>.794</td>
<td>.326***</td>
</tr>
<tr>
<td>AA— Acting Ability</td>
<td>(6)</td>
<td>23.74</td>
<td>4.82</td>
<td>.616</td>
<td>.326**</td>
</tr>
<tr>
<td>PV— Persona Variability</td>
<td>(7)</td>
<td>31.89</td>
<td>5.95</td>
<td>.749</td>
<td>.299**</td>
</tr>
<tr>
<td>OSM— Original SM Scale</td>
<td>(25)</td>
<td>102.39</td>
<td>14.58</td>
<td>.803</td>
<td>.944***</td>
</tr>
<tr>
<td>NSM— New SM Scale</td>
<td>(18)</td>
<td>72.45</td>
<td>12.66</td>
<td>.828</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05, **p < .01, ***p < .001.

The number of participants is 95. Each item has 7-point alternatives.

during the experiment? Q6: Did you pay attention to the yellow indicator lights on the control panel? Q7: Were you able to answer your own judgments?

After the questionnaire, the participants filled out personality measures, which included SM4-J, as well as self-consciousness and self-esteem scales. At the end of the experimental session, it was explained that the yellow lights had nothing to do with others’ responses, but were instead generated by the computer. The effects of such irrelevant information on people’s expressed judgments were being studied. Then, the participants were requested not to talk about the experiment with others, and were thanked and dismissed.

Results

Personality variables. The 92-item personality questionnaire was factor-analyzed with principal component analysis followed by varimax rotation. Because of the low item-respondent ratio, the solutions did not seem very stable, but in the seven-factor solution, four of the factors could easily be identified as those corresponding to the subscales. Therefore, the same subscales as those by Kurosawa (1990) were used in the current analyses. The 25 OSM items translated by Iwabuchi et al. (1982), although slightly modified, were also available in the 92 items, and its scores were computed. Since the NSM scale was a shorter version of OSM, its scores too were available. The means, standard deviations, reliability coefficients, and correlation coefficients among these personality variables are shown in Table 1.

As preliminary analyses, gender differences on the personality variables were examined. Men were significantly higher than women (106.28 vs. 98.24) on OSM, F(1,93) = 7.75, p < .01, as well as on NSM (76.20 vs. 68.46), F(1,93) = 9.71, p < .01. Persona Variability (PV) too had a significant difference, and men were higher than women (33.16 vs. 30.54) on the variable, F(1,93) = 4.78, p < .05. Therefore, care must be taken in the analyses using these variables along with gender. No differences were found on the other three subscale variables. Also, although somewhat lower for Acting Ability (AA), reliability alphas were generally above .75. Taken together, therefore, we may conclude that the personality variables were adequate as independent variables of the analyses to follow.

Conformity. On a pressure trial, if the participant picked the same alternative as the others’ (wrong) choice, or an alternative that came closer in length to the wrong choice, he/she was judged to have shown a conforming response. SPSS-X™ general linear model (GLM) analyses of variance (ANOVAs) were
performed on the number of conforming responses, with gender and one of the personality variables at a time as between-subject factors, and pressure level (high vs. low) as a within-subject factor. For GLM ANOVAs, each personality variable was entered as measured, i.e., as a continuous variable. The gender factor was first in the equation, then the personality factor was entered, followed by the interaction term of the two. Significance testings were done with the effects of those already in the equation controlled for.

First, the main effect of gender was not significant, $F(1,91) = .34$, $p > .5$, indicating no gender difference in conformity in this kind of conformity-inducing situation. The within-subject pressure-level factor did not have a significant effect, either ($p > .5$). However, in the model with Other-Directedness (OD), both its main effect, $F(1,91) = 5.02$, $p < .03$, and its interaction effect with the pressure-level factor, $F(1,91) = 8.74$, $p < .01$, were significant. None of the interaction terms involving the gender factor in the same equation had a significant effect.

The pattern of the OD by pressure-level interaction effect is shown in Figure 1. Under high pressure, with four others picking a wrong choice before him/her, the higher the participant’s OD, the more conforming responses ($B_{coefficient} = .0898$). This tendency was weaker ($B = .0260$) under low pressure, with only two before him/her pointing to a wrong choice. The two conditions averaged together had a positive slope ($B = .0579$), which was significantly different from zero ($p < .03$), as already mentioned. When the participants were split at the median, those high on OD ($> 42, N = 49$) showed more conformity under high pressure trials than under low ones (2.78 vs. 2.16; $t = 2.40$, $p < .03$), while those low on OD ($N = 46$) showed a slightly reversed tendency (1.28 vs. 1.70; $t = 1.72$, $p < .10$).

When OSM was used in place of OD, its main effect was significant, $F(1,91) = 4.00$, $p < .05$, but its interaction effect only marginal, $F(1,91) = 3.32$, $p < .08$. We have noted the non-orthogonal problem of this variable with the gender factor. But beside that, OSM behaved similarly to OD. On the other hand, the main effect of SS, AA, PV (all $F < 1.0$), or NSM ($F = 1.62$) was not significant ($p > .2$) in their respective analyses. Neither was the pressure level interaction effect with SS, AA, PV (all $F < 1.0$), or NSM ($F = 1.44$) significant ($p > .2$). In sum, of the four subscales, OD alone had effects on the number of conforming responses.

Figure 1. Predicted conformity scores as a function of other directedness and trial type.

Note: Predicted scores are computed with coefficients estimated by the model. They are not observed cell means.

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4 The means and standard deviations of conforming responses, as well as the number of subjects at each level of conformity are summarized in Table 2 of Kurosawa (1993). The table for anti-conformity responses is Table 3 of the same paper. Another within-subject factor, block (first vs. second half of the experimental task) was also included in additional analyses, forming four-way ANOVAs. However, these ANOVAs explained little more than the three-way ANOVAs described here, and will not be discussed.

5 The coefficients for personality variables obtained through the GLM ANOVAs are the same as non-standardized multiple regression coefficients. Therefore, the number can be interpreted as expressing the change in the dependent variable in its metric as the independent personality variable increases by one unit.
**Anti-conformity.** Choosing a wrong alternative while 'others' unanimously indicate the correct choice in a control trial is an anti-conformity response. Also, under the non-unanimous control condition, picking a wrong choice as oppose to the majority choice can be interpreted as anti-conformity. An anti-conformity response thus defined was possible in 15 control trials (nine in the first 20 trials, and six in the second half), and the number of such responses was used as an index of anti-conformity.

Three-way GLM ANOVAs with block (first vs. second half) as a within-subject factor, and gender and a personality variable as between-subject factors were performed on the number of anti-conformity responses (see Footnote 4). In the model with AA, the three-way interaction of gender by AA by block had a significant effect, $F(1,91) = 5.70, p<.02$. Figure 2 depicts the three-way interaction effect. As can be seen, the main effect of neither gender, $F(1,91) = .47, p>.4$, nor the personality variable, $F(1,91) = .44, p>.5$, was significant. In general, there were more anti-conformity in block 1, $F(1,91) = 3.78, p<.06$, which was not at all surprising since there were more relevant trials in the first half. For men with low AA, the level of anti-conformity did not change, but men with high AA showed more anti-conformity in block 1. For women, the pattern seems to be reverse; it was women with low AA who showed more anti-conformity in the first half, and less in the second.

OSM and NSM had a significant three-way interaction effect on the number of anti-conformity responses, $F(1,91) = 5.53, p<.03$, and $F(1,91) = 9.78, p<.01$, respectively. The pattern of both interaction effects was much the same as that of AA described above. In addition, in the model with Social Sensitivity (SS), the effect of gender by SS interaction was significant, $F(1,91) = 3.99, p<.05$. The interaction effect showed that for men, the higher the SS, the lower anti-conformity ($B = - .0751$). No other factors or interaction terms had a significant effect.

**Errors.** The number of simple errors a participant committed can be computed by subtracting the number of correct responses as well as those that could be interpreted as conformity and anti-conformity, from the total number of trials (40). About one third of participants (33 persons) showed errors thus defined, and the average error per person was .474, which was about 1.2% of the total trial. Similar GLM ANOVAs were performed on the number of simple errors, but none of the factors: gender, pressure level, personality variables, or their interactions; had a significant effect.

**Reaction time.** Average reaction time for high and low pressure trials in each block (first vs. second half) was computed. Four-way GLM ANOVAs were performed, with pressure level and block as within-subject factors, and gender and one of the personality variables as between-subject factors. None of the effects involving a personality variable had a significant effect.

Subsequently, average reaction time was computed for control and pressure trials, and trial type (control vs. pressure) became a within-subject factor for three-way ANOVAs. First, the main effect of gender was signifi-
cant, $F(1,91) = 8.29, p < .01$. In the model with PV as the personality variable, the interaction of gender by PV was also significant, $F(1,91) = 4.96, p < .03$. The pattern of the interaction effect is shown in Figure 3. Women in general had longer reaction time than Men, and the higher the PV, the longer women’s reaction time, whereas the higher the PV, the shorter men’s reaction time. In addition, the main effect of trial type was significant, $F(1,91) = 6.68, p < .02$; for all participants, reaction time was naturally longer in pressure trials (861.2 vs. 784.8 ms). No other factors became significant.

Post-experimental questionnaire. The participants’ responses to the post-experimental questions were analyzed with two-way GLM ANOVAs, using gender and a personality variable as the independent variables. No main or interaction effect was significant on Q1, Q3, or Q5.

On Q2 ($M = 4.67, SD = 1.27$), the main effect of AA alone was significant, $F(1,91) = 4.87, p < .03$. The higher the participant’s AA, the more enjoyable he/she had found the experimental task. On Q4 ($M = 5.90, SD = 1.17$), the interaction effect of gender by SS was significant, $F(1,91) = 8.74, p < .01$. For men, the higher his SS, the less well he was able to see the lines, or so he claimed ($B = -.0671$), but the reverse was true for women ($B = .0488$). A similar interaction effect was found on Q6 ($M = 4.66, SD = 1.96$), where the effect of gender by PV was significant, $F(1,91) = 3.98, p < .05$. For men, the higher his PV, the less attention he said to have paid to the yellow indicator lights ($B = -.0645$), while for women, the higher her PV, the more attention she seemed to have paid to the yellow lights on the control panel ($B = .0747$). A marginal main effect was also found of OD, $F(1,91) = 3.47, p < .07$; the higher the OD, the more he/she tended to pay attention to the yellow lights.

On Q7 ($M = 6.13, SD = 1.11$), there were a few significant and marginally significant effects. First, the main effect of gender was found, $F(1,91) = 4.45, p < .04$; men thought they had been able to answer their own judgments more than women did (6.34 vs. 5.90). In the model with AA, the gender by AA interaction effect was significant, $F(1,91) = 9.01, p < .01$. For men, the higher his AA, the less he was able to answer own judgments ($B = -.0479$); however, the higher a woman’s AA, the more she said she was able to give answers of her own judgment. A similar interaction effect was found in the equation with NSM, $F(1,91) = 6.86, p < .01$; and marginally significant interaction effects of a similar pattern in two other equations: with PV, $F(1,91) = 3.54, p < .07$, and with OSM, $F(1,91) = 3.48, p < .07$.

Comparison of SM4-J variables with Self-Consciousness and Self-Esteem variables in relation to Conformity and Anti-conformity. Since a Japanese version of Self-Consciousness Scale (Kurosawa, 1992) was also administered to the participants, the results concerning SM4-J variables reported above could be compared with the findings involving the SCS subscales (summarized in Kurosawa, 1993). The correlation coefficients between the subscales of the two scales are shown in Table 2.

On the number of conforming responses, the interaction effects of public self-consciousness by pressure level, and self-esteem by pressure level were significant in separate
Table 2: Correlations between SCS and SM subscales

<table>
<thead>
<tr>
<th></th>
<th>OD</th>
<th>SS</th>
<th>AA</th>
<th>PV</th>
<th>OSM</th>
<th>NSM</th>
</tr>
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<tbody>
<tr>
<td>Public Self-consciousness</td>
<td>.561***</td>
<td>.121</td>
<td>-.034</td>
<td>.224*</td>
<td>.223*</td>
<td>.086</td>
</tr>
<tr>
<td>Private Self-consciousness</td>
<td>.046</td>
<td>.244*</td>
<td>.125</td>
<td>.164</td>
<td>.140</td>
<td>.128</td>
</tr>
<tr>
<td>Social Self-Esteem</td>
<td>-.145</td>
<td>.174</td>
<td>.569***</td>
<td>-.182</td>
<td>.455***</td>
<td>.572***</td>
</tr>
<tr>
<td>Self-Esteem (Non-social)</td>
<td>-.376***</td>
<td>.163</td>
<td>.385***</td>
<td>-.268**</td>
<td>.137</td>
<td>.270**</td>
</tr>
</tbody>
</table>

The number of participants is 95. *p < .05, **p < .01, ***p < .001.
For full names of the SM subscales, see Table 1.

ANOVA (see Kurosawa, 1993); the correlation coefficient between the two variables was -.270. As can be seen in Table 2, Other-Directedness of the current analyses was significantly correlated with the two SCS variables, and this variable too had a significant interaction effect with the pressure level factor. In the comparison of the three interaction effects, two at a time, with the interaction effect of gender by pressure level (.05 < p < .10) controlled for, the following results emerged.

When the interaction effect involving OD was controlled for, neither self-esteem interaction (p > .2) nor public self-consciousness interaction effect (p > .5) became significant. With the self-esteem interaction effect controlled for, the public self-consciousness interaction effect was not significant (p > .1), but the OD interaction was, F(1,89) = 5.14, p < .03. Finally, when the public self-consciousness interaction effect was controlled for, the self-esteem interaction had a marginally significant effect, F(1,89) = 2.85, p < .10, but the OD interaction was still significant, F(1,89) = 5.15, p < .03.

Regarding the number of anti-conformity responses (see Kurosawa, 1993), three-way interaction effects involving gender and block along with self-esteem, social self-esteem, or AA; and two-way interactions involving gender with public self-consciousness, social self-esteem, or SS, were significant in respective ANOVA. The same method used above showed that if the social self-esteem interaction was controlled for, neither AA interaction (p > .5) nor self-esteem interaction effect (p > .2) was significant. Similarly, social self-esteem proved to be a superior predictor than OSM or NSM, both of which also had a three-way interaction of a similar pattern. Controlling for the interaction effect of gender by social self-esteem, we find the interaction effect of gender by public self-consciousness as marginal, F(1,89) = 3.49, p < .07, and the gender by SS interaction effect as non-significant (p > .10). Meanwhile, the gender by social self-esteem interaction remained significant.

In sum, the conformity data suggest that Other-Directedness explains conforming behavior better than self-esteem or public self-consciousness. As for anti-conformity, social self-esteem was the best predictor in that the variable explained the anti-conformity variance not accounted for by self-esteem or Acting Ability, in addition to the variance commonly explained. It was also a better predictor than public self-consciousness or Social Sensitivity, because the variable's two-way interaction effect with gender explained more than the other two variables' interaction effects.

Discussion

Factor analyses again indicated that the four-factor structure assumed by Kurosawa (1990) underlay the Self-Monitoring Scale (Snyder, 1974) and its related items. Whether the four subscales in fact measure self-monitoring propensities is an empirical question,
and can be answered only through a program of construct validation. So far, two studies related to this question have been conducted (Kurosawa, 1990; Okumura, 1991), and the current experiment is the third in line for evaluation of the subscales.

Let us now look at each subscale. Men high on Social Sensitivity (SS) tended to answer that they could not see the lines well (Q4), at the same time showing more anti-conformity, and the reverse was true for women high on SS. Anti-conformity was also related to the three-way interaction effect of Acting Ability (AA) by gender by block. However, these interaction effects on anti-conformity might best be understood in relation to the three-way interaction effect of social self-esteem by gender by block (see Kurosawa, 1993). AA in particular had a high correlation with social self-esteem, and neither of the first two interaction effects was significant if the interaction effects involving social self-esteem were controlled for. The AA interaction effect might have something to do with another interaction effect: for those high on AA, men said he was less able to answer own judgments, and women said she was more able to give answers of her own judgment (Q7). The data (Q2) also indicated that the high AA participants, regardless of their gender, enjoyed the experimental task more than the low.

Persona Variability too had intriguing effects. The higher the PV, the longer a woman’s reaction time, whereas the higher the PV, the shorter a man’s reaction time. This pattern of average reaction time may be related to the interaction effects on two post-experimental questions. For men, the higher his PV, the less attention he said to have paid to the yellow indicator lights, while for women, the higher her PV, the more attention she seemed to have paid to them (Q6). On the other hand, the higher a man’s PV, the less he was able to answer own judgments, while the higher a woman’s PV, the more she said she was able to give answers of her own judgment (Q7). One characteristic of high PV men emerging from these results is impulsiveness, while that of high PV women is deliberateness. Changing behaviors and appearances according to others and situations may have different meanings and implications for men and women.

As interesting, meaningful, and coherent as these results may seem, none was as significant as the results concerning Other-Directedness (OD). It was OD that best explained the number of conforming responses, thus confirming the predictions made for the experiment. Specifically, participants high on OD showed more conformity under conformity-inducing pressure trials. This may be related to the finding that there was a weak tendency that those high on OD said to have paid more attention to the yellow indicator lights (Q6). It should be noted that the responses of those high and low on OD did not differ under control trials. Also, high OD persons showed more conformity under high than low pressure, and low persons did not show such a change. As discussed in the introduction, this pattern of results is consistent with the perspective of person-situation interaction: Both personality and situational factors are simultaneously necessary to understand our social behavior.

The original and new scales. The results concerning OD, therefore, are in agreement with the reasoning by Snyder and Monson (1975) about self-monitoring and social conformity. OD was the variable that behaved just as they expected a measure of self-monitoring propensities would. In contrast, although the original self-monitoring scale (Snyder, 1974) acted similarly to OD, the pattern was not as clear or strong, and the new self-monitoring scale (Snyder & Gangestad, 1986) fared much worse.

Snyder and his colleagues (e.g., Snyder & Gangestad, 1986) are opposed to a factorial approach to measurement of self-monitoring tendency. But the results of the current experiment strongly favor such an approach, in
that a subscale performed much better than the original or new scale. Throughout the results, there was not one effect that was uniquely associated with one or both of them. When one of them had an effect, there was also an effect, often clearer and stronger, from one of the four subscales. It is apparent that the effects we found in the current experiment are explained better in terms of the four subscale variables. A similar point has also been made by Briggs and Cheek (1986), who reviewed various studies of self-monitoring that compared the original scale and its factors.

**Discriminant validity and factor analysis.** Snyder and Gangestad (1986) argue that using items from several orthogonal factors could produce a scale that does not correlate with a third variable, thus making their self-monitoring scales uncorrelated with some other scales. However, as the current study shows, subscales (factors) could correlate highly with other scales or subscales. For instance, other-directedness and public self-consciousness had a correlation coefficient of .561 in the current sample of 95. Iwabuchi et al. (1982) found a correlation of .46 between them, and Horike (1986) estimated it at .482. Or, acting ability had a high correlation (.569) with social self-esteem, which is social anxiety reversed. Social anxiety was found to have a high correlation with self-monitoring variables: −.494 with ‘entertainer’ (Horike, 1986) and −.23 with acting ability (Iwabuchi et al., 1982). These high correlations do not seem peculiar to Japanese samples (e.g., see Briggs et al., 1980).

Therefore, it may be very misleading to claim that self-monitoring tendency was unrelated to public or private self-consciousness, or social anxiety (Snyder, 1979; page 92). The comparisons made above of the various effects, in order to find truly causal factors of conformity and anti-conformity, should give us considerable confidence in the results obtained and subsequent interpretations. However, the fact that comparisons were needed indicates that the self-consciousness and self-monitoring subscales do not have enough discriminant validity to each other. Using the total score, as Snyder and his colleagues advocate, even if it was uncorrelated with other scales, would not do away with this problem of discriminant validity.

Briggs and Cheek (1986) advocate utilization of factor analysis in the development and validation of personality scales. Using factor analyses could have another merit, not mentioned by them: constructing scales that are orthogonal, an ultimate in discriminant validity. Factor analyses of a single scale have often been performed (e.g., Briggs et al., 1980; Gabrenya & Arkin, 1980; Lennox & Wolfe, 1984; Iwabuchi et al., 1982; Horike, 1986; Mizuno & Hashimoto, 1996), but the results might not be very informative or useful. A better method may be analyses of various scale items all at once. In such an analysis, additional items related to the central construct should also be included, so that more than a few items load on each factor. Otherwise, some of the original items may find no factor of their own, even when they should not be dropped for valid measurement of the central construct. Another potential merit of such analyses is that factor solutions tend to become more stable, because contrasting factors are introduced in the process, although more respondents are naturally necessary for large factor analyses.

The development of SM4-J was guided by the approach just described; items from various translated versions of the Self-Monitoring Scale were analyzed along with three related dimensions of extraversion, affiliation and exhibition. As a result, subscales that were at least uncorrelated with these additional dimensions were obtained. Because high correlations with self-consciousness and self-esteem were not really anticipated, no attempt was made to include their subscales, and thereby establishing sufficient discriminant validity for each other. Therefore, the next logical step may be large factor analyses with items of
self-consciousness, self-esteem, and self-monitoring all together. Whether or not resultant factors (i.e., subscales) are in fact meaningful and useful should be a purely empirical question.

Conclusion

The results of the current experiment could be summarized as favoring a factorial measurement model of self-monitoring propensities. Specifically, other-directedness is found to be the determinant of conformity. The results involving the subscale were consistent with the perspective of person-situation interaction, and supportive of the reasoning concerning the person, situation, and behavior, from the self-monitoring perspective (e.g., Snyder & Monson, 1975). Together with the previous findings showing that acting ability and social sensitivity are useful, we may conclude that the four-factor model looks promising as measures of self-monitoring propensities.

However, its unexpectedly high correlations with self-consciousness and self-esteem subscales could pose a problem of discriminant validity. Further validation of the new self-monitoring scale through factor analysis and behavior prediction seems necessary. The new scale have already been revised, and more revisions are expected. As Snyder and Gangestad (1986) too would agree, a personality scale is not static, and cannot be considered as final and perfected; improvements are inevitable as the central construct continually evolves as the results of ongoing research. Also, the many interaction effects involving the gender factor found in the current experiment need further explanation; for instance, whether such interaction effects are peculiar to Japanese participants should be examined. Finally, arguments are made that factor analyses, with added dimensions and added items, should be performed more frequently, rather than on a single scale alone as is often the case in the field, in order to develop better personality measures.

References


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