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**Willingness of university Faculty Members
to Provide Accommodations for Students
with AD/HD in Saudi Arabia**

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Abstract

The purpose of the current study was to examine the willingness of university faculty members toward the provision of accommodations for college students with ADHD in Saudi Arabia and to identify differences among participants based on gender, nationality, having previous teaching experience of students with ADHD, having a relative or family member with ADHD, and academic rank and discipline. In addition, the author measured the relationship between participants' willingness toward the provision of accommodations and their perception of professional development provided at King Saud University. A sample of 479 male and female participants filled out an online questionnaire. Data was collected using a modification of The Accommodation of University Students with Disabilities Inventory (AUSDI) developed by Wolman, McCrink, Rodriguez, and Harris-Looby (2004). The results indicated that the willingness of participants to provide accommodations did not relate to their gender, having a relative or family member with ADHD, or academic rank and discipline. There was also no association between the participants' willingness toward the provision of accommodations and their perception of professional development provided at King Saud University. However, it was concluded that the Saudi participants and the participants without previous teaching experience were more positive toward accommodations than were non-Saudi participants and those with no previous teaching experience.

Terms Keys: Accommodations; attitudes; perspectives; faculty members; ADHD; students with special needs.

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حماس أعضاء هيئة التدريس بالجامعة للموامة وتقديم الدعم الأكاديمي
للطلاب ذوي فرط الحركة وتشنت الانتباه بالمملكة العربية السعودية

ملخص

هدفت الدراسة الحالية الى التعرف على حماس أعضاء هيئة التدريس نحو الموامة وتقديم الدعم الأكاديمي للطلاب ذوي فرط الحركة وتشنت الانتباه في المملكة العربية السعودية، وقياس الفروقات بين المشاركين بناء على عدة متغيرات، ودراسة العلاقة بين حماس المشاركين حول الموامة وتقديم الدعم الأكاديمي ورؤيتهم للتطوير المهني المقدم من قبل الجامعة. وقد شارك في هذه الدراسة ٤٧٩ عضو هيئة تدريس، وأشارت النتائج إلى أن المشاركين بشكل عام لديهم حماس للموامة وتوفير الدعم الأكاديمي لذوي فرط الحركة وتشنت الانتباه، وكذلك وجدت فروق ذات دلالة إحصائية بين المشاركين بناء على متغير الجنسية، والخبرة في تدريس الطلاب ذوي فرط الحركة وتشنت الانتباه حيث اظهر المشاركين السعوديين، وكذلك المشاركين الذين ليس لديهم خبرة سابقة في تدريسهم حماس أكثر من المشاركين غير السعوديين، والمشاركين الذين لديهم خبرة سابقة في تدريسهم. في المقابل أظهرت نتائج الدراسة عدم وجود فروق ذات دلالة احصائية بين المشاركين بناء على عدة متغيرات وهي الجنس، وجود شخص من العائلة او الأقارب يعاني من فرط الحركة وتشنت الانتباه، والرتبة العلمية، والكلية، وعدم وجود علاقة بين حماس المشاركين نحو الموامة وتوفير الدعم الأكاديمي ووجهات نظرهم حول التطوير المهني المقدم داخل الجامعة.

الكلمات المفتاحية: الموامة، اتجاهات، وجهات نظر، أعضاء هيئة التدريس، فرط الحركة وتشنت الانتباه، الطلاب ذوي الاحتياجات الخاصة

Introduction

In the last two decades, increased attention has been given to care and education for individuals with special needs in Saudi Arabia. This attention has led to a dramatic increase in the educational services for students with disabilities. This increase has entailed the Saudi government passing some regulations (e.g. Provision Code for Persons with Disabilities) to guarantee the educational rights of individuals with disabilities and assert the provision of free and high-quality services for this population (Prince Salman Center for Disability Research, 2001). As a result, these regulations have had improved the special education services and opened the door for students with a variety of disabilities to complete their higher education in Saudi Arabia. For instance, deaf students were not allowed to complete their bachelor's degree before 2000, but now they are accepted to study at Saudi universities (King Saud University, 2012c). In addition, numerous students with a variety of disabilities have been officially admitted to complete their higher education at Saudi universities and they receive bonuses and some academic assistance (King Saud University, 2012c). Although the number of Saudi college students with disabilities is unpublished, it is obvious that more students with disabilities are attending Saudi postsecondary institutions than ever before. In fact, Lombardi, Murray, and Gerdes (2011) indicated that American college students with disabilities now represent roughly 11% of the student population. Specifically, seventy-nine percent of postsecondary institutions reported enrolling students with Attention Deficit/Hyperactivity Disorder (AD/HD) and these students represent 18% of the total number of

students with disabilities at American postsecondary institutions (Raue, & Lewis, 2011).

Although the number of college students with disabilities, including those with ADHD, is growing, these students are more likely than typical students to drop out of college before completing their degrees (Wolf, 2001). Newman, Wagner, Cameto, and Knokey (2009) stated that even when high-school programs prepare secondary students with disabilities for postsecondary education, such students can face a variety of challenges in postsecondary schools. Previous research recommended several academic accommodations for college students with ADHD to enhance their performance. These accommodations include, but are not limited to, use of a note taker, quiet rooms and extended time for examinations, different forms of examinations, and textbooks on tape (Weyandt & DuPaul, 2008). However, successful provision of accommodations depends on faculty members' attitudes and willingness to provide accommodations. This had led previous researchers to measure the attitudes and willingness of faculty members to provide accommodations for students with a variety of disabilities.

Reviewing the literature in this area revealed several studies that examined faculty members' attitudes and willingness to provide a variety of accommodations, ranging from minor ones (i.e., extended time on exams) to major ones (e.g. grade on a different curve). Most of these studies measured faculty members' willingness to accommodate students with LD or students with disabilities in general. Only a few studies (Ihori, 2012; Rush, 2011) were dedicated to assessment of faculty members' willingness to provide accommodations for students with

ADHD. In addition, two cross-cultural studies (Alghazo, 2008; Wolman, 2004 et al.) compared faculty members' attitudes to provide accommodations in two different countries and languages (English vs. Spanish or Arabic). In only one study (Wolman et al., 2004), the differences between faculty members' willingness to provide accommodations for students with a variety of disabilities were compared (e.g. LD vs. deafness). Previous studies mainly focused on measuring university and/or community college faculty members' willingness to provide accommodations and some research assessed their actual provision of accommodations. The results of previous studies indicated different and inconsistent findings; however, generally most participants were willing and had actually provided reasonable accommodations. It appeared that participants favored accommodations that did not require additional time and effort from faculty members such as taping record their lectures (Matthews, Anderson, & Skolnick, 1987; Nelson, Dodd, & Smith, 1990), taking tests in different locations, and using laptops to take notes during class (Skinner, 2007).

Furthermore, previous researchers found that gender, age, academic discipline, rank and teaching status, previous contacts with students with disabilities, attitudes toward students with disabilities, knowledge of disability laws, teaching experience, previous disability training, types of institutions, country or nationality, type of disability, as well as knowledge of and contact with disability centers were significantly related to faculty members' willingness to provide accommodations (e.g. Joles, 2007; Lombardi & Murray, 2011; Murray et al., 2008; Rush, 2011). For instance, some researchers indicated that

females were more willing to provide accommodations to students with disabilities (Lombardi & Murray, 2011), students with LD (Joles, 2007; Murray et al., 2008), and students with ADHD (Joles, 2007; Rush, 2011) than males were. Faculty members from the College of Education were more willing to provide accommodations than were faculty members in other colleges (Vogel et al., 1999; Murray et al., 2008). Murray et al. (2008) found that instructors and assistant professors were more willing to provide major and teaching accommodations than were associate professors. Similarly, Vogel et al. (1999) indicated that faculty members without doctorates were more willing to provide accommodations than were faculty members with doctorates. Interestingly, Rao (2003) found that faculty members with no previous experience in teaching students with disabilities were more willing to provide accommodations for them than experienced faculty members were. Wolman et al. (2004) compared American and Mexican university faculty members on their willingness to provide accommodations and found that the American university faculty members were more willing to provide accommodations for deaf or blind students. However, other studies in the literature revealed no significant effect of the previous variables on faculty members' willingness to provide accommodations (e.g. Alghazo, 2008; Ihori, 2012; Manlangko, 2008; Zello, 1994).

Finally, the literature review discovered that little research has been conducted to assess faculty members' willingness to accommodate students with ADHD and none of these studies included Arabic speakers. In fact, most Saudi studies assessed educators' attitudes towards inclusion in general classrooms of elementary students with a

variety of disabilities (e.g. Al-Ahmadi, 2009; Al-Faiz, 2006; Alquraini, 2011). Such a study may reveal valuable information since accommodating a student with ADHD is optional in Saudi Arabia, so their willingness to provide accommodations may affect their actual provision of accommodations. As a result, this study was conducted at King Saud University to assess faculty members' willingness to provide accommodations for students with ADHD. To achieve this goal, the following research questions were answered:

- 1- How willing are faculty members to provide accommodations for college students with ADHD?
- 2- Are there significant differences in faculty members' willingness to provide accommodations for college students with ADHD based on gender, nationality, previous teaching experience with ADHD, having a relative or family member with ADHD, academic rank, and academic discipline, ?
- 3- Is there a significant relationship between faculty members' willingness to provide accommodations for college students with ADHD and their perspectives regarding professional development provided at this institution?

METHOD

Setting and Participants

This study was conducted at King Saud University. King Saud University is the oldest and one of the largest universities in Saudi Arabia. It offers associate, bachelor, and graduate degree (i.e., master and doctorate) in a variety of fields such as natural and social sciences as well as the humanities. Arabic is the main medium of instruction in

undergraduate and graduate programs; however, English is used in subjects such as medicine, engineering, and some business programs (ARWU, 2012). There are 22 colleges, divided into five major colleges, namely, Humanities Colleges, Science Colleges, Health Colleges, Community Colleges, and Female Colleges (King Saud University, 2012a).

Furthermore, there are now 66,020 male (55%) and female (45%) students (Ministry of Higher Education-Saudi Arabia, 2013a), compared to 21 students in 1957 (Royal Embassy of Saudi Arabia in Washington, DC., 2013). The number of students with disabilities is unpublished, but several blind and deaf students and students with physical disabilities have been officially admitted to study at this university and they receive bonuses and some academic assistance (King Saud University, 2012c). In contrast, students with invisible disabilities (e.g. LD, and ADHD) may complete their degrees at this university, but they may not be officially provided with accommodations.

The faculty members total approximately 6860 males (66%) and females (34%) ranging from teaching assistants to full professors (Ministry of Higher Education-Saudi Arabia, 2013b), compared to just nine instructors in 1957 (Royal Embassy of Saudi Arabia in Washington, DC., 2013). In Saudi Arabia, it is inappropriate to group people based on their ethnic background; they are, instead, grouped based on their nationality (i.e., Saudi vs. non-Saudi).

Research Design

A quantitative research method was used in this study. Specifically, this study used a non-experimental survey research design.

The survey design is one of the most commonly used non-experimental designs across disciplines. It collects data from participants using survey instruments composed of multiple choice and/or essay questions (Paul, 2008). Participants can complete the questionnaire instruments by filling out either mailed or emailed questionnaires (Ary, Jacobs, Razavieh, & Sorensen, 2010). The current study utilized an electronic questionnaire to collect data from a large number of participants and within a short period of time. Following is a description of the questionnaire that was used in this study.

Questionnaire

Several questionnaires have been used to measure faculty members' attitudes and willingness to provide accommodations. This study utilized a modification of "The Accommodation of University Students with Disabilities Inventory (AUSDI)," developed by Wolman et al. (2004) to assess faculty members' willingness to provide accommodations for students with disabilities in the United States and Mexico. This questionnaire instrument was used for several reasons. First, it has been reliably used in two different languages and countries. It also assesses faculty members' perspectives regarding professional development offered at institutions as well as examining their willingness to provide accommodations. So, it would not only help to gather information about faculty members' willingness to provide accommodations, but it would also collect valuable information about their perspectives regarding professional development offered at this institution. In addition, it included the most commonly used and recommended accommodations for students with ADHD such as use of

a note taker, extended time for examinations, and different forms of examinations (Weyandt, & DuPaul, 2008), so using it could help the researcher learn how faculty members view the provision of these accommodations for students with ADHD.

The modified questionnaire for this study consisted of two parts. The first collected demographic data from participants. This part contained seven items pertaining to gender, age, nationality, academic rank, academic discipline, previous teaching experience with ADHD, and having a relative or family member with ADHD. Participants responded to these items by selecting the appropriate response option from a list of choices. The second part of this questionnaire consisted of two categories: Faculty members' willingness to provide accommodations for students with ADHD and professional development. Some items from the original questionnaire, such as having an interpreter inside the classroom, were eliminated because they were not appropriate for students with ADHD. The remaining items and two additional items from previous instruments (Lewis 1998; Murray, Wren, & Keys, 2008) were modified to assess participants' willingness to provide accommodations for students with ADHD. For instance, "I would" or "I would not" and "students with ADHD" were added to each statement in the first category. In addition, in the second category (i.e., professional development), the statements remained the same with the exception that "students with disabilities" was changed to "students with ADHD". In sum, the second part of the modified questionnaire contained 20 items and two categories. Participants responded on a 5-

point Likert scale ranging from one (strongly disagree) to five (strongly agree).

Translation

Previous studies used a variety of methods to determine the accuracy and equivalence of the translated instruments. One of the most commonly recommended and preferred technique to translate instruments is a back-translation with or without piloting (Brislin, 1970; Jones & Kay, 1992). In this study, a back-translation technique with piloting was used. This was done by following several steps. First, the questionnaire was sent to a Saudi doctoral student in Translation Studies at an American university to be translated from English into Arabic and another Saudi doctoral student translated it back into English. Then, the two versions of the English questionnaire were compared to evaluate the translation process (Brislin, 1970; Jones & Kay, 1992; Maneesriwongul & Dixon, 2004). The comparison between the two versions revealed that they were equivalent. In addition, two Arabian doctoral students in Translation Studies at an American university reviewed the Arabic and English versions of the questionnaire to verify the equivalences between the English instrument and the translated version. They each verified the equivalences between the two versions of the questionnaire. Then, the Arabic version was shared with several Saudi and Arabian faculty members to make sure that the Arabic version of the questionnaire was clear and understandable before the study was conducted. The input and suggestions regarding the Arabic questionnaire were incorporated (Brislin, 1970; Maneesriwongul & Dixon, 2004).

Questionnaire Distribution and Data Collection

For this study, Qualtrics (www.qualtrics.com) was used to design and create a link for an online questionnaire. Then, emails were randomly sent to official email addresses for faculty members to invite them to participate in this study. After the emails were sent, the researcher waited a few weeks and then sent a reminder to those who had not responded. However, there was still a low rate of response, so other emails were sent to encourage faculty members who had not yet participated in this study.

The online questionnaire was preferred in this study for many reasons. First, it would be difficult to reach participants in a short period of time using a mailed questionnaire (Ary et al., 2010; Greenlaw & Brown-Welty, 2009) because there are 22 colleges in different locations at this university. Furthermore, participants could quickly and easily fill out and return an online questionnaire at their convenience, which would result in a higher response rate than would using a mailed questionnaire (Greenlaw & Brown-Welty, 2009; Griffis, Goldsby & Cooper, 2003; Hunter, 2012). According to the Saudi Ministry of Higher Education (2013b), more than 49% of faculty members are teaching assistants and lecturers who are usually required to complete their post-bachelor degrees outside Saudi Arabia. Using an online questionnaire would help the researcher reach these faculty members regardless of their locations (Hunter, 2012). Finally, collecting data online can save time and effort associated with entering data (Ary et al., 2010) and prevent missing data as well as data entry mistakes (Hunter, 2012) since participants can be forced to respond to all items and the data are entered automatically.

RESULTS

Number and Demographic Information of Participants

A sample of 497 faculty members participated in the study. However, some (4%) returned incomplete surveys, so their responses were removed. The results revealed that 53% of the participants were female; the remaining participants (47%) were male. This indicated that the female participants were more than male participants, as compared to their percentages in the population (33.5% and 66.5%, respectively). With regard to the nationality of participants, the results showed that most (81%) were Saudi and the remaining participants (19%) were non-Saudi faculty members. The data show that many participants have not yet taught students with ADHD (77%) nor had a relative or family member with ADHD (74%). However, almost one quarter (23%) of participants indicated that they have had previous teaching experience with students with ADHD and a similar percent (26%) revealed having a relative or family member with ADHD. The number of participants varied between the five major colleges of King Saud University. However, most participants (35%) were from the Humanities colleges and the smallest number of participants came from the Community colleges (5%). With regard to the academic ranks, the results show that the participants came from all academic ranks; however, more than 50% of participants were teaching assistants and lecturers. Table 1 presents the demographic information of participants.

Table 1
Participant Characteristics.

Variable	Category	Frequency	Percent
Gender	Male	223	47%
	Female	256	53%
Nationality	Saudi	386	81%
	Non-Saudi	93	19%
Previous Teaching Experience of Students with ADHD	Yes	112	23%
	No	367	77%
Relative or Family Member with ADHD	Yes	124	26%
	No	355	74%
Discipline	Humanities Colleges	170	35%
	Science Colleges	112	23%
	Health Colleges	125	26%
	Community Colleges	22	5%
	Female Colleges	50	10%
	Teaching Assistants	128	27%
	Lecturers	126	26%
	Assistant professors	108	23%
	Associate Professors	60	13%
	Full Professors	57	12%

Testing Validity and Reliability of the Questionnaire Instrument

In this study, the face and content validity of the questionnaire instrument were verified based on a critical review of the items by several faculty members at Special Education departments who made sure that the items was clear, understandable, precise, and adequate before the study was conducted. The input and suggestions regarding the questionnaire items were incorporated. The Cronbach's alpha test was used to measure the internal consistency of reliability of the questionnaire instrument. The internal consistency of reliability referred to how consistently the items on the questionnaire instrument measured the willingness of faculty members to provide accommodations for students with ADHD (Ary et al., 2010; Johnson, Christensen, 2004). The results indicated that the coefficient alpha of all items together as one category was .693, which showed an acceptable reliability (Ary et al., 2010). In addition, the coefficient alphas for the two categories were assessed to determine whether the items in each category were measuring the same concept (Ary et al., 2010; Johnson, Christensen, 2004). The first category revealed a coefficient alpha of .683, also indicating acceptable internal consistency (Ary et al., 2010). However, the second category had very good internal consistency, with a coefficient alpha of .901 (Dimitrov, 2009).

Testing Assumptions of Statistical Tests

In this study, use of the two independent samples t-tests, ANOVA, and Pearson correlation was proposed. Therefore, their measurement and statistical assumptions were assessed after the negative items were recoded. The results indicated that the measurement and statistical

assumptions for the two independent samples t-test and ANOVA were met. However, the statistical assumptions for the Pearson correlation were violated. Therefore, the nonparametric test, Spearman's rank order, was used instead of the Pearson correlation. Following are the results of the statistical tests using a significance level of .05.

Results of the Research Questions

The first research question assessed the willingness of participants to provide accommodations for students with ADHD. Descriptive statistics (i.e., means and standard deviations) were calculated to answer this research question. The overall mean of the willingness of participants to provide accommodations was 3.60 with a standard deviation of .54. This result suggested that the participants were somewhat willing to provide accommodations for students with ADHD.

When the willingness of participants were divided based on the type of accommodation (i.e., assessment and instructional accommodations), participants demonstrated similar perspectives. The results indicated a mean score for assessment accommodation of 3.58 with a standard deviation of .62 and a mean score for instructional accommodation of 3.62 with a standard deviation of .61. This result suggested that the attitudes of participants were somewhat positive toward accommodating students with ADHD regardless of the type accommodation.

However, the results indicated that participants were more willing to provide some accommodations than others. For instance, providing additional time to complete exams was the accommodation most favored by participants, with a mean of 4.16. In contrast, having note-takers,

taking oral exams instead of written exams, and providing alternative written exams (e.g., multiple-choice instead of essay tests) obtained the lowest means in the list of least favorable accommodations. They similarly received a mean of 3.28. Table 2 and 3 present the five most and least favorable accommodations for faculty members.

Table 2
Descriptive statistics for the five most favorable accommodations for participants

Accommodation	Type	μ	SD
Provide additional time to complete exams	Assessment	4.16	.80
Tape record lecture	Instructional	3.83	1.10
Take proctored exams in a supervised location	Assessment	3.75	1.08
Extend deadline for completion of projects or papers	Instructional	3.74	1.01
Provide copies of lecture notes	Instructional	3.65	1.00

Table 3
Descriptive statistics for the five least favorable accommodations for participants

Accommodation	Type	μ	SD
Have note-takers	Instructional	3.28	1.18
Take oral exams instead of written exams	Assessment	3.28	1.07
Provide alternative written exams (e.g., multiple-choice instead of essay tests)	Assessment	3.28	1.25
Allow misspellings, incorrect punctuation, and poor grammar, on tests without penalizing	Examination	3.48	1.10
Give oral presentations instead of written projects	Instructional	3.62	1.08

The other research questions assessed differences in participants' willingness to provide accommodations based on several variables, so two independent samples t-tests and ANOVA were used. The results of the two independent samples t-tests indicated that the gender of participants did not significantly affect their willingness to provide accommodations for students with ADHD. However, this finding suggested the possibility that female participants might have been somewhat more willing to provide accommodations than male participants. The results of this test are summarized in Table 4.

Table 4
Two Independent T-test and Descriptive Data by Gender

Gender	μ	SD	n	t	d	Sig.
Male	35.58	5.58	223	-1.776	-0.16	.076
Female	36.47	5.36	256			

Table 5 presents the results of the analysis considering the effects of having a relative or family member with ADHD on the willingness of faculty members to provide accommodations for college students with ADHD. There was no statistically significant difference between participants with a relative or family member with ADHD and those without such contact regarding their willingness to accommodate students with ADHD.

Table 5
Two Independent T-test and Descriptive Data by Having a Relative or Family Member with ADHD

Relative or family member with ADHD	μ	SD	n	t	d	Sig.
Yes	35.79	5.34	124	-.613	-0.064	.540
No	36.14	5.53	355			

Similarly, the results of the ANOVA suggested that there was no statistically significant differences on the willingness to provide accommodations for students with ADHD based on academic rank. The results of this test are summarized in Table 6.

Table 6
One-Way ANOVA of Perspectives toward Accommodations by Academic Rank

Source	df	F	η^2	P
Rank	4	1.226	.010	.299
Subjects Within Group (Error)	474			

Table 7
Descriptive statistics by Academic Rank

Rank	μ	SD	n
Teaching Assistants	35.85	5.35	128
lecturers	35.92	5.47	126
Assistant Professors	35.53	5.30	108
Associate Professors	37.36	5.64	60
Full Professors	36.42	5.87	57

Presented in Table 8 are the results of the analysis considering the effects of academic disciplines on the willingness of faculty members to provide accommodations for college students with ADHD. There were also no statistically significant differences in the attitudes toward accommodations for college students with ADHD based on academic discipline.

Table 8
One-Way ANOVA of Perspectives toward Accommodations by Academic Discipline

Source	df	F	η^2	P
Academic Disciplines	4	.421	.004	.794
Subjects Within Group (Error)	474			

Table 9
Descriptive statistics by Academic Disciplines

Academic Disciplines	μ	SD	n
Humanities Colleges	36.10	5.64	170
Science Colleges	36.08	5.35	112
Health Colleges	36.34	5.66	125
Community Colleges	34.81	5.02	22
Female Colleges	35.70	5.00	50

However, the results suggested that there was a statistically significant difference between Saudi and non-Saudi participants in regards to their willingness to accommodate students with ADHD. The Saudi participants were more willing to provide accommodations than did non-Saudi participants. The results of this test are summarized in Table 10.

Table 10
Two Independent T-test and Descriptive Data by Nationality

Nationality	μ	SD	n	t	d	Sig.
Saudi	36.33	5.50	386	2.296	0.27	.022
Non-Saudi	34.89	5.24	93			

Table 11 reveals the results of the analysis considering the effects of previous teaching experience of students with ADHD on the willingness of faculty members to provide accommodations for college students with ADHD. There was also a statistically significant difference between participants with and those without previous teaching experience of students with ADHD in regards to their willingness to accommodate students with ADHD. The participants without previous teaching experience were more willing to provide accommodations than those with previous teaching experience. The effect size for these analyses were found to be small (Cohen, 1988) which would indicate that the nationality and the previous teaching experience of students with ADHD affected the willingness of participants to accommodate students with ADHD, but the practical significances were small.

Table 11
Two Independent T-tests and Descriptive Data by Previous Teaching Experience

Previous Teaching Experience	μ	SD	n	t	d	Sig.
Yes	34.94	5.35	112	-2.466	- 0.27	.014
No	36.39	5.47	367			

Finally, a Spearman's rank-order correlation was used to assess the relationship between participants' willingness to accommodate students with ADHD and their perspectives regarding the availability and usefulness of professional development provided at King Saud University. The results indicated that the correlation coefficient ($\rho = .020$, $p = .660$) was not statistically significant. There was no relationship between the participants' willingness to accommodate

students with ADHD and their perspectives regarding professional development provided at this institution, $\rho(477) = .020$, $p = .660$. The results of this test are summarized in Table 12

Table 12

Descriptive Statistics for the Continuous Variables

Variable	μ	SD	N
Perspectives toward Accommodations (X)	36.05	5.48	479
Perspectives regarding Professional Development (Y)	13.25	2.56	479

This indicated that participants with high scores (i.e., positive perspectives) or low scores (i.e., negative perspectives) on the perspectives regarding professional development did not tend to have high scores (i.e., more willing) or low scores (i.e., less willing) on the willingness to provide accommodations.

DISCUSSION

A sample of 479 faculty members completed the online questionnaire. The number of participants in this study is consistent with or higher than the number of responses found in several Saudi studies conducted on the same population (e.g. Althoabi, 2008; Hussein, 2011). Moreover, the first result indicated that participants were generally willing to provide accommodations and demonstrated positive and similar perspectives toward instructional and examination accommodations for students with ADHD. This is consistent with the results of several studies examining the attitudes of American (e.g. Murray et al., 2008; Rush, 2011; Skinner, 2007; Lewis, 1998) and non-American participants (Alghazo, 2008; Wolman, 2004) regarding

accommodations for college students with disabilities. For instance, Rush (2011) indicated that more than 90% of participants either agreed or strongly agreed to provide additional time on exam for students with ADHD. The current finding might be related to a requirement that Saudi faculty members generally must complete their graduate education in developed countries. Thus, they might have been exposed to the fact that western institutions are committed to equality of educational opportunities for all students, including students with disabilities, for which the institutions provide academic accommodations and services for students with disabilities to ensure they have equal access to education and can fully participate in college life. In addition, some faculty members indicated that during their master's and doctorate programs they had classmates with disabilities who were able to successfully participate in the classroom activities and demonstrate what they had learned during exams after they received appropriate accommodations. For instance, a faculty member pointed out that having an interpreter in the classroom enabled his deaf classmate, to participate and successfully complete her class.

Moreover, the results of group comparisons revealed that there was a slight difference in this study between males and females on their willingness to provide accommodations; however, the difference was not statistically significant. This is consistent with several samples of previous research (Malangko, 2008; Rao, 2003; Vogel, 1999; Wolman, 2004; Zello, 1994). However, this finding differed from other research findings in the literature that found female participants were more willing than males to provide accommodations for students with a

variety of disabilities (Joles, 2007; Lombard, & Murray, 2011; Murray, 2008; Rush, 2011).

In contrast to the previous finding, the results suggested that the nationality of participants affected their willingness to provide accommodations because the Saudi participants were more willing to provide accommodations than did non-Saudi participants. A possible explanation for this is that accommodations may be prohibited for students with disabilities in their countries or they may believe that students with ADHD do not deserve accommodations. This is similar to reports by Wolman et al. (2004) who found that American university faculty members were more willing to provide accommodations for deaf or blind students than Mexican university faculty members were. However, Wolman et al. found no significant differences between the two groups on willingness to provide accommodations to students with LD, emotional problems, and physical disabilities. Alghazo (2008) also indicated that American and Jordanian faculty members did not significantly differ in their attitudes toward providing accommodations for students with disabilities.

Surprisingly, the results revealed that the participants without previous teaching experience were more willing to provide accommodations than were those with previous teaching experience. This finding is inconsistent with a previous study that found participants with previous experience with ADHD were more willing to accommodate these students than were those without (Rush, 2011). This finding also conflicted with other studies, which found no significant effects of teaching students with LD (Malangko, 2008) or students with

ADHD (Vance & Weyandt, 2008) on the faculty members' perception and willingness to provide accommodations. In one study, however, Rao (2003) found findings similar to the current study in which participants with no previous experience teaching students with disabilities were more willing to provide accommodations than were experienced participants. A possible reason for the current finding is that the participants might have had unsuccessful experiences in teaching some students with ADHD. As a result, there is a possibility that such negative experiences might have negatively affected their willingness to provide accommodations for these students. Another reason for this finding could be that dilatory students may have used ADHD as an excuse to get more time on exams or projects or to not be penalized for misspellings and poor grammar on tests.

Furthermore, the results revealed no significant differences between participants with a relative or family member with ADHD and those without regarding their willingness to provide accommodations. This finding is supported by a previous study conducted by Zello (1994) who found that personal contacts with students with LD (e.g., relatives) did not significantly affect participants' willingness to provide accommodations. Similarly, academic rank did not significantly affect willingness to provide accommodations for college students with ADHD. This was consistent with earlier studies that found no significant impact of rank (Alghazo, 2008; Rao, 2003; Skinner, 2007). However, Murray et al. (2008) and Vogel et al. (1999) found that instructors and assistant professors were more willing to provide accommodations than were those in the higher ranks.

Another interesting finding of the current study was that the academic disciplines did not significantly affect the participants' willingness to provide accommodations. This finding is inconsistent with several previous studies, in which academic disciplines did have a significant effect on the faculty members' willingness to provide accommodations for students with various disabilities (Lombardi & Murray, 2011; Rao, 2003) and students with LD (Lewis, 1998; Nelson et al., 1990; Murray et al., 2008; Skinner, 2007; Vogel et al., 1999). In a recent study, Lombardi and Murray (2011) found that the faculty members in the College of Education demonstrated greater willingness to accommodate and adopt universal design principles for students with disabilities than did faculty members in the other colleges (e.g. Arts and Sciences and Journalism). Yet, some research studies found results similar to the present study in that the academic disciplines did not affect the number of accommodations that had been made (Zello, 1994) nor the attitudes and willingness of faculty members to make accommodations (Alghazo, 2008; Malangko, 2008; Rush, 2011; Vance & Weyandt, 2008; Zello, 1994). For example, Rush (2011) conducted a study similar to the current study and found that academic disciplines did not influence the faculty members' willingness to provide accommodations for students with ADHD.

Turning now to the correlation between variables, the results indicated that there was no significant correlation between the willingness of participants to provide accommodations and their perspectives regarding the availability and usefulness of professional development provided at this university. This is both consistent and

inconsistent with earlier findings. Vance and Weyandt (2008) and Malangko (2008) found that participation in previous disability training programs was not significantly related to faculty members' willingness to provide accommodations for students with ADHD and students with LD. Nevertheless, other studies indicated a significant effect of professional development on the willingness of faculty members to provide accommodations for students with a variety of disabilities (Joles, 2007; Lombard, & Murray, 2011; Murray, 2009).

Implications of Research Findings

This study contributes to the literature by beginning to address the existing gap around the topic of providing accommodations to students with ADHD in Saudi Arabia. The findings of this study could be used to guide the development and provision of support services and professional development programs at the King Saud University and similar universities. For example, the results of this study indicated that participants, in general, were willing to provide accommodations for students with ADHD. This would indicate that participants generally accept the idea of providing reasonable accommodations and might be ready to start doing so. However, willingness of faculty members to provide accommodations does not mean they are guaranteed to do so. In fact, faculty members may need guidelines that regulate their relationships with students with disabilities. As a result, the Saudi university may enact some legislation that details the rights of students with special needs who require faculty members to provide reasonable accommodations for students with disabilities. When faculty members are required to make such provisions, all students with special needs, regardless of the visibility of their disability, would receive equal access

to education that depends on regulations instead of the willingness of faculty members.

In addition, the findings indicated that almost 60% of participants strongly disagreed or disagreed that King Saud University provided training to faculty or administrators about ADHD. Thus, this finding can lead to an initiative to create a professional development program for faculty members in order to improve their knowledge about students with ADHD and about reasonable accommodations for college students with special needs. This initiative may help to encourage faculty members to accept these students in their classrooms, to believe in their abilities to succeed, and to provide them reasonable accommodations. Another way to increase the knowledge of faculty members about students with ADHD is to improve the website for the center for students with special needs at King Saud University. This website may include information about students with hidden disabilities and their needs, such as an overview of invisible disabilities, effective ways of teaching, descriptions of practical accommodations, and frequently asked questions and answers about dealing with these students.

Finally, the establishment of student disability advocacy organizations may also serve to advocate for the rights of students with disabilities and support an inclusive environment for these students on the campus. Equally important, they may also advocate for effective instruction (i.e. evidence-based practices) for students with disabilities. Another idea worth considering is that the student organizations arrange activities for students with disabilities and faculty members, where they can talk to each other about effective ideas to meet the students' needs and improve their academic skills. This group of students may also provide some opportunities for students with disabilities to meet with

each other regularly to share their academic experiences about college life and successful academic strategies, and to support each other.

Limitations and Future Research

This study revealed useful information about the willingness of university faculty members to provide accommodations for students with ADHD in Saudi Arabia, though there are some limitations to the findings of this study. The first limitation is that the participants were faculty members at one Saudi university. Therefore, the results are limited to this population and cannot be generalized to other faculty members in different universities in the same city nor faculty members across the nation. This would suggest that additional research in this area is needed in order to advance our understanding about accommodations for college students with disabilities in Saudi Arabia. For instance, future research may consider replicating the current study but include a larger number of participants and include faculty members from several Saudi universities. In addition, future researchers could include faculty members from different types of institutions such as private universities, technical colleges, and colleges of telecom and information. Perhaps future studies might look at differences in willingness to provide accommodations between faculty members from these universities and colleges (e.g. public universities vs. private universities; community colleges vs. universities, etc.). This study included only faculty members; therefore, future research might explore the perspectives of staff, typical students, and parents toward accommodations for students with disabilities.

Another limitation of this study is that participation was on voluntary basis. Thus, there is a possibility that participants may have

had more interest or knowledge about students with ADHD as well as accommodations for them than other faculty members who did not participate in the study. In addition, the questionnaire instrument was sent to the official email addresses (i.e. @edu.sa) for faculty members. However, faculty members at King Saud University are not required to use the official emails to communicate with others (e.g. students and colleagues). This means some faculty members may not have received the questionnaire instrument because they may not use official emails or only seldom check their official emails. Some faculty members may also prefer hardcopy questionnaires, so participation in this study might be limited to those who accept on-line questionnaires. With this in mind, future researchers may consider distributing hardcopy and online surveys because not all faculty members use the official email address and some faculty members may prefer hardcopy or online surveys, so this would meet the needs of some faculty members and increase the number of participants in the future studies.

Moreover, the questionnaire instrument was only used to collect data from participants. For that reason, study results would reflect the self-reported perspectives of the participants rather than the real behavior of faculty members in the classroom. Thus, some participants may have responded positively to the survey items, but in reality, they might refuse to provide accommodations. Therefore, another area of research that may need future attention is the use of a variety of data collection methods instead of only using survey to collect data. Observations, for instance, would help future researchers compare between the self-reported perspectives of faculty members and their actual practices in the classroom. Interviews could also help future researchers to understand why, in this study, several participants with previous experience teaching

students with ADHD were not willing to provide accommodations for these students. They might also support future researchers to find out the reasons behind the negative perspectives of several non-Saudi faculty members toward Accommodations in this study.

This study also focused on the willingness of faculty members to provide accommodations only for college students with ADHD. Therefore, the results may not be generalized to other students with similar disabilities (e.g. LD) or other students with different disabilities (e.g. deaf students). Future research; therefore, may study the willingness of Saudi university faculty members to provide accommodations for students with other disabilities such as LD and deafens. In addition, future research may compare the willingness of faculty members to provide accommodations for students with visible and invisible disabilities. For instance, future researchers might study the differences among faculty members concerning their willingness to provide accommodations for students with ADHD and blind students and discover how the visibility of disability might affect faculty members' willingness to provide accommodations.

Finally, and more importantly, future research could go further to examine the effect of in-service training programs on the attitudes of faculty members toward students with disabilities and accommodations for these students. For instance, some researchers may offer training programs (e.g. workshops) about college students with disabilities and their needs. Then, they assess how these programs can change negative perspectives of faculty members about these students.

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