

العلاقات الحميمة للطلبة مع المعوقين عقلياً واتجاهاتهم نحوهم: دراسة في تأثير متغيري الجنس والمستوى التعليمي

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ملخص: تم إجراء استطلاع على 725 طالباً وطالبة من طلاب المدارس الثانوية والكليات للتحقق من مدى تأثير متغيري الجنس والمستوى التعليمي على العلاقة بين العلاقات الحميمة للطلبة واتجاهاتهم نحو دمج المعوقين عقلياً في المجتمع الكويتي. تم استخدام نموذج المعادلة الهيكلية (SEM) للتحقق من تأثير المتغيرين على العلاقة بين العلاقات الحميمة والاتجاهات. وتم استخدام النسخة العربية لمقياس الاتجاهات نحو التخلف العقلي والذي أعده الكندري وصالح (2008). أشارت نتائج الدراسة إلى وجود تأثير إيجابي متوسط القوة بين العلاقات الحميمة والاتجاهات لدى طالبات الجامعة، وتأثير سلبي ضعيف إلى متوسط بين العلاقات الحميمة والاتجاهات لدى طلاب وطالبات الثانوية العامة. وأشارت النتائج أيضاً إلى عدم وجود تأثير بين العلاقات الحميمة والاتجاهات لدى طلاب الجامعة. أوصت الدراسة إلى أن العلاقات الحميمة بين الطلبة والمعوقين عقلياً لا تؤثر وحدها في تعديل الاتجاهات نحوهم ولكن لابد من الأخذ بالاعتبار متغيرات أخرى للتقليل من التمييز ضدهم والبدء بدمجهم في المجتمع.

مصطلحات الدراسة: العلاقات الحميمة، الاتجاهات، الإعاقة العقلية، الجنس، المستوى التعليمي، الدمج، الكويت.

Students' Familiarity with and Attitudes toward People with Intellectual Disabilities in Kuwait: Educational Level and Gender Invariance

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Abstract: A survey of 725 male and female high school and college students was conducted to investigate the effects of gender and educational levels on the relationship between students' familiarity with and attitudes toward the inclusion of people with intellectual disability (ID) in Kuwaiti society. Structural equation modeling (SEM) was used to assess the invariance of the relationship between familiarity and attitudes for male and female high school and college students. The study used a version of the Mental Retardation Attitude Inventory-Revised, which Al-Kandari and Salih (2008) adapted for Kuwaiti culture. The study showed a medium positive effect between familiarity with a person with ID and attitudes among female college students, and small to medium negative effect between familiarity and attitudes among high school students of both genders. However, no effect at all was found between familiarity and attitudes among male college students. Familiarity with a person with ID is not always beneficial and must be managed with care. A custom-made approach in prejudice reduction interventions is necessary.

Key words: Familiarity, Attitudes, Intellectual disability, Gender, Education, Kuwait, Inclusion.

Introduction

The impact of source characteristics on attitude change has been the source of study for over 50 years with many variables examined, such as familiarity, gender and education level (Clunies-Ross & O'meara 1989; Gray & Rodrigue, 2001; Pettigrew & Tropp, 2006; Slininger et al. 2000). Numerous reviews (i.e. Al-Kandari, in press; Kanter, 1987; Parker, 2003;

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Slininger, 1993; Tachibana & Watanabe, 2003, 2004) show general support for the relationship between attitudes toward and familiarity with a person with intellectual disability (ID). Past reviews of the literature have shown that a person's familiarity with individuals with ID can decrease prejudice and enhance positive attitudes toward the inclusion of persons with ID in society (Pettigrew & Tropp, 2000, 2006). However, researchers (i.e. Clunies-Ross & O'meara, 1989; Gray & Rodrigue, 2001; Pettigrew & Tropp, 2006; Slininger et al., 2000;) found that variables such as gender and education level are potential moderators for the familiarity-attitudes effect.

Gender

Most western studies found gender differences associated with attitudes, with females having higher acceptance of individuals with disabilities than males. Although no theoretical explanation has been provided to explain these gender differences (Chen et al., 2011), most studies conducted both in the East and the West (e.g. Chen et al., 2011; De Laat et al., 2012; Hampton & Xiao, 2007; Ma et al., 2012; Ouellette-Kuntz et al., 2003; Robert, 2001) indicate that the characteristics of the group under study may contribute to enhancing or inhibiting the relationship between contact and attitudes.

In contrast, other research (i.e., Campbell et al., 2004; Swaim & Morgan, 2001) found that girls and boys do not differ in terms of their behavioral and cognitive attitudes when only descriptive information about the individuals with ID is presented. When compared to boys, girls report more favorable behavioral attitudes when descriptive and explanatory information about the individuals with ID is presented.

Educational Level

Past research has found that students with high educational levels yield significantly stronger average effects between familiarity and attitudes than do students with lower educational levels (Pettigrew & Tropp, 2006). Generally speaking, social learning theory emphasizes the importance of education on studying attitudes. It argues that a person with higher education would be more knowledgeable and more willing to interact with individuals with disabilities (Stroebe & Insko, 1989). Tak-fai and Cheung (1999) stated that people with higher levels of education reported being more willing to talk to people with ID, and being

generally more open to changing their attitudes. Therefore, the relationship between familiarity and attitudes might be enhanced among students with higher educational levels. The contact between persons with ID and students with higher educational levels may lower prejudice (i.e. Eller & Abrams, 2004; Levin et al., 2003; Van Dick et al., 2004), and enhance attitudes toward persons with ID.

However, it must be stated here that other research (i.e., Green et al., 2005; Pettigrew & Tropp, 2006; Salih & Al-Kandari, 2007) noted the possibility of a negative or no relationship between familiarity and attitudes among individuals with higher education under unfavorable conditions. In particular, Pettigrew and Tropp (2006) in their meta-analytic study of intergroup contact theory (conducted on 713 independent samples from 515 studies and 1.383 non-independent tests) found that four conditions of the contact situation may influence attitudes toward persons with ID. These conditions include equal status between the contact groups in the situation, common goals (derived usually from friendship), intergroup cooperation, and the support of authorities, law, or customs. In support of contact theory, Tripp, French, and Sherrill (1995) found that children enrolled in schools with integrated versus segregated special education programs reported more positive attitudes toward children with behavior disorder.

The Policy of Inclusion of Persons with ID in Kuwait

As inclusion of persons with ID in society is increasingly becoming a global reality, to date, the Kuwaiti government has been reluctant to apply the policy of integration to persons with ID, particularly after a long history of segregation. Kuwaiti government has designed social policy (Law 2010/8), which was adopted in 1996 and modified in 2010, that asserts that people with disabilities have a fundamental right to live and grow within their local communities. However, at the present time, there is an ongoing historical separation of persons with ID in educational settings, the workplace, and the wider community. For example, though Kuwait's Ministry of Education provides special education services for children with disability in segregation schools, no effort has been made since 1965 to integrate the children into inclusive educational settings. More critical is that, while leaders make efforts toward modifying the law of disabilities, they continue to support the permanent residence of

individuals with ID in social welfare institutions and urge the government to provide free health, social and educational services for the residents. Ahmad (2004) found that between 1992 and 2002, there was an increase in the number of children, and males and females adults with ID who live in the Social Welfare Institution for permanent care. The number of residents with ID has increased from 223 to 296.

Moreover, the study of Ahmad (2004) found that 40% of respondents in 15 workplaces related to intellectual disabilities reported a shortage of Kuwaiti professionals (social workers, counselors, psychologists) who work with the individuals with ID, and 46.7% of them reported lack of volunteers who are in direct contact with those individuals.

In terms of Kuwaiti culture, disability has stigmatizing effect on members of the immediate and extended family; families tend to keep members with ID out of the sight of other people. This contributes to social exclusion of people with ID. There is also the traditional common belief that disability is related to (1) God's willing that the parent should have a child with a disability, (2) God is punishing the parent, (3) God is testing the parent, or (4) God is selecting the parent for an unknown reason. Commonly, persons with ID have been considered burdensome and shameful because they are incapable of contributing to traditional social obligations and roles.

This segregation and the traditional beliefs have denied the general population the chance to learn about the needs and capabilities of persons with ID, and have limited their interactions with people with ID. It seems that it becomes difficult for Kuwaitis, who grow up in a society in which the understanding is that individuals with disabilities must be segregated, to understand the policy of inclusion, become familiar with persons with ID, and have positive attitudes toward them.

For decades, researchers and practitioners have agreed about the potential for intergroup contact to reduce prejudice and enhance attitudes (Pettigrew & Tropp, 2006). Social psychology has also repeatedly shown that greater exposure to a target population can significantly enhance acceptance of that population (Borden et al. 2008; Harmon-Jones & Allen, 2001). Researchers have often used intergroup contact studies to press social issues ranging from the racial desegrega-

tion of schools (Pettigrew, 1971) to the educational mainstreaming of physically and intellectually disabled children (Harper & Wacker, 1985; Naor & Milgram, 1980). The present study, therefore, focused on the relationship between familiarity (intergroup contact) with and attitudes toward a person with ID among male and female high school and college students to find sources that provide evidence for the Kuwaiti government to end the segregation of individuals with ID and implement an inclusion policy in Kuwait. The findings of the present study illustrate that intergroup relations will help to reduce prejudice and enhance attitudes toward persons with ID among particular population such as male and female high school and college students.

Significance of the Study

A study of the relationship between familiarity with and attitudes toward individuals with ID among high school and college students may assist social workers in Kuwait to implement an inclusion policy and provide insight into strategies that can be adopted to ensure the success of the inclusion process of persons with ID. The findings may help social workers create inclusive settings and strategies that decrease people's avoidance of contact with a person with ID. The findings will also help social workers to better understand how familiarity with a person with ID would aid the process of integrating persons with ID into society. Social workers will be able to identify factors (such as gender and education level) that should be taken into account to encourage the general population to be in contact with persons with ID without causing harm to them.

Many papers have been written in the United States and other western and eastern countries about the relationship between attitudes and contact with people with ID and demographic variables (e.g. Al-Kandari, in press; Bowie, 2001; Hayward, 2005; Parker, 2003). However, past research has often reached conflicting conclusions regarding the likely effects of intergroup contact (Pettigrew & Tropp, 2006). The present study focuses on assessing the magnitude of the familiarity-attitudes effect size that varies in relation to gender and educational level. We attempt to fill in some gaps in the literature by conducting an analysis using the Structural Equation Modelling (SEM) that identifies the interaction between familiarity with and attitudes toward people with ID

on the basis of moderator variables such as gender and educational attainment. We aim to determine, more conclusively than past reviews, the moderating effect of gender and education level on the overall relationship between familiarity with a person with ID (which includes knowing a person with ID, frequency of contact, intensity of contact, and prior knowledge about the individual with ID) and attitudes toward a person with ID.

The study also focuses on high school and college students as a very important population in Kuwait. Many researchers have suggested that when planning new policies and strategies targeted to change general societal attitudes into acceptance, persons in the community who might give support to inclusion must be identified to effect such changes. Male and female high school and college students in Kuwait are agents of positive change in society and might provide support and resources to effect a change in attitudes toward the inclusion of people with ID in society.

Purpose of the Study

The central hypothesis of the present study is that the relationship between students' familiarity with individuals with ID and their attitudes toward them is moderated by students' gender and their education levels. This means that the study identifies gender and education as moderator variables that affect the direction and strength of the relationship between familiarity and attitudes. Specifically, the study examines (1) the effect of students' gender (males and females) on the relationship between familiarity and attitudes; and (2) the effect of education levels (high school and college levels) on the relationship between familiarity and attitudes.

Methodology

Participants

The study used the descriptive design to examine the effect of moderator variables (gender and education levels) on the relationship between familiarity and attitudes. A purposive sample of 725 students was selected from high schools and colleges in Kuwait. Students in high schools ($n = 344$) were selected from different state schools (segregation settings for males and females) located in six residential districts, and students in colleges ($n = 381$) were selected from six colleges in Kuwait

University. These colleges were Shari'a and Islamic Studies, Engineering and Petroleum, Business Administration, Social Sciences, Science, and Education.

There were basic conditions of the sample's participation in the study. The participants must be (1) Kuwaitis, (2) males or females, (3) studying in high schools or colleges, and (4) having a personal relationship with a person with ID. The sample was limited to Kuwaiti students to assure homogeneity in the sample. Most non-Kuwaiti students in high school usually study in private educational settings rather than state settings. The high school and college students must have known at least one individual with ID and had face-to-face contact with them.

Sample Characteristics

The high school students' ages ranged from 16 to 25 ($M = 17.5$, $SD = 1.17$); 57.8% of the students were females and 42.2% were males. Of these students, 48.8% were science majors and 51.2% were art majors. All of the high school students were single and in a full-time academic program. The college students who participated in the study were comprised of 50.4% females and 49.6% males, and were in the age range of 17 to 39 ($M = 21.19$, $SD = 2.65$). They were enrolled in the colleges of Shari'a and Islamic Studies (28.3%), Engineering and Petroleum (31%), Business Administration (16.5%), Social Sciences (17.1%), Science (4.5%), and Education (2.6%). The percentages of freshmen, sophomores, juniors, and seniors were 20.2%, 20.5%, 32%, and 27%, respectively. The majority of the college students were single (79.5%), while 18.4% were married and 2.1% were divorced, separated, or widowed. For employment status, 92.7% of the college students were full-time students and the remaining students were employed.

Data Collection Procedures

The study received ethics approval from the Research Department at Kuwait University. After approval, the packages of the adapted Mental Retardation Attitude Inventory-Revised (MRAI-R) by Al-Kandari and Salih (2008) were distributed by social workers in high schools and four research assistants in colleges. They volunteered to administer the inventory to students who met the study criteria. High school and college students were informed that the inventory was meant to explore their opinions about people with ID, and their participation in

the study would be voluntary and would have no bearing on their grade in the courses. The social workers and research assistants administered the inventory during regular class time. They asked students who knew a person with ID if they wished to be involved and signed a consent form. No identifying information was required from participants, as the survey was anonymous. Students were asked to return the questionnaire packets in sealed envelopes. There was no time limit, but most students completed the inventory within 15 minutes.

Instrument

Background Questionnaire

The demographic and experiential information included each student's age, gender, college, school, marital status, employment status, work experience, and whether or not he or she knew an individual with ID. In addition, the questionnaire requested respondents who knew one or more persons with ID to describe the type of/intimacy or closeness (INTIMACY) of their relationship ("intimate" such as member of the family/wife/husband, "close" such as relatives or friends, "casual" such as client, student, patient, employee; "acquaintance" such as neighbors or praying in the same mosque or "others"). Questions also addressed (1) frequency of contact (CONTACT-Frequency) with the individual with ID (e.g. How often do you have face-to-face contact with a person with ID?), (2) intensity of contact (CONTACT-Intensity) irrespective of frequency (e.g. How strong is your relationship with a person with ID?), and (3) general knowledge (KNOWLEDGE) of the conditions and life circumstances of such an individual (e.g. How much do you know about the life circumstances of people with ID?). The first type of information, which described intimacy of relationship with an individual with ID, was assigned weights of 1-4. For CONTACT and KNOWLEDGE; response options ranged from 1 (low) to 6 (high). For the three remaining types of information, the respondents were instructed to select a number from 1 to 6 to indicate frequency of contact with individuals with ID, the intensity of this contact, and knowledge about conditions and life circumstances of such individuals. The rate of 1 to 2 represented low degree, 3 to 4 represented medium degree, and 5 to 6 represented high degree. Responses related to familiarity with people with ID were weighted in such a way that the greatest weight indicated greater

familiarity. "Familiarity" is defined in the current study as the state of having direct face-to-face contact with a person with ID. Direct contact is related to intimacy, frequent and intense contact with a person with ID, and knowledge about his or her life. Hereafter, familiarity will include the following four variables: intimacy, frequency of contact, intensity of contact, and knowledge about the life of a person with ID.

The Mental Retardation Attitude Inventory-Revised

The study used an Arabic version of the Mental Retardation Attitude Inventory-Revised (MRAI-R), which Al-Kandari and Salih (2008) adapted for Kuwaiti culture. The MRAI-R, developed by Antonak and Harth (1994), consisted of 29 statements across four sub-scales: Integration-Segregation (INSE) (e.g. Government should adopt including students with intellectual disability among students without intellectual disability in the same classes in public schools; having people who have intellectual disability and people without intellectual disability work at the same jobsites will be beneficial to both); Social Distance (SDIS) (e.g. I am willing to swim in the same pool with people who have intellectual disability; I would rather not live in the same apartment building with people who have intellectual disability); Private Rights (PRRT) (e.g., A person should not be permitted to run a daycare center if he or she will not serve children who have intellectual disability; Entertainment and amusement center owners have the right to turn away people with intellectual disability); and Subtle Derogatory Beliefs (SUDB) (e.g. The problem of prejudice toward people with intellectual disability has been exaggerated; children who have intellectual disability waste time playing in class instead of trying to do better). The respondents were asked to rate each statement on a 4-point continuum with "Strongly agree," "Agree," "Disagree," and "Strongly disagree" options. An agree response represents a favorable attitude and the responses are scored on a scale from one to four, except for some items which are worded negatively.

The adapted inventory consisted of 34 items. Item analysis conducted by Al-Kandari and Salih (2008) indicated that nine of the INSE items, eight of the SDIS items, eight of the PRRT items, and nine of the SUDB items had had good psychometric characteristics within

their scales. The scale had high Cronbach coefficient alpha (0.89), and high stability (0.87) and generalizability coefficients (0.85).

Data Analysis

To address the research questions, structural equation modeling (SEM) was used for the analysis. The simpler procedure of multiple regression with dummy variables could be used to compare the four dependent groups (INSE, SDIS, PRRT, & SUDB) with regard to the regression of attitude toward ID; (ATTD) on the INTIMACY, CONTACT-Frequency, CONTACT-Intensity, and KNOWLEDGE variables. However, even before collecting data, it was clear, on substantive grounds and previous research (Al-Kandari & Salih, 2008; Antonak & Harth, 1994), that these variables would be highly to moderately correlated. This is because these variables are indicators of a latent construct, Familiarity with ID (FAMILIARITY). The inter-correlations among these variables and between them and their products with the dummy variables would have increased the likelihood of multicollinearity. In addition, using multiple regressions, one would need to interpret many regression coefficients to infer the invariance of the relationship between FAMILIARITY and ATTD. Further, since ATTD is also a latent construct, SEM (Confirmatory Factor Analysis and multiple regression) is well suited for investigating the invariance of the relationship between FAMILIARITY and ATTD for the dependent variables. As many authors have noted (e.g. Byrne, 2002; Pedhazur, 1982; Schreiber et al., 2006), SEM, unlike multiple regression, does not assume that the variables of interest are measured without error.

AMOS 7.0 (Arbuckle, 2006) was used to test the invariance of the model shown in Figure 1 for the dependent variables. As the figure shows, the overall model includes two measurement models. In one of the models, INTIMACY, CONTACT-Frequency, CONTACT-Intensity, and KNOWLEDGE were the indicator variables of FAMILIARITY. In the other model of measurement, INSE, SDIS, PRRT, and SUDB were the indicator variables of ATTD. The latter indicator variables were constructed by first using the total sample to extract the first principal component for the 20 uni-dimensional items of the global measure of attitudes toward ID. Then, the 29 items that belong to the four Attitude

subscales were allocated in such a manner that the item loadings were comparable across the subscales (Al-Kandari & Salih, 2008).

The analysis started by assessing the multivariate normality of the variables of familiarity and attitude for each of the dependent variables. Results of this analysis indicated that maximum likelihood estimation was appropriate for the study. Next, fit of the measurement models for FAMILIARITY and ATTD were tested (Billiet, 2002). After ascertaining the fit of the measurement models, the full model was simultaneously tested for all four groups. Invariance of the regression for the dependent variables was then tested by imposing equality constraints on the coefficients of the regression of ATTD on FAMILIARITY. In all analyses, model adequacy assessment was based on the X^2 statistic, CFI, IFI, SRMR, RMSEA, and examination of the standardized residuals.

Results

Description of Familiarity, Educational Level, and Gender

Concerning the participants' educational levels and familiarity with ID (intimacy, frequency of contact, intensity of contact, and knowledge about a person with ID), about 12.2% of the high school students had an intimate relationship with a person with ID, 41.9% had a close relationship, 14.2% had a casual relationship, and 31.7% knew an acquaintance, vs. 15.7%, 42.8%, 10%, and 31.5% for college students, respectively. For the frequency of students' contact with individuals with ID, 51.6% of the high school students had a low level of contact, 27.1% had a medium level of contact, and 21.3% had a high level of contact, vs. 59.5%, 26.8%, and 13.7% for college students, respectively. For the intensity of students' contact irrespective of frequency, 55.3% of the high school students had a low level of intensity, 27% had a medium level of intensity, and 17.7% had a high level of intensity, vs. 58.2%, 30.5%, and 11.3% for college students, respectively. Concerning students' general knowledge of the conditions and life circumstances of individuals with ID, 42.5% of the high school students knew little about them, 27.6% were somewhat informed about them, and 29.9% knew a lot about them, vs. 41.7%, 36.7%, and 21.6% for college students, respectively.

With regard to gender and familiarity, of the 12.2% of high school students and 15.7% of college students who had an intimate relationship

with a person with ID, 66.7% were female high school students and 33.3% were males, vs. 31.7% were female college students and 68.3% were males. Of the 41.9% of high school students and 42.8% of college students who had a close relationship with a person with ID, 69.4% were female high school students and 30.6% were males, vs. 69.3% were female college students and 30.7% were males. Of the 14.2% of high school students and 10% of college students who had a causal relationship with a person with ID, 44.9% were female high school students and 55.1% were males, vs. 39.5% were female college students and 60.5% were males. Of the 31.7% of high school students and 31.5% of college students who knew an acquaintance with ID, 45% were female high school students and 55% were males, vs. 37.5% were female college students and 62.5% were males.

For the frequency of contact, of the 51.6% of high school students and 59.5% of college students who had a low level of contact with a person with ID, 56.2% were female high school students and 43.8 % were males, vs. 48.5% were female college students and 51.5% were males. Of the 27.1% of high school students and 26.8% of college students who had a medium level of contact with a person with ID, 58.1% were female high school students and 41.9% were males, vs. 47.1% were female college students and 52.9% were males. Of the 21.3% of high school students and 13.7% of college students who had a high level of contact with a person with ID, 61.6% were female high school students and 38.4% were males, vs. 65.4% were female college students and 34.6% were males.

For the intensity of contact with a person with ID, of the 55.3% of high school students and 58.2% of college students who had a low level of intensity of contact with a person with ID, 56.3% were female high school students and 43.7 were males, vs. 51.4% were female college students and 48.6% were males. Of the 27% of high school students and 30.5% of college students who had a medium level of intensity, 59.1% were female high school students and 40.9% were males, vs. 44% were female college students and 56% were males. Of the 17.7% of high school students and 11.3% of college students who had a high level of intensity of contact, 60.7% were female high school students and 39.3% were males, vs. 62.8% were female college students and 37.2% were males,.

Concerning students' general knowledge, of the 42.5% of high school students and 41.7% of college students who knew little about the life and circumstances of a person with ID, 59.6% were female high school students and 40.4% were males, vs. 52.8% were female college students and 47.2% were males. Of the 27.6% of high school students and 36.7% of college students who were somewhat informed about them, 46.3% were female high school students and 53.7% were males, vs. 47.1% were female college students and 52.9% were males. Of the 29.9% of high school students and 21.6% of college students who knew a lot about people with ID, 66% were female high school students and 34% were males, vs. 51.2% were female college students and 48.8% were males.

The Relationship between Familiarity and Attitude Based on Moderator Variables

Table 1 shows the means and standard deviations of the indicators of FAMILIARITY and ATTD, as well as the correlations among these variables. Assessment of the normality of the indicator variables showed that absolute values of the kurtosis and skewness statistics for all attitude variables and all dependent variables were smaller than one, indicating that the univariate distributions did not markedly depart from normality. Mardia's coefficient of multivariate kurtosis was less than one for all groups except college females (2.73). For the FAMILIARITY variables, the kurtosis statistic (.01 - 1.54) exceeded one for two of the high school females variables, two of the high school males variables, one of the college females variables, and one of the college males variables.

The skewness statistic was less than one for all groups, except for one variable of college males (1.17). Mardia's coefficient of multivariate kurtosis ranged, in absolute value, from .18 to 3.00. As in the case of the attitude variables, the univariate and multivariate statistics did not indicate a marked departure from normality. However, Mahalanobis's squared distance indicated that two college male cases, five college female cases, and one high school case were outliers. Upon removing these cases from the data, Mardia's coefficient of multivariate kurtosis ranged in absolute value from .04 to .75. On the basis of these results, the maximum likelihood method was used for estimating the models.

Table 1

College Males (N = 179)

Variable	Intimacy	Frequency of contact	Intensity of contact	Knowledge	Integration-Segregation	Social Distance	Private Rights	Subtle Derogatory Beliefs
	2.3 (1.2)	2.4 (1.3)	2.4 (1.3)	3.1 (1.5)	13.0 (2.5)	13.5 (2.9)	13.1 (2.4)	13.1 (2.5)
2	.31							
3	.35	.77						
4	.42	.49	.49					
5	.05	.07	.16	.04				
6	.01	.07	.08	.04	.37			
7	.07	.02	.04	.15	.53	.51		
8	.07	.07	.09	.08	.51	.61	.57	

College Females (N = 183)

	2.6 (1.0)	2.7 (1.6)	2.7 (1.7)	3.0 (1.6)	13.8 (2.8)	15.6 (2.9)	13.8 (2.6)	14.3 (2.9)
2	.41							
3	.41	.83						
4	.41	.61	.67					
5	.09	.29	.36	.26				
6	.13	.25	.31	.23	.64			
7	.18	.29	.31	.29	.68	.64		
8	.12	.22	.28	.24	.68	.71	.73	

High School Males (N = 139)

	2.1 (1.0)	2.7 (1.7)	2.5 (1.7)	3.2 (1.7)	11.7 (2.7)	10.7 (2.9)	11.8 (2.8)	11.5 (2.8)
2	.41							
3	.44	.79						
4	.25	.43	.52					
5	-.16	-.26	-.32	-.18				
6	.08	-.02	-.01	-.06	.36			
7	-.07	-.11	-.12	-.12	.43	.47		
8	.03	-.09	-.16	-.18	.46	.43	.45	

Cont/ Table 1

College Males (N = 179)

Variable	Intimacy	Frequency of contact	Intensity of contact	Knowledge	Integration-Segregation	Social Distance	Private Rights	Subtle Derogatory Beliefs
High School Females (N = 196)								
	2.5 (1.0)	3.0 (1.8)	2.7 (1.8)	3.3 (1.9)	10.7 (2.8)	8.9 (2.6)	10.4 (2.9)	10.2 (2.8)
2	.37							
3	.34	.60						
4	.30	.44	.65					
5	-.13	-.15	-.28	-.23				
6	-.14	-.11	-.22	-.25	.62			
7	-.08	-.09	-.16	-.15	.60	.60		
8	-.17	-.18	-.29	-.19	.63	.61	.66	

Note: The top row for each group contains the mean and the standard deviation (in parentheses).

Measurement Models

As shown in Figure 1, indicators of ATTD were constrained to load on one factor without equality constraints on the loadings and with uncorrelated residual terms. The model showed a very good fit to the data $\{X^2(8) = 13.62, p = .09; CFI = .99; IFI = .99; SRMR = .03; RMSEA = .03\}$. To derive a tighter model, the loadings were constrained to be equal across the dependent variables and the fit of this model was tested against the model with unequal loadings. The results indicated that the model with equal loadings was acceptable $\{X^2(9) = 7.83, p = .55\}$. For this model, all estimates of loadings were significant at the .001 level, with acceptable standard errors. Similarly, variances of all residual terms were significant at the 0.001 level.

The initial model for the FAMILIARITY factor was specified similar to the initial ATTD model. The values of the CFI (0.983), IFI (.98), SRMR (.06), and RMSEA (.05) indicated that the fit between the data was good. However, the significance of the X^2 test $\{X^2(8) = 26.02, p = .001\}$, and the ratio of X^2 to the degrees of freedom (3.25) indicated that the fit may be improved. AMOS modification indexes provide help in detecting sources of misfit between the data and the model (Byrne,

2002). According to these indexes, a major source of misfit was the covariance of the error terms of INTIMACY and KNOWLEDGE. The results indicated freeing this parameter would reduce the X^2 value by at least 12.05 for the college males group, and by smaller amounts for the other groups. In particular, the reduction in the values of X^2 was smaller for high school males and females.

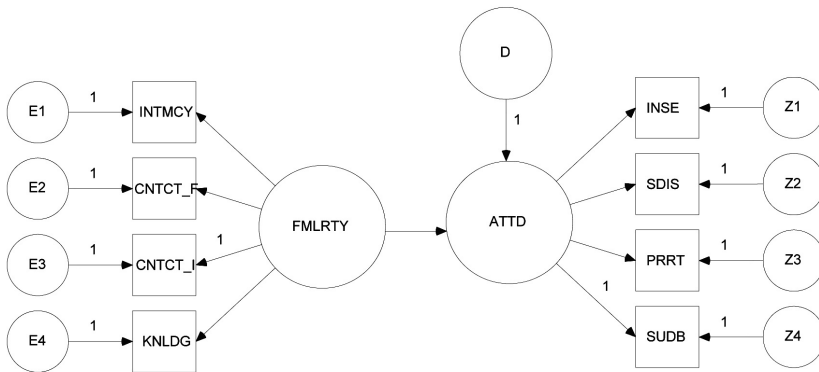


Figure 1. The Basic Model for the Relationship between Familiarity and Attitude

A plausible interpretation of the higher error covariance of KNOWLEDGE and INTIMACY for college males and females was that intimate relationship with ID persons would provide more opportunities for older students to gain knowledge about their life conditions. On the basis of this interpretation, the model was re-estimated after freeing the error covariance for all groups. Estimates of the error covariance indicated that it was significant only for college males ($p < .001$) and college females ($p < .05$). The model was then re-estimated with the error covariance freed for college students only. The results showed a very good fit $\{X^2(6) = 9.22, p = .16; CFI = .99; IFI = .99; SRMR = .01; RMSEA = .02\}$.

As was the case with the ATTD model, the final step was to add the constraint of equal loadings across groups and test this model against the previous one. The results indicated that the model with equal loadings was acceptable $\{X^2(9) = 13.51, p = .14\}$. For this final model, all estimates of loadings were significant at the .001 level, with acceptable standard errors. Similarly, variances of all residual terms were significant at

the.001 level except for the error terms for CONTACT-Intensity, which were significant at the.05 level for college females and high school males.

Testing for Invariance of the Regression of Attitude on Familiarity

The full model shown in Figure 1, with the specifications of the final measurement models, was estimated for the four dependent variables in a single run. The results indicated the model fit the data very well $\{\chi^2(92) = 109.02, p = .10; CFI = .99; IFI = .99; SRMR = .04; RMSEA = .01\}$. Statistical tests for the significance of the coefficients of regression of ATTD on FAMILIARITY showed that the college males' coefficient (.22) was not significant, while the college females' coefficient (.62) was significant at the 0.001 level. As for high school students, the regression coefficient of the males (-.33) was significant at the 0.05 level and the females' coefficient (-.51) was significant at the 0.001 level.

Although earlier results showed that the relationship between FAMILIARITY and ATTD was negative for two groups, positive for one group, and non-existent for one group, they did not provide a strict test for the invariance of the relationship. However, they provided guidance as to how to compare the regressions. It was necessary to first test whether the regression coefficients were equal for all groups. Upon rejecting this hypothesis, two invariance models would be plausible. The first model was that the coefficients of the high school males and females were equal. The second model was that the coefficients of the college males and females were equal. These models were plausible because the high school students' coefficients were negative, while those of the college students were positive. The two invariance models were tested against the model in which the coefficients were different across groups.

The model with equal regression coefficients for all groups was rejected at the 0.001 significance level $\{\chi^2(3) = 50.82\}$. Similarly, the model with equal college males and females' coefficients was rejected at the 0.05 significance level $\{\chi^2(1) = 4.27\}$. However, the model with equal high school males and females' coefficients could not be rejected $\{\chi^2(1) = 1.05, p = .30\}$. Thus, the final result was that there were three different regression equations: one for male college students, one for female college students, and a third one for both male and female high school students. On the basis of this finding, the high school males and females' samples were collapsed into one sample and the final model was

estimated for the three separate groups: college males, college females, and high school students.

The final model fit the data quite well $\{X^2 (67)=81.85, p=.10; CFI=.99; IFI=.99; SRMR=.03; RMSEA=.01\}$. As Table 2 shows, all estimated loadings for the measurement models of ATTD and FAMILIARITY were significant at the.001 level, and the standard errors were acceptable.

Table 2. Loadings of indicator variables on the Measurement Factors

Indicator	Factor	Loading	S.E.	Standardized Loadings		
				College Males	College Females	High School Students
ATTD1	ATTD	.87***	.04	.68	.79	.73
ATTD2	ATTD	.93***	.04	.670	.79	.73
ATTD3	ATTD	.91***	.04	.749	.85	.74
ATTD4	ATTD	1.00	---	.79	.86	.79
INTMCY	FMLRTY	.29***	.02	.30	.48	.44
CNTCT_F	FMLRTY	.88***	.03	.83	.86	.76
CNTCT_I	FMLRTY	1.00	---	.91	.95	.90
KNLDG	FMLRTY	.73***	.04	.58	.70	.63

Note. Coefficients of ATTD4 and CONCT_I were fixed at 1 for purposes of model identification.

***p < .001

ATTD1: Segregation-Integration; ATTD2: Social Distance; ATTD3: Private Right; ATTD4: Subtle Derogatory Beliefs; INTMCY: Intimacy; CNTCT_F: Frequency of Contact; CNTCT_I: Intensity of Contact; KNLDG: Knowledge.

Table 3 shows coefficients of regressions of ATTD on FAMILIARITY. According to this table, there was a positive relationship between college females' FAMILIARITY and ATTD, whereas this relationship did not exist for college males. Moreover, for high school students, the relationship between FAMILIARITY and ATTD was negative. The squared correlation was.01 for college males,.15 for college females, and.09 for high school students.

Table 3. Coefficient of the Regression of Attitudes on Familiarity for the Study Groups

Group	Coefficient	S.E.	Standardized Coefficient	Squared Correlation
College Males	.21	.14	.12	.01
College Females	.60***	.11	.39	.15
High School Students	-.45***	.09	-.30	.09

*** $p < .001$

The findings also indicated that the difference between male and female students in the relationship between familiarity with individuals with ID and attitude toward these individuals varied with the level of education. For high school students, there was no difference between male and female students. Moreover, the relationship between familiarity and attitude was negative, and the effect size (.09) could be considered small to medium (Cohen et al., 2003). As for college students, familiarity had no relationship with attitude for males, whereas it had a medium relationship (effect size 0.15) for females.

Discussion

The present study is a cross-sectional correlational study that was carried out in Kuwait with high school and college students of both genders. It surveyed the quantity and quality of familiarity with a person with ID, including attitudes toward their inclusion in communities. The relationship between familiarity and attitudes was tested within an SEM model treating both familiarity and attitudes as latent variables and gender and educational levels as moderator variables.

The magnitude of familiarity and attitudes effect sizes varied in relation to gender and educational levels. The study showed a medium positive effect between familiarity with a person with ID and attitudes among female college students, and small to medium negative effect between familiarity and attitudes among high school students of both genders. However, no effect at all was found between familiarity and attitudes among male college students.

The analysis of SEM showed that familiarity had small to average negative effect on attitudes among male and female high school students.

The finding is inconsistent with other studies that have found an in-group contact related to a greater attitude of a person with ID either among female high school students (Eichinger et al., 1991; Kishi & Meyer, 1994; Krajewski & Flaherty, 2000) or males (Al-Kandari, in press).

Perhaps, the unexpected finding might not be related to gender and educational level as potential moderators for familiarity-attitudes effect. It might be that the intergroup contact between male and female high school students and a person with ID and its effect on attitudes are cumulative. Male and female high school students in Kuwait grew in a country that supports school segregation of a person with ID. Based on Pettigrew and Tropp (2006) meta-analytic study and Allport's theory of intergroup contact, attitudes would be enhanced prior and during the intergroup contact by providing optimal status between the groups, high support by social and institutional authorities, and the contact settings. This may be difficult to achieve for male and female high school students when the Kuwaiti government explicitly and implicitly supports the segregation of individuals with ID in all settings. The result of this study suggests that familiarity would not be effective in fostering positive attitudes among male and female students with lower education (high school), unless we find ways to allow them to witness the inclusion of people with ID in school settings.

The second result of the study showed an average effect of familiarity on attitudes among female college students, and no effect among male college students. The result clearly indicates that familiarity with a person with ID positively enhances attitudes among female college students, but not for the males. Although the finding yields average effects of the familiarity-attitudes relationship that was similarly found in the meta-analytic study that examined research on contact with a person with ID (Pettigrew & Tropp, 2006), ($r = 0.306$ vs. 0.202 for the meta-analytic study), the finding does not support the importance of higher education on the familiarity-attitude effect. Based on previous studies (e.g. Au & Man, 2006; Bowie, 2001; Choi & Lam, 2001; MacDonald & MacIntyre, 1999; Parasuram, 2006; Pettigrew & Tropp, 2006; Yazbeck et al., 2004), it was expected that students of both genders at the college level who were familiar with persons with ID experienced positive attitudes toward them. Yet, the unexpected result may be related to the age or gender of adults (e.g., women are more oriented toward relationship, interdependence, and empathy than are men) (Franco et al., 2012).

Limitations and Recommendations

Past theories and empirical studies have shown the positive effect of familiarity on attitudes, and the present study further proposed that gender and education are essential variables that moderate such relationships. However, in general, the findings did not support the hypothesis. The findings showed that neither gender nor education moderated the relationship between familiarity and attitude.

An essential limitation of this study must be pointed out before we consider the broader implications of the results. The sample of the present study is not representative and there are more mediators and moderators that exist in the relationship between familiarity and attitudes beyond those tested in this research (see Pettigrew & Tropp, 2006; Pettigrew, 1998; Tait & Purdie, 2000). It may be worth testing the effect between familiarity and attitudes among male and female high school and college students and contact settings. This investigation is important in Kuwait, as there is no structured inclusive setting available in the country for students to witness the inclusion of a person with ID. Age is another moderator that can be included in a future investigation to determine its effect on the relationship between familiarity and attitudes. Moreover, future research may be conducted on a sample of higher education such as college students, teachers, social workers, professionals, and faculty members.

In addition, we should consider that the MRAI-R by Al-Kandari and Salih (2008) that was used in the present study was administered to assess attitudes toward the inclusion of persons with ID, and the high school students' responses may be influenced by the concept of social desirability and authorities that may not be seen in a mature group (college students). And that is why many previous studies have examined this potential bias (Scior, 2011). Also, it is important to note that inventories have been referred to as eliciting opinion and, therefore, may not be direct predictors of behavior (Harth, 1981).

In summary, it seems that advocacy of inclusion among high school and college students who were familiar with persons with ID is limited in Kuwait. Thereby leading to misconceptions about the rights of individuals with ID. However, the current findings serve to emphasize the following:

- (1) The need for Kuwait government to increase the financial incentives offered to social workers to encourage them to work in social welfare programs and public school settings. Social workers, for example, would help to provide effective strategies in schools to promote students' positive attitudes toward the inclusion of individuals with ID. They would have the opportunity to evaluate students' needs to advocate the inclusion and promote understanding and appreciation of persons with ID.
- (2) The need for Kuwaiti government to work with international institutions in developed countries that had a successful and long history of inclusion. Training programs and workshops must be provided to social workers, community leaders, and parents to improve methods of interacting between students in public schools and individuals with ID. This step is important to encourage the government to adopt inclusion as a national policy and increase the number of schools involved.
- (3) The need for Kuwait University to work on establishing a new school of special needs to provide college students with a quality teaching about people with disabilities, provide them with opportunities to engage in the full range of experiences offered in social welfare programs, and gain knowledge and skills required to support the communication and interaction needs in the inclusive settings.
- (4) The need for more research on students' familiarity with and attitudes toward a person with ID and moderators among other target groups. The significance of the future research is evident because the relationship between familiarity and attitudes among target groups (e.g., students, parents, social workers) today will help to determine whether our communities in the future will be accepting of persons with ID. Future research with such populations could lead to development of programs that will help to make positive acceptance of persons with ID a reality.

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