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The Relationships among Sex, Gender Identity Factors, and Career-Decision-Situation-Specified Personality Traits.

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The present study revealed that gender identity involved the integration of various gender identity factors as suggested by Spence (1993) and that career-decision-situation-specified personality variables could be classified into higher order personality trait dimensions as suggested by Tellegen (1985). The results also indicate that the pattern of the relationships found in this study among masculine personality traits, feminine personality traits, and career-decision-situation-specified personality variables reflecting higher-order personality trait dimensions of Tellegen's (1985) model was similar to that of the relationships among masculine personality traits, feminine personality traits, and general personality traits reflecting higher-order personality trait dimensions in Lubinsky, Tellegen, and Butcher's (1981, 1983) studies. Multiple regression analyses showed that the addition of a gender identity role attitude factor and a gender identity behavioral interest factor to sex and a gender identity personality trait factor did not improve significantly the prediction of the career-decision-situation-specified personality variables.

Key Words: career-decision, sex, gender identity, personality trait, personality trait dimension

It has been noted whether one's sex and gender identity are related to career decisions (Gottfredson, 1981; O'Hare & Beutell, 1987). Investigations of the relationships of sex or gender identity with career decisions, however, revealed inconsistent results (Gianakos & Subich, 1986; Holland & Holland, 1977). It has been suggested that these conflicting results might be because of the fact that individual difference with respect to the influence of the precedents of career decision on the relationships of sex or gender identity with career decisions has been neglected (Gianakos & Subich, 1986). These indications imply that the relationships of sex or gender identity with the precedents of career decisions, such as personality traits, should be examined to better understand the relationships of sex or gender identity with career decision.

Salomone (1982) suggested that certain personality traits would influence individuals' making career decisions or taking a course of action regarding their decisions. The relationships of various personality traits, such as self-efficacy, anxiety and locus of control, with career decisions have been explored (e.g., Fuqua, Newman & Seaworth, 1998; Leung & Chervinko, 1996; Sweeney & Schill, 1998; Taylor & Popma, 1990). It has also been shown that sex or gender identity is associated with these individual personality traits. For instance, Ben-zur and Zeidner (1988) found that females showed higher trait anxiety, anger, and curiosity. Spence and Hall (1996) found a significant relationship of masculinity with self-esteem and dominance.

Some researchers have tried to identify higher-order personality trait dimensions to explain various individual personality traits in simplified ways based on specific theories

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(i.e., Costa & McCrae, 1988; Eysenck, 1983; Tellegen, 1985). For instance, Tellegen (1985) proposed that personality traits could be classified into three higher-order dimensions, respectively labeled: positive emotionality, negative emotionality, and constraint. According to Tellegen (1985), positive emotionality is associated with psychological well-being, social potency, self-efficacy, and achievement. Negative emotionality is related to feeling stressed, anxiousness, alienation, and aggressiveness while constraint is related to traits of impulsiveness, harm-avoidance, and traditionalism. Eysenck (1983) also proposed a three dimension model of personality traits. In addition, relationships of sex or gender identity with higher-order personality trait dimensions have been studied to understand the relationships of sex or gender identity with various individual personality traits in simplified ways (i.e., Arrindell, et al., 1997; Lubinski, Tellegen, & Butcher, 1981, 1983).

It has been suggested that the criterion-related validity of personality trait measures in relation to career related behaviors could be enhanced by including career-related phrases in scale instructions and items (Schimit, Ryan, Stierwalt, & Powell, 1995). This implies that the relationships of sex or gender identity with personality traits regarding career decisions could be better explained when using career-decision-situation-specified personality instruments than when using other-situation or non-situation specified personality instruments. Several personality instruments, which include career-decision-situation-related phrases in their instructions and items, have been developed, such as the *Career Decision-Making Self-Efficacy Scale* (CDMSE) (Taylor & Betz, 1983) and the *Coping with Career Indecision* (CCI) (Larson, Heppner, Ham, & Dugan, 1988; Larson, Toulouse, Ngumba, & Fitzpatrick, 1994), *the Career Barriers Inventory-Revised* (CBI-R) (Swanson, Daniels, & Tokar, 1996).

Larson and Majors (1998) suggested that these personality instruments including the career-decision-situation-related phrases would measure states or moods which were relatively short-lived psychological processes depending on situations, rather than traits which were consistent and not easily changed psychological process regardless of changing situations. Further, it was suggested that these variables would be classified into two higher-order state dimensions of positive affect and negative affect as proposed by Zevon and Tellegen (1982). Salomone (1982), however, believed that serious affective problems influencing career decisions were related to the psychological processes preventing decisions consistently in various situations rather than only to the psychological process caused by the career decision situation. If the psychological processes measured by the personality instruments that include the career-decision-situation-related phrases, such as the CDMSE, the CCI, and the CBI-R, measure affective problems consistently influencing decisions in various areas as well as career decisions, the psychological processes measured by these instruments could be traits rather than states.

Previous studies examining the relationships between gender identity and personality traits mostly used only the *Bem Sex Role Inventory's* (BSRI) or *Personal Attribute Questionnaire's* (PAQ) masculine (M) and feminine (F) scales as their measures of gender identity. The use of these measures is based on the supposition that masculinity and femininity are independent from each other (Bem, 1974; Spence & Helmreich, 1978) and that masculine and feminine characteristics measured by the BSRI's or the PAQ's M and F scales could represent gender identity (Bem, 1981, 1984; Frable, 1989). It has been argued, however, that the M and F scales of the BSRI or PAQ do not represent gender identity and that they only measure gender identity personality trait factors, such as instrumentality and expressiveness. Gender identity is actually regarded as the integration of various gender identity factors, such as role attitudes, which are related to the importance of culturally forced standards to men or women, behavioral interests, which are traditionally believed as interest or behavior domains of men or women, and personality traits (Norland, James, & Shover, 1978; Orlofsky & O'Heron, 1987; Spence, 1984, 1991, 1993; Spence & Buckner, 1995; Spence & Hall, 1996). According to this argument, considering the various factors of gender identity is necessary to assess the gender identity of individuals (Spence, 1993).

Based on the previous studies and discussions, it would appear that further exploration of the relationships among sex, gender identity factors, and career-decision-situation-specified personality variables classified by the higher-order personality trait dimensions is necessary. Specifically, the present study addressed three relevant questions: (1) whether it is reasonable to measure various gender identity factors, rather than to measure only gender identity personality traits using the BSRI or PAQ M and F scales, in order to appraise gender identity (2) whether it is reasonable to classify career-decision-situation-specified personality variables into the higher-order personality trait dimensions suggested by Tellegen (1985) rather than the higher-order state dimensions, and (3) finally, what are the relationships of sex and gender identity factors with career-decision-situation-specified

personality variables. The answers to these questions have implications for understanding various aspects of gender identity and the possibility of career-decision-situation-specified personality variables being understood not as states but as traits. The answers would also have implications for what aspects of gender identity should be treated when career counselors help clients with problems regarding career-decision-situation-specified personality variables.

Subjects and procedure

Eighty-six volunteer university undergraduates enrolled in an introductory educational psychology class in a university in the Northeastern region of the United States participated in this study. Seven participants did not fully complete the survey and they were excluded from the data analysis. Thus, the sample size of this study decreased to 79, of which there were 19 male students and 60 female students. The average age for this sample was 21.04 years and they averaged 3.16 years at the college.

The questionnaire, consisting of several demographic questions, gender identity related measures, and career-decision-situation-specified personality inventories, along with a statement assuring the confidentiality of the information asked in this survey, was distributed to the students during normal class time in the late Spring of 2001. Students were informed that they would receive extra credit for their participation in this study. They were given sufficient time (approximately 15-20 minutes) to complete the questionnaire and were asked to return it at the time of administration, thereby assuring a high return rate.

Instruments

Masculinity (M) and Femininity (F) subscales of the *Personality Attributes Questionnaire Short Form* (PAQSF) (Spence & Helmreich, 1978) were used to measure masculine and feminine personality trait variables of the gender identity personality trait factor. Each sub-scale consists of eight items, scored on a five-point scale. Item scores were summed to yield a score on each scale. These two sub-scales were regarded as independent through factor analysis (Spence, 1991). Cronbach alphas for the PAQSF M and F subscales were .85 and .82, respectively (Spence & Helmreich, 1978). The validity of the PAQSF was indicated by results showing that men got higher average scores on the M scale than women while women got higher average scores on the F scale than men.

The *Feminine Expectation Scale* (FES) and *Masculine Expectation Scale* (MES) (see Appendix B) (Norland, et. al. , 1978), each consisting of five items measuring traditional gender role expectations, were used to measure masculine and feminine role attitude variables of the gender identity role attitude factor. Item scores of each scale are summed to produce a scale score of the FES and MES. Cronbach's alpha was .689 for the FES and .807 for the MES. The correlation between the FES and MES was weak and in a negative direction (r=-.13). The validity of these scales was indicated by study results showing that men and women in a conservative religious group got higher average scores respectively on the MES and FES than men and women in a progressive religious group (Norland, et. al., 1978).

The *Sex Role Behavioral Scale - Short Form* (SRBSSF) (Orlofsky & O'Heron, 1987) measures four behavior and interest areas associated with gender identity. These are, respectively, recreational activity preferences, vocational interests, social interactions, and marital or primary relationship behaviors. Each area consists of the male-valued (M), female-valued (F), and sex-specific (MF) sub-scales of eight items using a five point scale. M or F items represent the behaviors and interests that are culturally defined as masculine or feminine, but regarded as acceptable for both genders. MF items describe the behaviors and interests that are mostly acceptable for only one gender.

The M and F sub-scales of the recreational activity preference area of the SRBSSF (Orlofsky & O'Heron, 1987) were used to measure masculine and feminine variables of the gender identity behavioral interest factor. The items of the scale represent the behaviors and interests that are culturally defined as masculine or feminine, but regarded as acceptable for both genders. The validity of the SRBSSF was indicated from the results of empirical studies revealing that men got higher average scores on the M scale of the SRBSSF than women, while women got higher average scores on the F scale than men. The internal consistencies of the M and F sub-scales of the recreational activity area were reported to be .61 and .65, respectively.

The *Career Decision-Making Self-Efficacy Scale Short Form* (CDMSESF) (Betz, Klein, & Taylor, 1996) measured career-decision-situation-specified self-efficacy. Self-efficacy is associated with the positive emotionality dimension of Tellegen's model (1985) in this study. Each of the five sub-scales of this instrument, consisting of five items using a ten or five point scale, describes one of the five career decision competencies. These are, respectively, accurate self-appraisal, gathering occupational information, goal selection, making

plans for the future, and problem solving (Betz & Luzzo, 1996; Betz & Taylor, 2000). Although the authors (Betz, Klein, & Taylor, 1996; Taylor & Betz, 1983) anticipated five sub-scales reflecting five career decision competencies in this instrument, however, they failed to find the clear five-factor structure. This instrument, therefore, measures general career decision-making self-efficacy rather than specific career decision competencies. Thus, only the total score was used in this study. The internal consistency of the total score was .94. The validity of this measure was indicated by its moderate correlation with career decision inventories, such as the *Career Decision Scale* (CDS) (Osipow, Carney, & Barak, 1976). The correlation between the CDMSESF and the CDS indecision sub-scale was -.63 for females and -.48 for males. The correlation between the CDMSESF and the CDS certainty sub-scale was .68 for females and .31 for males.

The career subjective distress and obstacles factor of the *Coping with Career Indecision* (CCI) (Larson, el al., 1988; Larson, et al., 1994) was used to measure career-decision-situation-specified distress. The CCI, consisting of 35 items on a six point Likert-type scale, measures four factors related to career indecision. They were career subjective distress and obstacles, active problem solving, academic self-efficacy, and career myths associated with career indecision.

The career subjective distress and obstacles factor includes 21 items reflecting the negative feelings of helplessness, depression, stress, anxiety, and despair, and the obstacles of disapproval from significant others, external pressure, the lack of talent or skill, inadequate information, and insufficient finances regarding career decisions, which reflect the negative personality dimension. The Cronbach alpha of the career subjective distress and obstacles factor was .90. The 2-week test-retest reliability of this sub-factor was .86. Validity of the CCI was indicated by the study (Larson, et al., 1994) results revealing that difficulty coping with career indecision, as measured with the CCI total, was related to career uncertainty and weak vocational identity. Larson and Majors (1998) reported that the factor scores could be used as predictor scores for the career decisions of adolescents.

The *Career Barriers Inventory-Revised* (CBI-R) (Swanson, et al., 1996), containing 70 items using a seven point Likert-type scale, was developed to measure various kinds of barriers that thwarted career development. The authors developed this measure with Lent, Brown, and Hackett's (1994) suggestion, which career related barriers could be conceptualized as the social cognitive process, not as an internal and external thwarting condition. The 'discouraged from choosing nontraditional careers sub-scale' of the CBI-R, consisting of 5 items, was used to measured career-decision-situation-specified conservatism, items of which are supposed to reflect the constraint dimension of Tellegen's (1985) model in this study. The internal consistency of this sub-scale was .75. There was no significant gender difference on this sub-scale. There was, however, a larger correlation between the discouraged from choosing nontraditional careers sub-scale and career indecision as measured by the CDS for men than for women (Swanson, et al. , 1996).

Data Analysis and Results

A correlation matrix was generated and a principal component analysis with varimax rotation was conducted to explore the relationships among gender, gender identity factors, and career-decision-situation-specified personality variables. In addition, three sequential multiple regression analyses were performed. These were done to compare the additional effects of the gender identity role attitude factor and the gender identity behavioral interest factor with the effects of gender and the gender identity personality trait factor on three career-decision-situation-specified personality variables in this study. An inspection of univariate outliers for masculine and feminine variables of gender identity factors and career-decision-situation-specified personality variables was conducted. Mahalanobis distance was used to find the multivariate outlier for the principal component analysis. Regression diagnostics were conducted to find residual outliers for the sequential multiple regression analyses. The criterion of probability for a case being an outlier was $p < .001$. No univariate, multivariate, or residual outlier was identified. Totally, the data of 79 participants were used for statistical analyses. Collinearity statistics of gender, masculine and feminine variables of gender identity factors, and career-decision-situation-specified personality variables were performed and showed that the data set of this study did not have a significant multicollinearity or singularity

Table 1 is the correlation matrix for sex, masculine and feminine variables of gender identity factors, and career-decision-situation-specified personality variables. The table reveals statistically significant bivariate correlations. The principal component analysis with varimax rotation for sex, masculine and feminine variables of gender identity factors, and career-decision-situation-specified personality variables extracted four components with eigenvalues more than 1.

Table 2 is the component loading matrix of the principal component analysis of this study. The variables are ordered and grouped by size of loading to facilitate interpretation. Loadings under .45 are replaced by zeros. When oblique rotation was requested, the largest correlation was .099 between components 3 and 4. Because the correlation was not large and the remaining correlations were small, an orthogonal rotation was chosen.

Regarding the relationships among sex and gender identity factors, the correlation matrix (Table 1) revealed that masculine and feminine variables of gender identity factors, with the exception of the masculine personality trait variable, are significantly related to sex ($p < .05$). Contrary to expectations, the feminine role attitude variable is positively related to sex, when female and male are encoded respectively as 0 and 1, while the masculine personality trait variable is not

Table 1. *Correlation Matrix for Sex, Gender Identity Variables, and Career-Decision-Situation-Specified Personality Trait Variables (N = 79)*

	1[a]	2	3	4	5	6	7	8	9	10
1	--	-.01	-.37**	.38**	.26*	.25*	-.31**	-.14	.16	-.14
2		--	.15	-.03	.01	.28*	.06	.29**	-.24*	-.15
3			--	-.17	.04	-.12	.08	.24*	-.13	.10
4				--	.19	.09	.00	.02	.19	-.08
5					--	.22	-.00	-.10	.14	.14
6						--	.12	.02	.01	.03
7							--	.11	.11	.12
8								--	-.42**	-.05
9									--	.07
10										--

Note. 1 Sex. 2 Masculine Personality Traits. 3 Feminine Personality Traits. 4 Masculine Role Attitudes. 5 Feminine Role Attitudes. 6 Masculine behavioral Interests. 7 Feminine behavioral Interests. 8 Career-Decision-Situation-Specified Self-Efficacy. 9 Career-Decision-Situation-Specified Distress. 10 Career-Decision-Situation-Specified Conservatism.

[a]For statistical purpose: Male = 1, Female = 0

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

Table 2. *Component Loadings for Principal Component Analysis with Varimax Rotation on Sex, Gender Identity Variables, and Career-Decision-Situation-Specified Personality Trait Variables (N = 79)*

Variable	C1	C2	C3	C4
Sex[a]	.761	.00	.00	.00
MBI	.626	.00	.00	.00
MRA	.592	.00	.00	.00
CDSE	.00	.740	.00	.00
MPT	.00	.705	.00	.00
CDD	.00	-.697	.00	.00
FBI	.00	.00	.903	.00
CDC	.00	.00	.00	.713
FRA	.512	.00	.00	.652
FPT	.00	.00	.00	.494

Note. MBI: Masculine Behavioral Interests. MRA: Masculine Role Attitudes. CDSE: Career-Decision-Situation-Specified Self-Efficacy. MPT: Masculine Personality Traits. CDD: Career-Decision-Situation-Specified Distress. FBI: Feminine Behavioral Interests. CDC: Career-Decision-Situation-Specified Conservatism. FRA: Feminine Role Attitudes. FPT: Feminine Personality Traits.

[a]For statistical purpose: Male = 1, Female = 0

significantly related to sex. Except for the relationship between the masculine personality trait variable and the masculine behavioral interest variable, there are no statistically significant relationships among masculine and feminine variables of gender identity factors ($p < .05$).

The component loading matrix (Table 2) indicates that masculine and feminine variables of gender identity factors scattered across the four components. No component was associated with all of three masculine variables or with all of three feminine variables. Neither the masculine variable nor the feminine variable of each gender identity personality trait factor and gender identity behavioral interest factor loaded on the same component. Both of the masculine variable and the feminine variable of the gender identity role attitudes factor loaded on component 1. Loadings of the feminine role attitude variable, however, are complex. Its loading on component 4 is comparatively larger than its loading on component 1. On component 1, contrary to expectation, the feminine role attitude variable loaded positively with the sex variable and some masculine variables.

Regarding the relationships among career-decision-situation-specified personality variables, the correlation matrix (Table 1) shows that career-decision-situation-specified conservatism, which is supposed to reflect the constraint dimension of Tellegen's model (1985), is neither significantly related to career-decision-situation-specified self-efficacy, supposed to reflect positive emotionality, nor to career-decision-situation-specified distress, supposed to reflect negative emotionality. Only the relationship between the career-decision-situation-specified self-efficacy variable and the career-decision-situation-specified distress variable is statistically significant ($p < .05$). The component loading matrix (Table 2) indicates that career-decision-situation-specified conservatism loaded with neither career-decision-situation-specified self-efficacy nor career-decision-situation-specified distress. Career-decision-situation-specified self-efficacy loaded positively and career-decision-situation-specified distress loaded negatively on one component.

Regarding relationships of the sex and gender identity factors with career-decision-situation-specified personality variables, the correlation matrix (Table 1) reveals that the career-decision-situation-specified self-efficacy variable is significantly and positively related both to the masculine personality trait variable and to the feminine personality trait variable ($p < .05$). The career-decision-situation-specified distress variable is significantly and negatively related to the masculine personality trait variable. Except for these relationships, there is no statistically significant relationship of sex and masculine and feminine variables of gender identity factors with career-decision-situation-specified personality variables ($p < .05$). The component loading matrix (Table 2) indicates that career-decision-situation-specified self-efficacy and career-decision-situation-specified distress load with the masculine personality trait variable. Career-decision-situation-specified conservatism, the feminine role attitude variable, and the feminine personality trait variable load on one component.

The three sequential multiple regression analyses examine the question as to whether the addition of the gender identity role attitude factor (step 2) and then the gender identity behavioral interest factor (step 3) to sex and the gender identity personality trait factor (step 1) improves the prediction of career-decision-situation-specified self-efficacy, career-decision-situation-specified distress, and career-decision-situation-specified conservatism. Table 3, 4, and 5 displays R, R^2, adjusted R^2, incremental correlations (sr_i^2), F of sr_i^2, significance of sr_i^2, and the effect size (ES) of sr_i^2 for every step of each sequential multiple regression analysis. These tables indicate that only step one of the first sequential multiple regression analysis is statistically significant and that the addition of the gender identity role attitude factor followed by the gender identity behavioral interest factor to

Table 3. *Sequential Regression of Gender Identity Variables on Career-Decision-Situation-Specified Self-Efficacy (N= 79)*

Steps	*R*	R^2	Adj. R^2	sr_i^2	*F* Change	*df*1	*df2*	Sig.[a]	ES[b]
1	.360	.130	.095	.130	3.732	3	75	.015	.149
2	.387	.150	.091	.020	.847	2	73	.433	.020
3	.391	.153	.069	.003	.131	2	71	.877	.003

Note. Predictors of Step1: Sex, Masculine Personality Traits, and Feminine Personality Traits. Predictors of Step2: Sex, Masculine Personality Traits, Feminine Personality Traits, Masculine Role Attitudes, and Feminine Role Attitudes. Predictors of Step3: Sex, Masculine Personality Traits, Feminine Personality Traits, Masculine Role Attitudes, Feminine Role Attitudes, Masculine Behavioral Interests and Feminine Behavioral Interests.

[a]Significance of F Change

[b]$sr^2/(1-sr^2)$

Table 4. *Sequential Regression of Gender Identity Variables on Career-Decision-Situation-Specified Distress (N = 79)*

Steps	*R*	R^2	Adj. R^2	sr_i^2	*F* Change	*df1*	*df2*	Sig.[a]	ES[b]
1	.284	.080	.044	.080	2.188	3	75	.096	.087
2	.329	.108	.047	.028	1.129	2	73	.298	.029
3	.365	.134	.048	.025	1.044	2	71	.357	.026

Note. Predictors of Step1: Sex, Masculine Personality Traits, and Feminine Personality Traits. Predictors of Step2: Sex, Masculine Personality Traits, Feminine Personality Traits, Masculine Role Attitudes, and Feminine Role Attitudes. Predictors of Step3: Sex, Masculine Personality Traits, Feminine Personality Traits, Masculine Role Attitudes, Feminine Role Attitudes, Masculine Behavioral Interests and Feminine Behavioral Interests.

[a]Significance of F Change

[b]$sr^2/(1-sr^2)$

Table 5. *Sequential Regression of Gender Identity Variables on Career-Decision-Situation-Specified Discouragement from Choosing Nontraditional Careers (N = 79)*

Steps	*R*	R^2	Adj. R^2	sr_i^2	*F* Change	*df1*	*df2*	Sig.[a]	ES[b]
1	.220	.048	.010	.048	1.270	3	75	.291	.050
2	.285	.081	.019	.033	1.315	2	73	.275	.034
3	.308	.095	.005	.013	.518	2	71	.598	.013

Note. Predictors of Step1: Sex, Masculine Personality Traits, and Feminine Personality Traits. Predictors of Step2: Sex, Masculine Personality Traits, Feminine Personality Traits, Masculine Role Attitudes, and Feminine Role Attitudes. Predictors of Step3: Sex, Masculine Personality Traits, Feminine Personality Traits, Masculine Role Attitudes, Feminine Role Attitudes, Masculine Behavioral Interests and Feminine Behavioral Interests.

[a]Significance of F Change

[b]$sr^2/(1-sr^2)$

sex and the gender identity personality trait factor did not improve the prediction of career-decision-situation-specified personality variables in this study. The ESs of sr_i^2 for step two of three sequential multiple regression analyses and for step three of the second sequential multiple regression analysis as well as step one of the second and the third sequential multiple regression analysis, however, are small but not trivial according to Cohen's (1988) standards (ES>.02). The additional effects of these steps, therefore, could be statistically significant with comparatively large samples.

Discussion

The correlation matrix and the results of the principal component analysis in this study, regarding the relationships among sex and masculine and feminine variables of gender identity factors, correspond partially to the studies of Bem (1974), Spence and Helmreich (1978), Norland, et al. (1978), and Orlofsky and O'Heron (1987). As these previous studies indicated, the masculine variable and the feminine variable of each gender identity factor, such as gender identity personality traits, gender identity role attitudes, and gender identity behavioral interests, were independent from each other. However, the results of this study do not support the expectation of the previous studies that men possess higher masculine personality traits and women show higher feminine role attitudes. This may be partly because of the liberation movement of men and women, which leads people to believe in the equal rights of men and women in every field, such as business and politics. This belief may encourage women as well as men to develop self-assertive traits, usually regarded as masculine personality traits, and men as well as women to accept traditionally feminine roles and attitudes (Basow, 1992). In addition, the results of this study support Spence's (1991, 1993) opinion rather than Bem's (1981, 1984) and Frable's (1989). As Spence (1991, 1993) suggested, one facet of gender identity, such as gender identity personality traits, are not necessarily associated with other facets of gender identity (Spence, 1984), and measuring various facets of gender identity is necessary to appraise one's gender identity.

Results of this study regarding the relationships among

career-decision-situation-specified personality variables show that career-decision-situation-specified conservatism is significant related to and load on the same component with neither career-decision-situation-specified self-efficacy or career-decision-situation-specified distress. These results reveal the possibility that there would be another personality dimension in addition to positive dimension and negative dimension and that these variables would be classified into three higher-order personality trait dimensions of Tellegen's model (1985) rather than into two higher-order state dimensions proposed by Zevon and Tellegen (1982). It would be necessary to reconsider the implications from Larson and Major's (1998) and Zevon and Tellegen's (1982) suggestions that career-decision-situation-specified personality measures would be classified into two dimensions of positive and negative affects. Contrary to expectations, career-decision-situation-specified self-efficacy and career-decision-situation-specified distress load on the same component in this study. Previous studies, however, indicated the possibility that the positive emotionality variable and the negative emotionality variable could load on one component of the concept of psychological well-being. For instance, Lubinsky, Tellegen, and Butcher (1981) measured the positive emotionality variable and negative emotionality variable to investigate one concept of subjective well-being. Whitley (1984) thought that the concept of psychological well-being included general adjustment and depression. These discussions and the results of this study imply the possibility that the career-decision-situation-specified personality variables employed in this study could fit into the three dimension model of personality traits, suggested by Tellegen (1985).

The correlation matrix and the results of the principal component analysis, regarding the relationships of sex and gender identity factors with career-decision-situation-specified personality variables, show that masculine personality traits, feminine personality traits and feminine role attitudes are associated with career-decision-situation-specified personality variables. The pattern of the relationships among masculine personality traits, feminine personality traits and career-decision-situation-specified personality variables in this study are similar with that of the relationships among gender identity personality traits and general personality traits reflecting higher-order personality trait dimensions of Tellegen's model (1985) in Lubinsky, et al. (1981, 1983) studies. In addition, this indication provides indirect support for the supposition that the career-decision-situation-specified personality variables employed in this study would be personality traits, being fit for the higher-order personality trait dimensions of Tellegen's (1985) model, rather than states or moods.

The results of three sequential multiple regression analyses indicate that sex, the gender identity personality trait factor, the gender identity role attitude factor, and the gender identity behavioral interest factor can predict a small element of each career-decision-situation-specified personality variable employed in this study. The addition of the gender identity role attitude factor and then the addition of the gender identity behavioral interest factor to sex and the gender identity personality trait factor did not improve significantly the prediction of the dependent variables. Other independent variables would be necessary to predict career-decision-situation-specified personality variables more fully and accurately. The effect sizes of some prediction improvements (sri2), however, show the possibility that the gender identity role attitude and gender identity behavioral interest factors as well as the gender identity personality trait factor would affect career-decision-situation-specified personality variables with a comparatively large sample.

The indications from the present study suggest that counselors should measure various gender identity factors in order to appraise one's gender identity and treat career-decision-situation-specified personality instruments as measuring traits as well as states or moods. Personality traits preventing effective career decisions would be considered as chronic rather than short-lived psychological process, as suggested by Salomon (1982). In addition, career counselors should pay attention to gender identity personality traits rather than sex or other gender identity factors for clients experiencing difficulties regarding career-decision-situation-specified personality variables. Other gender identity factors, however, should not be ignored though their influence on career-decision-situation-specified personality variables is not significant. This is because the effect sizes of some prediction improvements (sr_i^2) were small but not trivial and because the principal component analysis of this study indicated that these gender identity factors had shared variance with the career-decision-situation-specified personality variables in this study.

Several limitations exist in the present study. A sample of convenience could be a threat to the generalizability of the findings. Data from the students within an education class could bias the results especially regarding the relationships between gender identity variables and sex, because the field of education is traditionally considered a female career. Male students in this class could show more feminine characteristics than male students in other classes. Further,

the sample size of this study is fairly small, even for an exploratory study. Therefore, the component structure as the result of principal component analysis would be unstable and the results of statistic analyses would not be significant even if the effect size were not trivial.

There are several primary threats to the internal validity of this study. The first is whether the gender identity personality trait, gender identity role attitude, and gender identity behavioral interest factors selected in this study actually represent the concept of gender identity. A second threat is whether each of the career-decision-situation-specified personality variables chosen in this study is able to represent, respectively, each of their higher-order personality trait dimensions reflecting Tellegen's (1985) model. Extension of the interpretation of the study results with career-decision-situation-specified personality variables employed in this study to their higher-order dimensions reflecting Tellegen's (1985) model should be done with caution. A third threat is associated with one of the limitations of self-reporting measures, namely the tendency to present oneself in a favorable way (social conformity). A fourth threat is related to the fact that the circumstances under which the data was collected was limited in several ways. If data were collected under different circumstances, such as individual interviews, answers to the survey questionnaire could be different. A fifth is the low internal consistency of measures used in this study. This would cause low correlations among gender identity factors. An additional threat is related to the unequal size between the male and the female samples and also to having used a series of multiple regression analyses. This could make the possibility of a Type I error larger.

The following recommendations are suggested for future studies regarding the relationships among sex, gender identity factors, and career-decision-situation-specified personality variables. First, the results of this study do not replicate the results of previous studies, namely that men possess higher masculine personality traits and women show higher feminine role attitudes. A topic worthy of further study would be whether the results of this study could be replicated for samples representing a variety of demographic variables, such as ages, education levels, and affiliation to women's movement organizations. Second, this study suggests the possibility that career-decision-situation-specified personality variables would be classified into three higher-order personality trait dimensions of Tellegen's model (1985) and would be traits rather than states or moods. This result, however, is tentative because only three career-decision-situation-specified personality variables, each of which reflects, respectively, each higher-order personality trait dimension of Tellegen's model (1985), were analyzed in this study. More career-decision-situation-specified personality variables should be analyzed to confirm this result. Third, sex and gender identity factors only predict a small part of career-decision-situation-specified personality variables in this study. Additional gender identity factors, such as gender role conflicts, should be noted to investigate the effect of gender identity on career-decision-situation-specified personality variables. Finally, researchers in future studies are expected to employ methods which can enhance the internal validity and generalizability of the study, such as random sampling. In addition, use of a social desirability measure to address social conformity issues is also worthy of consideration in any future study.

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