Effects of gender and gender role orientation on high school students' teaching

perceptions and aspirations in Hong Kong

Wai Shan Ku & Helen M. G. Watt

Monash University

(Paper Code: KU09045)

June 2009

Abstract

Teaching is a female-dominated career in both Western and Eastern societies. While low salary and social status have been suggested by previous research as the main reasons, these cannot explain the phenomenon in Hong Kong where teachers enjoy high social status and salary. My Master of Psychology research will include samples of Hong Kong and Australian senior high school students, to contrast their gender stereotypes as measured by Bem's Sex-Role Inventory (Bem, 1981), and how these, along with their gender and gender role orientations, affect their views of what characterises a good primary and secondary teacher, likelihood to consider teaching as a career, self-efficacy, and interests in teaching.

The theoretical framework integrates Lent et al.'s Social Cognitive Career Theory (SCCT; 1994) and research on gender stereotyping. SCCT posits that self-efficacies predict individuals' interests and intentions to persist in a given domain, which has not yet been applied to the context of teaching career choice. Research on gender stereotyping predicts that gender and conformity to gender role norms significantly shape individuals' learning experiences, which, in turn, affects self-efficacy (Toker et al., 2007). Recent research in the Chinese context has found that males and females exhibit fewer and weaker traditional gendered stereotypes (Zhang, Norvilitis, & Jin, 2001).We may reasonably infer shifting conceptions of gender stereotypes, including those associated with teachers, across cultures or time.

In the present paper, I report on the pilot study results from 120 senior high school survey participants in Hong Kong. Factor analyses and measures of Cronbach's measure of internal consistency will first explore the structure of gender stereotyped characteristics. Multiple regression analysis will examine the contributions of student gender, gender

stereotypes, self-efficacy, and interest in teaching, towards intentions to teach. These findings

will have theoretical and applied implications on several levels. First, for the utility of the

two underpinning theoretical perspectives to the context of teaching as a career. Second, for

the general gender stereotypes held within this Hong Kong sample. Third, the pilot will

identify Hong Kong participants' stereotypical important primary and secondary teacher

qualities, as well as the extent to which these are gender stereotyped. Finally, which factors

most strongly predict to intentions to teach, and their gendered bases, will be explored.

Effects of gender and gender role orientation on high school students' teaching
perceptions and aspirations in Hong Kong

Introduction

Gender and its effect on career choice has long been a research interest. However, while most high status, high salary occupations are skewed to higher male participation; academic studies on gender-typed career choice are concentrated on females' lower participation in careers in science, technology, engineering, and math (STEM); and female students' self-efficacy in mathematics and science. While females are viewed as the oppressed gender, and those who brave social obstacles to join a male-dominated career are social pioneers, who are celebrated with respect from their peers as those who attain high social status – males in female-typed occupations and male students' career aspirations in female-typed careers are rarely addressed in the academic spotlight. This phenomenon may be due to the assumption that males who engage in female-typed occupations choose to do so at their own peril for internal rewards rather than salary and status.

Nevertheless, recent years have seen an increase in studies on the under-representation of males in the teaching profession. Because many government authorities view the lack of male teachers as the major reason for boys' underachievement, they intend to increase the participation of males in the profession and target their teacher recruitment strategies specifically at potential males (e.g., Carrington & Skelton, 2003; Johnson, 2008; Martin & Marsh, 2005). However, the argument that male teachers provide necessary role models to boys stands on a shaky ground, as the gender of teachers has been found to be irrelevant to boys' academic achievement at school (Carrington & McPhee, 2008; Carrington & Skelton, 2003). Moreover, the traditional argument that low status and low salary of the teaching profession deters males from joining teaching seems inadequate to explain the complexity of the issue. It is necessary to conceptualize the choice of career in a theoretical framework which gives a more thorough understanding of the network of factors that gives rise to the current

phenomenon of fewer male teachers especially in early childhood education and primary education.

The present study addresses the under-representation of males in the teaching profession within the theoretical framework of the Social Cognitive Career Theory (SCCT) developed by Lent, Brown and Hackett (1994), and suggests that, in addition to the prevailing factors already suggested by previous studies, both gender and gender role orientations, mediated by one's self-efficacy, affect one's choice regarding joining the teaching profession.

Teaching as a Gendered Career

Based on the definition developed by Frome, Alfeld, Eccles, and Barber (2008), occupations that are made up of 30% or fewer females can be classified as "male-dominated", those with 70% or more females as "female-dominated", and those with 31% to 69% of females as "neutral". The use of the term "feminization" can be quite misleading as it may imply the nature of education being influenced by a particular ideology or traditional gender relations (Johnson, 2008). Moreover, the term seems to over-simplify the current situation when there is distinct gendered labour division within educational sectors (Cushman, 2007; Thornton & Bricheno, 2000). Although female teachers tremendously outnumber their male counterparts in early childhood and primary education in many countries, men still dominate school senior management, meaning that men have more influence over school policies, pedagogy, appointment of staff, and the allocation of resources, and thus their leadership styles characterize the learning environment (Bailey, 1996; Davis, 2003; Martino, 2008). Therefore, in this paper, the term feminization is defined as the increasing proportion of females in the teaching profession (Carrington & McPhee, 2008).

In male-dominated careers like STEM, women, as a gender minority in the workplace, encounter barriers such as insufficient organizational support that attends to their needs, sexual harassment, stereotyping comments from colleagues, and difficulties engaging with male colleagues in social activities and conversations (Tatli, Özbilgin, &

Küskü, 2008; Wynarczyk & Renner, 2005). One could expect similar barriers for men who work in female-dominated careers such as teaching.

In fact, Cushman (1999) has conducted a survey of more than 250 male primary teachers and found that the female-dominated working environment posed ongoing barriers to male teachers, which diminished their job satisfaction and performance. To further explore male primary teachers' experience at their workplace, Cushman (2005) conducted a number of focus groups so that male primary teachers could interact with each other and share their experiences at school. It comes as no surprise that the male primary teachers in Cushman's (2005) study encountered similar obstacles as females do in a male-dominated workplace. The male participants of the focus groups found it hard to engage in a natural conversation with their female colleagues, as they were often asked to talk about stereotypically male interests such as sports and vehicles, even though such topics did not interest their female colleagues. They also mentioned experiences of male sex-role stereotyping such as having to take up most physical jobs and disciplinary duties. Being a gender minority at school, it was also more difficult for them to seek support from their colleagues and the principal. All of these experiences reduced the male primary teachers' job satisfaction.

Lack of Male Teachers

Reasons. Apart from the unfavourable work conditions experienced by males in a highly feminized environment, four other reasons have been widely suggested in existing literature to account for the lack of male teachers (Blount, 1999; Carrington, 2002; Cushman, 1999; Johnson, 2008; Sumsion, 2005). The first reason is low pay. Both Blount (1999) and Johnson (2008) have given a similar historical account of the low salary of teachers in the United States, which also reflects similar situations in other Western countries. They mentioned that the teaching profession used to have a balanced representation of males and females. Starting from the late 1800s, however, periods of industrialization and urbanization made more higher status and better paid jobs available to men, leading to the "brain drain" of male teachers. Yet, compulsory education has increased the demand of teachers but at the same time schools' funding has been reduced. The resultant vacancies were filled by females who were willing to accept lower salary.

This created a snowball effect of increasing feminization of teaching: as more and more men left the profession to pursue higher status and better paid jobs and more women filled the vacancies, the highly feminized working environment has made it more difficult for males to break in to the workplace culture.

The second reason which has widely been quoted is the low social status of the teaching profession. As stated by Cushman (2005), teachers' status is closely linked to the intellectual demand of the job. The more senior Years or Grades that a teacher teaches, the greater his/her status. Therefore, the proportion of male teachers diminishes with the lower educational levels.

The third reason is the public suspicion of males' intentions to work with children (Cushman, 2005; Johnson, 2008). Such mistrust has put male teachers under pressure during their interaction with students. Some male primary teachers expressed that they observed the 'no physical contact' rules so as to avoid accusations from students, parents and their colleagues (Cushman, 2005). However, the fact that their female counterparts are able to hug young children in class may make the seemingly "apathetic" attitudes of male teachers more salient (Cushman, 2005).

The fourth reason that is widely stated is the association of teaching children with an extension of mothering (Carrington, 2002; Ho, 2007). The perception of a primary teacher as a nurturer has made women appear to be more suitable for the job (Carrington, 2002). Males, presumably being viewed as less nurturing than women, would therefore be discouraged from joining the profession.

Why do we need more male teachers? Although a number of reasons have been suggested for the lack of male teachers, the central question remains—why do we need more male teachers? Are female teachers alone adequate to do the job? The need for a male role model for boys who do not do well academically at school, and a fatherly figure for boys from single-parent families, has been proposed by some government authorities, such as the British and the Australian governments, as the main reasons for needing more male teachers (Carrington & McPhee, 2008; Johnson, 2008). However, such claims are not supported by any empirical research. Many studies have found that

the gender of teachers has no effect on students' learning (Carrington et. al, 2007) or their attitudes toward learning (Wheeless & Potorti, 1989).

Another argument is that the presence of male teachers in early childhood or primary education can help students develop less gender-stereotyped views (Sumsion, 2005). In a study conducted by Wiest et al. (2003), two groups of kindergarten students with and without male teachers were asked to describe each of a male and a female teacher in general. It was found that those students who currently had a male teacher expressed fewer gender-stereotyped views about males and females, as they viewed both genders to be nurturing and authoritative. However, some scholars have argued that since gender role socialization is a highly complex process, simply having more male teachers will not in and of itself help students counteract their gender-stereotyped views (MacNaughton & Newman, 2001).

Instead of blindly introducing more male teachers into the profession without apparent evidence for better boys' academic performance or counteracting students' gender-stereotyped views, the present study proposes that both males and females should have equal opportunities of joining the teaching profession as long as their personalities, interests, and abilities coincide with the job nature of teaching. However, many males may be discouraged from being a teacher because of the highly feminized working environment. Breaking the gender barrier that impedes an individual, male or female, from joining the teaching profession is the first step to gender equality in this domain. Identifying the factors that underlie career choice can help us better understand how an individual views his or her personalities, interests, and abilities, and makes a career decision.

<div align="center">Feminization of Teaching in Hong Kong</div>

Social Gender Role Stereotyping

Being a British colony for almost a century until 1997, Hong Kong has been largely influenced by Western culture yet remains a traditional Chinese society in which Confucian teachings are still highly valued. Although there are more women pursuing higher education and holding professional posts in recent years, women with career

success are still stigmatized as aggressive and non-nurturing (Tang & Tang, 2001), which clash with traditional Chinese values that define an ideal woman to be tender and reserved. Academic choices of studies at college show that science disciplines such as engineering and computer science are still dominated by males; while social and human service disciplines like social work and education are dominated by females (Census and Statistics Department, Hong Kong SAR, 2007).

The Teaching Profession in Hong Kong

Like their counterparts in other Asian countries such as Singapore and Korea, teachers in Hong Kong enjoy a relatively high occupational prestige (Ingersoll, 2007). In a study that investigated high school students' perception of teachers in Hong Kong, Lai, Chan, Ko and So (2005) found that teaching was ranked third as the most wanted and respected occupation in a list of professions—well above professions such as engineer, accountant, research scientist, I.T. personnel, and lawyer. However, that study only investigated students' perception of teachers in a general sense, and did not disaggregate perceptions related to different teaching occupations within the status hierarchy of the profession, which exists in the United States and other Asian countries (Ingersoll, 2007). It has been found that teachers' status dwindles with the age of the students they teach: preschool and kindergarten teachers are situated at the low end of the status hierarchy, while post-secondary teachers are at the high end (Cushman, 2005).

The proportions of male teachers across the four educational levels in Hong Kong (namely: early childhood education, primary education, secondary education, and post-secondary education) confirm the positive correlation between the proportion of male staff and the educational levels they teach as shown in Table 1. Early childhood education consists of less than 1% of male teachers, and kindergarten teachers also receive the lowest salary among their teacher counterparts from other educational levels. Feminization does not exist across all educational levels in Hong Kong. In fact, it only exists in early childhood education and primary education. Therefore, when investigating the public perception of the teaching profession, it is essential to break down the profession into several groups according to the educational levels they teach, as there exists a large difference in salary and status for the different educational levels. The

proportion of male teachers has remained more or less the same in Hong Kong from 1996 to 2006. The slight decline over the years has coincided with the decreasing trend in the proportion of males in the labour force in general (Census and Statistics Department, Hong Kong SAR, 2007).

<insert Table 1 here>

In terms of the four major reasons that deter males from teaching, in Hong Kong the starting salaries of both primary and secondary teachers are higher than the average salary of new university graduates. As from 2007, the starting monthly salaries of a certificate teacher and a graduate teacher were HK$19,835 and HK$22,985 respectively, while the monthly average starting salaries as reported by individual universities ranged from HK$12,145 to HK$17,616 (Mingpao, 2007). There are promotion opportunities for classroom teachers to progress into the school administration with higher salary.

In a Chinese society such as Hong Kong, physical contact even between parents and children is minimal (Bond, 1996). Therefore, the pressure of not being able to show care and affection through a pat on the shoulder or a supportive hug as experienced by male teachers in Western cultures is not a major problem to male teachers in Hong Kong.

Even though the pay scales, the social status of teachers, and the cultural environment differ in Western countries and in Hong Kong, the degree of feminization in primary and secondary sectors in the two cultural settings is strikingly similar. Low salary, low social status, and perception of the motherly nature of primary teaching (Carrington, 2002; Forrester, 2005) which have been suggested by previous research to explain the feminization of primary teaching are not adequate to address the complexity of the phenomenon. A theoretical model that encompasses social influences, values, and individuals' beliefs and perception is needed to offer a more comprehensive explanation.

Social Cognitive Career Theory

Drawing upon Bandura's (1986) social learning theory, social cognitive career theory (SCCT) developed by Lent et al. (1994) emphasizes the importance of perception and beliefs in guiding one's career-related behaviours and choices. The theory stresses

the important role of person-situation interaction in which individuals shape, and are shaped by, the environment at the same time. The model encompasses three important social cognitive mechanisms that direct an individual's initial career choice. The three mechanisms are self-efficacy beliefs, outcome expectations, and goal representations.

Self-efficacy Beliefs

As defined by the SCCT model, self-efficacy beliefs are more than objectively assessed abilities in performing a particular task; they also involve personal judgments about one's capabilities (Lent, Brown, & Larkin, 1986). Such beliefs inform individuals' choice of activities and environment, amount of effort to be expended, persistence in accomplishing a goal, and emotional reactions during difficulties. Self-efficacy has been found to be a strong predictor of career choice and performance (Bandura, 1986; Fouad & Swanson, 1999; Hackett & Lent, 1992). The stronger the self-efficacy on a certain task, the more likely it is that an individual will persist and accomplish it. According to social cognitive theory, self-efficacy beliefs are influenced by four sources of information: (1) personal performance accomplishments, (2) vicarious learning (exposure to successful models), (3) social persuasion, and (4) physiological states and reactions (Bandura, 1986).

Outcome Expectations

Outcome expectations refer to personal beliefs about probable consequences of performing a particular task, which inform individuals' choice. Bandura (1986) identified several classes of outcome expectations, such as the anticipation of physical, social, and self-evaluative outcomes. He argued that self-efficacy is a more influential determinant of behaviour than outcome expectations, as individuals will avoid pursuing a goal if they deem themselves incapable of achieving it. However, even when the outcome expectation is uncertain, an individual with a strong sense of self-efficacy will still be confident in pursuing the task. Like self-efficacy beliefs, outcome expectations are partly determined by vicarious experiences of educational and occupationally relevant activities.

Goal Representations

In the SCCT, a goal denotes the determination to pursue a certain task or to accomplish certain outcomes. It plays an important role in guiding and organizing an individual's behaviour.

Predictions

In general, three major predictions are outlined by the SCCT:

1. Both self-efficacy beliefs and outcome expectations predict an individual's occupational interests, which promote career choice goals.

2. Occupational interests are modified by occupationally relevant abilities, which in turn are mediated by self-efficacy beliefs.

3. Choice actions then lead to participation in particular performance domains and achievement experiences, which may support or weaken self-efficacy and outcome expectations, and ultimately, choice and persistence.

<insert Figure 1>

Gender and Gender Role Orientations

As predicted by the SCCT, contextual factors such as cultural and gender role socialization give important information to one's self-efficacy beliefs and shape one's learning experience. Throughout their childhood and adolescence, individuals' environments expose them to a wide variety of activities which have potential career relevance. They also observe or hear about others performing various occupational tasks. The process of gender role socialization may bias boys' and girls' access to sources of information necessary for developing positive outcome expectations and strong self-efficacy in particular, and culturally sanctioned activities.

In a study based on the framework of the SCCT, Tokar, Thompson, Plaufcan and Williams (2007) examined the contributions of three person inputs (personality, gender, and conformity to gender role norms) to career-related learning experiences for each of Holland's (1994) six career themes: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC). It was found that gender contributed significantly to three types of learning experiences: Social, Realistic, and Investigative. Female gender had a significant and positive effect on Social learning experiences, and a significant and negative effect on Realistic and Investigative learning experiences. Although Tokar et

al.'s (2007) study did not refine the six learning experiences into concrete occupations, teaching could be classified under the "Social" theme while STEM belongs to the "Investigative" theme. The interaction of two variables, gender and conformity to gender role norms, therefore contributes significantly to learning experiences, with women having significantly more Artistic and Social learning experiences, and men having significantly more Realistic, Investigative, and Enterprising learning experiences (Toker et al., 2007).

Objectives and Research Questions

In view of the importance of both gender and gender role orientation in affecting one's self-efficacy and one's exposure to different learning experiences, the present study set out to investigate how high school students' gender and gender role orientation affect their views of a good teacher, their likelihood to consider teaching as a career, and their self-perceived efficacy, interests, and personality suitability related to teaching.

Senior high school students were invited to participate in the current study, as they would be of an age where decisions about attending university become salient, which in turn affects their future career options. Thus they were expected to have formed some estimation of their own capabilities and interests in different careers.

The present study intended to answer the following questions:

1. What is the perceived gender role structure of the Hong Kong society? How is it similar to or different from the perceived gender role structures of primary and secondary teachers?
2. How does the sex of participants affect their view on their own gender role orientation?
3. How do participants view the important qualities of a good primary teacher and a good secondary teacher?
4. Are participants who view themselves possessing similar qualities of a good primary and a good secondary teacher more likely to consider teaching as their future career? Among those who may consider teaching as their future

career, how do sex and self-perceived gender role orientations affect their choice of the educational level they would like to teach?

5. Does perceived teaching self-efficacy positively relate to teaching interests as predicted by the SCCT?

6. Do teaching interests positively predict occupational intentions as predicted by the SCCT?

7. How do sex and gender role orientation affect teaching self-efficacy, personality suitability, teaching interest, and teaching intentions?

Method

Participants

Data were collected from 109 students (60 males and 49 females) who were studying Form 6 and Form 7 in a co-educational public secondary school in Hong Kong. Their ages ranged from 17 to 20 years, with a mean age of 18 years (SD = .845). All of them used Chinese as their first language and spoke Cantonese at home.

Materials

Bem Sex Role Inventory (BSRI). 20 items of personality characteristics from the short form of the Bem Sex-Role Inventory (BSRI; Bem, 1981), which is one of the most widely researched instruments that measure gender role orientation, were employed in the present study. 10 of the items describe stereotypically desirable feminine characteristics (e.g., affectionate, gentle, and understanding), and the other 10 describe traditionally desirable masculine traits (e.g., assertive, dominant, and forceful).

According to Bem's gender schema theory (1974), gender is a social construct that reflects culturally appropriate behaviours of both genders given a particular situation. Instead of viewing femininity and masculinity as two extremes on a continuum, BSRI measures them as two independent dimensions. Bem (1974) describes gender role orientation in a oblique model in which a feminine individual scores high in femininity and low in masculinity, a masculine individual scores high in masculinity and low in

femininity, an androgynous individual scores high in both femininity and masculinity, and an undifferentiated individual scores low in both femininity and masculinity.

In the present study, the short form of BSRI was used as, after deleting those items that failed to show social desirability of particular gendered characteristics from the long form upon criticisms from Pedhazur and Tetenbaum (1979), it has been demonstrated to be more psychometrically sound than the long form (Campbell, Gillaspy, & Thompson, 1997) and takes a shorter time to administer.

Although the BSRI was originally normed with a group of university students in the United States about 30 years ago, its current applicability in the modern Western and Chinese societies has been investigated and found acceptable (e.g., Hoffman & Borders, 2001; Lau, 1989). In an attempt to bridge the cultural gap of the BSRI's applicability, Zhang, Norvilitis and Jin (2001), drawing upon previous studies and their own study in China and the U.S., developed a 16-item short form of BSRI from Bem's original framework (1974) to be used in both Chinese and the U.S. contexts. The 16 items that they found valid and reliable in both cultural contexts coincide with the items in the short form of the BSRI.

Although it has been suggested that, with improving socio-economic status and social participation of females, gender role convergence makes traditional gender roles less salient and distinct (Peng, 2006; Yang, 1996), the psychometric properties of the short form of the BSRI have still proved satisfactory in many studies (e.g., Campbell, Gillaspy, & Thompson, 1997; Hoffman & Borders, 2001; Hole & Ellis, 1998). Despite weakening gender roles that erode the explanatory power of the BSRI (Peng, 2006), it remains the most widely researched and used instrument that measures gender role orientation, which makes it an ideal instrument in the present study.

Ten-Item Personality Inventory (TIPI). The Ten-Item Personality Inventory (TIPI) was developed by Gosling, Rentfrow and Swann (2003) to offer a time-wise measure of the Big-Five personality dimensions, namely Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness, each of which is measured by 2 items in the inventory. The inventory, although not as psychometrically sound as the multi-item

instruments like NEO Personality Inventory Revised (1992), showed adequate levels of psychometric properties in terms of convergent and discriminant validity, test-retest reliability, patterns of external correlates, and convergence between self- and observer-ratings (Gosling et al., 2003).

Questionnaire. The questionnaire combined the short form of BSRI and the TIPI. As Chinese is the dominant language in Hong Kong and is used by more than 98% of the population as their first language (Hong Kong Annual Digest of Statistics, 2007), both the short form of BSRI and the TIPI were translated into Chinese using the translation-back-translation model as proposed by Brislin (1970). The two instruments were first translated into Chinese by a bilingual translator and then back-translated into English by another bilingual translator. The discrepancies between the original and the translated versions were accommodated. Both the original and the translated questionnaires were then administered to 15 tertiary-educated bilingual speakers (3 males and 12 females) with a time interval of 2 days. Test-retest reliability of the short form of BSRI and the TIPI was assessed using the Pearson product-moment correlation coefficient (r). There was a strong, positive correlation between the original and the translated items, with r ranging from .523 to .945 and reaching statistical significance at the $p < .05$ level. Table 2 and Table 3 show the correlation coefficients between the corresponding items in the original and the translated short form of BSRI and TIPI respectively.

<insert Table 2 here> <insert Table 3 here>

Apart from demographic information, student participants were asked to rate, on a scale from 1 (*'not at all')* through 7 *('extremely'),* how desirable each of the 20 personality characteristics from the short form of BSRI was to four groups of people: (1) a male in their society, (2) a female in their society, (3) a good primary teacher, and (4) a good secondary teacher. Participants were also asked to rate themselves on both the short form of BSRI, and the TIPI. They further rated, on a 7-point scale where 1 means '*not suited at all*' and 7 means '*extremely suited*', their perceived own suitability of teaching preschool children, primary students, and secondary students in terms of each of their ability, personality and interest. They were then prompted to list the qualities for a good primary and secondary teacher in their own words as well.

Procedure

Ethics approval was obtained from the Monash University Standing Committee on Ethics in Research Involving Humans (SCERH) prior to data collection. With permissions from the school principal, students who agreed to participate were allowed class time to read the information sheet, sign the consent forms and complete the questionnaires which were collected by the researcher.

Results

Gender Roles of Males and Females in the Society

Factor analysis. To explore the factor structure of the desirable gender role characteristics for males and females in the Hong Kong society, exploratory factor analyses (EFA) using image factoring with Varimax rotation was employed. Prior to performing image factoring, the suitability of data for factor analysis was examined. The Kaiser-Meyer-Oklin values were .871 and 891 for male and female scales respectively, exceeding the recommended value of .6 (Kaiser, 1970, 1974). The Bartlett's Test of Sphericity (Bartlett, 1954) showed statistical significance which supported the factorability of the correlation matrix.

For both male and female scales, four factors with eigenvalues exceeding 1 were identified in the initial factor analysis, explaining 42.6%, 12.5%, 6% and 5.3% of the variance on the male scale; and 43.2%, 12.5%, 6.6% and 5.1% of the variance on the female scale respectively. Using Catell's (1966) scree test, two factors from each scale were retained after an inspection of the screeplot that showed a clear break after the second component. The two-factor solution for both male and female scales was further supported by the results of parallel analysis (Horn, 1965), which showed only two components with eigenvalues exceeding the corresponding criterion values for a randomly generated data matrix of the same size (20 variables x 109 respondents).

<insert Figure 2 here> <insert Figure 3 here>

As the item '*Dominant*' had a strong negative loading on one factor on both male and female scales in initial solutions, it was reversed. The two-factor solutions using the

reversed item of '*Dominant*' explained a total of 55.1% of the variance on the male scale, with the first factor accounting for 42.6% and the second 12.5%. The two factors on the female scale collectively explained 55.7% of the variance, accounting for 43.2% and 12.5% of the variance respectively. Varimax rotation with Kaiser normalization was performed to help with the interpretation of the two factors. An identical factor structure was revealed on both male and female scales, with nine traditionally masculine characteristics loading on one factor and ten traditionally feminine characteristics and one reversed masculine characteristic on another. The result was consistent with the traditional gender role orientations for males and females as classified by Bem (1981) except the item '*Dominant*' has previously loaded on Masculinity, but here '*Dominant*' (reversed) loads on Femininity. The two dimensions are labeled as Masculinity (9 items) and Femininity (11 items) in the present study. Table 4 shows the factor loadings of the two dimensions on the male and female scales.

<insert Table 4 here>

Reliability. To evaluate internal consistency of the short form of BSRI in the present study, a Cronbach alpha coefficient (α) was computed separately for the two dimensions (Masculinity and Femininity) on each of the male and female scales. The results showed good internal consistency of the two dimensions on both scales. The Cronbach alpha coefficients for the Masculinity and Femininity dimensions were .88 and .82 respectively on the male scale, and .88 and .92 respectively on the female scale.

Paired-samples t-test. A paired-samples t-test was conducted to compare the social desirability of each gender characteristic for males and females. The results supported the underlying factor structure: the nine characteristics in the Masculinity dimension were rated as significantly more desirable for a man than a woman, while the eleven characteristics in the Femininity dimension were rated as significantly more desirable for a woman than a man. The eta squared statistic ranged from .05 to .44, indicating a moderate to large effect size. Table 5 presents the t-values and eta squared for each paired sample test, and the mean scores and the standard deviations of all the items in the Masculinity and the Femininity dimensions.

<insert Table 5 here>

Gender Roles of Primary and Secondary Teachers

Factor analysis. Exploratory factor analyses using image factoring with Varimax rotation were performed on the primary and secondary teacher scales. The results showed that each of the two scales exhibited a different factor structure—from each other, and from the male and female scales.

The Kaiser-Meyer-Oklin values for the primary and secondary teacher scales were .792 and .831 respectively, and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, indicating the suitability for factor analyses.

The reversed item of '*Dominant'* did not satisfactorily load on any one factor in the initial solution on either scale, and thus the original scoring of the item was retained. Five factors with eigenvalues exceeding 1 were revealed for both scales, explaining respectively 32.5%, 12.6%, 7.9%, 7.4% and 6.1% of the variance on the primary teacher scale; and 33.2%, 10.8%, 7.8%, 6.6% and 5.5% of the variance on the secondary teacher scale. Three factors on the primary teacher scale and two factors on the secondary teacher scale were retained after using Catell's (1966) scree tests and parallel analyses.

<insert Figure 4 here> <insert Figure 5 here>

On the primary teacher scale, the three-factor solution explained a total of 53.0% of the variance, with the first factor contributing 32.5%, the second 12.6% and the third 7.9%. Ten traditional feminine characteristics loaded on two factors with five on Factor 1 and another five on Factor 2. Ten traditional masculine characteristics loaded on Factor 3. A more detailed inspection of the dimensions revealed that the five feminine characteristics on Factor 1 concerned intrapersonal qualities that reflect moral goodness and virtues (e.g., warm, compassionate, gentle), while the other five feminine characteristics on Factor 2 concerned interpersonal qualities that are important in maintaining harmonic relationship with others (e.g., sensitive to the needs of others, understanding, eager to sooth hurt feelings). Therefore, Factor 1 and Factor 2 were

labeled as "Intrapersonal Femininity" and "Interpersonal Femininity" respectively, while Factor 3 was labeled as "Masculinity".

The factor structure of the secondary teacher scale showed a slightly different factor structure, with all ten traditional feminine characteristics loading on Factor 1 and all ten traditional masculine characteristics on Factor 2. The two factors explained 44.0% of the total variance, with the first accounting for 31.2% and the second 10.8%. Factor 1 and Factor 2 were therefore labeled as "Femininity" and "Masculinity". Table 6 illustrates the factor pattern matrices for the primary and secondary teacher scales after Varimax rotation.

<insert Table 6 here>

Reliability. Internal consistency of the dimensions on the primary and secondary teacher scales was evaluated by Cronbach alpha coefficients (α). The results showed satisfactory reliability in the three dimensions on the primary teacher scale, with the alpha coefficients of .78, .87 and .80 for Intrapersonal Femininity, Interpersonal Femininity and Masculinity respectively; and in the two dimensions on the secondary teacher scale, with the alpha coefficients of .88 and .77 for Femininity and Masculinity respectively.

Paired-samples t-test. Based on the factor structures underlying the primary and secondary teacher scales, mean male and female stereotype scores were computed for each scale by averaging the sum of scores of the ten Masculinity items and the ten Femininity items (Intrapersonal Femininity and Interpersonal Femininity) respectively. A paired-samples t-test was then conducted to compare the mean male and female stereotype scores within and across the two scales.

The results show significant differences ($p < .001$) in three aspects: (1) male and female stereotype scores on the primary teacher scale, with the female stereotype scoring significantly higher than the male stereotype on the primary teacher scale; (2) female stereotype scores on the two scales, with the female stereotype scoring significantly higher on the primary teacher scale than on the secondary teacher scale; and (3) male stereotype scores on the two scales, with the male stereotype scoring significantly higher on the secondary teacher scale than on the primary teacher scale. No significant

difference was found between the male and female stereotype scores on the secondary teacher scale.

The eta squared statistics indicated a large effect size for the difference between the male and female stereotype scores on the primary teacher scale (eta squared = .60), the difference between the female stereotype scores on the primary and secondary teacher scores (eta squared = .49), and the difference between the male stereotype scores on the primary and secondary teacher scales (eta squared = .22). Table 7 shows the t-values and eta squared for each paired sample, and the mean male and female stereotype scores and the standard deviations on the two scales.

<center><insert Table 7 here></center>

Sex and Self-perceived Gender Role Orientation

Factor analysis. Exploratory factor analyses using image factoring with Varimax rotation were performed on the self-perceived gender role scale. Since '*Dominant*' positively loaded satisfactorily on one factor, it was included in the factor analysis in its original (unreversed) form.

Four factors with eigenvalues exceeding 1 were revealed in the initial solution, explaining 39.1%, 12.5%, 7.3% and 6.4% of the variance respectively. Using Catell's (1966) scree test and parallel analysis (Horn, 1965), two components which collectively explained 51.6% of the variance were retained. The first component contributed 39.1% while the second component contributed 12.5% of the variance.

<center><insert Figure 6 here></center>

The results showed a factor structure which was slightly different from that of the social gender role scale, with ten masculine characteristics loading strongly on Factor 1 and ten feminine characteristics loading on Factor 2. Table 8 shows the factor pattern matrix for the self-perceived gender role scale after Varimax rotation.

<center><insert Table 8 here></center>

One-way MANOVA. Based on the two-factor structure underlying the socially desirable gender roles for males and females, a mean self-perceived male stereotype score and a mean self-perceived female stereotype score were obtained by averaging the scores by which each participant rated himself/herself on the nine items in the Masculinity and the eleven items in the Femininity dimensions respectively. To investigate sex differences in self-perceived gender role orientation, a one-way between-groups multivariate analysis of variance (one-way MANOVA) was performed, with two dependent variables being self-perceived male and female stereotype scores and the independent variable being sex. Preliminary assumption testing was conducted to ensure the suitability of the data for one-way MANOVA. No statistically significant difference was found between males and females on the dependent variables, $F (2, 103) = 1.96$, $p = .15$; Wilks' Lambda = .96; partial eta squared = .04.

Sex, Self-Perceived Gender Role Orientation, Interests and Teaching Intention

The relationship between sex and teaching intention was investigated using Pearson's chi-square test. The teaching intention of the participants did not differ by sex, $\chi^2 (3, n = 101) = 3.14$, $p > .05$. No statistically significant relationship was found between self-perceived gender role orientation and teaching intention, Spearman's $rho = .06$, $p > .05$. When scores on interests to teach the three educational levels were summed to form a single variable measuring general teaching interests, a statistically significant positive relationship was found between teaching interests and teaching intention, Spearman's $rho = .48$, $p < .0005$.

Sex and Suitability to Teach Based on Self-Perceived Ability, Personality and Interest

One-way MANOVAs were performed to investigate the sex differences in self-perceived abilities, personality suitability and interests to teach kinder/preschool, primary school and secondary school. When abilities to teach kinder/preschool, primary school and secondary school were used as dependent variables, there was a statistically significant difference between males and females on the combined dependent variables, $F (3, 98) = 2.89$, $p = .04$; Wilks' Lambda = .92; partial eta squared = .08. When the univariate results for the dependent variables were considered separately, females were

found to rate themselves significantly higher than males, $F(1, 100) = 4.07, p < .05$. However, no statistical significance was found using a Bonferroni adjusted alpha level of 0.17.

When personality suitability to teach the three educational levels were used as dependent variables, a significant difference was found between males and females on the combined dependent variables, $F(3, 98) = 7.61, p < .0005$; Wilks Lambda = .81; partial eta squared = .19. An inspection of separate dependent variables showed that this multivariate effect was accounted for by a univariate effect of personality suitability on teaching kinder/preschool reaching statistical significance, using Bonferroni adjusted alpha level of .17, $F(1, 100) = 15.92, p < .0005$, partial eta squared = .14, indicating that females rated themselves significantly higher than males on their personality suitability to teach kinder/preschool.

A significant difference was found between sexes on the combined dependent variables of interests to teach the three educational levels, $F(3, 98) = 7.88, p < .0005$; Wilks Lambda = .81; partial eta squared = .19. An examination of separate dependent variables showed that there was a significant difference between males and females on their interest to teach kinder/preschools using Bonferroni adjusted alpha level of .17, $F(1, 100) = 12.58, p = .001$, partial eta squared = .11, indicating that females showed significantly stronger interest in early childhood teaching than males did.

Self-Perceived Gender Role Orientation and Suitability to Teach Based on Self-Perceived Ability, Personality and Interest

To explore the interrelationships among self-perceived gender role orientation, Big-Five personality dimensions, and self-perceived suitability of being a teacher based on abilities, personality and interest, a series of correlation analyses using Pearson product-moment correlation coefficient was performed. Only correlations that reached statistic significance are reported in the following text. Table 9 summarizes the mean scores and standard deviations of self-perceived abilities, personality suitability, and interest to teach the three educational levels. Table 10 presents the correlation matrix of

self-perceived gender role orientation and suitability to teach based on self-perceived ability, personality and interest.

<center>\<insert Table 9 here\> \<insert Table 10 here\></center>

Self-perceived gender role orientation and self-perceived ability to teach. A moderate, positive correlation was found between self-perceived male stereotype and ability to teach secondary schools ($r = .32, n = 100, p < .001$), and between self-perceived female stereotype and ability to teach secondary schools ($r = .20, n = 101, p < .05$). There was also a positive correlation between ability suitability to teach kinder/preschool and primary school ($r = .69, n = 102, p < .0005$), and ability suitability to teach primary school and secondary school ($r = .47, n = 102, p < .0005$). No significant correlation was found between ability suitability to teach kinder/preschool and secondary school.

Self-perceived gender role orientation and self-perceived personality suitability to teach. There was a moderate, positive correlation between self-perceived male stereotype and self-perceived personality suitability to teach secondary schools ($r = .27, n = 100, p < .01$). Statistically significant positive correlations were found among personality suitability to teach different educational levels, with the correlation between early childhood education and primary education being the strongest ($r = .70, n = 102, p < .0005$), primary education and secondary education being moderate ($r = .45, n = 102, p < .0005$), and early childhood education and secondary education being the weakest ($r = .26, n = 102, p < .01$).

Self-perceived gender role orientation and interest to teach. Although no statistically significant correlation was found between self-perceived gender role orientation and interest to teach, moderate to strong positive correlations were found among interests to teach different educational levels, with the correlation between interests to teach kinder/preschool and primary school being the strongest ($r = .69, n = 102, p < .0005$), interests to teach primary school and secondary school being moderately strong ($r = .53, n = 102, p < .0005$), and interests to teach kinder/preschool and secondary school being moderate ($r = .31, n = 102, p < .001$).

Big-Five Personality Dimensions and Suitability to Teach Based on Self-Perceived Ability, Personality and Interest

Big-five personality dimensions and self-perceived ability to teach. Self-perceived ability to teach secondary school significantly and positively related to Conscientiousness ($r = .23, n = 102, p < .05$) and Openness ($r = .20, n = 102, p < .05$).

Big-five personality dimensions and self-perceived personality suitability to teach. Self-perceived personality suitability to teach secondary schools positively related to Extraversion ($r = .24, n = 101, p < .05$) and Conscientiousness ($r = .27, n = 102, p < .005$). Conscientiousness also positively related to self-perceived personality suitability to teach primary schools ($r = .23, n = 102, p < .05$).

Big-five personality dimensions and interest to teach. No statistically significant correlation was found between any of the personality dimensions and interest to teach.

Big-five personality dimensions and self-perceived gender role orientation. Self-perceived male stereotype related positively to Extraversion ($r = .32, n = 107, p < .001$) and Conscientiousness ($r = .43, n = 107, p < .0005$) but negatively to Agreeableness ($r = -.23, n = 107, p < .05$). Self-perceived female stereotype related positively to Agreeableness ($r = .34, n = 107, p < .0005$) and Conscientiousness ($r = .41, n = 108, p < .0005$).

Self-perceived ability and interest to teach. Significant moderate to strong correlations were found between self-perceived ability and interest to teach kinder/preschool ($r = .30, p < .01$), primary school ($r = .41, p < .0005$), and secondary school ($r = .60, p < .0005$).

Discussion

Social and Personal Gender Role Ideology

The present findings on perceived social gender role structure show that traditional masculine and feminine characteristics are still highly valued and play an important role in a modern Confucius society like Hong Kong, which was consistent with

the findings in other studies (Fung & Ma, 2000; Tang, Lee & Cheung, 1999). Policy makers still plan social policies based on the domestic ideology that males are breadwinner and females are financially dependent in the family (Tang & Tang, 2001).

Although dominance has been labeled as a traditional masculine characteristic in BSRI, it played a somewhat different role in the present context as it neither loaded positively on Masculinity nor Femininity in the social gender role structure. Instead, non-dominance was identified as a desirable feminine characteristic as females were traditionally viewed as more socially oriented than males. It may be due to the fact that maintaining harmony in relationship is highly valued in Chinese culture (Chan, 2004); dominance implies aggression and maladaptive conflict resolutions in such a cultural context, and thus is not desirable for either males or females. In fact, high male dominance has been found to be associated with domestic violence and marital aggression in Hong Kong (Chan, 2004; Tang, 1999).

Despite the present finding that adolescents perceived traditional masculine and feminine characteristics are still more desirable for males and females respectively, contrary to many previous studies which found that males and females rated themselves significantly higher on masculinity and femininity respectively (Choi, Fuqua & Newman, 2008; Fung & Ma, 2000; Zuckerman, 1989), sex had no effect on how adolescents rated their own perceived gender roles in the present study. On one hand, it may suggest a genuine qualitative difference between socially and self-perceived desirable gender roles as individualism has been one of the core cultural values in the West and been gaining influence over the young generations in Hong Kong (Kwong, 1994). Adolescents may be less susceptible to conforming to the social gender norms and want to embrace their own unique notions of ideal self. Moreover, Cheung, Lai, Au and Ngai (1997) pointed out that gender role stereotypes underlined by Confucian values are often social expectations that may not be embraced by different social subgroups. As the education system in Hong Kong encourages individualism while maintaining traditional gender relationships (Cheung & Kwok, 1998), secondary students may develop their own gender role ideology while acknowledging the mainstream view of gender role stereotypes. Further research on the difference between adolescents' self-perceived and ideal gender role development is warranted to investigate the phenomenon.

On the other hand, the finding may suggest that the gender role stereotypes may have made salient when adolescents were asked to rate simultaneously how desirable each characteristic was for a man and a woman in the society, which would polarize their responses as they were more conscious of the stereotypes. Moreover, as pointed out by Judd and Park (1993), respondents tended to make more stereotyped judgments when they were not given any real life reference on which to base their rating. This problem may be addressed with a larger sample size so that participants could be randomly assigned to rate either desirable male or female gender roles based on an actual figure they identify as ideal.

Gender Roles of Primary and Secondary Teachers

While dominance was perceived as undesirable for males and females in the society, it positively loaded on the Masculinity dimension of both the primary and secondary teacher scales. As the idea of discipline has been highly valued and reinforced in the educational system in Hong Kong, dominance may be viewed as an important quality for teachers to successfully maintain classroom discipline. Nevertheless, while dominance may contribute positively to teacher competence, it may be viewed as controlling when it is manifested in everyday interpersonal interaction and thus deemed undesirable.

There also existed a qualitative difference between the gender role structures of the primary and secondary teacher scales. Two dimensions of Femininity, namely Intrapersonal and Interpersonal Femininity, were revealed on the primary teacher scale while there was only one dimension of Femininity, encompassing all the traditional feminine characteristics, in the secondary teacher scale. The difference may stream from the present findings that feminine characteristics were more important than masculine characteristics to primary teaching, and that gender role characteristics (especially femininity) played a more important role in primary teaching than secondary teaching, since no significant difference between Masculinity and Femininity on the secondary teacher scale was found. This interpretation is further supported by the different types of qualities the participants listed for a good primary and a good secondary teacher. When asked about the qualities for a good primary teacher, the participants tended to focus on

an array of personality traits that help primary students develop moral judgments and self-discipline (i.e., Intrapersonal Femininity). They also noted the importance for a primary teacher to be able to deal with immature and vulnerable primary students (i.e., Interpersonal Femininity). However, when asked about the qualities for a good secondary teacher, the participants focused on qualities that help secondary students with intellectual development and academic success like teaching skills, academic qualifications, breadth of knowledge, and familiarity with curriculum and examination syllabus.

Big-Five Personality Dimensions and Suitability to Teach Based on Self-Perceived Ability, Personality and Interest

While the correlation analyses showed that self-perceived ability to teach primary school shared some variance with self-perceived abilities to teach kinder/preschool and secondary school separately, many participants perceived that it took almost completely different sets of skills to teach kinder/preschool and secondary school. Based on the qualities for a good primary and a good secondary teacher listed by the participants, it is speculated that the importance of personality traits and feminine characteristics to a teacher grows with the lowering level of education he/she teaches. In contrast, teaching competence like curriculum-related knowledge and pedagogy seems to gain more importance with the advancing level of education a teacher teaches. While many participants perceived that successful primary teaching requires a bit of both suitable personality traits and teaching competence, personality traits but not teaching competence were perceived to be more important to early childhood teaching and the opposite was true in secondary teaching.

The correlation analyses also confirmed the presence of a common personality variance to teach, as significant positive correlation was found among personality suitability to teach the three education levels -- personality suitability to teach kinder/preschool and primary school shared the most variance and personality suitability to teach kinder/preschool and secondary school shared the least.

Similar to personality suitability to teach, there was a common variance shared by the interests to teach the three educational levels, with interests to teach kinder/preschool and primary school having the strongest correlation, and interests to teach kinder/preschool and secondary school the least.

Based on the findings from correlations among self-perceived abilities, interest and personality suitability to teach the different education levels, early childhood teaching and primary teaching shared more similarities than they did with secondary teaching. The three education levels do not seem stand on the same career continuum which are simply separated by the age of students. Despite the finding that secondary teaching still shares some variance with early childhood and primary teaching, as teaching in general was perceived to require certain depositions; secondary teaching seems to stand out as a qualitatively different career from early childhood teaching and primary teaching, as it requires a very different set of abilities and personality traits, which may explain the phenomenon that feminization is found in early childhood teaching and primary teaching but not in secondary teaching.

No correlation between the five personality dimensions and interests to teach was found. This shows that factors other than the five personality dimensions, sex and gender role stereotypes contribute to the interest to teach. As commented by those participants who had decided against being a teacher, the heavy workload and serious student problems that they saw teachers confront every day turned them away from the profession. These observations of everyday teaching jobs contribute to the development of self-efficacy beliefs which formulate relevant career interests as posited by the Social Cognitive Career Theory (SCCT; Lent et al., 1994).

Predictions of Social Cognitive Career Theory

The present findings are consistent with the prediction of the SCCT that career relevant self-efficacy beliefs positively relate to occupational interests as the former are crucial in shaping the latter. Teaching self-efficacy beliefs were measured by self-ratings of perceived abilities to teach different educational levels in the present study. Self-efficacy beliefs are different from tested abilities in the sense that the former are personal

judgments of one's abilities based on vicarious learning, contextual information, modeling, feedback from others, and interaction between individuals and the environment; while the latter concerns a set of objectively assessed skills (Bandura, 1986; Lent et al., 1994). In fact, Lent et al. (1994) argued that self-efficacy percepts are more important than tested abilities in interest development. As shown by correlation analyses, moderate to strong positive relations were found between self-perceived abilities and interests to teach when matched by the educational level. This is especially true in secondary teaching. As discussed before, teaching capabilities like pedagogical knowledge and familiarity with the curriculum seem to be more important in secondary teaching, and thus self-perceived abilities are speculated to contribute more to teaching self-efficacy in secondary teaching than in early childhood or primary teaching. More research is warranted to test this speculation.

The present findings also confirmed the prediction of the SCCT that vocational interests foster related career goals or intentions. Participants' interests to teach, regardless of the educational level, related moderately and positively to their teaching intentions in this study. However, since 42% of the participants had not yet decided their career plan, while 43% responded that they had never thought about whether to join the teaching profession, the results of the present study imply that further investigation of the relationship between teaching interests and teaching intentions is warranted. Similarly, although gender and gender role stereotyping did not demonstrate any significant effect on teaching intention, the results were not conclusive given that a large proportion of participants were uncertain about their career goals.

Sex differences in career goals and self-efficacy beliefs are viewed as a result of differential access to efficacy information and support, a lack of successful role models and differential reinforcement in the SCCT (Lent et al., 1994). Sex demonstrated a significant effect on participants' self-perceived personality suitability and interest to teach kinder/preschool in this study, with females rating themselves higher than males on these two aspects. An overwhelmingly large proportion of female teachers in early childhood education may affect participants' self-efficacy beliefs, as there is a lack of successful male role models. However, since participants' self-rating on abilities, interest,

and personality suitability to teach primary school and secondary school did not differ by sex, it can be assumed that, although male teachers make up less than 25% of the primary teacher population in Hong Kong, both males and females received non-gender biased efficacy information and gained equal access to opportunities in primary and secondary teaching according to the SCCT. This finding can also be explained by the fact that many participants did not conform to traditional gender roles, and thus should be less likely to be affected by social gender norms, and more likely to attempt non-traditional gendered careers.

The finding that male stereotyping related significantly and positively to self-perceived abilities and personality suitability to teach secondary schools suggests that participants received differential efficacy information and reinforcement based on their gender role stereotyping and were exposed to more successful masculine models in secondary schools. However, such relationships were rather weak ($r < .03$), and in general sex and gender role stereotyping do not appear to play a crucial role in participants' teaching self-efficacy beliefs and teaching intention.

Conclusion

Twenty-eight years since it was developed in the United States and normed with a group of college students, the short form of Bem Sex Role Inventory still proved valid to measure gender role orientations in the present study. However, the meaning and value of dominance seems to be different in a modern Chinese socio-cultural context in Hong Kong. Instead of being a desirable trait, the opposite of it, which implies the ability to maintain social harmony, was desired. However, dominance positively loaded on the Masculinity component in the self-perceived gender role scale. More investigation of how individuals interpret '*Dominant*' on a social and individual level is needed in this context.

Contrary to many previous studies, sex did not play a crucial role in shaping gender role stereotypes, teaching self-efficacy, teaching interests or teaching intention in the present research. According to the SCCT, this implies that both males and females obtained similar efficacy information and less gender-biased reinforcements. Instead, the

feminization of early childhood and primary teaching may stem from the view that intra- and inter-personal qualities which assist social interactions are more important in achieving career success in these two areas than in secondary teaching, which takes pedagogical and subject knowledge to succeed. This kind of perception contributes to outcome expectations which in turn affect goals and intentions as posited by the SCCT.

The present study showed a marked difference in findings concerning the three educational levels – early childhood teaching, primary teaching and secondary teaching. It demonstrated the importance of investigating the teaching profession and its relevant attributes like teaching self-efficacy and teaching interests as classified by the level of education instead of viewing it as one homogeneous profession.

Although this was a pilot study with a restricted sample size; it has shed light on some important issues that will inform a larger project which involves a more diverse student population in Australia, also allowing inter-cultural comparisons.

References

Bailey, L. (1996). The feminization of a school? Women teachers in a boys' school. *Gender and Education*, 8(2), 171–184.

Bandura, A. (1986). *Social foundations of thought and action: A social-cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bartlett, M. S. (1954). A note on the multiplying factors for various chi square approximations. *Journal of the Royal Statistical Society*, *16* (Series B), 296-298.

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, *1*, 185-216.

Bem, S. (1974). The measurement of clinical androgyny. *Journal of Counseling and Clinical Psychology*, *42*, 155-162.

Bem, S. (1981). *Bem Sex Role Inventory Manual*. Palo Alto, CA: Consulting Psychologists.

Blount, J.M. (1999). Manliness and the gendered construction of school administration in the USA. *International Journal of Leadership in Education*, *2*(2), 55-68.

Bond, M.H. (1996). *The Handbook of Chinese Psychology*, Oxford University Press, Hong Kong,

Campbell, T., Gillaspy, Jr. J., & Thompson, B. (1997). The factor structure of the Bem Sex Role Inventory (BSRI): Confirmatory factor analysis of long and short forms. *Educational and Psychological Measurement*, *57*, 118-124.

Carrington, B. (2002). A quintessentially feminine domain? Student teachers' constructions of primary teaching as a career. *Educational Studies*, *28*(*3*), 287-303.

Carrington, B., Francis, B., Hutchings, M., Skelton, C., Read, B., & Hall, I. (2007). Does the gender of the teacher really matter? Seven- to eight-year-olds' accounts of their interactions with their teachers. *Educational Studies*, *33*(*4*), 397-413.

Carrington, B., & McPhee, A. (2008). Boys' 'underachievement' and the feminization of teaching. *Journal of Education for Teaching*, *34*(*2*), 109-120.

Carrington, B., & Skelton, C. (2003). Re-thinking 'role-models': Equal opportunities in teacher recruitment in England and Wales. *Journal of Education Policy*, *18*(*3*), 253-265.

Catell, R. B. (1966). The scree test for number of factors. *Multivariate Behavioral Research*, *1*, 245-276.

Census and Statistics Department, Hong Kong Special Administrative Region. (2007). *Hong Kong Annual Digest of Statistics*. Hong Kong, China: Government Printer.

Chan, K. L. (2004). Correlates of wife assault in Hong Kong Chinese families. *Violence and Victims*, *19* (*2*), 189-201.

Cheung, F. M., Lai, B. L. L., Au, K., & Ngai, S. S. (1997). Gender role identity, stereotypes, and attitudes in Hong Kong. In F. M. Cheung (Ed.), *Engendering Hong Kong society: A gender perspective of women's status* (pp. 201–235). Hong Kong: The Chinese University Press.

Choi, N., Fuqua, D. R., & Newman, J. L. (2008). The Bem Sex-Role Inventory: Continuing theoretical problems. *Education and Psychological Measurement*, *68*(*5*), 881-900.

Cushman, P. (1999). Male teachers' attitudes towards primary school teaching. *Delta*, *51*(*2*), 71-90.

Cushman, P. (2005). Let's hear it from the males: Issues facing male primary school teachers. *Teaching and Teacher Education*, *21*, 227-240.

Cushman, P. (2007). The male teacher shortage: A synthesis of research and worldwide strategies for addressing the shortage. *Korean Journal of Education Policy*, *4*(1), 79-98.

Davis, C. (2003). Gender blind. *Australian Educator*, *40*, 24-27.

Duncan, D.B. (1955). Multiple range and multiple F tests. *Biometrics*, *11*, 1-42.

Forrester, G. (2005). All in a day's work: primary teachers 'performing' and 'caring'. *Gender and Education*, *17* (*3*), 271-287.

Fouad, N.A., & Swanson, J.L. (1999). Applying theories of person-environment fit to the transition from school to work. *Career Development Quarterley*, *47*, 337-347.

Frome, P.M., Alfeld, C.J., Eccles, J.S., & Barber, B.L. (2008). Is the desire for a family-flexible job keeping young women out of male-dominated occupations? In H.M.G. Watt & J.S. Eccles (Eds.), *Gender and Occupational Outcomes: Longitudinal Assessments of Individual, Social, and Cultural Influences* (pp.195-214). Washington, DC: American Psychological Association.

Fung, A., & Ma, E. (2000). Formal vs. informal use of television and sex-role stereotyping in Hong Kong. *Sex Roles*, *42*, 57-81.

Gosling, S., Rentfrow, P. J., & Swann, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, *37*, 504-528.

Hackett, G., & Lent, R.W. (1992). Theoretical advances and current inquiry in career psychology. In S.D. Brown & R.W. Lent (Eds.), *Handbook of counselling psychology* (2nd ed.) (pp. 419-451). New York: Wiley.

Ho, C. W. D. (2007). Understanding the complexity of preschool teaching in Hong Kong: The way forward to professionalism. *International Journal of Educational Development*, *26*(*3*), 305-314.

Hoffman, R., & Borders, L. (2001). Twenty-five years after the Bem Sex Role Inventory: A reassessment and new issues regarding classification variability. *Measurement and Evaluation in Counseling and Development*, *34*, 39-55.

Holt, C., & Ellis, J. (1998). Assessing the current validity of the Bem Sex-Role Inventory. *Sex Roles*, *39*, 929-941.

Holland, J.L. (1994). *The self-directed search*. Odessa: Psychological Assessment Resources, Inc.

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*, *30*, 179-185.

Ingersoll, R.M. (2007). *A comparative study of teacher preparation and qualifications in six nations*. Philadelphia: Consortium for Policy Research in Education.

Johnson, S. P. (2008). The status of male teachers in public education today. *Education Policy Brief*, *6*(*4*), 1-12.

Kaiser, H. (1970). A second generation Little Jiffy. *Psychometrika*, *35*, 401-415.

Kaiser, H. (1974). An index of factorial simplicity. *Psychometrika*, *39*, 31-36.

Kwong, J. (1994). Ideological crisis among China's youths: Values and official ideology. *British Journal of Sociology*, *45*, 247–264.

Lai, K. C., Chan, K. W., Ko, K. W., & So, K. S. (2005). Teaching as a career: a perspective from Hong Kong senior secondary students. *Journal of Education for Teaching*, *31*(*3*), 153-168.

Lau, S. (1989). Sex role orientation and domains of self-esteem. *Sex Roles*, *21*, 415-422.

Lent, R.W., Brown S.D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behaviour*, *45*(*1*), 79-122.

Lent, R.W., Brown, S. D., & Larkin, K.C. (1986). Self-efficacy in the prediction of academic performance and perceived career options. *Journal of Counselling Psychology*, *33*, 165-169.

MacNaughton, G., & Newman, B. (2001). Masculinities and men in early childhood: Reconceptualising our theory and our practice. In E. Dau (Ed.), *The anti-bias approach in early childhood* (pp. 145-157). Sydney: Longman.

Martino, W. J. (2008). Male teachers as role models: Addressing issues of masculinity, pedagogy and the re-masculinization of schooling. *Curriculum Inquiry*, *38*(2), 189-223.

Pedhazur, E., & Tetenbaum, T. (1979). Bem Sex Role Inventory: A theoretical and methodological critique. *Journal of Personality and Social Psychology*, *37*, 996-1016.

Peng, T.K. (2006). Construct validation of the Bem Sex Role Inventory in Taiwan. *Sex Roles*, *55*, 843-851.

Sumsion, J. (2005). Male teachers in early childhood education: Issues and case study. *Early Childhood Research Quarterly*, *20*, 109-123.

Tang, C. S. K. (1999). Marital power and aggression in a community sample of Hong Kong Chinese families. *Journal of Interpersonal Violence, 14* (6), 586–602.

Tang, C. S., Lee, A., & Cheung, F. M. (1999). Violence against women in Hong Kong. In F. M. Cheung, M. Karlekar, & A. DeDios (Eds.), *Breaking the silence: Violence against women in Asia* (pp. 38–58). Hong Kong: Equal Opportunities Commission.

Tang, T. N., & Tang, C. S. (2001). Gender role internalization, multiple roles, and Chinese women's mental health. *Psychology of Women Quarterly*, *25*, 181-196.

Tatlı, A., Özbilgin, M., & Küskü, F. (2008). Gendered occupational outcomes from multilevel perspectives: The case of professional training and work in turkey. In H. M.G. Watt and J. S. Eccles (Eds.), *Gender and occupational outcomes: Longitudinal assessments of individual, social, and cultural influences* (pp. 267-298). Washington, DC: American Psychological Association.

Thornton M., & Bricheno P. (2000). Primary school teachers' careers in England and Wales: The relationship between gender, role, position and promotion aspirations. *Pedagogy, Culture and Society*, *8*, 187–206.

Tokar, D. M., Thompson, M. N., Plaufcan, M. R., & Williams, C.M. (2007). Precursors of learning experiences in Social Cognitive Career Theory. *Journal of Vocational Behavior*, *71*, 319-339.

Wiest, L. R., Olive, M. L., & Obenchain, K. M. (2003). Men's perception of their experiences as K-2 teachers. *Equity and Excellence in Education*, *36*(1), 82-95.

Wheeless, V.E., & Potorti, P.F. (1989). Student assessment of teacher masculinity and femininity: A test of the sex role congruency hypothesis on student attitudes toward learning. *Journal of Educational Psychology*, *81*(2), 259-262.

Wynarczyk, P., & Renner, C. (2005). The 'gender gap' in the scientific labour market. *Equal Opportunities International*, *25* (8), 660-673.

Yang, K. (1996). Psychological transformation of the Chinese people as a result of societal modernization. In M. Bond's (Ed.) *The handbook of Chinese psychology* (pp. 479-498). Hong Kong: Oxford.

Zhang, J., Norvilitis, J., & Jin, S. (2001). Measuring gender orientation with the Bem Sex Role Inventory in Chinese culture. *Sex Roles*, *44*, 237-251.

Zuckerman, D. M. (1989). Stress, self-esteem, and mental health: How does gender make a difference? *Sex Roles*, *20*, 429-444.

Table 1

Proportion (%) of Male Teachers in Selected Types of Educational Institution in Hong Kong from 1996 to 2006

	1996	2001	2002	2003	2004	2005	2006
Type of institution							
Kindergarten	0.5	0.6	0.8	0.9	0.8	0.8	0.8
Primary day school	23.5	22.6	22.0	21.9	21.7	21.9	22.2
Secondary day school	48.0	46.1	45.2	44.6	44.2	44.0	43.9
Approved post-secondary college	73.0	61.2	63.5	63.7	64.7	72.7	71.6
Total	30.7	29.5	29.1	29.1	29.1	28.0	28.6
Overall proportion of males in the labour force	60.9	57.4	56.4	56.1	55.6	55.1	54.6

Source: Census and Statistics Department, Hong Kong Special Administrative Region, 2007.

Table 2

Pearson Product-Moment Correlations between the Original and the Translated Short Form of BSRI

Items	Chinese Version of the Short Form of BSRI	
	Social desirability of the characteristic for a man	Social desirability of the characteristic for a woman
1. Gentle	.831**	.671**
2. Dominant	.544*	.853**
3. Compassionate	.656**	.760**
4. Warm	.893**	.523*
5. Strong personality	.637*	.893**
6. Willing to take a stand	.793**	.868**
7. Defends own beliefs	.725**	.701**
8. Affectionate	.734**	.613*
9. Loves children	.874**	.804**
10. Has leadership abilities	.886**	.945**
11. Assertive	.629*	.859**
12. Sympathetic	.866**	.705**
13. Sensitive to the needs of others	.855**	.926**
14. Tender	.769**	.648**
15. Willing to take risks	.891**	.939**
16. Forceful	.799**	.540*
17. Independent	.707**	.870**
18. Eager to sooth hurt feelings	.821**	.631*
19. Aggressive	.625*	.597*
20. Understanding	.822**	.796**

** $p < .01$ (2-tailed)

* $p < .05$ (2-tailed)

Table 3

Pearson Product-Moment Correlations between the Original and the Translated TIPI

Personality pairs	Chinese Version of the TIPI
1. extraverted, enthusiastic	.910**
2. critical, quarrelsome	.930**
3. dependable, self-disciplined	.933**
4. anxious, easily upset	.895**
5. open to new experiences, complex	.885**
6. reserved, quiet	.704**
7. sympathetic, warm	.850**
8. disorganised, careless	.935**
9. calm, emotionally stable	.906**
10. conventional, predictable	.620**

** $p < 0.01$ level (2-tailed)

Table 4

Factor Pattern Matrix for Male and Female Scales with Varimax Rotation of Two Factor Solution of BSRI Items

Item	Male Scale		Female Scale	
	Factor 1 (Femininity)	Factor 2 (Masculinity)	Factor 1 (Femininity)	Factor 2 (Masculinity)
3. Compassionate	**.709**	.054	**.809**	.190
4. Warm	**.678**	.216	**.803**	.187
14. Tender	**.727**	.362	**.777**	.365
13. Sensitive to the needs of others	**.799**	.315	**.746**	.395
1. Gentle	**.588**	.013	**.744**	.210
12. Sympathetic	**.651**	.273	**.737**	.273
20. Understanding	**.802**	.323	**.709**	.484
9. Loves children	**.476**	.186	**.533**	.121
18. Eager to sooth hurt feelings	**.589**	.241	**.507**	.372
2. Dominant reversed	**.420**	-.274	**.443**	.019
8. Affectionate	**.273**	.118	**.414**	.109
6. Willing to take a stand	.225	**.675**	.299	**.714**
10. Has leadership abilities	.267	**.678**	.200	**.705**
16. Forceful	.492	**.679**	.209	**.704**
19. Aggressive	.535	**.615**	.211	**.697**
17. Independent	.550	**.604**	.239	**.642**
15. Willing to take risks	.192	**.547**	.086	**.611**
7. Defends own beliefs	.106	**.532**	.230	**.601**
5. Strong personality	.480	**.544**	.310	**.578**
11. Assertive	-.201	**.492**	.022	**.260**

Note. Major loadings for each item are bolded.

Table 5

Paired Samples Differences in Social Desirability of Gender Roles for Males and Females

	Male			Female			Paired Differences			eta
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*t*	squared
Masculinity										
5. Strong personality	6.01	9.25	105	5.02	1.29	105	.99	1.16	8.72***	.42
6. Willing to take a stand	5.68	1.06	105	5.17	1.21	105	.51	1.01	5.12***	.20
7. Defends own beliefs	5.36	1.11	106	5.08	1.22	106	.28	1.00	2.91**	.07
10. Has leadership abilities	5.79	1.07	106	4.93	1.12	106	.86	1.13	7.80***	.37
11. Assertive	4.32	1.33	105	4.10	1.16	105	.22	.98	2.29*	.05
15. Willing to take risks	5.35	1.16	106	4.31	1.17	106	1.04	1.27	8.40***	.40
16. Forceful	5.66	1.10	106	5.07	1.13	106	.59	1.01	6.05***	.26
17. Independent	5.80	1.28	105	5.06	1.41	105	.74	1.28	5.95***	.25
19. Aggressive	5.75	1.11	106	5.04	1.18	106	.72	1.01	7.30***	.34
Femininity										
1. Gentle	4.79	1.01	106	5.63	1.03	106	-.84	1.01	-8.59***	.41
2. Dominant (reversed)	4.11	1.35	105	4.51	1.27	105	-.40	1.14	-3.60***	.11
3. Compassionate	4.78	1.22	106	5.64	.98	106	-.86	.98	-9.02***	.44
4. Warm	5.16	1.13	106	5.77	.93	106	-.61	.85	-7.46***	.35
8. Affectionate	4.64	1.09	106	5.45	1.19	106	-.81	1.16	-7.18***	.33
9. Loves children	4.68	1.19	106	5.40	1.25	106	-.72	1.00	-7.36***	.34
12. Sympathetic	5.42	1.19	106	5.85	1.03	106	-.43	.94	-4.67***	.17
13. Sensitive to the needs of others	5.58	1.26	106	6.01	1.08	106	-.43	.94	-4.77***	.18
14. Tender	5.39	1.24	106	5.98	1.16	106	-.59	.89	-6.86***	.31
18. Eager to sooth hurt feelings	4.95	1.24	105	5.59	1.19	105	-.64	1.04	-6.29***	.28
20. Understanding	5.64	1.20	106	5.89	1.21	106	-.25	.97	-2.59*	.06

*** *p* < .001

** *p* < .01

* *p* < .05

Table 6

Factor Pattern Matrix for Primary and Secondary Teacher Scales with Varimax Rotation

Item	Primary Teacher Scale			Secondary Teacher Scale	
	Factor 1 (Intrapersonal Femininity)	Factor 2 (Interpersonal Femininity	Factor 3 (Masculinity)	Factor 1 (Femininity)	Factor 2 (Masculinity)
4. Warm	**.819**	.259	.067	**.699**	.140
3. Compassionate	**.807**	.275	.167	**.764**	.145
1. Gentle	**.641**	.279	-.067	**.654**	.093
9. Loves children	**.557**	.304	.116	**.517**	.127
8. Affectionate	**.310**	.084	.096	**.430**	.082
13. Sensitive to the needs of others	.284	**.674**	.256	**.503**	.324
20. Understanding	.239	**.657**	.241	**.681**	.159
14. Tender	.301	**.643**	.105	**.695**	.143
18. Eager to sooth hurt feelings	.337	**.616**	.166	**.606**	.057
12. Sympathetic	.382	**.596**	.090	**.656**	.190
6. Willing to take a stand	.210	-.065	**.611**	.130	**.554**
16. Forceful	.018	.375	**.598**	.419	**.470**
10. Has leadership abilities	.208	.358	**.582**	.372	**.618**
17. Independent	.162	.198	**.578**	.373	**.536**
19. Aggressive	.014	.342	**.566**	.319	**.465**
15. Willing to take risks	-.027	.041	**.466**	.010	**.488**
7. Defends own beliefs	.245	-.098	**.466**	-.058	**.371**
5. Strong personality	.316	.129	**.346**	.395	**.496**
2. Dominant	.062	.079	**.316**	.068	**.175**
11. Assertive	-.049	.095	**.296**	.013	**.190**

Note. Major loadings for each item on each scale are bolded.

Table 7

Paired Samples Differences in Male and Female Stereotypes for Primary and Secondary Teachers

	Primary Teachers			Secondary Teachers			Paired Differences			eta
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*t*	squared
Male stereotype	5.10	.83	107	5.54	.71	108	-.55	.83	-5.46***	.22
Female stereotype	6.10	.64	107	5.44	.77	108	.67	.69	10.38***	.49
Pair Differences	1.00	.82	107						12.65***	.60
				-.10	.78	108			-1.36	.02

*** *p* < .001

Table 8

Factor Pattern Matrix for the Self-Perceived Gender Role Scale with Varimax Rotation

Items	Factor 1 (Masculinity)	Factor 2 (Femininity)
6. Willing to take a stand	**.82**	.20
10. Has leadership abilities	**.72**	.30
15. Willing to take risks	**.72**	.11
16. Forceful	**.71**	.29
7. Defends own beliefs	**.70**	.19
19. Aggressive	**.67**	.29
5. Strong personality	**.56**	.32
17. Independent	**.52**	.22
11. Assertive	**.52**	.18
2. Dominant	**.43**	.08
14. Tender	.21	**.73**
4. Warm	.26	**.72**
13. Sensitive to the needs of others	.30	**.69**
3. Compassionate	.17	**.69**
12. Sympathetic	.18	**.65**
20. Understanding	.25	**.64**
1. Gentle	.05	**.60**
18. Eager to sooth hurt feelings	.20	**.54**
9. Loves children	.18	**.44**
8. Affectionate	.21	**.33**

Table 9

Mean Scores and Standard Deviations of Self-Perceived Abilities, Personality Suitability, and Interest to Teach the Three Educational Levels

Educational level	Self-Perceived Abilities				Interest				Personality Suitability			
	M	*SD*	*Min*	*Max*	*M*	*SD*	*Min*	*Max*	*M*	*SD*	*Min*	*Max*
Early Childhood												
Male	3.87	1.87	1	7	2.17	1.31	1	7	2.70	1.33	1	6
Female	4.58	1.67	1	7	3.23	1.70	1	7	3.85	1.58	1	7
Total	4.21	1.81	1	7	2.67	1.59	1	7	3.25	1.56	1	7
Primary												
Male	4.41	1.62	1	7	2.56	1.66	1	7	3.22	1.40	1	7
Female	4.60	1.53	1	7	2.98	1.63	1	7	3.69	1.55	1	7
Total	4.50	1.57	1	7	2.75	1.65	1	7	3.44	1.48	1	7
Secondary												
Male	4.13	1.68	1	7	3.17	1.90	1	7	3.78	1.53	1	7
Female	3.60	1.40	1	7	2.58	1.51	1	7	3.42	1.56	1	7
Total	3.88	1.57	1	7	2.89	1.75	1	7	3.62	1.53	1	7

Table 10

Intercorrelations between Self-Perceived Gender Role Orientation and Suitability to Teach Based on Self-Perceived Ability, Personality and Interest in Three Different Educational Levels

Variables	1	2	3	4	5	6	7	8	9	10	11
Self-Perceived Abilities											
1. Early childhood teaching	—	.69***	.17	.37***	.19	.11	.30**	.20*	.08	.11	.13
2. Primary teaching		—	.47***	.33**	.43***	.25**	.27**	.41**	.25**	.17	.19
3. Secondary teaching			—	-.05	.18	.57***	.02	.18	.60***	.32**	.20*
Personality Suitability											
4. Early childhood teaching				—	.70***	.26**	.74***	.53***	.16	-.13	.16
5. Primary teaching					—	.45**	.50**	.70***	.29**	.04	.08
6. Secondary teaching						—	.15	.39***	.70***	.27**	.15
Interests											
7. Early childhood teaching							—	.69***	.31**	-.07	.13
8. Primary teaching								—	.53***	-.03	.03
9. Secondary teaching									—	.18	.14
10. Self-perceived male stereotype										—	.47***
11. Self-perceived female stereotype											—

*** $p < .001$ (2-tailed)

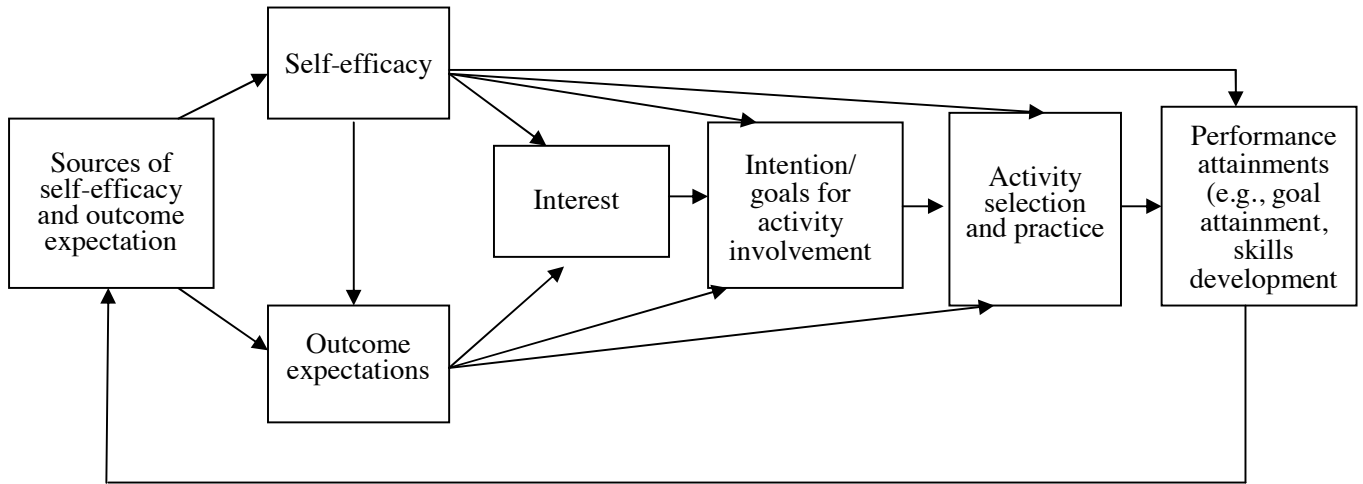** $p < .01$ (2-tailed)

* $p < .05$ (2-tailed)

Figure 1. Model of how basic career interests and intention develop over time (Lent et al.,
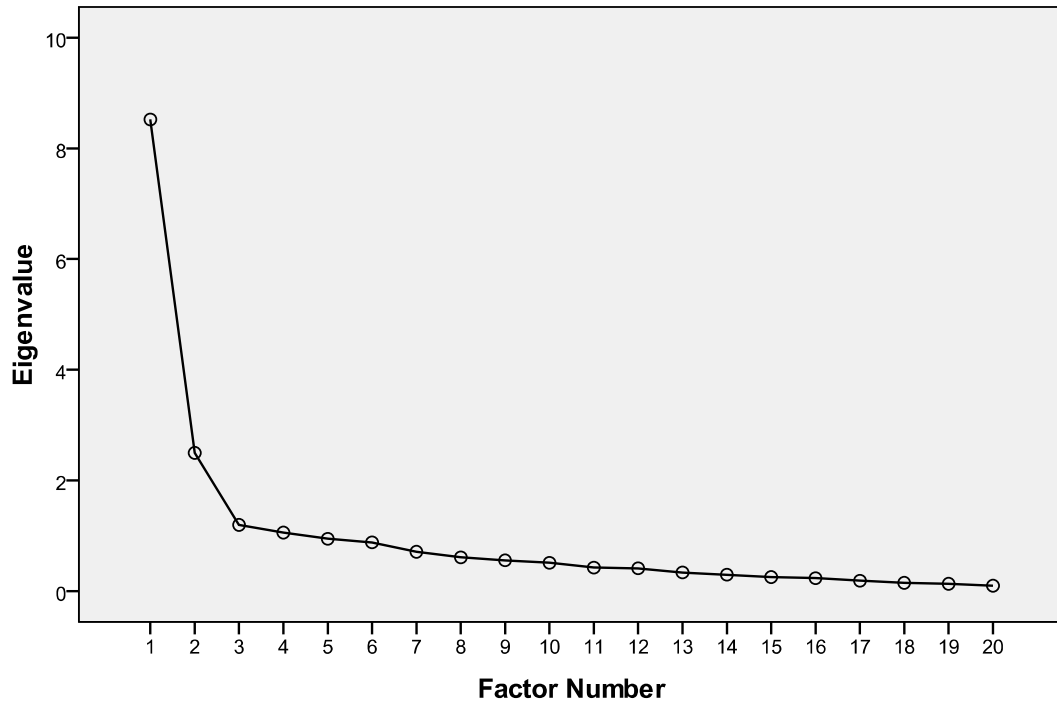1994, p. 88).

Figure 2. Scree plot – Eigenvalues explained by each of the factors in social gender roles of males.
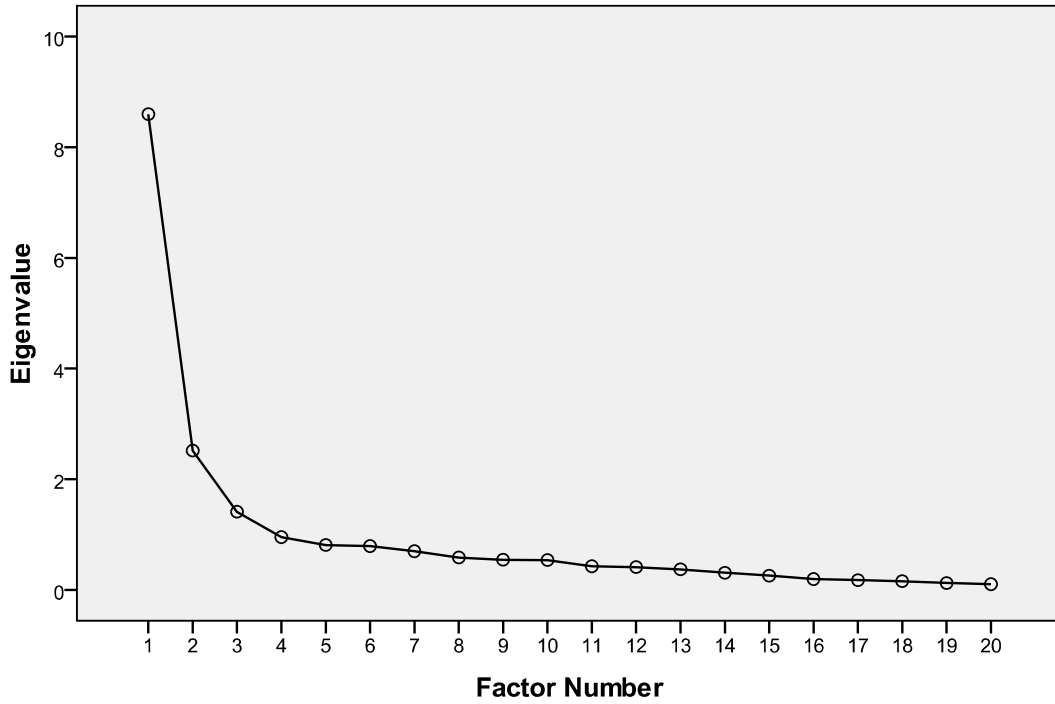
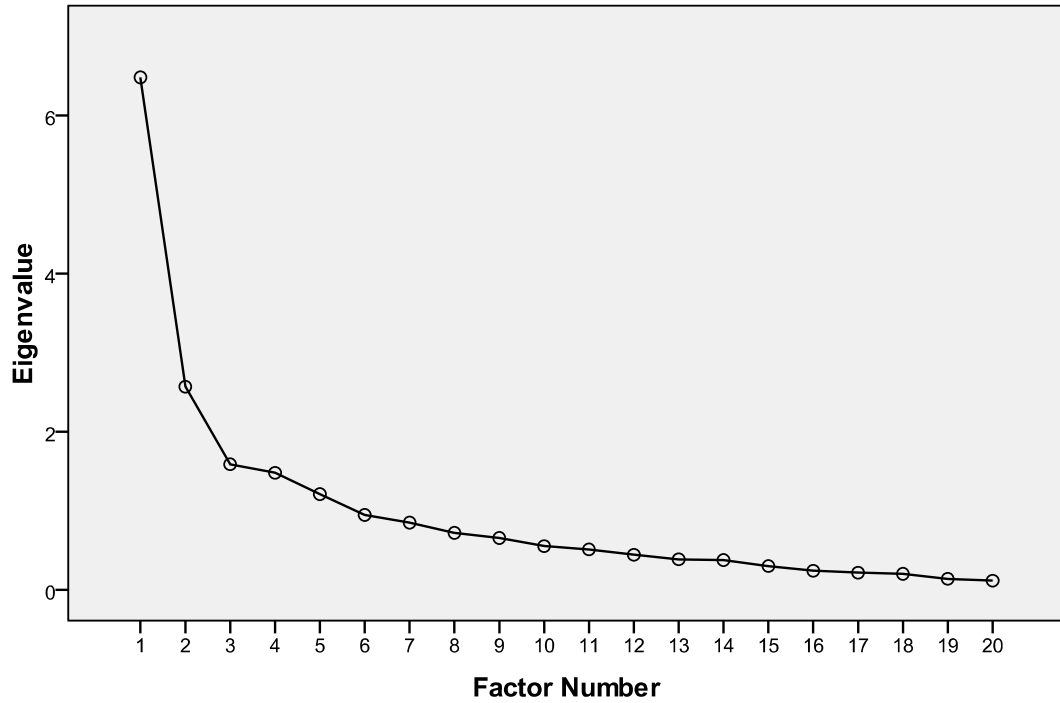*Figure 3*. Scree plot – Eigenvalues explained by each of the factors in social gender roles of females.

Figure 4. Scree plot – Eigenvalues explained by each of the factors in gender roles of primary teachers.
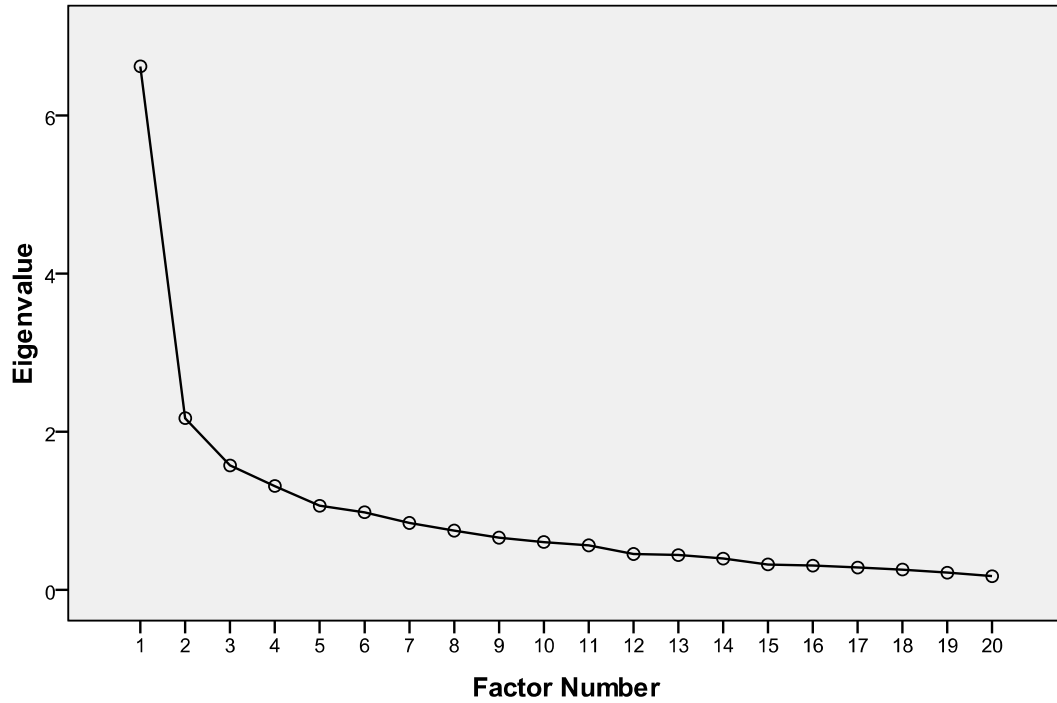
Figure 5. Scree plot – Eigenvalues explained by each of the factors in gender roles of secondary teachers.
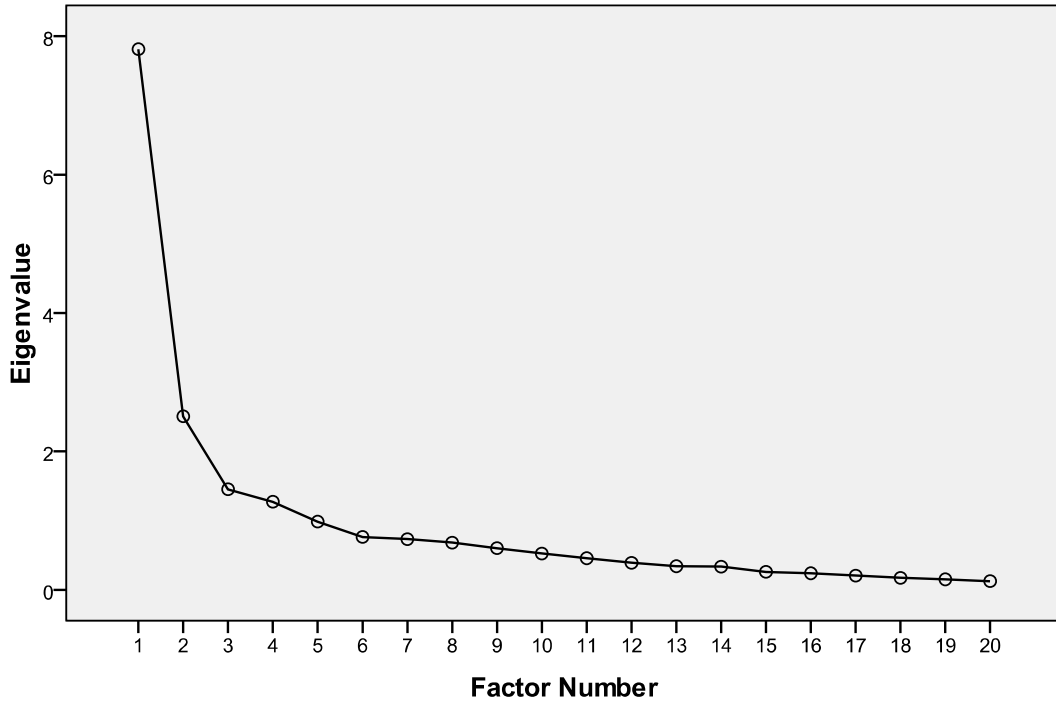
Figure 6. Scree plot – Eigenvalues explained by each of the factors in self-perceived gender role orientations.