

# Saudi Arabian Girls as Graduate Students: Perception of Higher Education as a Liberating Factor

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## **Abstract**

As education in the Middle East, like many other topics, stands at a crossroads, a review of perceived obstacles to a student's education is useful. Specifically, female students and what they perceive as primary obstacles to their advancement can be highlighted for the purpose of addressing and removing them as for greater performance and achievement. This review of a mixed qualitative and quantitative study examines to what extent motivating factors, including but not limited to, self-efficacy, attribution and self-regulated goal-setting have contributed to the pursuit of higher education in Saudi Arabia by traditionally underrepresented students, i.e. female students. Closed-ended surveys and interviews conducted in social and traditional sensitive manners were conducted by a controlled group of research assistants at one learning institution on an advanced group of postgraduate students at another institution to gauge and identify the motivational factors that influence tendencies towards postgraduate studies. The results seem to suggest that motivation was an eternal key factor and also the key factor in influencing the student's desire to continue their postgraduate studies. An increase in motivation naturally indicates greater propensity towards postgraduate studies while decreasing in motivation results in fewer numbers attending postgraduate programs. Understanding and obtaining knowledge about what motivational factors exist and how they influence Saudi people and community around these students can support the help to create a motivational atmosphere for future students' studies and can result in increasing the number of Saudi females attending postgraduate studies future years.

## Keywords

Female, postgraduate, students, Saudi Arabia, educational perception

## Introduction

This recent ethnographic study of the perceptions and attitudes of female students endeavoring higher education in the Eastern Province of Saudi Arabia attempted to explore their self-efficacy through the expectancy-value theory of Eccles (1983) and the goal-setting theory of Locke (1990). The study aimed to create a valid explanation or understanding on how intrinsic and/or extrinsic motivational factors impact the endeavors of traditionally-underrepresented female graduate students.

A plethora of work, including self-determination (Anderman & Anderman, 2010), attribution (Graham, 1996), and social cognitive (Bandura, 1986) theories have attempted to explain academic achievement. These theories usually involve the reciprocal relationship between the extrinsic factors that underline or accentuate intrinsic motivating factors, which in turn re-enforce extrinsic factors, such as familial and societal pressures upon the student. Findings seem to suggest that community leaders and stakeholders in educational, governmental, and business realms have an added responsibility to maintain a broader understanding of the purpose behind the acquisition of higher degrees of education and to encourage continued participation and achievement. In turn, political, economic, social, and technological success—including high grade point averages and high employment statistics of graduates—will mitigate and any universal demotivating factors that have traditionally stood in the way of students' progress and success.

This review will examine to what extent motivating factors—including self-efficacy, attribution, and self-regulated goal setting—have contributed to the pursuit of higher education in Saudi Arabia by traditionally-underrepresented students. The recorded data was collected using a mixed-methods design combining quantitative and qualitative analysis. Research assistants at one learning institution distributed closed-ended surveys and conducted interviews on an advanced group of postgraduate students at another institution, in order to gauge and identify the motivational factors that influence tendencies towards postgraduate studies. These questions included reviews of obstacles, perceived or otherwise, to student success. These included a gauge of family, societal, and governmental actions that help or hinder success.

The initial pilot of the research targeted 30 Master's degree students and five doctoral students. The research results showed the strong symbiotic relationship between extrinsic and intrinsic motivating factors. Primary correlating factors included societal perspectives, such as the suggestion that a high grade point average will translate into meaningful employment after graduation. Increased employment after graduation will feed into the underlying belief that these students can and should succeed; this will encourage future individuals in this group to achieve higher education.

## Theoretical Review

Self-determination theorists focus on motivated human practices (Anderman & Anderman, 2010). This theory was initially developed by Deci and Ryan, and has been elaborated and refined by scholars from different countries (Deci, 1985). Attribution theory describes how people clarify to themselves the purposes behind specific events in their lives (Graham, 1996). Heider (1958) initially

created attribution theory in *The Psychology of Interpersonal Relations*, which was further developed by Weiner and his partners in the 1970s and 1980s.

Expectancy-value theory studies academic motivation from an expectancy-value perspective, which is interested in students' beliefs about their abilities to succeed in tasks (Atkinson, 1957). Atkinson created the expectancy-value theory in order to explain the inspiration behind individuals' accomplishments. Eccles (1983) extended this examination into the field of education. Social cognitive theory encompasses various theoretical schemes. Bandura (1986) contributed various essential ideas into this field—for example, the idea of self-efficacy. Bandura contended that human conduct includes “triadic reciprocal” among individuals' personal attributes, environmental attributes, and practices, which impact and are impacted by one another (Bandura, 1986). Goal setting theory has two approaches: mastery and performance goals (Ames, 1988). This theory started with the early work of Kurt Lewin, and was improved by Dr. Edwin Locke (Locke, 1990).

In this research paper, the researchers investigated the intrinsic and extrinsic motivational factors driving Saudi female graduate students to pursue their studies; moreover, the perceptions and attitudes of these students regarding higher education are explored. The results will contribute to a broader understanding of the purpose behind acquiring such degrees, as well as the understanding of how to support motivational positive factors and mediate demotivating factors. Furthermore, the results of this research will enable university stakeholders to gain a better understanding of graduate students' needs, so that they can improve their strategies and programs to meet those demands.

### **Problem Statement**

Motivation is part of the teaching and learning mechanism for enhancing student productivity. Students are motivated either intrinsically or extrinsically to accomplish tasks. Despite the demotivating extrinsic factors, evidence has suggested that Saudi female students are driven toward higher education by the effects of intrinsic motivational factors. The research problem will focus on the perceived extrinsic factors that hinder Saudi female students from continuing their higher education.

### **Purpose Statement**

The purpose of this study is to examine the different extrinsic and intrinsic motivational factors that could facilitate the pursuit of higher education by Saudi females. According to Savenye and Miltiadou (2003), intrinsic motivation involves the tendency to overcome any challenge in order to achieve personal interests; individuals who are intrinsically motivated do not need any incentives to reach specific goals. However, extrinsic motivation stimulates learners to work on tasks to attain greater knowledge or receive praise from their teachers. Thus, different motivational theories could influence the effort that learners exert to perform any activity, as well as their performance. This study will examine to what extent motivational factors such as self-efficacy, attribution, and learning self-regulation contribute to the pursuit of higher education by Saudi Arabian female graduates (Savenye & Miltiadou, 2003).

## Methodology

This ethnographical research followed a mixed methods design that combined quantitative and qualitative data collection and analysis. Various instruments were used for this study. The first was a closed-ended e-survey for Saudi postgraduate females at two Eastern Province educational institutions, which asked students to identify the motivational factors that influenced their pursuit of postgraduate studies. The survey used in this study was sent by email to the targeted postgraduate pilot study, including an introduction that explained the aim of the study and its importance to Prince Mohammed bin Fahd University and the University of Dammam. It consisted of nine close-ended questions and one open question about the student's GPA. Eight questions were multiple choice, and two of them used a five-point Likert scale, which was used to quantitatively measure perceptions, attitudes, and subjective reactions. Second, the researchers conducted qualitative interviews with postgraduate students. The researchers would also like to note that at no time during the research were societal norms or rules violated, nor were the interviewees ever questioned by anyone other than the research assistants of the same gender.

## Background

A brief review of historical events in the history of education in Saudi Arabia is useful to understand the significance of underrepresented students engaging in higher education. Prior to 1957, formal education allowed in Saudi Arabia was reserved for the male gender. The then King of Saudi Arabia, Saud bin Abdulaziz, asked for support from scholars at the time in order to open the first female school in 1960, which created the availability of education for all students regardless of gender (Almari, 2011). However, even with this advancement, true changes to the educational system in Saudi Arabia were not seen until 2005, when the Ministry of Higher Education announced the King Abdullah Scholarship Program. This program was amended in 2010 to allow students to attend both public and private institutions of learning (Ministry of Higher Education, 2014). At this point, many new programs began to be developed and offered to encourage all potential students to seek distinguished roles and positions in society (Ministry of Higher Education, 2010). Access to these programs, the low costs of education, and the encouragement of society for both genders to achieve has led to a percentage of female or underrepresented students in post graduate educational programs that is on par with Western countries (Gonzales, Allum, & Sowell, 2013). Students of both genders strive to pursue higher education goals in order to achieve better employment opportunities, personal achievement, and the attainment of success in greater society. The previously-mentioned extrinsic societal and governmental changes have cleared the way for financial success and the intrinsic growth of students of both genders. This development thus feeds back into the societal paradigm shift that a strong and educated member of society, regardless of gender, is the benchmark for a stronger economy and society in the future (Hamdan, 2005).

Self-determination theory, one of the motivational theoretical perspectives, played a key role in the current research analysis. Self-determination theorists have studied a range of motivated human behaviors. Deci and Ryan (1985) defined self-determined behaviors as individual behaviors that are produced independently with no observed external factors (Anderman & Anderman, 2010). Self-determination theory is also a humanistic motivation theory. The main idea of this theory is that individuals have natural desires for personal development and energy, which are either satisfied or frustrated by the individual's environment (Deci, Vallerand, Pelletier, & Ryan, 1991). This theory claims that all students—no matter their variances in nationality, age, gender or culture—possess

inner incentives that motivate them to pursue their goals. This inner incentive provides high-quality students engagement in the classroom, whether at school or university. Moreover, this theory may be used to explain the behavior and the performance of the student in the classroom (Hill, 2011). This theory helps teachers energize the inner incentive of their students in order to achieve excellent classroom engagement. This informs the role of educators, universities, organizations, and the community in motivating and encouraging Saudi females to achieve their own goals and personal development. According to Reeve (2012), self-determination theory consists of five mini-theories: basic needs theory, organismic integration theory, goal contents theory, cognitive evaluation theory, and causality orientations theory. These five theories work together to draw the desired path for Saudi females. For example, female students were asked about future employment. They pointed out that females traditionally work for non-profits or charities, and that it is rare to find employment in the public or private job market. Even though some Saudi females are now being accepted in traditional employment roles, they must have male approval (i.e., husband, father or male family member) in order to do so. Since driving a car for transportation is not accepted, females frequently employ drivers for mobility.

Basic needs theory concentrates on psychological needs, and identifies their relation to intrinsic motivation. Basic need theory consists of three psychological needs: the need for autonomy, the need for competence, and the need for relatedness. Autonomy is the psychological need to feel a sense of self-directedness and freedom. Competence is ability to be efficient in doing tasks and possessing the capability of performing those tasks. Relatedness is the need to be connected emotionally with others and to become involved in warm relationships with them (Reeve, 2012). The researchers felt that this theory was the first and most significant qualifier in determining results for individual survey takers, and then as a measurement for the entire group. Extrinsic motivations are verbal or tangible results or rewards that influence students' academic performance. Extrinsic motivation thus plays an important role in developing leadership and personality traits. According to cognitive evolution theory, intrinsic motivation is the genuine psychological needs for competence and self-determination. Deci, Koestner, and Ryan (2001) emphasized the influence of external events such as rewards, teacher evaluations, setting deadlines, and other inputs on an individual's beliefs of his own ability. Verbal rewards refer to the positive feedback that is part of the external motivation method. People become engaged in certain activities in order to gain praise and shape the interpersonal context. Tangible rewards are another type of endorsement that engage individuals in certain types of behavior. The role of extrinsic motivation is to enhance intrinsic motivation (Deci et al., 2001).

The idea of enhancing intrinsic motivation is crucial to the goal of increasing female Saudi Arabian postgraduates. In order to enhance intrinsic motivation of these students, organizations must consider the responsibilities faced by students seeking this educational attainment. In addition, educational organizations should offer opportunities for employed students, initiate the creation of more academic majors, and provide financial assistance.

History demonstrates an ongoing relation between extrinsic and intrinsic motivation. The early research shed light on the misuse of extrinsic incentives that undermine internal interest. Extrinsic motivation shows an influence on individuals' task performance. Family support is an influential extrinsic motivation that aids in the development of intrinsic motivation. The academic research emphasized the role of social extrinsic motivation to empower students' academic performance (Lepper, Sethi, Djalalin, & Drake, 1999).

### **Analysis of Interviews**

The researchers conducted interviews with the targeted graduate students from Saudi universities. Some of the interviews were face-to-face, while the rest were on-site interviews. The interviewees were specialized in different scientific and literary subjects, such as mathematics, chemistry, and business administration.

The first question asked whether students have positive feeling towards post-graduate studying or not. One hundred percent of participants indicated positive feelings. They believed that post-graduate education would enrich their knowledge and experience, promote their job position, help them find better job opportunities, and increase their finance resources.

The second question asked students about the factors impacting their tendency towards postgraduate studies. Their responses showed that they face many difficulties, including age, high required GPA, curriculum difficulties, and others. In contrast, the responses showed a positive support from their society and families.

The interview ended with a question about whether Saudi organizations force Saudi females to continue their post graduate studies or not. The answers revealed a near-universal perspective that Saudi females pursue their post graduate degrees for personal reasons rather than a job requirement, while only a few responses showed that students are forced to continue their post graduate studies because they are related to academic careers.

### **Key Survey-Interview Questions and Findings**

The researchers conducted the survey-interviews in the summer of 2014, with the goal of understanding the perceptions and attitudes of female graduate students in Saudi Arabia. A complete listing of the questions and graphed results are available in the appendix of this document. For the purpose of this report, a quick listing of those questions and a discussion of their results will provide an interesting outlay of the students' thoughts about the current state of extrinsic factors that may hinder continued education. The questions considered intrinsic and extrinsic motivators, perceived relationship between graduates' GPA and intrinsic and extrinsic motivators, and these motivator's effects on perceptions of success and capabilities. The key hypothesis in this study was that there was a positive relationship between extrinsic and intrinsic motivators that impact the perception of students' capabilities and success.

The researchers asked students, "In your opinion, do the extrinsic factors hinder more than intrinsic factors in female Saudi students from continuing their higher studies?" Fifty-one percent of the participants answered that they did believe that extrinsic factors were the main obstacle in achieving higher education. Another 40% were neutral on the question, while just under 9% felt that intrinsic factors were more problematic than the extrinsic factors. This finding is interesting, because the two arguably-largest extrinsic factors to education have been removed as obstacles. The first is the law and ability of women to attend higher education, as the Ministry of Education's changes created no less than thirty-eight educational institutions, ten private colleges, and eight universities (Al-Munajjed, 2009). The second is the lessened financial burden, alleviated by the King Abdullah's Scholarship program. The survey results further showed that the respondents did recognize that the shift in the Ministry of Education's allowance for higher education and the availability of funds to help pay for that education equates to empowerment.

Therefore, the question still remains about what other extrinsic factors inhibit advanced education. It may also be questioned whether these additional extrinsic factors can be overcome if real, or can be dismissed if illusory. A positive and symbiotic relationship between extrinsic and intrinsic motivators pushes perceptions and attitudes on the reasoning level to be reinforced. This motivation translates into individual dynamic involvement in the given task—in this case, higher education—and contributes to measured results (Halepota, 2005). Therefore, it can be isolated that extrinsic factors other than legal obstacles and monetary concern erode the intrinsic beliefs of the students. The researchers, therefore, recommend a review of intrinsic goal setting and value expectancy.

Bandura's ideas may also be related to the case of Saudi females' educational pursuits. An important question of the study concerned the general weaknesses and strengths of the extrinsic and intrinsic motivators on female graduates' cognitive process. The study sought to answer whether these degrees impact their behaviors and attitudes positively or negatively. The findings of this study may help to answer this question. Bandura's observational learning theory includes paying attention to a model, in order to store the observed behavior in the learner's memory in a visual or verbal form (Grusec, 1992). When this occurs, a learner begins to imitate the image in his or her imagination. Additionally, Bandura suggested the concept of reciprocal determinism, which refers to the existence of the relationship between individuals, their behaviors, and their environment.

Weiner's attribution theory was the most important motivational theory from the previous 30 years, as stated by Wigfield and Eccles (2002). Attribution theory focuses on individuals' interpretations of the causes of certain outcomes. Weiner stated that a person's ability and effort, as well as the difficulty of the task, are important attributes of achievement. Under this model, attributions have three causal dimensions. The first is the focus of control, which has both internal and external motivations. The second is stability, which examines whether the causes change across time. The last is controllability; this dimension refers to whether the causes can be controlled or not.

Students enrolled in higher education, regardless of gender, have been motivated to succeed by various accompanying factors. Success may be measured by the accumulation of grade points during the educational process, and ultimately by graduation. Eccles (1983) and Locke (1990) separately reflected upon these dynamics by showing that students perceive their goals ahead of time and place values upon those goals before, during, and after the process. Bandura (as cited in Tollefson, 2000) argued that students will interpret and factor the causes that will lead them to success in the process. This perception may be seen in the findings of the current study that state that students create their own personal goals and use them as personal standards to evaluate their performance. This dichotomous argument of self-efficacy suggests a high self-efficacy, where individuals persist in doing and performing specific task as long as the obstacles are perceived as being overcome and the goals achievable. This may be compared with the low self-efficacy position, where students give up easily because they feel that the extrinsic obstacles are greater than the intrinsic motivators. With the removal of the financial and (at least in theory) societal inhibitors to achievement for Saudi female postgraduate students, the question remains as to what extrinsic factors remain to be addressed. Researchers may also ask whether these factors can be overcome in order to produce competitive graduates for the regional and global market place.

Tollefson (2000) argued that engaged learners may have a high outcome expectancy and high self-efficacy; they are therefore resilient in their academic tasks because the drive to succeed and the belief that they have the capabilities and skills to achieve are equally present. Comparatively, DeGroot and Pintrich (1990) analyzed responses from junior high students using the Motivated Strategies Learning Questionnaire, and concluded that the correlation between students' high self-

efficacy and their academic achievement was highly relatable. In the study conducted on the Saudi female students, similar results showed that these students had a high drive to achieve a high grade point average, as this was a marker of success; they also expressed that the opportunity to pursue education is of such significance that the students needed to embrace the opportunity, regardless of the factors that stood in the way of individual achievement.

Wigfield and Eccles (2002) touched upon the Weiner's attribution theory in order to show that focus of control, stability, and controllability are relatable and measurable factors in explaining success or lack of success in any realm. In the study upon which this report is based, it can be seen that the students perceive a sense of control due to the change of law and financial opportunity. In addition, the students perceive stability in the continued support of the society to uphold these educational changes. The students now have choices regarding programs and avenues of study, including both internal study within the kingdom and the ability to use the scholarship abroad.

These findings are related to self-determination theory (Deci et al., 1991). This theory claims that students possess inner incentives to achieve; this self-determination achievement—as measured by initial enrollment, GPA, and graduation—has grown due to the modified removal of formerly-insurmountable extrinsic factors. As more students succeed academically and become competitive in the marketplace, societal norms and beliefs will be impacted in order to allow for future enrollment in programs, and the symbiotic cycle then repeats itself. This assumes that upon graduation, these students are able to obtain employment; therefore, the results are only speculative. History has emphasized that this ongoing relationship between extrinsic factors and intrinsic motivators allows for success. Another reality is the familiar support issue. The current state of affairs suggests that female graduates will still be forced to rely upon family support and paternal permission in order to participate in the workplace. This academic review of societal considerations concerning student success is reviewed extensively elsewhere (Lepper et al., 1999). This study emphasized the known motivational factors of Saudi Arabian women graduate students pursuing higher education. The findings proved the impact of different extrinsic and intrinsic motivational factors that may influence female graduates to pursue higher education. The researchers developed an instrument that built on the literature review and the developed hypothesis. The instrument was designed to answer the research questions and shed light on the lack of extrinsic factors that hinder Saudi female students from continuing higher education.

The researchers have several recommendations for future study. The researchers recommend that future researchers cover the influence of application on different motivational theories in experiential exercise on a group of both male and female students. This experiment would provide an in-depth understanding of the influence of motivational factors. Further studies that take these variables into account should be conducted. The current researchers were limited in their sampling and timeframe. Further research may fill the gaps in the presented research in order to shed light on the challenges that hinder female postgraduate students from pursuing higher education. Future studies may also affirm the organization and community impact from motivating students to attain higher education.

## **Concluding Remarks**

This research aimed to enrich the Saudi and international research-based educational centers, because the researchers encountered a scarcity of academic studies relating to the issue when conducting this study. This study will also enhance Saudi educators' and communities'



understanding of the main factors affecting Saudi females' perception and attitudes towards postgraduate studies, and may help in receiving more future support and collaboration from all communal organizations.

When considering the extrinsic variables that impact both the ability to pursue higher education and the ability to succeed afterwards, the issue of whether to pursue higher education is illusory for these students. Reviewing the case study data does not suggest that this is the case. However, many of the students were driven to achieve high GPAs, and expressed the intrinsic belief that their personal development was educational, and that self-achievement was not contrary to acting in accordance to social norms or family expectations.

This research was conducted with the intent to understand intrinsic and extrinsic motivational factors influencing Saudi females' pursuit of postgraduate studies. Motivation was the key factor that influenced the students' desire to continue their postgraduate studies. An increase in motivation naturally indicates a greater propensity towards postgraduate studies, while decreased motivation results in lower attendance of postgraduate programs. According to Halepota (2005), motivation is defined as an individual's dynamic involvement in something, and their commitment to accomplishing the recommended results. Understanding what motivational factors influence the Saudi people and the community around these students can support the creation of a motivational atmosphere for future students' studies. This may result in an increased the number of Saudi females attending postgraduate studies in the following years.

Statistics from this study showed that Saudi females can be intrinsically motivated to pursue higher education, even in consideration of the more extrinsically-viewed barriers, although career enhancement as an extrinsic factor received the highest percentage by 88.6% compared to the other extrinsic factors. Similarly, the results showed that the students receive external support from families, friends, supervisors, and some community organizations that assist them in seeking higher studies. Saudi females encounter difficulties and challenges while continuing their postgraduate studies. This is evidenced by the 91% of those polled that showed an enthusiastic willingness to overcome those demotivating or inhibiting barriers. According to the results of this study, 97.1% of Saudi postgraduate females polled believed that coalition with community organizations was an important factor to creating good motivational atmosphere and increasing the number of postgraduate program attendees.

Results also showed that the efforts and services offered by the Ministry of Higher Education have not been fully realized by Saudi females, as only 37.1% of those polled agreed that the Ministry should provide more opportunities for postgraduate programs. The Ministry of Higher Education provides many opportunities with specific conditions and requirements inside and outside Saudi Arabia, including the King Abdullah Scholarship Program and other governmental grants (Ministry of Higher Education, 2014). The researchers therefore suggest that this study act as an enhancement to Saudi educators and stakeholder communities, increasing both individuals and institutions' understanding of the main factors affecting the Saudi females' perception and attitudes towards postgraduate studies. This should then lead to more collaboration from all communal organizations. This enhancement may help students develop self-determined paths, making sure that the obstacles are carefully considered and that the tools necessary to overcome them are readily available.

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## Appendix I

### Survey of Perceptions and Attitudes of Saudi Arabian Female Students' Metacognition for Higher Education

In today's education realm, many Saudi females are motivated to pursue higher education in order to get better opportunities in job recruitment, increase their quality of life, and be active members in their societies. Two kinds of motivations can be identified to influence their tendency towards pursuing higher studies: intrinsic and extrinsic motivators. A student is intrinsically motivated to engage in an academic task when the student is concerned about learning something and completes a task for its own sake. On the other hand, students who are extrinsically motivated perform academic tasks in order to receive rewards or to avoid an external compulsory punishment (Anderman & Anderman, 2010).

These intrinsic and extrinsic motivators are relevant to Saudi females as they pursue higher education (Ministry of Higher Education, 2010). Therefore, the research studies regarding the motivational theories that encourage Saudi females to continue their higher studies can be measured by the following questions and will be demonstrated in the subsequent materials.

## Appendix II

Tables

Table 1- 1

*Reliability Statistics*

Cronbach's Alpha	Cronbach's Alpha based on standardized items	N of items
0.821	0.821	10

Table 1-2

*Group Statistics*

Independent variable	Degree of post-graduate	N	Mean	Std. deviation	Std. error mean
Personal Development Variables	Master's	30	5.03	.183	.033
	PHD	5	3.00	1.871	.837

Table 1-3

*Independent Samples Test*

		Levene's test for equality of variances		T-test for equality of means						
		F	p	t	df	p. (2-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
								Lower	Upper	
Personal development variables	Equal variances assumed	163.304	.000	6.250	33	.000	2.033	.325	1.371	2.695
	Equal variances not assumed			2.428	4.013	.072	2.033	.837	-.289	4.355

Table 1-4

*Group Statistics*

Independent variable	Degree of post-graduate	N	Mean	Std. deviation	Std. error mean
You receive support mostly from:	Master's	30	2.27	1.911	.349
	PHD	5	2.20	.447	.200

Table 1-5

*Independent Samples Test*

		Levene's test for equality of variances		T-test for equality of means						
		F	p.	t	df	p (2-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
									Lower	Upper
You received support mostly from:	Equal variances assumed	12.875	.001	.077	33	.939	.067	.868	-1.700	1.834
	Equal variances not assumed			.166	28.709	.869	.067	.402	-.756	.889

Table 1- 6

*GPA of Postgraduates (ANOVA)*

	Sum of squares	df	Mean square	F	p
Between groups	.474	3	.158	.398	.756
Within groups	12.329	31	.398		
Total	12.804	34			

Table 1-7

*Degree of Post-graduate*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Master's	30	85.7	85.7	85.7
	PHD	5	14.3	14.3	100.0
	Total	35	100.0	100.0	

Table 1-8

*Postgraduates' GPA*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	4.5-5	15	42.9	42.9	42.9
	4-4.49	9	25.7	25.7	68.6
	3.5-3.99	5	14.3	14.3	82.9
	3-3.49	6	17.1	17.1	100.0
	Total	35	100.0	100.0	

Table 1-9

*Personal Development Variables (Question 3)*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	To satisfy my desire in self-improvement	2	5.7	5.7	5.7
	To achieve my educational goal	2	5.7	5.7	11.4
	All of the above	30	85.7	85.7	97.1
	None of the above	1	2.9	2.9	100.0
	Total	35	100.0	100.0	

Table 1-10

*Career Enhancement Variables (Question 4)*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	To earn higher compensation	3	8.6	8.6	8.6
	To provide opportunity for more challenging work	5	14.3	14.3	22.9
	To get promoted to a higher position	2	5.7	5.7	28.6
	To remain competitive in the business field	1	2.9	2.9	31.4
	To change occupation area or current career path to a new one	3	8.6	8.6	40.0
	All of the above	17	48.6	48.6	88.6
	None of the above	4	11.4	11.4	100.0
	Total	35	100.0	100.0	

Table 1-11

*Familial and Societal Variables (Question 5)*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	To fulfill family's expectations	7	20.0	20.0	20.0
	To obtain qualifications as regulated by law	7	20.0	20.0	40.0
	To act in accordance to social values	5	14.3	14.3	54.3
	All of the above	9	25.7	25.7	80.0
	None of the above	7	20.0	20.0	100.0
	Total	35	100.0	100.0	

Table 1-12

*Challenges Encountered During Higher Studies (Question 6)*

While pursuing your higher studies, you were pressurized mostly by one of the following challenges:					
		Frequency	Percent	Valid percent	Cumulative percent
Valid	Time constraints	5	14.3	14.3	14.3
	Family and societal duties	4	11.4	11.4	25.7
	Financial difficulties	2	5.7	5.7	31.4
	Discouraging universities' learning environments	2	5.7	5.7	37.1
	Current job duties and responsibilities	3	8.6	8.6	45.7
	All of the above	16	45.7	45.7	91.4
	None of the above	3	8.6	8.6	100.0
	Total	35	100.0	100.0	

Table 1-13

*Support Received (Question 7)*

You received support mostly from:					
		Frequency	Percent	Valid percent	Cumulative percent
Valid	Family members	20	57.1	57.1	57.1
	Friends	4	11.4	11.4	68.6
	Supervisors and colleagues	3	8.6	8.6	77.1
	Community organizations	6	17.1	17.1	94.3
	None of the above	2	5.7	5.7	100.0
	Total	35	100.0	100.0	



Table 1-14

*Organization's Support (Coalitions) (Question 8)*

To increase the number of Saudi postgraduate females, Saudi organizations should:					
	Frequency	Percent	Valid percent	Cumulative percent	
	Initiate academic majors demanded by the global work market	3	8.6	8.6	8.6
	Facilitate opportunities for employees from all sectors	3	8.6	8.6	17.1
	Facilitate opportunities for employees from all sectors	6	17.1	17.1	34.3
	Eliminate financial and career restrictions for employees who wants pursuing	2	5.7	5.7	40.0
Valid	All of the above	20	57.1	57.1	97.1
	None of the above	1	2.9	2.9	100.0
	Total	35	100.0	100.0	

Table 1-15

*The Ministry of Higher Education Role (Question 9)*

The Ministry of Higher Education provides opportunities for postgraduate programs to empower Saudi females with the required skills and knowledge to be competitive in the global market.					
	Frequency	Percent	Valid percent	Cumulative percent	
Valid	Agree strongly	7	20.0	20.0	20.0
	Agree	6	17.1	17.1	37.1
	Neutral	10	28.6	28.6	65.7
	Disagree strongly	5	14.3	14.3	80.0
	Disagree	7	20.0	20.0	100.0
	Total	35	100.0	100.0	

Table 1-16

*Extrinsic vs. Intrinsic Factors Hindering Saudi Females from Higher Studies*

In your opinion, the extrinsic factors hinder Saudi female students from continuing their higher studies more than intrinsic factors (Question 10).					
		Frequency	Percent	Valid percent	Cumulative percent
Valid	Agree strongly	7	20.0	20.0	20.0
	Agree	11	31.4	31.4	51.4
	Neutral	14	40.0	40.0	91.4
	Disagree strongly	1	2.9	2.9	94.3
	Disagree	2	5.7	5.7	100.0
	Total	35	100.0	100.0	

Table 1-17

*Personal Development Variables Correlation*

Correlation (r)	Career Enhancement Variables	Familial and Societal Variables	Challenges	Receivin g support	Organizations	Ministry of Higher Education	Extrinsic factors hinder more than intrinsic factors	Postgraduate' s GPA
Personal development variables	0.563	0.47	0.518	.107	0.616	0.443	0.401	.251

Table 1-18

*Career Enhancement Variables*

Correlation (r)	Personal Development Variables	Familial and Societal Variables	Challenges	Receivin g support	Organizations	Ministry of Higher Education	Extrinsic factors hinder more than intrinsic factors	Postgraduate' s GPA
Career enhancement variables	0.563	0.923	0.956	-0.387	0.96	0.822	.329	0.619

Table 1-19

*Familial and Societal Variables*

Correlation (r)	Personal Development Variables	Career Enhance ment Variables	Challeng es	Receivin g support	Organizatio ns	Ministry of Higher Educatio n	Extrinsi c factors hinder more than intrinsic factors	Postgraduat e's GPA
Familial and societal variables	0.47	0.923	0.903	-0.401	0.913	0.792	0.387	0.605

Table 1-20

*Challenges Encountered During Higher Studies*

Correlation (r)	Personal Developmen t Variables	Career Enhancement Variables	Familial and Societal Variables	Receiving support	Organizations	Ministry of Higher Education	Extrinsic factors hinder more than intrinsic factors	Postgraduate's GPA
Challenges	0.518	0.956	0.903	-0.511	0.939	0.843	0.353	0.697

Table 1-21

*Support Received Correlation*

Correlation (r)	Personal Development Variables	Career Enhancement Variables	Familial and Societal Variables	Challenges	Organization s	Ministry of Higher Education	Extrinsic factors hinder more than intrinsic factors	Postgraduate' s GPA
Receiving support	.107	-0.387	-0.401	-0.511	-0.376	-0.387	.050	0.126

Table 1-22

*Organization's Support (Coalitions) Correlation*

Correlation (r)	Personal Development Variables	Career Enhancement Variables	Familial and Societal Variables	Challenges	Receiving Support	Ministry of Higher Education	Extrinsic factors hinder more than intrinsic factors	Postgraduate' s GPA
Organization	0.616	0.96	0.913	0.939	-0.376	0.824	0.43	0.653

Table 1-23

*Correlation of the Ministry of Higher Education Role*

Correlation (r)	Personal Development Variables	Career Enhancement Variables	Familial and Societal Variables	Challenges	Receiving Support	Organization	Extrinsic factors hinder more than intrinsic factors	Postgraduate' s GPA
Ministry of Higher Education	0.443	0.822	0.792	0.843	-0.387	0.824	.292	0.37

Table 1- 24

*Factors Hindering Saudi Females from Continuing their Higher Studies Correlation*

Correlation (r)	Personal Development Variables	Career Enhancement Variables	Familial and Societal Variables	Challenges	Receiving Support	Organization	Ministry of Higher Education	Postgraduate' s GPA
Extrinsic factors hinder more than intrinsic factors	0.401	.329	0.387	0.353	.050	0.43	.292	0.378

Table 1-25

*Postgraduate's GPA Correlation*

Correlation (r)	Personal Development Variables	Career Enhancement Variables	Familial and Societal Variable s	Challenges	Receiving Support	Organization	Ministry of Higher Education	Extrinsic factors hinder more than intrinsic factors
Postgraduate's GPA	.251	.619	.605	.697	-.680	.653	.370	.378

## Appendix III

### Questions

Dear Participant,

Thank you for giving us some of your precious time to answer this survey, which will be used in a study about *Perceptions and Attitudes of Saudi Arabian Female Students' Metacognition for Higher Education* that will be introduced to Prince Mohammed Bin Fahd University.

1- Degree of post-graduate:

- Master's
- PHD

2- Your GPA is:

3- Personal Development Variables:

- To satisfy my desire in self-improvement.
- To gain more respect from others.
- To gain more self-confidence.
- To achieve my educational goal.
- All of the above.
- None of the above.

4- Career Enhancement Variables:

- To earn higher compensation.
- To provide opportunity for more challenging work.
- To get promoted to a higher position.
- To remain competitive in the business field.
- To change occupation area or current career path to a new one.
- All of the above.
- None of the above.

5- Familial and Societal Variables:

- To fulfill family's expectations.
- To comply with peer pressure.
- To obtain qualifications as regulated by law.
- To act in accordance to social values.
- All of the above.
- None of the above.

6- While pursuing your higher studies, you are pressurized mostly by one of the following challenges:

- Time constraints.

- Family and societal duties.
- Financial difficulties.
- Discouraging universities' learning environments.
- Current job duties and responsibilities.
- All of the above.
- None of the above.

7- You receive support mostly from:

- Family members.
- Friends.
- Supervisors and colleagues.
- Community organizations.
- All of the above.
- None of the above.

8-To increase the number of Saudi postgraduate females, Saudi organizations should:

- Initiate academic majors demanded by the global work market.
- Provide more financial and career privileges for employees who received new degree.
- Facilitate opportunities for employees from all sectors.
- Eliminate financial and career restrictions for employees who want pursuing.
- All of the above.
- None of the above.

9- The Ministry of Higher Education provides opportunities for postgraduate programs to empower Saudi females with the required skills and knowledge to be competitive in the global market:

- Agree strongly.
- Agree.
- Neutral.
- Disagree strongly.
- Disagree.

10 – In your opinion, the extrinsic factors (external uncontrollable events) hinder Saudi female students from continuing their higher studies more than intrinsic factors (internal satisfaction):

- Agree strongly.
- Agree.
- Neutral.
- Disagree strongly.
- Disagree.

## **Appendix IV**

### Interview Questions

1. What is your postgraduate major?
2. Do you have positive feelings towards postgraduate courses?
3. Do admission requirements of master or PHD programs hinder Saudi females from continuing their postgraduate study?
4. Do Master's or PHD programs enrich your future carrier?
5. Do job opportunities in Saudi organization force Saudi females to continue their postgraduate?