



Does Traditional Stereotyping of Career as Male Affect College Women's, but Not College Men's, Career Decision Self-Efficacy and Ultimately Their Career Adaptability?

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Abstract

In South Korea, strong beliefs about traditional gender roles in accordance with Confucian and patriarchic atmosphere still strongly influence daily life and the career development process. Cultural and contextual factors impact the development of gender role socialization, which influences an individual's career decision self-efficacy (CDSE) and adaptability to manage the challenging career decision-making process. In our study, we recruited 291 South Korean undergraduate students (138 women, 153 men) and investigated how an implicit gender-career stereotyping impacts career adaptability via CDSE and whether there is a gender difference on the direct and indirect effects of implicit gender-career stereotyping on career adaptability. The Implicit Association Test (IAT) was implemented to measure implicit gender-career stereotyping. By testing a moderated mediation model, we found a mediated effect of CDSE in the link between implicit gender-career stereotyping and career adaptability in the female students. Moreover, the direct relationship between implicit gender-career stereotyping and CDSE was significant only for female students. Given the findings, practitioners and educators who work with South Korean women need to explore the degree of clients' traditional gender role stereotyping and provide tailored interventions to increase their level of career adaptability by minimizing the negative impacts of gender role stereotyping and by increasing CDSE.

Keywords Gender-career stereotyping · Career decision self-efficacy · Career adaptability · Implicit association test (IAT) · Gender difference

During the past few decades, the binary association of men and careers and women and domestic roles has been significantly loosened for both men and women. However, within current societies, women are still the main homemakers and

primary caregivers for children (Betz 1993; Weitzman and Fitzgerald 1993), whatever their level of career aspiration and success. This phenomenon is more prevalent in some cultures than in others. In South Korea, despite an increased number of working women and a changing work environment, many people still hold strong beliefs about traditional gender roles which are mainly driven by Confucian and patriarchal ideas about the separation of male and female roles in family and society (Kim 2001). According to the World Economic Forum (2015), South Korea was ranked number one on the gender pay gap since 2002. Also, its gender equality index was ranked at 115 of 145 countries. Its index of the glass ceiling effect—the combination of women's higher education, labor force population, maternity rights, and representation in leadership roles—was at the bottom of the 29 Organization for Economic Co-operation and Development (OECD) countries. Recent statistics reported by the Seoul Foundation of Women and Family in South Korea showed that working women still spend 7 times more time doing

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housework than their husbands did (Park 2016) which suggests that there are gender role salience disparities in terms of career and family roles.

Reflecting these gender disparities, the media's portrayal of a typical family consists of men as the breadwinners and women as the housekeepers and primary childcare providers (Kim and Ha 2007; Lee and Baek 2013). Also, portrayals of working women in South Korean soap operas often depict them as suffering from, and constantly trying to negotiate conflicts between, work and family duties (Ahn et al. 2016). Similarly, in TV commercials for housekeeping products, such as dishwashers or vacuum cleaners, women are often the ones who comment on the benefits of the product (Kim and Ha 2007; Lee and Baek 2013). The aforementioned statistics and media portrayals illustrate the sociocultural surroundings to which South Korean men and women are exposed and vicariously experience. Adolescents and young adults may be especially impacted by gender role disparities because adolescence and early adulthood are periods in which people actively explore and develop their career aspirations and related skills. In particular, direct and indirect exposure to gender role stereotyping can influence not only how men and women are treated, but also their well-being and performance in gender stereotypical domains (Rudman and Phelan 2010).

Previous research and theories in vocational psychology have addressed the impact of the aforementioned gender stereotyping on career development. In particular, Gottfredson's (1996) theory of circumscription and compromise suggests that children begin to remove some vocational options that do not fit with their developing social self as they gain awareness of themselves and their social status within the environment. According to Gottfredson, vocational aspirations are influenced by accessibility (i.e., more realistic choices) and compatibility (i.e., fit between person and environment). Similar to Gottfredson's theory, Social Cognitive Career Theory (SCCT; Lent et al. 1994) specifically postulates that perceived social and cultural environment (along with previous experience and modeling) affects the development of career related self-efficacy, which molds experiences related to vocational interests, goal choice, and performance. SCCT suggests that children experience gender role socialization which can bias their access to certain experiences. As a consequence, adolescents develop culturally, gender-appropriate interests and skills (Eddleston et al. 2006; Hackett and Betz 1981). These selective and biased exposures to social stimuli can lead individuals to develop gender role stereotyping that may negatively impact their self-efficacy, and self-efficacy mediates the link between environmental experiences and the development of interests and skills. For example, when young men and women internalized social beliefs about men and women having distinct roles and behaviors (Broverman et al. 1972), they preferred and adopted traditionally gender-appropriate roles and jobs.

Guided by these career theories, a substantial amount of empirical research has tested gender differences on various career variables (e.g., career aspirations, career decision self-efficacy, vocational interests, perceived career barriers) and the impact of gender-related variables (e.g., gender role stereotyping, gender role salience) on career development (Chung 2002; McWhirter 1997; Su et al. 2009). However, despite gender attitudes and belief systems, such as gender-career stereotyping, being multifaceted (Ashmore et al. 1995) and containing both conscious and unconscious elements, most research has focused on explicit gender attitudes and their associations with career development variables (e.g., Evans and Diekmann 2009; Lee and Lee 2009; Tak 1995; Yon et al. 2012). Findings from these studies can be inconsistent with those from research on implicit gender attitudes (Keifer and Sekaquaptewa 2005; Nosek et al. 2009). For example, Nosek et al. (2009) found that an implicit gender-math stereotyping (e.g., math or science for men and language for women) predicted gender differences in science and mathematics achievement with 8th grade students, whereas an explicit self-reported stereotyping did not explain the achievement gap (Nosek et al. 2009). In addition, previous research found that explicit and implicit attitudes are typically uncorrelated (Banse et al. 2001; White and White 2006). These results warrant further research on how implicit gender role stereotyping and biases influence gender differences in career development. Therefore, in the current study we examined different forms of gender-career stereotyping by using the Implicit Association Test (IAT; Greenwald et al. 1998), to investigate whether stereotyping impacts men's and women's career decision self-efficacy and career adaptability.

In the present study, we aimed to test an implicit gender-career stereotyping and its association with career decision self-efficacy and career adaptability. An implicit stereotyping was defined by Greenwald and Banaji (1995, p. 15) as "the introspectively unidentified traces of past experience that mediate attributions of qualities to members of a social category." Implicit stereotyping reflects the ongoing impact of past experiences and learned associations, which continue to influence cognition and perception despite corresponding thoughts that are consciously abandoned or rejected (Greenwald and Banaji 1995). Related to the definition of an implicit stereotype, *implicit gender role stereotyping* in our study refers to the unconscious and automatic associations of men with careers and women with domestic roles. Greenwald and his colleagues (Greenwald et al. 1998) developed a strategy (the IAT) for assessing gender role stereotyping. The IAT captures an implicit stereotyping by assessing the underlying automatic relations with other perceptions. If the association between target-concept and the attribute is a commonly stereotyped association, the participant's response speed is faster than with the non-stereotypical association. For example, if the paired association between the target-concept "childcare" and the

attribute “female” is a commonly stereotyped connotation, then responses are more rapid because the association facilitates rapid retrieval and cognitive processing. The IAT procedure also reverses the visual demonstration so the target concept, “childcare,” is paired with the attribute “male.” If it is not the stereotypical connection for a participant, then that participant’s response is slower despite the respondent’s best cognitizant efforts. In addition, this effect’s strength is affected by the power of the pre-existing stereotyping. If the stereotyping is well established or strong, its influence will be grander. If it is weak, the effect will be lesser or nonexistent because no former connection to override existed. By using IAT, we measured implicit gender role stereotyping and its impact on career-specific intrapersonal variables, specifically career decision self-efficacy and career adaptability.

Gender Role Stereotyping and Career Decision Self-Efficacy

Self-efficacy describes an individual’s domain-specific belief about his or her ability to conduct a behavior successfully (Bandura 2001). Bandura (1997) asserted that self-efficacy influences the choices individuals make as well as their aspirations and resilience in dealing with difficulties and setbacks. The concept of self-efficacy has been applied to various fields, including career development research. Within the career development literature, career decision self-efficacy (CDSE) refers to individuals’ belief that they are capable of engaging in career-related decisions and commit to their career choices by completing relevant tasks (Hackett and Betz 1981; Taylor and Betz 1983).

Gender role stereotyping and career-related self-efficacy are two constructs with notable implications for career development (Nevill and Super 1988). Regarding the relationship between gender role stereotyping and self-efficacy, Lent et al. (1994) adopted Bandura’s social cognitive theory and specified that CDSE is influenced by perceptions of environmental barriers, such as discrimination and stereotyping. As some researchers have noted, socialization and stereotypical thoughts based on the sex assigned at birth variously affect self-efficacy in both men and women (Hackett and Betz 1989). Within the career development field, Hackett and Betz (1981) investigated gender differences in self-efficacy regarding the job duties of 10 traditionally male-dominated and 10 traditionally female-dominated occupations (Holland 1985). They found no differences in men’s CDSE for traditionally male- and female-dominated occupations. By contrast, women’s self-efficacy was higher for traditionally female-dominated occupations than for traditionally male-dominated ones. They suggested that gender role stereotyping can cause lower CDSE in women as compared to men. Clement’s (1987) findings were also similar. Although female

college students reported lower self-efficacy than their male counterparts did for nine of 10 traditionally male-oriented occupations, male students rarely reported low self-efficacy toward traditionally female occupations (Clement 1987). Thus, these findings suggest that gender role stereotyping influences gender differences in CDSE only when pursuing male-oriented occupations.

Regardless of the characteristics of the occupations (male-oriented vs. female-oriented), the degree of gender role stereotyping also influences the degree of an individual’s self-efficacy in the career decision process. For example, O’Brien and Fassinger (1993) conducted research with senior, female, high school students to examine their career orientation and career choices. They found that female students with nontraditional gender role attitudes showed higher levels of self-efficacy in their pursuit of higher education or a prestigious career. Ginevra and Nota (2017) reported that Italian high school students with a higher level of problem-solving self-efficacy reported a decreased inclination to recognize jobs as gender-stereotyped. Among South Korean college students, Lee and Lee (2009) found that male students had a higher level of CDSE when they had a higher level of egalitarian or traditional gender role attitudes. However, with female students, students who reported higher traditional gender role attitudes tended to have lower CDSE, whereas those who reported egalitarian gender role attitudes tended to have higher CDSE. Similar patterns were found in Yang’s (2008) study of South Korean middle schoolers. Specifically, gender role stereotyping was negatively linked with CDSE and career aspiration with female students but not with male students (Yang 2008). These findings indicate that, contrary to the assumption that gender differences and gender role stereotyping no longer exist or have less influence on CDSE in modern egalitarian societies, gender role stereotyping still significantly affects CDSE, especially and negatively for women. However, male students’ gender role attitudes, regardless of whether they are egalitarian or traditional, do not seem to have a significant impact on male students’ belief in their ability to manage career decision-related tasks. Therefore, we hypothesized that gender role stereotyping affects CDSE and specifically has a negative association for women.

Gender Role Stereotyping and Career Adaptability

Career adaptability refers to career-related self-regulation capabilities that help individuals manage the expected and unexpected challenges of life and work in a changing labor market (Savickas 2002). Savickas (2013) stated that individuals with adequate levels of career adaptability show adequate levels of self-regulation capacity to manage concerns about their vocational future. In other words, these individuals have

a sense of internal control over career-related issues, are able to continuously initiate and explore social opportunities, and are confident in their ability to achieve career-related goals.

Career adaptability is influenced by an individual's early socialization experiences within his or her surrounding socio-cultural environment, such as how a society treats individuals differently based on their gender (Savickas, 2013). For example, if a girl is raised in an environment in which a woman's main duty is as a homemaker and the role of breadwinner is optional, then her internalized gender-stereotypical belief about careers and family may influence her career-related self-confidence and self-regulation capability for pursuing or rejecting different options. Moya et al. (2000) reported that career salience, which is the relative, perceived concern about how much work and career matters in one's life (Greenhaus and Simon 1971), has no gender difference. However, they found that among women, career salience was related to gender ideology and the labor situation (Moya et al. 2000). Specifically, women with a more traditional gender ideology reported lower career salience than did women with a more egalitarian ideology. In addition, women's perceptions of discrimination and bias, based on gender role stereotyping, strengthened their gender role ideology, which lowered their self-esteem and led them to avoid risk and challenges by pursuing more female friendly occupations or quitting their job (Chang 2003; Maume Jr. 1999; Rudman and Phelan 2010). However, previous studies have consistently found that implicit gender role stereotyping do not influence men's career development, including their aspirations, occupational settings (e.g., male- vs. female-oriented), or work-family balance (Correll 2004; Kray et al. 2017).

Although only a few studies have directly investigated the effects of gender role stereotyping on career adaptability of South Koreans, findings have shown that gender role stereotyping significantly affected South Koreans' career development. For example, Tak (1995) researched explicit gender role stereotyping and found that South Korean college students with stronger gender role stereotyping inclined to choose occupations that fit with their stereotypical gender role expectations, whereas students with weaker gender role stereotyping chose occupations that matched their own interests and aptitudes. Yon et al. (2012) also found that explicitly measured gender role stereotyping had negative longitudinal effects on the career maturity growth curve. Kim (2007) conducted qualitative research by interviewing 13 female South Korean college students and found that they had negative perceptions about the labor market because of unfavorable discourse about women and changed their occupational aspirations to overcome structural constraints. Thus, traditional gender stereotyping can hinder or aid career decision processes. Specifically, many women still believe that family-salient roles, such as homemaker or primary child caregiver, are priorities in life and that work-salient roles, such as a

pursuing career or promotions, are secondary to them (Gilbert 1993; Greenhaus and Simon 1971; Moya et al. 2000). Given these previous findings, we chose to examine the effects of internalized gender-career stereotyping on career adaptability, which refers to participants' perceived self-regulation capabilities in managing and processing career-related performance.

Career Decision Self-Efficacy and Career Adaptability

Various career development theories, including SCCT (Lent et al. 1994) and Career Construction Theory (CCT; Savickas 2002), identify CDSE as a significant influence on career decision-making processes (Creed et al. 2007). Previous empirical findings have supported CDSE's significant influence on career-related variables by showing its association with career outcome expectations (Gushue 2006), intrinsic motivation (Guay 2005; Shin 2013), career exploration behavior (Chiesa et al. 2016), career commitment (Chung 2002), and career adaptability (Creed et al. 2007; Hou et al. 2014; Shin 2013).

Specifically, the significant correlation between CDSE and career adaptability has been theoretically suggested and recently studied cross-culturally (Guan et al. 2016; Hou et al. 2014; Shin 2013). Theoretically, SCCT suggested that CDSE is vital in modeling the process of making career decisions because it helps implement an individual's vocational self-concept (Lent et al. 1994, 2000). Bandura et al. (2001) suggested that individuals with higher levels of CDSE were better, as compared to those with lower levels of CDSE, in preparing themselves to pursue a career and persist in their desires and goals. Zimmerman (2000) also found that students' self-efficacy influenced academic motivation through self-regulatory processes such as setting goals, monitoring and evaluating self, and using adaptive strategies. Cho and Min (2011) found that, of the 541 South Korean college students who participated in their study, individuals with higher CDSE reported a higher degree of career adaptability. Shin (2013) also reported that among South Korean college students, CDSE significantly mediated the relationship between career calling and career adaptability. Hou et al. (2014) reported the mediation effects of CDSE between proactive personality and career adaptability among Chinese graduate students. In addition, Creed et al. (2007) reported that CDSE significantly influenced the development of career adaptability among American high school students. In sum, previous empirical findings consistently suggest that CDSE can be a pivotal factor in developing career adaptability because it influences the focus, initiation, and persistence of career-related behavior in the face of predictable and unpredictable difficulties (Bandura 1986; Lent et al. 1994; Savickas 2002). Therefore, given

previous findings, we hypothesized that CDSE is significantly and positively related to career adaptability.

The Present Study

The purpose of our study was to explore gender differences in the associations among gender role stereotyping, CDSE, and career adaptability. In particular, we focused on the mechanism of how implicit gender-career stereotyping, which refers to the unconscious and automatic associations of men with careers and women with domestic roles, influences career adaptability via CDSE and whether there is a gender difference in the mechanism. Specifically, a moderated mediation model that assumes the moderating role of gender in relations among implicit gender role stereotyping, CDSE, and career adaptability was tested by using Hayes PROCESS macro (Hayes 2013). Specifically, within the moderated mediation model, we expect to find a significant direct relationship between implicit gender role stereotyping and career adaptability, but only for women and not for men (Hypothesis 1). We further hypothesized that the relationship between implicit gender role stereotyping and career adaptability would be mediated by CDSE, but again only for women and not for men (Hypothesis 2). Especially, we expected that implicit gender role stereotyping would have a negative association with CDSE only for women. In sum, we predicted that implicit gender role stereotyping would have different relationships with CDSE and career adaptability across gender, but that the relationship between CDSE and career adaptability would not differ across gender.

Method

Participants

We recruited 291 students (138 women, 153 men), enrolled in Introduction to Psychology and Introductory Business courses at a public university in South Korea, to participate in our study in exchange for extra credit. The mean age of the participants was 21.34 years old ($SD = 2.54$, range = 19–31); 81 (27.8%) were first-year students, 70 (24.1%) were sophomores, 65 (22.3%) were juniors, and 75 (25.7%) were seniors. The top four majors of the participants were business (40.2%), social science (19.9%), Liberal arts (16.5%), and engineering (10.3%). Fewer participants were majoring in math (6.5%), science (3.8%), and art (2.4%). Female and male students were similar in class year, $\chi^2(3) = 1.40$, $p = .71$. Mean age of male students ($M = 21.76$, $SD = 2.63$) was higher than the mean age of female students ($M = 20.87$, $SD = 2.35$), $t(289) = 3.05$, $p < .01$.

Procedure and Measures

Volunteer participants visited a laboratory equipped with 10 individual computer seats. Students participated at a convenient time between 9:00 and 17:00. Upon participants' arrival, either a male or female South Korean experimenter greeted them and provided instruction for research participation. After giving their informed consent, participants read instructions for the IAT on the IBM-compatible computers. After participants finished the IAT, they were given the Korean version of the CDSE-SF and the CAAS Korean Form. Lastly, participants completed a demographic information sheet and were thanked and debriefed.

Implicit Gender Role Stereotyping

To measure participants' implicit gender role stereotyping (i.e., greater male-career than female-career association; greater female-family than male-family association), we implemented the Implicit Association Test (IAT; Greenwald et al. 1998) for gender and career roles. The IAT is a popular technique to measure the automatic associations underlying implicit prejudice or stereotyping (Greenwald et al. 1998). The advantage of using the IAT is that it avoids individuals' tendency to censor or control politically incorrect responses. Unlike self-report measures, which explicitly ask participants to report what they think or believe and depend on respondents' ability or willingness to report their attitudes, the IAT provides information that cannot be obtained through self-report measures.

The Gender Career IAT consists of five stages that each present participant with a series of word categorization tasks. In Stage 1, participants categorize words presented individually in the middle of the computer screen as belonging to one of two categories (Career, Family). For example, if the word presented in the middle of the screen (e.g., Home) belongs to the category shown on the right of the screen (Family), then participant responds by pressing the I key. If the word in the middle of the screen (e.g., office) belongs to the category shown on the left of the screen (Career), then the participant responds by pressing the E key. In Stage 2, a second pair of concepts (Female, Male) is introduced. Participants again categorize words (e.g., male and female names common in South Korea) shown in the middle of the screen (e.g., Hyungchul, Suzie) according to whether they belong to the category shown on the right (Female) or the left (Male). In Stage 3, the categories from the first two stages are superimposed; the E key is used to respond to words that refer to Career or Male, and the I key is used for words that refer to Family or Female. In Stage 4, participants categorize words from the first stage, but use the opposite keys to respond. Finally, in Stage 5, the categories are again superimposed, but this time, the E key is used to respond to words that refer to Family or

Male, and the I key is used for words that refer to Career or Female. Each stage consists of 20 trials, and we recorded response accuracy and latencies during each stage. FreeIAT (Meade 2009) was used to program this IAT test.

Based on the IAT test results, we computed D scores according to the scoring procedure suggested by Greenwald et al. (2003). We first calculated mean response latencies for Stage 3 (where Female was paired with Family and Male was paired with Career stereotypically) and Stage 5 (where Male was paired with Family and Female was paired with Career counter-stereotypically) and then calculated the difference between them. Mean differences were divided by the pooled standard deviations of response latencies for Stages 3 and 5. Higher D scores then indicate greater implicit gender-career stereotyping. Overall, participants associated men, more than women, with Career (implicit gender role stereotyping) ($M = .12$, $SD = .38$) such that their scores were significantly above zero, $t(290) = 5.48$, $p < .001$.

Career Decision Self-Efficacy

We used a South Korean version of the Career Decision Self-Efficacy Short-Form (CDSE-SF; Betz et al. 1996) translated by Lee and Lee (2000) to measure each participant's level of self-efficacy regarding career decision making. This scale contains 25 items designed to measure five domains of CDSE: accurate self-appraisal, gathering occupational information, goal selection, making plans for the future, and problem solving. Sample items include questions about the participant's confidence in his or her ability to do a variety of tasks such as: "accurately assess your abilities" (self-appraisal), "find out the employment trends for an occupation over the next ten years" (gathering occupational information), "make a career decision and then not worry about whether it was right or wrong" (goal selection), "prepare a good resume" (making plans for the future), and "change majors if you did not like your first choice" (problem-solving). The answers were obtained using a Likert-type scale ranging from 1 (*not at all confident*) to 9 (*totally confident*); a total score was calculated by summing responses for all items. Higher scores indicated higher levels of belief in one's ability to successfully conduct career-related tasks.

Nam et al. (2010) used the Rasch model to validate the South Korean version of the CDSE-SF (Lee and Lee 2000) and confirmed its construct validity using South Korean college student samples. In addition, previous studies using the South Korean version of the CDSE-SF reported its positive correlations with career maturity and career preparation behavior as well as negative correlations with career indecision and job seeking anxiety (Joo et al. 2015; Kim et al. 2015; Park 2017). Reliabilities for each subscale of the South Korean version of the CDSE-SF from recent studies ranged from .65 to .86 (Joo et al. 2015; Kim et al. 2015; Lee and Lee 2000;

Nam et al. 2010; Park 2017). The coefficient alpha of this scale in the present sample was .92.

Career Adaptability

We used the Career Adapt-Abilities Inventory (CAAS) Korean Form (Tak 2012) to measure career adaptability. This scale includes all 24 items of the CAAS International Form 2.0 (Savickas and Porfeli 2012). The 24 items are divided equally into four subscales that measure the adaptability resources of concern, control, curiosity, and confidence for managing occupational transitions, developmental tasks, and work traumas. Sample items include "planning how to achieve my goals" (concern), "keeping upbeat" (control), "becoming curious about new opportunities" (curiosity), and "working up to my ability" (confidence). The answers were obtained using a 5-point Likert-type scale ranging from 1 (*not strong*) to 5 (*strongest*), and a total score was calculated by summing answers across all items. A higher score reflected greater career-related self-regulation capabilities. The reported reliability for each subscale of the CAAS International Form ranges from .80 to .84 (Savickas and Porfeli 2012). Concurrent validity was established by correlation with the Vocational Identity Status Assessment (VISA; Porfeli et al. 2011). Tak (2012) confirmed construct validity of the CAAS Korean Form through confirmatory factor analysis and demonstrated strong internal consistency reliability (from .80 to .84). Shin (2013) also reported strong Cronbach's alphas for the CAAS Korean Form (from .85 to .89). The internal consistency reliability for this scale in the present sample was .94.

Results

Preliminary Analyses

We imputed missing data using the Expectation-Maximization algorithm in SPSS 22.0 (Enders 2001). The amount of data missing from the questionnaire items was very small, ranging from 0 to .3% for the 25-items of the CDSE-SF and 24-items of the CAAS. We first computed descriptive statistics and correlations for each observed variable by gender (see Table 1). For male students, implicit gender role stereotyping did not produce significant correlations with CDSE as well as career adaptability. In contrast, for female students, implicit gender role stereotyping produced a significant correlation with CDSE in a negative direction, although implicit gender role stereotyping was not significantly correlated to career adaptability. For both male and female students, CDSE significantly correlated to career adaptability in a positive direction.

Next, we conducted a one-way multivariate analysis of variance, which included all three study variables. Results

Table 1 Descriptive statistics and correlations among study variables for male and female college students

Variables	Men	Women	Correlations		
	<i>M (SD)</i>	<i>M (SD)</i>	IAT	CDSE	CA
IAT	.05 (.39) _a	.21 (.37) _b	–	-.22**	-.06
CDSE	6.24 (1.04) _a	6.11 (1.01) _a	.28	–	.61**
CA	3.38 (.70) _a	3.16 (.66) _b	.31	.65**	–

IAT = calculated D score of implicit gender-career association test where in a higher score indicates greater implicit gender-career stereotyping; CDSE = Career Decision Self-Efficacy, such that a higher score indicates higher levels of self-efficacy in tasks that are related with career decision making process; CA = Career Adaptability, such that a higher score indicates greater career-related self-regulation capabilities. Means with different subscripts for men and women across a row are significantly different ($p < .05$). Correlations for female students are presented above the diagonal of the correlation matrix; for male students, below

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

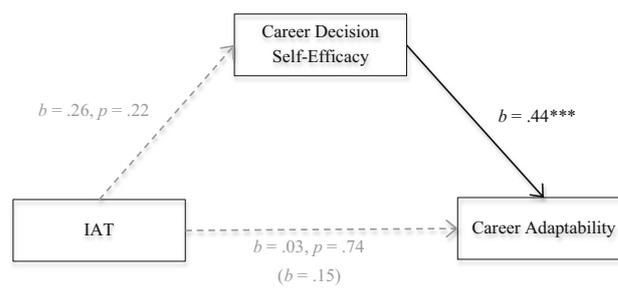
revealed a significant main effect for gender, $F(3, 287) = 7.51$, $p < .001$, $\eta_p^2 = .07$. Specifically, we found gender differences in implicit gender role stereotyping, $F(1, 289) = 12.85$, $p < .001$, $\eta_p^2 = .043$, and career adaptability, $F(1, 289) = 7.93$, $p < .001$, $\eta_p^2 = .027$. Female students had stronger associations between Career and Male and between Family and Female than did male students. Female students' career adaptability was lower than that of male students (see Table 1).

The Moderated Mediation Model

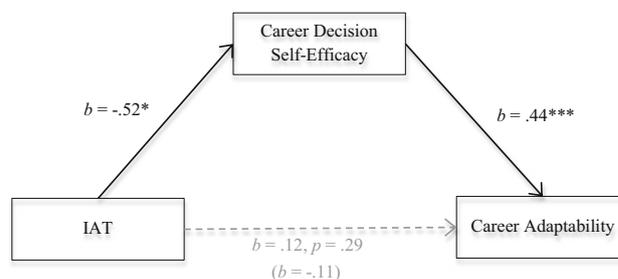
To test our proposed moderated mediation model, we tested the moderating role of gender in the relation among implicit gender role stereotyping, CDSE, and career adaptability with PROCESS macro (Model 8) by Hayes (2013) using 5000 bias-corrected bootstrap samples. More specifically, we estimated the moderating effect of gender on (a) the relationship between implicit gender role stereotyping and career adaptability and (b) the relationship between implicit gender role stereotyping and career adaptability via CDSE.

As illustrated in Fig. 1, the test of Hayes Model 8 revealed a moderating effect of gender in associations among three study variables. The interaction between implicit gender role stereotyping and gender on CDSE was significant ($b = -.79$, $SE = .32$, $p = .01$, 95% CI [-1.42, -.16]). In addition, the bias-corrected percentile bootstrap results indicated that the indirect effect of implicit gender role stereotyping on career adaptability via CDSE was moderated by gender, with the index of moderated mediation, $b = -.35$, $SE = .13$, 95% CI [-.61, -.11].

More specifically, as shown in Fig. 1a, in the group of male students, implicit gender role stereotyping did not predict CDSE ($b = .26$, $SE = .22$, $p = .22$) as well as career adaptability ($b = .03$, $SE = .11$, $p = .74$). Additionally, the indirect effect of



a) Male Students (Indirect Effect = .12, 95% CI [-.05, .27])



b) Female Students (Indirect Effect = -.23, 95% CI [-.43, -.04])

Fig. 1 Moderated mediation results of hypothesized model testing the indirect effect of implicit gender career stereotyping on career adaptability via career decision self-efficacy. Figure 1a shows the mediation model in male students and Fig. 1b presents the mediation model in female students. **b** indicates the unstandardized regression coefficient. **b** shown in parenthesis presents total effects, and direct effects are shown without parentheses. Solid lines present effects are significant at $p < .05$, and dotted lines indicate effects are nonsignificant. * $p < .05$. *** $p < .001$

implicit gender role stereotyping on career adaptability through CDSE was not significant ($b = .12$, $SE = .08$, 95% CI [-.05, .27]).

In the group of female students, consistent with Hypothesis 2, the mean direct effect of implicit gender role stereotyping on CDSE was significant ($b = -.52$, $SE = .23$, $p = .02$, 95% CI [-1.00, -.06]). In addition, the indirect effect of implicit gender role stereotyping on career adaptability through CDSE was significant ($b = -.23$, $SE = .10$, 95% CI [-.43, -.04]). However, contrary to Hypothesis 1, the mean direct effect of implicit gender role stereotyping on career adaptability was not significant ($b = .12$, $SE = .12$, $p = .29$, 95% CI [-.11, .36]).

Discussion

In the current study we proposed and tested the gender difference in the mechanism by which implicit gender-career stereotyping impacts career adaptability via career decision self-efficacy. Our results showed a statistically significant full mediation effect of CDSE on the relationship between implicit gender-career stereotyping and career adaptability for female

South Korean students, but not for male South Korean students. Specifically, the path from implicit gender-stereotyping to CDSE was negative and statistically significant for only the female students. In addition, the direct effect of implicit gender-stereotyping on career adaptability was not statistically significant for either gender.

As we hypothesized, gender differences in the mediation effect of CDSE for the relationship between implicit gender-stereotyping and career adaptability was supported by our data. The strength and positive direction of the path from CDSE to career adaptability, was similar between men and women, but the path from IAT to CDSE was statistically significant only among women. Among female students, the degree of CDSE decreased as the IAT score increased. In contrast, the effect of implicit gender-stereotyping on CDSE was not significant among male students. In addition, female students showed higher overall D-scores than male students, representing stronger male-career and female-family associations. Our CDSE measures involved more task-related items than social and interpersonal efficacy items, such as “select one major from a list of potential majors you are considering” and “talk with a person already employed in the field you are interested in.” Thus, the nonsignificant relationship between male students’ IAT scores and CDSE could be explained by the characteristics of the CDSE measurement. Because the measure itself reflects instrumental characteristics that are associated more with men than with women, men were not affected by their gender role stereotyping when assessing these items because their gender was the primary determinant of their CDSE, whereas females showed lower CDSE when they held stronger gender role stereotyping.

These results imply that South Korean women are likely to have more traditional stereotypical attitudes (male with career and female with family) and that those attitudes produce lower career adaptability via lower CDSE. According to traditional gender roles, women’s appropriate role is domestic and men’s proper role is workplace-related. Perceptions of such traditional gender roles influence role biases (Thoits 1991). In other words, individuals’ gender role schemas are more consistent with the male gender role when their career role is more salient and with the female gender role when the family role is more salient. Therefore, our results imply that female students’ higher level of implicit gender role stereotyping activates traditional female gender role saliency that results in lower CDSE because career is regarded as a more male-dominant domain.

Using the IAT, we measured the implicit gender role stereotyping that individuals hold. If the implicit stereotyping became explicit during the IAT, then the following measurements of CDSE and career adaptability might have been perceived as role-incongruent to those with relatively strong implicit gender role stereotyping. Our finding is consistent with previous research on contextual dependency and gender

stereotyping activation among female college students in Spain (De Lemus et al. 2014). They found that traditional gender stereotyping (men as high in competence, women as high in warmth) were activated in the context of an office, which is associated with male-dominant roles, but not in a kitchen context. In a kitchen context, female students responded more quickly to men paired with negative competence traits, such as inefficacy, inconsistency, demotivation, than did women paired with negative competence traits. There were no differences reported on warmth when comparing male and female primes in the Kitchen context. These results indicated that traditional gender stereotyping was not activated in role-incongruent priming pairs with female college students.

The current findings that women displayed more traditional gender stereotyping than men did and that their CDSE was negatively influenced by their activated traditional gender stereotyping can be understood as internalized sexism effects. Internalized sexism is a form of internalized oppression that persists within the institutional system of a culture even when the oppressor is not present (Bearman et al. 2009). It helps to maintain the power imbalance by keeping members of oppressed groups, such as women, feeling helpless and therefore acting powerless (Bearman et al. 2009). For instance, due to sexism, women are likely to have fewer female role models throughout their career paths, carry lower expectations of getting a prestigious and powerful job, and opt to become a housewife if given the choice.

Within South Korean culture, internalized sexism has continuously been enhanced and confirmed. For example, in 2011, the number of unemployed female university graduates was still higher than that of men, even though the number of female graduates surpassed that of male graduates for the first time (The diplomat 2016), and 75% of 479 companies in South Korea still preferred to hire men rather than women (Yonhapnews 2016). South Korean women’s decision to get married and be a housewife has been mocked, as reflected in the use of the neologism, “Chwijib” which insults women who choose this path and describes them as avoiding a “real” job and spending their spouse’s money, who are mostly men. In addition, according to Kim’s (2007) study, Korean female college students’ career aspirations are influenced by parental expectations and gender divisions in the labor market which, ironically, strengthen women’s traditional gender role stereotyping. As a consequence, Kim (2007) suggested that female students, who held the view that housework and care within the family are women’s primary duties, tended to change their occupational aspirations so that they could better fulfill their family responsibilities. Our finding that gender role stereotyping negatively affects female students’ CDSE provides evidence of how sexism has been socialized and influenced South Korean women’s perceptions of their ability to handle the career decision process.

Interestingly, male students showed lower levels of gender role stereotyping and their degree of gender role stereotyping did not affect their own CDSE or career adaptability. The nonsignificant effects of implicit gender stereotyping on men's CDSE and career adaptability indicate that gender-related issues are not significant or critical factors in their career decision-making process, unlike their female counterparts'. In addition, the Korean male students' lower levels of implicit gender role stereotyping could be interpreted as the reflection of their belief that gender inequality no longer affects career attainment or the ability to conduct family-related duties. These findings could be considered as the echo of modern sexism. According to Swim, Aikin, Hall, and Hunter (1995, p. 200), the belief that discrimination against women is a thing of the past, antagonism toward women who make political and economic demands, and resentment about special favors for women are all characteristics of "modern sexism." Barreto and Ellemers (2005) stated that modern sexists assume that both sexes are competing on an even playing field, so the under-representation of women in managerial or leadership positions must be an outcome of women's own decisions or inadequacies rather than being the result of discrimination.

Thus, in the current study, men's lower implicit gender role stereotyping scores may represent their perception that South Korean society has already achieved gender equality. For instance, some young South Korean men have described South Korea's mandatory military service for men, increased number of women-only facilities (e.g., women-only parking spots, women-only passenger subway cars), and gender quota system as examples of reverse discrimination. Thus, given some South Korean men's beliefs with the just world regarding gender equality, it seems to be natural for Korean male college students to have low degree of implicit gender role stereotyping and to have no impact of implicit gender role stereotyping on CDSE and career adaptability. Our findings suggest that the degree of gender role stereotyping is different depending on one's gender within a specific contextual circumstance and, in the South Korean culture, gender role stereotyping had a negative impact on CDSE for female college students but not their male counterparts.

In sum, the full mediation effect of CDSE between implicit gender role stereotyping and career adaptability among female students implies that South Korean female students feel less confident in their ability to handle tasks related to the career development process when internalized gender role stereotyping are activated in their thoughts, which reduces their persistence and desire to deal with career-related challenges. Our findings are consistent with previous empirical findings of the mediating effect of CDSE on the relationships between parental support and career adaptability (Guan et al. 2016), proactive personality and career adaptability (Hou et al. 2014), and career calling and career adaptability (Shin 2013).

Our results add more empirical evidence about the possible mechanism by which specific sociocultural environmental factors, such as gender-related oppression, act as barriers to increased career adaptability via one's beliefs about his or her ability to manage career-development tasks.

Practice Implications

The results of our study have important implications for practitioners. Counselors need to address the possible influence of gender-related stereotyping on college students' career-related problems. We measured only implicit gender role stereotyping, specifically the association of men with career and women with family. However, we found that there is a possibility that internalized sexism, especially for female students, impacts beliefs about one's abilities and opportunities to obtain and advance in a career. Several layers of intervention are required to address female student's traditional gender-career stereotyping. First, counselors and educators need to acknowledge and validate the clients' experience of internalized sexism and traditional gender-career stereotypical beliefs which have likely been reinforced by exposure to sexist beliefs and practices within society. For example, gender discrimination occurred in the hiring practices of a major bank in South Korea (Na and Ahn 2018). The bank set a discriminatory hiring ratio that significantly favored hiring men over women and deliberately disqualified female applicants to give favors to male applicants. Counselors and educators need to be keenly aware of how internalized sexism has been formed within social contexts. In addition, they also need to explore and understand how their clients' or students' life experiences have shaped their gender-career stereotyping and biases, as well as their career interests, aspirations, and explorations.

Second, school administrators need to plan and provide psychoeducational programs to challenge unequal and harmful gender norms and attitudes and encourage students to have more egalitarian perspectives and a sense of empowerment. According to previous studies (McWhirter et al. 1998), women with traditional gender role attitudes had a lower level of occupational aspiration than those with egalitarian gender role attitudes. In addition, the degree of the egalitarian gender role attitudes is significantly related to higher level of career outcome expectation. Hence, providing psychoeducation programs incorporating career power analysis (e.g., exploring who has influence in my career decision-making), life role analysis (e.g., examining the costs and benefits of role expectations as outlined by culture and gender), and other strategies (see Jodry and Armstrong 2010) would be helpful to promote students' egalitarian gender role attitudes and career decision-making process. In addition, female-majority student clubs for female students in University of California, Davis could be a good example of the support program by helping students to get peer-support, mentoring, and networking (Akhter 2018).

Also, colleges and universities need to have clear and specific zero-tolerance policies about gender equality and discrimination. Recently, many universities in South Korea have established centers for gender equality. However, the functions of these centers have mainly been to manage sexual harassment incidents (Jin 2018). Thus, school administrators need to provide more preventive programs with zero-tolerance policies to cultivate environments that do not tolerate gender discrimination and microaggressions.

It is also necessary to invest in changing gender role stereotyping that is implicitly held by female students in order to increase their CDSE. This can be accomplished in a variety of ways, including providing environments where traditional gender role stereotyping is not salient or reversed. Female students' internalized sexism or implicit gender role stereotyping may be weakened if they have exposure to career-related female role models or mentors. In addition, it may be beneficial for practitioners to assign more career-related decisional tasks to female students to help them increase their CDSE. It may also be effective to design a system that exposes female students to various career-related activities, such as job fairs, internships, or other career development opportunities. During South Korean men's mandatory military service period, they often experience pseudo-career development activities and decisional tasks. Female students would likely improve their CDSE if they too had the opportunity to participate in a career development program that helped them practice career-related decisional tasks and accumulate work experiences.

Limitations and Future Research Directions

Our study makes a meaningful contribution to the existing research on career adaptability and career decision-making processes by showing the differential effects of gender and implicit gender role stereotyping. To our knowledge, ours is the first study to examine the effects of implicit gender role stereotyping on career adaptability via CDSE. However, our study does have several limitations. First, we collected data from college students attending a large university in Seoul, South Korea. Our findings might not be generalizable to college students in other regions or different populations in South Korea, such as married people or employees, particularly because most of the students in the current study had no experience getting a job or managing the balance between work and family. Therefore, further study with different populations is needed. In addition, the cross-sectional data in the present study impeded the feasibility of uncovering causal effects among variables in the model. Future research using longitudinal research methods would add stronger empirical evidence to these hypothesized causal links.

Second, we measured gender role stereotyping using only the IAT method. Past research has found inconsistent

correlations between explicit and implicit measures of stereotyping or attitudes, as demonstrated in Banse et al. (2001) meta-analysis of the correlation between the IAT and explicit self-report measures. Thus, future research should implement both implicit and explicit measurements of gender role stereotyping to compare how gender role stereotyping influences career development. Additionally, the operation of implicit gender role stereotyping was limited to the association of gender and career versus family. We did not comprehensively examine occupation types or domains, such as the field of science, technology, engineering, and mathematics (STEM). Incorporating gender role congruent and gender role incongruent career domains in future research would enable researchers to examine the differential effects of implicit gender role bias on CDSE and career adaptability.

Third, although male students' gender role stereotyping did not affect their own career-related self-beliefs, attitudes, and behaviors, it may affect their attitudes toward female counterparts' (e.g., partner, colleague or spouse) career-related behavior. Considering that South Korean men's reverse discrimination claims and the various neologisms that mock women were rooted in the early 2000s when there were fewer job opportunities for which both men and women had to compete, it is likely that men's frustration with the hypercompetitive job market in South Korea's slowing economy have been projected onto women (Huffpost 2016). Thus, further study is needed to examine how the implicit gender role stereotyping of South Korean men influence their attitudes toward South Korean women's career development.

Last, our selection of measures for CDSE limited the interpretation of our findings about the gender differences in the indirect effects of implicit gender stereotyping on career adaptability via CDSE. The instrument we used to measure career adaptability includes items to capture components of self-efficacy (e.g., performing tasks efficiently) and desire or goal-related intentions for better performance (e.g., taking care to do things well, working up to my abilities) related to career matters. The measures we used for CDSE and career adaptability might reflect more task-oriented characteristics, which may be the reason why female students showed a negative relationship between their IAT score and CDSE. Our CDSE measures did not include items involving interpersonal efficacy (i.e., social and interpersonal skills related to work and cooperate or communicate effectively with others). Because the measure itself reflects more instrumental characteristics that are associated more with men than with women, men were not affected by their gender role stereotyping when assessing these items whereas women showed lower CDSE when they held stronger gender role stereotyping. If future studies consider feminine- and masculine-type career fields and use more expanded CDSE measures, it might be possible to examine more elaborate mechanisms between gender role stereotyping, CDSE and career adaptability.

Conclusion

Despite the increasing number of women in the workplace, traditional gender-career stereotyping (i.e., men with career and women with family) are still commonly accepted in South Korea. Our findings indicate that implicit gender-career stereotyping may hinder women by negatively impacting their self-confidence and self-regulation in their career decision-making process. Several layers of interventions are needed to help South Korean female college students, such as enhancing awareness of the impact of explicit and implicit social atmospheres that promote traditional gender-career stereotyping, creating and encouraging participation in learning opportunities designed to develop specific transferrable and job-applicable skills, and advocating for women's rights by adapting zero-tolerance policies for gender discrimination at the school, community, and societal levels.

Compliance with Ethical Standards

Conflicts of Interest The authors declare that they have no conflict of interest.

Research Involving Human Participants and/or Animals The authors verify that this manuscript describes a study wherein humans were subjects, the treatment of human subjects was in accordance with established ethical guidelines and appropriate institutional approval. The research that this manuscript reports was approved by the University of Seoul IRB where the [first author, Yun-Jeong Shin](#), is affiliated.

Informed Consent The authors verify that every participant for a study that this manuscript describes provided written informed consent. In prior to give informed consent, all participants were provided with detailed information of study. Written information about the study includes research purpose and procedures, potential risks and benefits of participation, confidentiality, and compensation and highlighted voluntary participation.

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