

Full Length Research Paper

Differential item functioning of the career aspiration scale within Arab context

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The aim of the study was to examine the psychometric properties and the differential items functioning of short version of Career Aspiration Scale (CAS) in a sample of 2700 of Omani high school students. The results of the total score of CAS showed acceptable internal consistency (Cronbach's $\alpha=0.67$). An exploratory factor analysis yielded a support for nine items version identifying single construct. Differential item functioning (DIF) analysis confirmed that there were differences on five items concerning gender. DIF analysis performed according to grade showed that the functioning of CAS items was consistent in both grades except for item four. Suggestions were provided for further psychometric investigation of the scale.

Key words: Career aspiration scale, differential functioning, gender, grade.

INTRODUCTION

The concept of vocational represents an individual's expressed career related goals or choices (Rojewski, 2005). Vocational development erupts into conscious awareness at age fourteen and older. However, many adolescents struggle concerning their specific vocational interests, abilities, and goals are, partly because many of their vocationally-relevant personal attributes are not yet fully formed. Most of them can name favored choices and their idealistic aspirations, but the occupations most attractive to them may not be the most readily available. Realistic aspirations are somewhat less desirable but still acceptable occupations that individuals think they could

actually get (Gottfredson, 2005). Two distinctive aspects of aspiration outlined by Sherwood (1989), first they are future oriented and they can only be satisfied at some future time. Secondly, aspirations are motivators and they are goals individuals are willing to invest time, effort or money in to attain. The development of the occupational aspirations was articulated within different career theories. However, there has been little empirical research on measuring an individual's aspiration to advancement within the career of choice and the dimensionality of aspiration construct, compared with the rich literature on adolescent and adult career development (Gregor and

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O'Brien, 2016; Rojewski, 2005). The importance of measuring the concept of aspiration is to provide new evidence for policy makers, educationalists, and academics to encourage adolescents to aim high by valuing job ambition. Aspiring to professional and managerial jobs could go some way to shaping their career development in later life (Ashby and Schoon, 2010; Hartung et al., 2005).

However, the logic of stereotype threat research presumes that, because gender stereotypes specify task abilities, they can establish social and personal expectations for performance in culturally masculine or feminine domains. Stereotypically, men are believed to have benefit at masculine tasks and women advantage at feminine tasks (Wood and Eagly, 2012). Women might select a traditionally women career such as teaching or nursing and still aspire to leadership roles within that field (O'Brien, 1993). To assess career aspiration, researchers often have used a single item that asked participants to list the career to which they aspired (Gregor, 2016). However, O'Brien proposed the Career Aspiration Scale (CAS) of 10 items to assess the value a person attributes to having a career. A two-factor solution consisting of the leadership and achievement aspirations and the educational aspirations subscales accounted for substantial variance in career aspiration among samples of women. Studies tested the psychometric properties of short version of CAS documented strong test-retest reliability for only eight-items. The internal consistency of CAS total score was 0.72. The estimates of internal consistency for the subscales of leadership and achievement and education aspiration were 0.72 and 0.63, respectively (Gray and O'Brien, 2007).

A limitation was reported concerning CAS subscales. They were not strongly interrelated, suggesting that they may not be subcomponents of a single construct (Gray and O'Brien, 2007). However, the results of the exploratory and confirmatory factor analysis suggested that the Chinese version of CAS provided adequate indicators of adolescents' education and career aspirations (Cheng and Yuen, 2012). Other researchers also documented that career aspiration is better represented as three-dimensions rather than a single construct in Korean and Indonesia cultures (Kim et al., 2016). The cross-sectional study on Pakistani students using 24 items revised version of CAS, reported the reliability of leadership subscale was 0.73, educational subscale was 0.84 and achievement subscale was 0.72 (Zahid, 2017).

Therefore, examining the psychometric properties of the CAS will help to capture women's aspiration to achieve recognition in their careers (Gregor and O'Brien, 2016) and to provide information for educators planning intervention efforts to increase student aspirations (Plucker, 1996; Rowan-Kenyon et al., 2011). Further testing of the CAS subscales and its applicability in collectivist cultures needs to be assessed more widely

(Gray and O'Brien, 2007; Sawitri et al., 2015).

Gender and age

Some researchers emphasized that both individual and contextual factors have to be considered in order to understand the development of career across life span (Brown, 2007; Johnson and Mortimer, 2002; Schoon, 2001). For example, societal notions about gender roles influence the educational careers of girls and boys. This influence, in turn, results in the restriction of aspirations for certain roles and life-experiences (Gil-Flores et al., 2011; Schoon, 2001). Women may be more likely than men to experience conflicts between their academic achievement and other goals (Grusec and Hastings, 2014). In terms of career orientation, college women with high career aspirations tended to prioritize their careers over family (Gray and O'Brien, 2007). Family pressure on women to choose a gender-suitable career reflected on their tendency to consider that teaching fits their personality and skills and represent the career they have wanted since early childhood. A slight tendency in women to prefer democratic leadership that is based on valuing and listening to team members and favoring a cooperative environment at work (Padilla-Carmona and Martínez-García, 2013). Additionally, women are more likely to choose and enter low-paying occupations regardless they earn more college degree than men do. Women are supposed to choose different occupations and spend much time in their jobs to close the gender gap (Brown, 2007).

Gender differences were also evident with males more likely than females to choose professional occupations and less likely to choose semi-professional occupations. Females demonstrated significance differences across years in the categories of aspirations and expectations while males did not differ across year levels (Patton and Creed, 2007). College women exhibited moderate aspirations in leadership, achievement and education (Kim et al., 2016; Sawitri et al., 2015). Results reported females have higher career aspirations than males and engage in greater career exploration and planning. Males reported higher levels of career indecision than females (Adragna, 2009; Gil-Flores et al., 2011). However, perceived work-family conflict was negatively correlated with leadership seeking for women, but not for men (Ellinas et al., 2018). Indeed, many females will ponder how to balance home and work life, and many males consider how to generate sufficient financial support and security for a family (Gottfredson, 2005).

The vocational development begins much earlier in the life span and what children learn about work and occupations has profound effects on the choices they make as adolescents and young adults, and ultimately, on their occupational careers (Hartung et al., 2005). Early adolescent boys continue to aspire to careers that

are higher in education required and prestige than their female counterparts are. Females express interest in a wider range of careers that includes both male- and female-dominated options (Mendez and Crawford, 2002). According to Gottfredson (1981) in ages fourteen and older adolescents may develop realistic or idealistic aspiration. Both kinds of aspirations tend to change as the adolescent learns more about how compatible and how accessible different occupations really might be. The drop in adolescent career aspirations that has been observed to occur between 10th and 12th grades probably reflects a maturing of self-assessment ability on the adolescents' part, as they grow more proficient at recognizing their own strengths and display more refined interests (Watson et al., 2002). The concept of aspiration in mid adolescence as Schoon (2001) indicated change over the life course. Changes occur due to the insidious effects of social pressures, family background, socioeconomic status, and access to opportunity structures.

Abu-Hilal et al. (2017) argued that although females in Arab Muslim countries have gained progress in the past four to five decades in terms of education and employment, men and women still have different roles and expectations. Oman is one of Arab countries in which females' college enrollment is larger than males' enrollment. It is reasonable to assume that females and males are experiencing the change where traditional values are challenged and new values are emerging and they are motivated to take a larger part in the educational system and workplace (Nasser, 2017). Further, the recent data revealed that Omani boys and girls have similar positive attitudes towards independence and competition (Abu-Hilal and Malki, 2014). Both men and women are delaying marriage and childbirth, allowing greater investment in educational and occupational pursuits by women and men. However, women and men still choose different occupations and participate in these occupations in different ways suggesting that these gender differences in occupational choices remain quite predictable given the socialization history of most men and women, and given the integrated lives, many women continue to want to lead. Therefore, gender imbalance accounted for an unequal male-female distribution across educational levels and management positions (Abu-Hilal and Malki, 2014, Eccles, 2011; Padilla-Carmona and Martínez-García, 2013).

No measurement existed to assess adolescents' career aspiration within Arab context in general and Omani specifically. Additionally, there was no empirical support for the measurement equivalence of the translated version of the initial CAS (Kim et al., 2016). Hence, the purpose of this study was to examine the reliability and validity statistic of CAS within Omani setting. Specifically, we tested if CAS has acceptable reliability validity statistic within Omani context and if there are differential functioning of CAS items due to gender and grade.

METHODS

Participants

A total of 2700 tenth and eleventh students' school participated in this study. This sample represented students who attended different public schools in various governorates. The sample consisted of 1365 boy and 1335 girls. Most of the sample (1376) was in the tenth grade (702 boy and 674 girl) and 1324 in the eleventh grade (663 boy and 661 girl).

Measure

The study applied a 10-item Career Aspirations Scale version to measure students' aspirations. Participants indicated how true each statement was for them on a scale ranging from (0) not at all true of me to (5) very true of me. Two items, which were negatively worded, were reversed prior to calculating the total score. The CAS demonstrated adequate internal reliability and correlated with occupational, and multiple role self-efficacy, relative importance of career versus family, and attitudes toward women's roles (Gray and O'Brien, 2007). The authors in the current study followed the guideline for the process of adapting a questionnaire for use in different setting (Beaton et al., 2000). Two authors who were bilingual translated the items from English to Arabic and then two professors within the department of psychology produced back-translations from Arabic to English. Poorer wording choices were identified and resolved in a discussion between the translators. The authors reviewed all the translations and reached a consensus on any discrepancy.

Procedure

After the approval of the Ministry of Education and permission was granted from the school principals, the instrument was distributed in five governorates at Sultanate of Oman. Students were filled out the CAS during the school hours. It took about twenty minutes under the supervision of an assistant researcher. The students were guaranteed anonymity in using data.

RESULTS

The analysis addressed the first question of the reliability statistic of the CAS within Omani context. CAS demonstrated acceptable internal consistency (Cronbach's $\alpha = 0.67$).

Table 1 shows the grand mean is 3.60 for item 6, "I hope to move up through any organization or business I work in." The lowest mean is 2.72 for item 2, "I do not plan on devoting energy to getting promoted in the organization or business I am working in." Items, 1, 6, 8 and 9 have mean above the scale mean and the left are lower than the scale.

Table 1 shows that corrected item-total correlation is minimum for Item 5 "When I am established in my career, I would like to train others." This item is the weakest and the reliability of the scale will be enhanced if item 5 is deleted. The maximum mean is for item 6 "I hope to move up through any organization or business I work in." In this case, item 6 is positive affected on scale inverting

Table 1. Mean, standard deviation, corrected item-total correlation for (R), and Cronbach's alpha if item are deleted.

CAS item	M	SD	R	Cronbach's Alpha if Item Deleted
hope to become a leader in my career field	3.27	0.930	0.32	0.61
When I am established in my career, I would like to manage other employees.	3.16	0.860	0.26	0.62
I do not plan on devoting energy to getting promoted in the organization or business I am working in	2.72	1.138	0.31	0.61
When I am established in my career, I would like to train others.	3.15	0.916	0.13	0.65
I hope to move up through any organization or business I work in.	3.60	0.768	0.44	0.59
Once I finish the basic level of education needed for a particular job, I see no need to continue in school	3.15	1.098	0.37	0.60
I plan on developing as an expert in my career field.	3.45	0.842	0.41	0.59
I think I would like to pursue graduate training in my occupational area of interest	3.48	0.821	0.40	0.59
Attaining leadership status in my career is not that important to me.	2.81	1.160	0.28	0.62
Total	3.2	0.48	0.32	0.61

Mean of the scale is 28.79 and its standard deviation 4.36.

Table 2. Factor analysis statistics.

Factor	Extraction sums of squared loadings		
	Total	% of variance	Cumulative %
1	2.45	27.22	27.22
2	1.50	16.63	43.86

Table 3. Gender differential items functioning.

Item	Mental- Haeszal	Asymptotic significance	Common odd ratio
1	19.09	0.00	0.48
2	19.9	0.00	0.49
4	3.66	0.06	0.69
5	0.06	0.80	0.79
6	16.64	0.00	1.42
7	23.62	0.00	1.37
8	0.25	0.62	0.71
9	4.91	0.03	1.05
10	0.01	0.95	0.94

item 5. Item 3 was deleted because its score (-.364) correlate negatively with the total scores. Therefore, the present study performed the statistical analysis on 9 items after deleting item 3.

Table 2 shows two factors with eigenvalue larger than one that accounted for 44% of variance. Scree Plot supported the CAS unidimensionality. The one factor solution accounted for 27.22 in variance, which indicates that the scale has only one dominant factor in nine items.

Table 3 shows no differential functioning related to gender for three item (4, 5 and 8). However, five items were demonstrated to have significant gender related

DIF. The total numbers of DIF items tended to favor males are 6, 7 and 9 while items 1 and 2 are favor females.

Results in Table 4 shows no differential functioning across grades for all aspiration scale items except for item 4; it is due to Grade 11.

DISCUSSION

The results of current study indicate a preliminary support of the psychometric proprieties of 9-items with reliability

Table 4. Grade differential items functioning.

Item	Mental- Haeszal	Asymptotic significance	Common odd ratio
1	1.32	0.25	0.92
2	1.44	0.23	0.93
4	4.96	0.03	1.03
5	0.38	0.54	0.77
6	0.11	0.75	0.71
7	0.00	0.96	0.81
8	1.53	0.22	0.65
9	1.39	0.24	0.64
10	1.05	0.31	0.75

of 0.67 on a sample consisted of adolescents (females and males). However, Gray and O'Brien (2007) provided support for valid and reliable eight-items with value ranging from 0.72 to 0.75 on a sample comprised of only women. The results of factor analysis in the current study supported one factor solution suggesting that the scale did not capture the multi-dimensions of CAS that was proposed by Gray and O'Brien (2007) and Gregor and O'Brien (2016). The developers of the short version of CAS reported two-factor solutions accounted for 72, 62, 52 and 49% of the variance in various studies. However, limitations were documented by previous researchers (Gray and O'Brien, 2007; Gregor and O'Brien, 2016), suggesting that two scales were not strongly interrelated and they may reflect nonrelated aspects of career aspiration. It can be explained that some workers may desire to lead and train other employees but not want to pursue continued education; others may want to focus on expanding knowledge within a field of study, but not aspire to leadership or management positions. A further testing of the short version of CAS subscales is needed.

The number of DIF items tended to favor males was three. These items reflected by: "I hope to move up through any organization or business i work in," "once I finish the basic level of education needed for a particular job, i see no need to continue in school," and "i think I would like to pursue graduate training in my occupational area of interest." It is noted that the content of these items are related mostly to leadership and achievement. It is consisted with the leadership model that indicates men were more likely to seek leadership roles (Ellinas et al., 2018). Other factors such as socialization and cognitive differences can explain why males performed better on these particular items (Eccles, 2011; Wood and Eagly, 2012). Probably, as Bandura et al. (2001) indicated that children's perceived academic, social, and self-regulatory efficacy influence the types of occupational activities for which they judge themselves to be efficacious both directly and through their impact on academic aspirations. Children's perceived efficacy

rather than their actual academic achievement is the key determinant of their perceived occupational self-efficacy and preferred choice of work life.

Females performed better on two items reflected by "i hope to become a leader in my career field," and "when I am established in my career, i would like to manage other employees." Indeed, CAS was developed to redefine career aspiration as the degree to which women aspire to leadership positions and continued education within their careers. Nonetheless, the results of various studies illustrated that the validity and reliability of CAS among young women was less strong and low aspiration may reflect lack of self-efficacy or limiting gender role. The measure also did not capture women's aspiration to achieve recognition in their careers (Gray and O'Brein, 2007; Gregor and O'Brien, 2016). Interestingly, using long form of CAS with women in a collective culture such as Korean exhibited moderate aspirations suggesting many cultural barriers for women's career accomplishments (Kim et al., 2016). However, researcher documented that middle school girls expressed strong desire to advance to leadership positions within their chosen careers. They concluded that women could be traditional in career orientation while exhibiting high aspiration just as they can be nontraditional in orientation while exhibiting minimal aspiration (Rainey and Borders, 1997).

The findings of this study indicated no differential function for all CAS items across grades; nonetheless, item 4 appeared for grade 11. The item stated, "i do not plan to devote energy to getting promoted in the organization or business i am working in." the current results determined that only one item functioned differently among students in grade tenth and eleventh. It was documented that high school students' average levels of occupational aspiration do not differ notably by grade and was stable from year to year (Armstrong and Crombie, 2000; Hirschi, 2010; McCallion and Trew, 2000). Further, this study conducted on a sample of tenth and eleventh grade students who are still pursuing their education within school context. In this sense, it was

reported that there was no age differences for status aspirations as documented by Patton and Creed (2007). Even career aspirations for men and women were found to be very similar at the university stage, which suggests that their career development may not be different. The researcher provided explanation that respondents, in general, tended to place themselves in their current life stage when they referred to their career aspirations and plans, ignoring the fact that their future life plans may change because of the development of new roles, like parenthood. However, only item 4 showed DIF in the current study and that can be understood as Gray and O'Brien (2007) indicated career aspiration would be expected to differ among those who are still in high school, just starting their careers, those at the peak of their careers, and those who plan to retire.

Although the study conducted on a large sample size and included respondents from both gender, some limitations should be highlighted. First, result has a limitation related to the translation of the scale to Arabic language and cautious is warranted if the translations of the items convey the same meaning. Second, the findings of this study limited to adolescents within the educational setting. This study has implications related to research. Certain items showed DIF; those items should be revised and modified because they are masking the true performance of individuals. Future research also needs to be conducted on the reasons why males and females perform differently on DIF items. A detailed of DIF is recommended in further studies to provide a rich explanation of women's career aspirations across countries and test how cultural values and societal structures shape women and men's career development within different life stages (Kim et al., 2016; Walstad and Robson, 1997).

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

- Abu-Hilal M, AIDhafri S, Al-Bahrani M, Kamali M (2017). The Arab culture and the Arab self: Emphasis on gender. In R. B. King & A. B. I. Bernardo (Eds.), *The psychology of Asian learners*. Singapore, Springer Science pp. 125-138.
- Abu-Hilal M, AL-Malki H (2014). Frame of reference and achievement across gender among Omani middle school students. *International Journal of Psychology and Educational Assessment* 16(2):18-990
- Adragna D (2009). Influences on career choice during adolescence. *Psi Chi Journal of Undergraduate Research* 14(1):3-7.
- Armstrong PI, Crombie G (2000). Compromises in adolescents' occupational aspirations and expectations from grades 8 to 10. *Journal of Vocational Behavior* 56(1):82-98.
- Ashby JS, Schoon I (2010). Career success: The role of teenage career aspirations, ambition value and gender in predicting adult social status and earnings. *Journal of Vocational Behavior* 77(3):350-360.
- Bandura A, Barbaranelli C, Caprara GV, Pastorelli C (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development* 72(1):187-206.
- Beaton DE, Bombardier C, Guillemin F, Ferraz MB (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine* 25(24):3186-3191.
- Brown D (2007). *Career information, career counseling, and career development*. Pearson Education, Inc.
- Cheng S, Yuen M (2012). Education and career aspirations among Chinese high school students: Validation of the career aspiration scale. *Asia-Pacific Education Researcher* 21(2):394-401.
- Eccles J (2011). Gendered educational and occupational choices: Applying the Eccles et al. model of achievement-related choices. *International Journal of Behavioral Development* 35(3):195-201.
- Ellinas EH, Fouad N, Byars-Winston A (2018). Women and the decision to leave, linger, or lean in: Predictors of intent to leave and aspirations to leadership and advancement in academic medicine. *Journal of Women's Health* 27(3):324-332.
- Grusec JE, Hastings PD (2014). *Handbook of socialization: Theory and research*. New York: Guilford Press.
- Gray MP, O'Brien KM (2007). Advancing the assessment of women's career choices: The career aspiration scale. *Journal of Career Assessment* 15(3):317-337.
- Gregor MA, O'Brien KM (2016). Understanding career aspirations among young women: Improving instrumentation. *Journal of Career Assessment* 24(3):559-572.
- Gregor M (2016). *Understanding career aspirations among young women: Improving instrumentation* (Unpublished doctoral dissertation). University of Maryland, College Park.
- Gil-Flores J, Padilla-Carmona MT, Suárez-Ortega M (2011). Influence of gender, educational attainment and family environment on the educational aspirations of secondary school students. *Educational Review* 63(3):345-363.
- Gottfredson LS (1981) Circumscription and compromise: A developmental theory of occupational aspirations. *Journal of Counseling Psychology* 28:545-579.
- Gottfredson LS (2005). Using Gottfredson's theory of circumscription and ompromise in career guidance and counseling. In: S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work*. New York, NY: Wiley pp. 71-100.
- Hartung P, Porfeli EJ, Vondracek FW (2005). Child vocational development: A review and reconsideration. *Journal of Vocational Behavior* 66(3):385-419.
- Hirschi A (2010). Swiss adolescents' career aspirations: Influence of context, age, and career adaptability. *Journal of Career Development* 36(3):228-245.
- Johnson M, Mortimer J (2002). Career choice and development from sociological perspective, In: D. Brown & Association, *Career choice and development* (4th ed.). San Francisco: Jossey-Bass pp. 37-84.
- Kim YH, O'Brien KM, Kim H (2016). Measuring career aspirations across cultures: Using the career aspiration scale with young Korean women. *Journal of Career Assessment* 24(3):573-585.
- McCallion A, Trew K (2000). A longitudinal study of children's hopes aspirations and fears for the future. *The Irish Journal of Psychology* 21:227-236.
- Mendez LMR, Crawford KM (2002). Gender-role stereotyping and career aspirations: A comparison of gifted early adolescent boys and girls. *Journal of Secondary Gifted Education* 13(3):96-107.
- Nasser R (2017). Relation of social motivation and gender on academic achievement in Qatar. In: R. B. King & A. B. I. Bernardo (Eds.), *The psychology of Asian learners*. Singapore: Springer Science pp. 389-403.
- O'Brien KM (1993). *The influence of psychological separation and parental attachment on the career choices and self-efficacy* (Unpublished doctoral dissertation). Loyola University, Chicago.
- Padilla-Carmona T, Martínez-García I (2013). Influences, values and career aspirations of future professionals in education: A gender perspective. *Educational Review* 3(65):357-371.
- Patton W, Creed P (2007). The relationship between career variables and occupational aspirations and expectations for Australian high school adolescents. *Journal of Career Development* 34(2):127-148.
- Plucker JA (1996). Construct validity evidence for the student aspirations

- survey. *Journal of Research in Rural Education* 12:161-170.
- Rainey LM, Borders LD (1997). Influential factors in career orientation and career aspiration of early adolescent girls. *Journal of Counseling Psychology* 44(2):160.
- Rowan-Kenyon HT, Perna LW, Swan AK (2011). Structuring opportunity: the role of school context in shaping high school students' occupational aspirations. *Career Development Quarterly* 59(4):330-344.
- Rojewski JW (2005). Occupational aspirations: Constructs, meanings, and application. In: S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work*. New York: Wiley pp. 131-154.
- Schoon I (2001). Teenage job aspirations and career attainment in adulthood: A 17-year follow-up study of teenagers who aspired to become scientists, health professionals, or engineers. *International Journal of Behavioral Development* 25(2):124-132.
- Sawitri DR, Creed PA, Zimmer-Gembeck MJ (2015). Longitudinal relations of parental influences and adolescent career aspirations and actions in a collectivist society. *Journal of Research on Adolescence* 25(3):551-563.
- Sherwood RA (1989). A Conceptual framework for the study of aspirations. *Research in Rural Education* 6(2):61-66.
- Watson CM, Quatman T, Edler E (2002). Career aspirations of adolescent girls: effects of achievement level, grade, and single-sex school environment. *Sex Roles* 46(9):323-335.
- Walstad WB, Robson D (1997). Differential item functioning and male-female differences on multiple-choice tests in economics. *The Journal of Economic Education* 28(2):155-171.
- Wood W, Eagly AH (2012). Biosocial construction of sex differences and similarities in behavior. *Advance Experimental Social Psychology*, 46:55-123.
- Zahid U (2017). Career aspiration and life satisfaction of final year medical school students. *Annals of King Edward Medical University* 23(4):1-5.