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Relationship between psychological hardiness and career decision-making self-efficacy among eleventh grade students in Sultanate of Oman

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This study aims to investigate the association between psychological hardiness and career decision-making self-efficacy among eleventh grade students in the Sultanate of Oman. To achieve this purpose, psychological hardiness scale (PHS), and career decision self-efficacy- short form- were administered to a sample of 500 students of eleventh grade (n = 260) males and (n = 240) females. Findings revealed that the level of psychological hardiness was less than the mean of items, while career decision making self-efficacy level was more than the mean of items; there was no great correlation between psychological hardiness and career decision making self-efficacy. The findings also showed there were significant gender variations in psychological hardiness, while there were no great gender variations in career decision-making self-efficacy. Regarding GPA, the findings showed there were no great variations in psychological hardiness, while there were significant differences in career decision making self-efficacy. It is concluded that although there was no significant correlation between psychological hardiness and career decision-making self-efficacy, psychological hardiness positively affects individual's decisions in life.

Key words: Psychological hardiness, career decision-making self-efficacy, Oman.

INTRODUCTION

Psychological hardiness is a concept that deserves in-depth research, because it reflects the extent to which individuals deal with different kinds of feelings in different situations. Empirical research suggested that

psychological hardiness is a significant indicator of success across many fields. In general, psychological hardiness, as defined by Maddi (2007) is the manner, attitudes and skills allow an individual to make stressful

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situations become opportunities for growth (Maddi, 2007).

Hardiness is a term coined by Maddi (2007), that relates to stress-buffering characteristics of healthy people. People with hardiness are able to withstand significant levels of stress without becoming ill (Kahn and Fawcett, 2008). Kobasa (1979) popularized the term hardiness, defining it as resistance against stress. Hardiness is a kind of makeup comprising three jointly associated personalities: commitment, control, and challenge. The element of control is seen as a propensity to think and behave like one has power to influence life situations. Commitment is the likelihood for one to engage in life events and have real desire and interest for other people's activities and things. Challenge is one believing that life situations are avenues for growth and development.

If people are very committed to something or someone, they consider it very necessary to stick to the people and things irrespective of the situations. Those individuals have a tendency to avoid isolation and alienation. If individuals have full control, they continuously impact results, irrespective of how hard things may be. Those individuals tend to avoid weakness and inactiveness. To individuals that are powerful in challenge, stress to them is normal part of life and avenues to be educated, to grow and advance (Maddi, 2005, 2006). These three parts of hardiness give us the power and enthusiasm to turn terrible situations to avenues for growth (Maddi, 2002). Hardiness is a way to bounce back under stress (Maddi, 2006).

Bandura's self-efficacy theory is based on Social Cognitive Theory (2001). Self-efficacy theory gives a clear guide on ways to support and advance human efficacy. According to this theory, people contribute greatly to their own psychosocial operation via the devices of personal agency. Among the devices of agency, self-efficacy stands as most central and pervasive agent (Bandura, 2009). Bandura sees self-efficacy as an individual's perception and belief in his/her ability. He ascertained that one's perception of abilities and human agency shapes one's endeavors to achieve. Self-efficacy contains many dimensions and is dependent on a person's cognitions (Bandura, 1982).

Perceived self-efficacy is an individual's belief in his/her ability in organizing and executing actions needed to handle potential problems. Efficacy belief controls the way individuals reason, feel, encourage themselves, and act. The main question seen in any theory of cognitive control of motivation, affect, and action involves the subject of causality. Efficacy belief controls man's operations via four main ways (cognitive, motivational, affective, and selection) that are harmonious and not isolated (Bandura, 2009). Self-efficacy theory posits that efficacy judgments play a causal role in developing one's interest in life vocation (Bandura, 1986). Occupational

self-efficacy and interest are averagely correlated. Powerful career efficacy belief enhances one's interest in occupation (Lent et al., 1994). Self-efficacy predicts strongly large career-related attitudes from early high school through college and elsewhere (Hackett and Lent, 1992; Lent and Hackett, 1987).

Career decision-making self-efficacy (CDMSE) scale was designed by Taylor and Betz (1983) to examine perceptions of efficacy in relation to five dimensions or areas of career decision making; they are correct self-appraisal, collecting of job information, goal selection, planning for the future and problem solving. To them, Career decision-making self-efficacy is one's belief that one can be involved in events like correct self-appraisal, gathering of information related to job, and right goals selection. They presented an hypothesis that fragile decision making self-efficacy can obstruct one's behavior to explore career and develop decision making abilities, and thus can be an indication of career irresolution and other issues in career decision making. Self-efficacy can be fortified by learning experiences like personal performance, learning by observation, social encouragement and persuasion, and physiological and affective states and reactions (Lent and Brown, 2013a, b).

Literature has few works that examine psychological hardiness in children and adolescents; a lot of studies focus on adults' and patients' psychological hardiness in hospital and psychiatric environment. Singh (2016) revealed there were gender variations among school adolescents in relation to their stress and psychological hardiness. Stress had negative correlation with the psychological hardiness (Singh, 2016). This result is in line with that of Sharma and Tankha (2015) which showed that city girls scored higher than boys on hardiness in rural and urban schools of Jaipur District in India. Though some work primarily looked into gender variations in psychological hardiness, others majorly dwelt on the domains of this term as seen in the work of Spiridon and Karagiannopoulou (2013) that explored the likely domains scholarly hardiness and its parts (commitment, control, and challenge) by qualitative methodology. The results of this work show that the three higher-order domains of academic hardiness are commitment, control, and challenge and some of them can be significant for students to have power to withstand problems in the school setting.

There are many past works on career decision-making self-efficacy. They dwelt on evaluating the domains of career decision-making self-efficacy and investigating this term and its link with other features. Ziebell (2010) predicted the links among person, ecological factors, career advancement, career decision-making self-efficacy, occupational result expectations, and practical job choice goals among 10th to 12th grade inner-city

youths. The results indicated that job decision-making self-efficacy and occupational results expectations had positive correlation with job choice goals. There were no great gender variations in career decision-making self-efficacy. The results of this work are not like those of Tien et al. (2009) that showed that Taiwan High School boys had higher grade of self-efficacy than girls in the realistic kind, while the girls had higher grade of self-efficacy in the artistic kind than their counterparts. Also, Yat (2007) showed that there were great gender variations in career decision-making self-efficacy favoring girls in 14 secondary schools in Hong Kong; the career decision-making self-efficacy level was high.

Lozano (2015) saw gender variations in high school students based on five subscales of CDSE: Self-appraisal, information related to occupation, selecting goal, planning and problem solving. Girls were always higher than boys significantly in the problem solving subscale. Though many authors have not seen any great gender variations in areas of career decision-making self-efficacy (Bergeron and Romano, 1994; Bright, 1996; Wilson, 2000), gender variations have been seen in career decision-making self-efficacy for modern jobs. For example, Betz and Hackett (1986) revealed that females had higher efficacy expectations and results expectations for local female jobs than for local male jobs.

Studies on the relationship between psychological hardiness and career decision-making self-efficacy (CDMSE) have been so scarce. Eidles-Maoz (2006) examined the relationships between decision-making styles and two aspects of personality, hardiness and spontaneity. The participants were 83 psychology students at Roosevelt University and professionals working in the Chicago vicinity who volunteered to take part in the investigation. Results revealed that people who reported directive decision-making style, showed low level of hardiness. Furthermore, it was found that hardiness and spontaneity were positively correlated. However, no relationship was found between the other three decision-making styles: Analytical, conceptual, and behavioral with hardiness and spontaneity.

The present study

Psychological hardiness is the elementary principle of resilience and comprises the personality attitudes of commitment, control, and challenge. It is reasonable that people with high level of psychological hardiness have good mental health and resilience. Resilience in turn will help make stable and powerful decisions, especially in career situations. This study aims to investigate the correlation between psychological hardiness and CMDSE among eleventh grade students in Muscat governorate.

In particular, this study aims to answer the questions as

follows.

- (1) What is the level of psychological difficulty and career decision-making self-efficacy (CDMSE) among eleventh grade students?
- (2) Do psychological hardiness and CDMSE correlate significantly?
- (3) Do psychological hardiness and CDMSE differ significantly based on gender, and educational accomplishment?
- (4) Can psychological hardiness predict decision-making self-efficacy?

Rationale

The importance of this study emerges from that the relationship between psychological hardiness and career decision-making self-efficacy in the eleventh grade in post-basic schools in Sultanate of Oman. This stage is very important in career decision making, especially for this group of students who should choose their career future. It is thought that there is a big role of psychological hardiness in keeping mental health, and maintaining psychological well-being, stability and resilience. This study is also significant as it is the first to be conducted nationally and regionally.

This study may provide theoretical and practical implications on the relationship between both variables. In addition, the findings of this study will encourage developing and conducting counseling programs for improving psychological hardiness and then making career decisions effectively. This study will contribute to provide some suggestions and conclusions for educators, teachers, students' guardians and those who have great interest in youth affairs and future.

The results of the study may provide information for practitioners and educators that may be integrated into educational programs. The results of the study also provide the foundation for continued research, training, and workshops to assist students with instable and indecisive competency in making decisions with the tools to strengthen psychological hardiness with a goal of increasing the likelihood of promoting career decision-making self-efficacy.

METHODS

Participants

A random cluster sample of six schools (three for boys and three for girls) was selected from the Muscat governorate. For boys' schools, three sections were selected from each school. For girls' schools three sections were selected for two schools each and two sections were selected from the third school. The 500 students (260 boys

Table 1. Means and standard deviations of psychological hardiness and career decision-making self-efficacy for the total sample compared to the hypothetical means.

Variable	Mean	St. Deviation	t	df
Hardiness	3.17	0.357	42.25**	499
CDMSE	3.07	0.311	40.57**	499

** $p < 0.01$.

and 240 girls) of eleventh grade represented 4.6 % of the target population (N = 10, 801).

Measures

Psychological Hardiness Scale (PHS) was developed based on related literature (Younkin and Betz, 1996) to assess the degree to which individuals have psychological hardiness. The PHS in its primary version was composed of 21 items. Face validity was assessed by submitting the scale to a panel of experts whose specialization is counseling and psychological measurement. Construct validity was also assessed by conducting exploratory factor analysis on a pilot sample (n=60). Factor analysis yielded one factor with 15 items; that is, 6 items were deleted because of low loadings. The final version of the PHS included 15 items that are rated on a 4-point Likert-type scale ranging from 4 (*strongly agree*) to 1 (*strongly disagree*). The total score (maximum score) obtained by summing up the scores of all items was 60, the minimum score was 15. The higher the score indicates higher degree of psychological hardiness. Internal consistency of the scale was calculated by Cronbach Alpha and was found to be 0.76.

The career decision self-efficacy short form

Career decision-making self-efficacy scale consisted of 25-items. The career decision-making self-efficacy scale -short form (CDSE-SF: Betz et al., 1996). The CDSE-SF is a 25-item short form of the original Career Decision Self-Efficacy scale. It assesses five domains: self-efficacy to accomplish accurate self-appraisals, self-efficacy to select specific goals, self-efficacy to formulate plans for the future, self-efficacy to gather occupational information, and self-efficacy to engage in effective problem-solving.

Face validity was assessed by submitting the scale to a panel of experts whose specialization is counseling and psychological measurement. Construct validity was also assessed by conducting exploratory factor analysis on a pilot sample (n=60). Factor analysis yielded one factor with 21 items. The other 4 items were deleted because of low loadings. The items are rated on a 4-point Likert-type scale: 1 (strongly disagree), 2 (disagree), 3 (agree), and 4 (strongly agree). Hence, the higher the score the higher the self-efficacy is. Internal consistency was calculated by Cronbach Alpha and found to be 0.79.

RESULTS

Descriptive statistics

Table 1 illustrates the mean and standard deviation of

psychological hardiness and career decision making self-efficacy. Table 1 shows that the degree of psychological hardiness (m = 3.17) was above the hypothetical mean (m = 2.5). Also, Table 1 shows that the mean of CDMSE (m = 3.07) was also above the hypothetical mean (m = 2.5). These results indicate that the sample expressed psychological hardiness more than was anticipated. Also, the sample expressed career decision making self-efficacy more than was expected. With one sample t-test, the differences were significant ($p < 0.01$).

Question 2 states: Is there a significant correlation between psychological hardiness and career decision-making self-efficacy (CDMSE)? To address this question, correlation coefficient was calculated and found to be $r = 0.667$, $p < 0.01$. This correlation indicates that there was significant correlation between psychological hardiness and career decision-making self-efficacy (CDMSE). That is, as the participants expressed more hardiness, they had more self-efficacy in career decision making.

Question 3: Are there significant differences in psychological hardiness, and career decision-making self-efficacy (CDMSE) due to gender, and academic achievement? Means and standard deviations were calculated and ANOVA was conducted. Means and standard deviations of psychological hardiness and CDMSE are illustrated in Table 2, and findings of ANOVA are illustrated in Table 3.

Table 2 shows means of scores of psychological hardiness and career decision making self-efficacy (CDMSE) were high according to gender and academic achievement. Table 3 shows that there were significant differences due to gender in psychological hardiness ($F_{(1,499)} = 20.003$, $P < 0.01$) and in CDMSE ($F_{(1,499)} = 10.129$, $P < 0.01$). There were also significant differences due to achievement in psychological hardiness and CDMSE, that is, $F(3, 499)$ of both = 6.700, and 6.262 at $P < 0.01$ respectively. While there were no significant differences due to the interaction of gender* achievement, $F(3,499) = 1.927$, and 1.417 at $P = 0.124$, and 0.237 respectively. Wilks' Lambda of the effect of gender in psychological hardiness and CDMSE $F(1,499) = 10.046$, at $P < 0.001$ was significant, and Partial η^2 was 0.024, which means that gender interprets 2.4% of variance in psychological hardiness and CDMSE, and Wilks' Lambda of the effect

Table 2. ANOVA results with means and standard deviations of psychological hardiness and CDMSE.

Dependent variable	Gender	Achievement	Mean	SD	F value gender	F value achievement
CDMSE	Male	Accepted	64.889	4.282	20.003**	6.700**
		Good	64.100	6.213		
		Very good	66.420	5.940		
		Excellent	66.031	5.900		
		Total	65.45	5.922		
	Female	Accepted	61.053	9.300		
		Good	60.314	5.860		
		Very good	62.780	6.520		
		Excellent	65.326	6.783		
		Total	63.20	6.976		
Hardiness	Male	Accepted	48.444	5.666	10.129**	6.262**
		Good	46.700	5.110		
		Very good	48.693	4.519		
		Excellent	48.615	5.104		
		Total	48.03	5.028		
	Female	Accepted	44.684	5.917		
		Good	44.914	4.119		
		Very good	47.370	5.092		
		Excellent	48.407	6.388		
		Total	47.17	5.666		

of achievement in psychological hardiness and CDMSE $F(3, 499) = 3.977$, at $P = 0.001$ was significant, and Partial η^2 was 0.039, which means that gender interprets 3.9% of variance in psychological hardiness and CDMSE.

As shown in Tables 2 and 3 that there were significant differences in psychological hardiness and CDMSE due to gender and to achievement level. These differences were in favor of males. However, the differences in achievement level were not consistent. Post-hoc comparisons with Scheffe test in Table 4 indicated that differences existed between good and excellent levels of achievement in both psychological hardiness and career decision-making self-efficacy. The difference was in favor of those who had excellent level of achievement.

With respect to Question 4: What is the predictability of career decision-making self-efficacy (CDMSE) by psychological hardiness? Analysis of regression was conducted as illustrated in Table 5. Table 5 shows that psychological hardiness accounted for 45.5% of the variance in CDMSE. This predictability was significant, $F(2, 499) = 209.469$, at $P < 0.01$.

DISCUSSION

The findings of this study indicated that psychological

hardiness and career decision-making self-efficacy (CDMSE) were high among school students. This means that they have good mental health, resilience and high ability of making career decisions. Also, students in this developmental stage are strongly interested in planning for their career future and they strive to develop cognitive abilities to reach their career goals and aspirations. In this crucial stage (adolescence), the students attempt to improve self-exploration and career planning, so it is reasonable for the high school students to have higher career decision-making self-efficacy. This finding is consistent with the results of previous research on psychological hardiness that showed that psychological hardiness is common among children and adolescents (Mirzaeia and Kadivarzare, 2013). As for career decision-making self-efficacy, the results of this study are consistent with the results of Ziebell (2010) who indicated that students had greater levels of career decision-making self-efficacy. Yat (2007) indicated that the high school students had higher expectations on career self-efficacy.

The findings of this study revealed that there was significant correlation between psychological hardiness and career decision-making self-efficacy. This result is inconsistent with the results of Eiddles-Maoz (2006) who found no relationships for the decision-making styles

Table 3. ANOVA results for the effect of gender and achievement level on hardiness and CDMSE.

Source	Dependent variable	df	Mean Square	F	Partial η^2
Corrected Model	CDMSE	7	2390.79	60.00**	0.079
	Hardiness	7	1040.47	30.78**	0.051
Intercept	CDMSE	1	14573310.56	364550.92**	0.987
	Hardiness	1	7969930.02	288650.33**	0.983
Gender	CDMSE	1	7990.61	200.00**	0.039
	Hardiness	1	2790.66	100.13**	0.020
Achievement	CDMSE	3	2670.84	60.70**	0.039
	Hardiness	3	1720.89	60.26**	0.037
Gender* Achievement	CDMSE	3	770.03	10.93	0.012
	Hardiness	3	390.13	10.42	0.009
Error	CDMSE	492	390.98		
	Hardiness	492	27.61		
Total	CDMSE	500			
	Hardiness	500			
Corrected total	CDMSE	499			
	Hardiness	499			

Note. CDMSE: Career decision-making self-efficacy, Hardiness: Psychological hardiness.

** $p < 0.01$.

Table 4. Regression of CDMSE on psychological hardiness.

Model	df	Mean square	F	R ²	Adjusted R ²	Sig.
Regression	2	4881.759	209.47**	0.457	0.455	0.001
Residual	497	23.305				
Total	499					

Note. Dependent Variable: CDMSE; Predictors: (Constant), Hardiness.

** $p < 0.01$.

(analytical, conceptual, and behavioral), with hardiness and spontaneity. The findings of this study also revealed that there were significant gender differences between males and females in psychological hardiness and career decision-making self-efficacy (CDMSE) in favor of males. This means that because of the self-fulfilled prophecy related to parenting styles, girls in childhood and in adolescence are not given the opportunity and freedom to express their ideas and feelings (Abu-Hilal et al., 2016). Girls are often repressed or punished if they express freely. Males have more freedom and

independence than females, which provide them with the ability to shape behavioral patterns and coping styles enabling them to crystalize their personality. This will contribute to increase their psychological hardiness and improve career decision-making self-efficacy. This finding is consistent with the results of Spiridon and Karagiannopoulou (2013), and Sharma and Tankha, (2015) that found gender differences in psychological hardiness, but it did not go along with the findings of study conducted by Singh (2016) that found no gender differences in psychological hardiness. Regarding career

Table 5. Multiple comparisons with Scheffe test.

Dependent variable	(I) Achieve.	(J) Achieve.	Mean difference (I-J)	Std. Error
CDMSE	Accepted	Good	0.36	1.103
		Very good	-1.18	1.040
		Excellent	-2.32	1.065
	Good	Accepted	-0.36	1.103
		Very good	-1.54	0.748
		Excellent	-2.68**	0.783
	Very good	Accepted	1.18	1.040
		Good	1.54	0.748
		Excellent	-1.15	0.691
	Excellent	Accepted	2.32	1.065
		Good	2.68**	0.783
		Very good	1.15	0.691
Hardiness	Accepted	Good	0.73	0.917
		Very good	-1.10	0.864
		Excellent	-1.61	0.885
	Good	Accepted	-0.73	0.917
		Very good	-1.83*	0.622
		Excellent	-2.34**	0.650
	Very good	Accepted	1.10	0.864
		Good	1.83*	0.622
		Excellent	-0.51	0.574
	Excellent	Accepted	1.61	0.885
		Good	2.34**	0.650
		Very good	0.51	0.574

* $p < 0.05$, ** $p < 0.01$.

decision-making self-efficacy, the findings of this study are also consistent with the results of Betz and Hackett (1986), Tien et al. (2009) and Yat (2007) that showed significant gender differences in career decision-making self-efficacy. However, the findings of this study did not support the results of Lozano (2015) who found that females scored higher than males in career decision-making self-efficacy. However, Ziebell (2010) found no effect for gender on career decision-making self-efficacy (Bergeron and Romano, 1994; Bright, 1996; Wilson, 2000).

The findings of this study also showed that there were significant differences between students who have good

achievement and those who have excellent achievement in psychological hardiness and career decision-making self-efficacy (CDMSE) in favor of those who have excellent achievement. Whilst, there were no significant differences in the other levels. This means that students with high achievement demonstrate high and distinctive abilities to perform different cognitive, emotional and social skills. Although this finding is a little awkward, it can be explained, in that students who are low achievers may have less realistic self-assessment. Hence, they may perceive themselves as having more self-efficacy than they really have. In comparison, those who are excellent and good achievers are more realistic in their

self-assessment. Hence, the difference between excellent and good achievers was observed. Because of the strong relationship between psychological hardiness and CDMSE, family, school and community should use educational and social methods in developing psychological hardiness, that is they are more influential on an individual's decisions and the extent to which he/she is able to cope with difficulties and different life circumstances. It is suggested to conduct more research on the relationship psychological hardiness and career decision-making self-efficacy in school and college students.

IMPLICATIONS

This work has relevant use to counseling, particularly job counseling. Others can be important to psychology, and counseling. As psychological difficulty is important to deal with stress, a lot of students with its low level might require counseling that would help them to face hard problems and be restored. Fragile career decision -making self-efficacy can cause problems to high or secondary schools students, thus they require job counseling. Psychological difficulty can be utilized as a counseling strategy to better the power of clients to solve various situations. But, if people have issues with psychological difficulty they would require different counseling strategies like assertive training to fortify it. Psychological hardiness can be utilized to improve job decision -making self-efficacy. This work can be relevant and useable if the link between psychological hardiness and career decision -making self-efficacy is used in providing different and multicultural counseling services either by developmental schemes or preventive or remedial ones. This work has some drawbacks. One is the self-report technique utilized in this work. The sample used is the same, which is also a drawback. Future work has to use diverse methods like qualitative methods and experimental designs. Different samples can be used in which adolescent students and more factors can be looked into.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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