

An Explorative and Comparative Study on the Attitudes of Employees towards Disabled and Chronic Ill Persons in the Workplace in Germany and Egypt: Development and Validation of a Questionnaire

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ABSTRACT

Persons living with disabilities or suffering from chronic illness¹ are still faced with various forms of stigma and discrimination in the workplace despite widespread public discussions on inclusion, anti-discrimination legislation in the last decade, and diversity policies in public administration and business companies all over the world. Concerning the labor market, many programs had been launched to help disabled people to get to work or to retain their jobs. Despite these activities, the unemployment rate for disabled people (i.e. those who would like to work and are available for employment) is only slowly diminishing and has a range from about two times up to three times higher than the average rates of unemployment (cf. WHO World Report on Disability, 2011, chapter 8). In our study, we were interested in the attitudes of employees towards the employment of disabled persons based on the hypothesis that emotionally rooted and traditionally conferred prejudices are functioning as powerful anyhow unseen barriers in the everyday situation of workplace discrimination of persons with different disabilities or chronic illnesses. For this purpose, we developed and validated a questionnaire with three subscales “social support”, “public life” and “workplace” – based on existing research on disability at the workplace and respective instruments. Our non-representative exploratory sample for the validation of our instrument comprised 97 German and 153 Egyptian employees. The results revealed that German employees showed more positive attitudes than Egyptian employees towards disabled people. Results indicated that women in the German sample held more positive attitudes while for the Egyptian sample there were no significant differences between male and female. Older respondents showed more positive attitudes towards disabled and chronically ill persons than the younger ones. Our questionnaire met the common criteria for validity and reliability.

Keywords

attitudes; disabled persons; chronic ill persons, workplace

¹ Chronic illnesses are not passed from person to person, have a long duration with symptomatic treatments but without a present cure, and are accompanied by functional impairments; furthermore many people with chronic diseases. The legal definitions of chronically ill people are somewhat different in different countries: in Germany for example, in the Social Security Codebook IX a chronic illness condition is characterized by a duration of presumably more than six months, accompanied by problems in participation in society and with problems in functional capacities to fulfil everyday care, social or workplace norms with respect to the typical expectations of the stage of life-span of the person affected. cf. Bernell & Howard 2016: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4969287/>

Introduction

Work and employment play a substantial role in people's lives in general (Tausig, 2013; von Kardorff & Ohlbrecht, 2015) and are essential factors for social inclusion, social acceptance, and well-being for disabled²² and chronic ill persons as well, while unemployment has negative consequences for health, creates psychological distress, social isolation and is leading into marginalization (Kieselbach & Manilla 2012) – obviously aggravated for people with disabilities and chronic illness, as their way out of unemployment is confronted with prejudices, administrative and economic discrimination (Barnes & Mercer 2005). Many of the obstacles and acts of stigmatization and discrimination encountered by disabled persons are framed by negative attitudes (Findler et al., 2007). Positive attitudes however can facilitate inclusion, furthering the acceptance of disability by family, friends, colleagues, and potential employers although there is no direct connection between attitudes and overtly shown behavior. Negative attitudes can seriously hamper inclusion, contributing to the transformation of specific functional impairments into generalized stigma and discrimination. During the past two decades, the implementation of legislation and international laws in favor of persons with disabilities has become increasingly important in creating better opportunities for disabled persons to participate in society. Many national and international strategies, positive action, and antidiscrimination acts have meanwhile incorporated these principles (e.g., Americans with Disability Act, 1990; Disability Discrimination Act of Australia, 1992; Disability Discrimination Act of the UK, 1995, 2005; United Nations Convention on the Rights of Persons with Disabilities, 2008). Nonetheless, social representations of ability/disability and health/illness that are deeply emotionally rooted in the collective memory reproducing and stabilizing negative attitudes towards disabled persons in everyday life and the workplace as well continue to hinder disabled and chronically ill persons from full participation in society (Hergennrather & Rhodes, 2007; Wilson & Scior, 2014).

The fact that one of every 10th person in the world has a disability - some 650 million worldwide and approximately 470 million of them of working age – shows the need for an analysis of the specific properties of prejudices in the workplace to find starting points for change. Although many disabled persons are successfully employed, a great deal of them still faces unemployment and poverty. Their social exclusion from the workplace deprives many trillions. About 80% of all disabled and chronically ill persons in the world live in rural areas of developing countries and have no

²² The concept of *disabled persons* should be used, as it puts forward that society has disabled the persons as well as they are disabled in aspects of their functional capabilities with respect to the fulfilment of social norms and especially expectations on workplace achievement and performance.

access to adequate health care, services, and workplaces. They are confronted with higher unemployment rates and have lower earnings compared to the average population. Despite increased laws designed to sanction employment discrimination and provide workplace accommodations for qualified workers with disabilities, the employment rate of persons with disabilities has increased very little (Unger, 2002; Somavia, 2007).

The Current State of Research on attitudes toward disability at the workplace

The relations between disability and poverty are complex and dynamic, disability may increase the risk of poverty and poverty may increase the risk of disability and illnesses. Concerning workplace conditions, the consequences of disability and chronic illness are not homogenous but manifold, depending on the kind of impairment – measured by the ICF –, the kind of work, the work climate, and the expectations of the employers. Furthermore, the available empirical evidence differs strongly between developed and developing countries. In developed countries, multiple data sources are available and descriptive statistics on several aspects of social, educational, vocational, and economics of disabled persons are commonly published. In contrast, in developing countries, descriptive statistics are rare, fragmented, and sporadic and longitudinal surveys are altogether lacking. (Mitra, et al., 2011; El-Saadani & Metwally, 2018). Thus, we decided to develop a generic questionnaire on attitudes towards disabled and chronically ill persons in the workplace that could be used across cultures. Differences in the socio-cultural representations of disability due to cultural patterns, religious beliefs, established cultural everyday practices play an important role concerning acceptance or rejection of disabled and chronically ill persons; this is true for everyday life as well as for cooperation in the workplace. Concerning the workplace situation, some common features of the modern working conditions and prerequisites may overlay some of the cultural differences insofar as the cooperation with disabled people may have consequences for the work-load, the workflow, or the features of industrial or service-work. Therefore, the concrete experiences with and attitude towards cooperation with disabled people had been placed at the fore in the construction of the questionnaire.

In the last decades, most developed countries have evolved, promoted by International Organizations and the civil-rights movement of disabled people, specific laws that makes discrimination against disabled people in employment decisions illegal. However, as evident by the relatively low employment rates of disabled people, this legislation is no guarantee for adequate support for obtaining and maintaining gainful and satisfying employment (Markel & Barclay, 2009). This hints at the important role of social representations of dis-/ability and negative attitudes as barriers to the labor market and employment in companies. From a historical perspective, public and private attitudes towards disabled and chronically ill persons are showing intolerance and a lack of understanding. Due to these traditional beliefs, employers

and workmates don't think that individuals with disabilities or even mental illnesses are employable. A crucial point regarding the employment of persons with disabilities is the degree of social acceptance in the workplace, the fulfillment of performance norms and the efficiency in the workflow as well as the compliance with rules and precautionary measures to prevent incidents at work. Working organizations are supposing that persons with disabilities that are seen as severe or dangerous (for example people with mental illnesses) may create a lot of problems not at least enforcing extra work for the co-workers (Bruyère, et al., 2004; Scheid, 2005). In the light of these negative attitudes towards disabled people, many programs had tried to initiate changes on legislative and institutional levels, but until now with changing or little success (Fisher & Purcal, 2017).

Negative attitudes of the "normal" people may and do inhibit disabled peoples' social integration and their empowerment, including the development of their (cap-)abilities, positive self-esteem, and identities, irrespective of the type and degree of impairment. Roush (1986) reported that negative attitudes towards disabled people are common in society but are not directly voiced. Many studies agree that people who had previous contact with disabled people in everyday life, in their own family or the workplace, tend to have more positive attitudes towards disabled people. In contrast, a major reason for negative social attitudes, resulting in the denial of basic values and rights/conditions, is the way disability is portrayed, interpreted, and constructed by society, evaluated against ableist group norms, and not necessarily influenced by negative experiences. Negative attitudes towards individuals with disabilities function as an invisible barrier (like a "glass ceiling") for persons with disabilities and chronic illnesses in pursuing community involvement and participation in the labor market. These invisible barriers reduce potential opportunities, ultimately resulting in a decreased chance at successful integration into the community and the labor market for persons with disabilities (Chubon, 1982; Rao, 2004).

Attitudes comprise beliefs, opinions, and values rooted in society, associated with the positive or negative evaluation towards (properties, attributes, identities) of persons, objects, or actions that are deeply associated with (positive or negative) feelings resulting from (unconscious) socialization processes and fuelled by meanings and actions from the respective social milieus of the attitude holders (cf. Maio, Haddock & Verplanken 20183). In a more technical sense, attitudes are comprised of three components: affective, cognitive, and behavioral (Allport 1954; Olson & Zanna, 1993). The affective component represents the emotional portion of an attitude, whereas the cognitive component refers to ideas, beliefs, and opinions (Antonak & Livneh, 1988). The behavioral component describes a person's willingness to interact with the subject at hand and how they do so. It is important to understand the components of attitudes since understanding attitudes should help predict behavior toward disabled and chronic illness

persons. Furthermore, the relationship between attitudes and behavior is very complex, and attitudes only account for a small part of behavior (Cook, 1992). Although attitudes are influenced by concrete personal experiences, the connection between attitudes and overtly shown behavior is not linear although there may be a disposition to act, for example, to stigmatize persons with a disability, women, people of color, etc.

In sum, attitudes are seen to play a key role in achieving equality because they may translate into behavior towards people in a society that have negative consequences (such as discrimination and hate crime). Attitudes are linked to but are not the same as, knowledge. It is often presumed that negative attitudes and behavior come from people not having adequate knowledge. For example, people may avoid people with mental health conditions because they think they are prone to violence even though this is not true (Staniland, 2009). Discrimination still plays an important role in this phenomenon, as people with disability were avoided by others, and are viewed as being less desirable employees than people without disabilities (Chubon, 1982; Not et al., 2014) because they may create troubles, are (presumably) less efficient at work, or have (presumably) cognitive deficits.

The largely consistent results in research on attitudes towards disabled persons (Copeland, 2007; Mamboleo, 2009; Nagata, 2007) is that overall respective negative attitudes are still prevailing; for example, chronic illnesses, especially mental illness-stigma (Gaebel, Rössler & Sartorius, 2017) and mental retardation-stigma (Scior & Werner, 2016) are still playing an important role in society in general, and the world of labor. Schur et al., (2009) showed by a summary on a survey with nearly 30,000 employees that disability is linked to lower average payment, job security, training, and participation in decision-making, and to more negative attitudes towards the job. Ferguson et al.,(1993) found that individuals without disabilities initiated friendships with persons without disabilities three times more often than with persons with disabilities. On the other hand, positive attitudes toward persons with disabilities have been correlated with the female gender (Tervo et al., 2002; Abdulwahab & Algain, 2003; Hergenrather & Rhodes, 2007), and with a higher level of education (Agymenang & Delle, 2013). Age and gender-related attitudinal differences were statistically significant when women and younger adults were considered: they were generally voicing more favorable attitudes than men and older adults (Groeczny et al., 2011). However, positive attitudes towards various disabilities and chronic illnesses in the workplace have been found (Loo,2002; Copeland, 2007; Agymenang & Delle,2013). Scheid (2005) showed for example that positive beliefs on side of the employers about mental disability and mental illness as well are fundamental for truly supportive work environments. Abdulwahab & Algain (2003) attribute the shift towards more positive attitudes in the last decade to secular changes of official policies towards disabled people for example the UN-Agenda. These light shifts in attitudes

are also shown by the evaluation of attitudes towards disabled people by the European citizens (cf. European Commission 2008: Chapter8).

Disability and Employment in Germany – recent developments

The beginning of active policies towards the integration of the disabled in the labor market date back to the end of the First World War, when a large group of disabled veterans needed support and employment; thus, also pushed by the Labour Unions the Government decided a 2 % employment rate for the disabled in 1918 (Poore, 2007). With the End of the Weimar Republic and the rise of the Nazi dictatorship with its discriminatory policies against disabled and “weak” persons the exclusion up to deportation and extermination increased to a hitherto unknown dimension; in 1945 about 300,000 disabled people; especially mentally retarded, severely handicapped and mentally ill people had been murdered in the course of the Nazi euthanasia-program. In post-war Germany, the integration of veterans – mostly physically disabled persons returned anew as a challenge for the System of Social Security. While mentally retarded, and severely disabled people were secluded and widely excluded from the labor market or placed in sheltered workshops, people with chronic illnesses received since the sixties of the 20th Century the opportunity of requalification in special institutions (Bösl 2009). With the support of the disabled movement – inspired from the Independent Living Movement in the United States – in the late 70th and the 80th the emancipation of the disabled began, slowly followed by Anti-discrimination Legislation – beginning with a new paragraph in the Constitution explicitly prohibiting discrimination of disabled people in 1994 (Köbsell, 2006). Together with the Equality Act (2002, revised 2016) and the General Equal Treatment Act (2006), the latter referring explicitly towards anti-discrimination of the disabled in the workplace and the service sector, the legal position of disabled people was enhanced. Nonetheless, the factual situation of disabled people in the labor market still leaves a lot to be desired, although within the well-endowed German vocational rehabilitation system people with disabilities receive a wide range of services that aim to enable them to participate in the labor market (Rauch & Tophoven 2020). The benefits include qualified careers advice; placement services and vocational training measures; mobility aids, etcetera (Kock, 2004,1375,1378). Since the ratification of the UN-Convention on the rights of persons with disabilities by the German Government in 2009, there had been launched several programs to promote the participation of younger (under the age of 25) and elderly (more than 50 years old) disabled/chronically ill persons in the labor market. Nonetheless, one remaining barrier towards the employment of the disabled is the exigencies of the labor market itself and the prejudices and reservations of employers and the workmates towards the appointment of disabled and chronically ill workers and clerks. But what are the concrete prejudices that arise from

the fears and reservations and the special everyday situations in the workplace?

Disability and Employment in Egypt

Ancient cultures presumed that a demon's disability was a punishment by God. An early reference to disabilities dates to the Egyptian Papyrus of Thebes in 1552 B.C. Beware of attacking the lame, and do not make fun of a blind person, nor cause suffering to a man in the hands of the Lord (crazy). People with disabilities in the ancient Egyptians did not suffer from discrimination and they were treated as ordinary individuals in the Egyptian society, where advice was provided not to insult the disabled person or reduce his dignity, as well as integrating the ancient Egyptians with disabilities in society and directing them to the jobs in which they are proven skills in addition to trying to treat them. (Harris, 2006). In 1976 the Central Agency for Mobilization and Statistic used a six-category disability typology to estimate the numbers of disabled people in Egypt. According to the governmental statistical announcement, the years 2016-2017 estimated the numbers of disabled people in Egypt 2.686.476 and 2.899.180. (El Refaei, 2016). “Integrated Program to Promote the Rights of Persons with Disabilities in Egypt,” “Disabled adults of working age are three times more likely to be unemployed and live in real poverty” (Integrated Program to Promote the Rights of Persons with Disabilities in Egypt, 2011).

Before the 1970s, people with disabilities in Egypt, and the Arab world in general, were quite neglected and stigmatized by the community. Minimal or no services were provided to them or their families, and if services were provided, they were mainly provided through a charity (Hamdy, Auter, Humphery &Attia, 2011). Since the 1950s several laws concerning disability have been introduced in Egypt. However, greater emphasis was placed on disability issues following the 1952 revolution when the government placed some laws intended to secure care for disabled people. Among these were the: Labour Law 91(1959), Rehabilitation Law, 14 (1959), Social Welfare Law, 133(1964), and the Health Insurance Law (1964). The social Welfare Law 79 of 1975, law 25(1977), and law 92 (1980) are centered on dealing specifically with disabled peoples' welfare rights, their principles' importance (Hagrass, 2005, 156).

The Egyptian government encourages vocational training tailored to the capacities of persons with disabilities. Law No. 39 of 1975 as Amended in 1982 on the Rehabilitation of the Disabled, stipulates that government institutions and private sector organizations with 50 or more employees must ensure that individuals with disabilities comprise at least five percent of their workforce either voluntarily or as identified by the National Labour Force Office. Violation of this law results in paying a levy or imprisonment. The weak enforcement and negligible fines have resulted in low compliance. Following the Convention, the Egyptian government amended laws and ministerial decisions concerning equal rights, non-discrimination, and equal opportunities for persons with disabilities, education,

and training, employment, transportation, and access to buildings and outdoor spaces. It also adopted community-based rehabilitation as a broad strategic approach to the integration of persons with disabilities into society. (Nauk, 2011).

Law no. 10 for the year 2018 on the Rights of Persons with Disabilities on February 20, after being approved by the parliament. The new law offers many commitments by the government to persons with disabilities following the implementation of the new law; including Non-discrimination due to disability, or gender of the person with disabilities. (Ismail, R.,2018). Despite the countries' interest in the handicapped, in terms of issuing legislations and laws that allow them to have a decent life while providing them with all facilities in the educational, health, social, and professional aspects. However, negative attitudes remain towards the disabled. In 2016, the Egyptian Center of Human Rights revealed that "it had received several complaints from persons with disabilities who were unable to gain employment (Equal Rights Trust, 2018). Accordingly, the objective of this work was to develop and validate the attitude to disabled and chronic people questionnaire, to measure the attitudes of workers towards the disabled and chronic illness people.

Methods

Sample for the validation

All participants were 125, 82 women, and 43 men in the age range of 23-66 years (M= 40,76 years).

Participants of the German sample (N=45)

- Age: 20-64, (M = 36.95)
- Occupational area: service sector health: 2 (4.4%), Administration 7 (15.6%), education 30 (66.7%), transport 6 (13.3%),
- Family status: single 21 (46.7%), married or living together with a partner 21 (46.6%), divorced 3 (6.7%),
- Years on the job:(up to 1 year: 9 (20%), 1 to 5 years: 19 (42.2%), more than 5 years: 17 (37.8%).

Participants of the Egyptian Sample (N = 80)

- Age 23-59 (M= 39,15),
- Occupational Area: service sector health: 1 (1.3%), administration 37 (46.3%) education 39 (48.8%), other sectors 3 (3.8%),
- Family status: single:13 (16.3%), married 62 (77.5%), and divorced 5 (6.3%),
- Years on the job: up to 1 year 17 (21.3%), 1 to 5 years 39 (48.8%), more than five years 24 (30%).

Participation in the study was voluntary and the participants didn't receive any payment for their participation.

Demographic Information

On the first page of the questionnaire, the respondents were asked to provide some basic socio-demographic information including sex, age, level of education, profession, family status, experiences with a person with a disability or chronic illness, working, and health situation.

Data Collection Tools

Development of Attitudes towards Disability and chronic illness at workplace Questionnaire ADCIW

The instrument ADCIW scale was specifically designed following the stages for the development of the measuring instrument. The first step of the construction of the questionnaire was evaluating the possibility of modifying an existing instrument designed to measure attitudes towards disabled and chronic illness persons in the workplace. A number of these instruments were obtained and reviewed. Some of these instruments are designed to measure attitudes towards disabled persons in general (Forlin et al., 1999; Thomas et al., 2003; Hergenrather & Rhodes, 2007; Findler et al., 2007) and did not seem appropriate for our study. This holds also true for scales like ATDP (= Attitudes towards Disabled Persons) (cf. Yuker et al., 1966) and SADP (= The Scale of Attitudes Toward Disabled Persons; Antoniuk et al., 1982), and IDS (= Issues in disability scale; Makas et al. 1988). We found some scales concerning special disabilities like intellectual disability, visual impairment, and physical disability (cf. Akrami et al., 2006; Findler et al., 2007; McDonnall, M.C.,2014). One of the rare studies that concentrate on workplace situations is the recently developed Anticipated work discrimination scale (McGonagle et al. 2016) focussing on the psychological fears of being discriminated against by chronically ill workers.

None of the existing instruments reviewed seemed to be appropriate in its current form or would have required modification that would have been too sumptuous; therefore, we decided to develop a new instrument. Sources for items development included some dimensions of already existing scales like Issues in Disability Scale (IDS) (Makas et al.,1988), Interaction with Disabled Person Scale (IDP) (Gething & Wheeler,1992), Modern and Classical Scales (Akrami et al., 2006) and the Disability Social Relations Generalized Disability Scale (Hergenrather & Rhodes, 2007), more concretely the work subscale. In addition to the last scales, new items had been prepared and modified according to employees' attitudes towards disabilities and chronic illness in workplaces, partly based on a former qualitative study on prejudices towards disabled people in the workplace (von Kardorff, Ohlbrecht & Schmidt, 2013) and illness narratives in the workplace (von Kardorff, 2018). In the first version, 54 initial items were generated reflecting the ideas underlying employees' attitudes towards persons with disabilities and chronic illness. Items were worded as

statements to which the respondents were asked to express their level of agreement. Positively and negatively worded items were included. We developed three subscales as follows: Social Support representing items indicating how much support disabled people receive from others and from society (e.g., "Society takes more care of people with disabilities than is fair to other groups."), Disability in Everyday Life which represented general attitudes towards disability and chronic illness in social life (e.g., "I don't know how to help people with disabilities", and Workplaces subscale (e.g., "Disabled employees should not receive any preferential treatment"). Responses to all items were arranged as Likert-type 4-point scales ranging from "strongly agree" to "strongly disagree". Analyses were conducted using SPSS, version 22. To analyze the structure of correlations between the (groups of) items a factor analysis was conducted: technically the principal component method of data analysis was used to develop the subscales for social life, public life, and workplaces.

Validation of the questionnaire

Validity analysis: The study of the validation process was conducted in the following way. Firstly, item correlations were analyzed to identify items presenting low correlations with the rest of the questionnaire, and (45) items had correlation over .52, and 9 items had a low correlation and were non-significant. Secondly, exploratory factor analysis was performed on the data obtained from the questionnaires with a KMO index of (0.694) and $p < .001$ in Bartlett's sphericity test, to apply a strict statistical standard, only items with factor loadings higher than 0.4 were included in the final stage of the analysis three factors were obtained with eigenvalues > 1 , which conjointly explained 44.4% of the total variance, as our basic assumption underlying the questionnaires' construction was, that attitudes toward people with disabilities are composed of three subscales. We used the principle components extraction method with Varimax rotation.

Reliability analysis: Reliability analysis (internal consistency) revealed a Cronbach's alpha of the whole scale (0.654), and confirmed the reliability of the three subscales: a (Social support for chronic illness and disabled people =3 items) with $\alpha = 0.626$, b (Disability in everyday social life =3 items) with $\alpha = 0.592$, and c (Disabilities and chronic illness at work =8 items) ($\alpha = 0.667$).

The results obtained revealed the adequate psychometric properties of the scale and the reliability and validity of the ADCIW. To assess the attitudes towards persons with disabilities and chronic illness in workplaces, the pilot study was conducted to provide evidence of the structure of the scale, with three factorial subscales.

Results

Exploratory results of the original (long) questionnaire comparing attitudes of German and Egyptian employees towards applying disabled persons and towards expectations and

experiences with disabled/chronic ill persons in the workplace

To ensure acceptance, understandability, and aptness of the questions over cultural differences we applied the first version of our questionnaire³ to employees of our respective universities; the employees comprised majoritarian non-academic staff. As will be outlined later ("limitations") the basis for testing the instrument was not representative and restricted to urban regions, thus rural population, peasants, and traditional handicraft was excluded by the choice of the exploratory sample.

Procedure

The sample was chosen by specifying 3% of the original community who were employees of the university and this was applied equally with the German and Egyptian samples. For the German sample, the scale was sent by mail and the selection was done in a regular random manner (one in five people from the original list of university employees); the rate of return of the 250 sent out questionnaires was about 39 % at Humboldt-University. The total sample consisted of (250) German and Egyptian clerks. The German sample consisted of 97 (61 woman, 36 men), aged (20-65) years ($M = 40$, 36 years, $SD = 1$, 26). The Egyptian sample consisted of 153 (91 woman, 62 men), aged (23-59) years ($M = 37.39$ years, $SD = 9.28$), see table (1)

Table 1. Demographic Characteristic of Germany and Egyptian Sample

N	Germany employees N= (%)	Egyptian employees N= (%)
Gender		
Female	61(63)	62(40.52)
Male	36(37)	91(59.48)
Age	20-65 mean 40.361	23-59, mean 37.49
Marital status		
Single	38(39)	27(18)
Married	51(53)	120(78)
Divorced	8(8)	6(4)
Education		
College	66(68)	108(71)
Secondary	14(14)	3(2)
Poly-technical high school	4(4)	3(2)
University specialized institutes	13(13)	39(25)

1 The first version comprised besides generic information (age, gender, family status, education, job, etc.), sections with questions regarding *personal experience with disabled persons* (7 items), on attitudes referring to *social support* (11 items), on attitudes towards *Disability in everyday life* (13 items), attitudes towards *disability/disabled persons an chronic illnesses/chronic ill people in the workplace* (30 items), questions regarding *new appointment of disabled people with different disabilities/chronic illnesses* (2 items, 6 collateral items) . At the end of the questionnaire were placed items referring to the workplace-situation, job-satisfaction and personal health-situation of the respondents.

	service sector	
Health service	3(3)	3(2)
Administration	32(33)	66(43)
Education	47(49)	81(53)
Transport	2(2)	-
Another job	13(13)	3(2)
Do you have a disabled person in your family?	No 58(60) Yes 39(40)	No 118(77) Yes 35(23)
Do you have a chronic illness in your family?	No 48(49) Yes 49(51)	No 84(55) Yes 69(45)
Do you share a job partner who has a disability or chronic illness?	No 65 (67), Yes 32(33)	No 74(48), Yes 79(52)

T-test analysis revealed significant differences in the attitudes of German and Egyptian respondents about people with disabilities and chronic illness overall Germans reported a higher score on the total ADCIW (German M=42.391, SD=4.79, Egyptians M=40.751, SD=4.96, t=2.581, p< 0.05) than Egyptians, a higher score on the subscale in favor of German (M=9.371, SD=1.576) than Egyptians (M=7.582, SD=2.58), t(7.246), p< 0.01. No significant differences were found in life and workplace subscales (See table 2).

Table 2: Differences between German and Egyptians on ADCIW subscales

Variables	Egyptian N=153		German N=97		t-test	P
	Mean	SD	Mean	SD		
Social support for chronic illness and disabled people subscale	7.582	2.58	9.371	1.576	7.246**	.01
Disability in everyday social life subscale	9.843	1.478	9.608	1.571	1.194	
Disabilities and chronic illness at work subscale	23.326	3.836	23.412	3.344	.180	
The overall Questionnaire	40.751	4.96	42.391	4.79	2.581*	.05

When asked, "Which disability or chronic illness type can be acceptable in workplaces?" The responses were found to be quite different between the two samples. The German and Egyptian employees showed different responses towards employing disabilities as follows (see table 3). When asked, what percentage of Agreement about employing disabled people or chronic illness? (See table 4). Regarding age (older vs. younger, divided by median=37), a t-test analysis was performed. There were significant differences between older and younger in favor of older for German employees in two factors and the total questionnaire (see in Table 5).

Table 3. Acceptability of various kinds of disability or chronic illness in workplaces

	German (N= 97)			Egyptians (N=153)		
	Agree	Slightly agree	Disagree	Agree	Slightly agree	Disagree
Psychical disability	86 (89%)	7(7%)	4(4%)	96(63%)	39(25%)	18(12%)
Intellectual disability	23(24%)	47(48%)	27(28%)	11(7%)	48(31%)	94(62%)
Deaf and hard of hearing	67(69%)	24(25%)	6(6%)	50(33%)	62(41%)	41(26%)

Blind or Visually Impaired	36(37%)	44(45%)	17(18%)	42(27%)	54(35%)	58(38%)
Mental illness	23(24%)	49(50%)	25(26%)	10(7%)	48(31%)	95(62%)
Addicts	17(18%)	55(56%)	25(26%)	11(7%)	14(9%)	128(84%)

Table 4: Agreement on employing disabled people or chronic illness

	strongly agree	Agree	Disagree	strongly Disagree
Egyptian (N= 153)	62(41%)	84(55%)	7(4%)	0
German (N= 97)	55(57%)	35(36%)	7(7%)	0

Table 5. Differences between older and younger respondents (German Employees)

Variables	Younger N=50		older N=47		t-test	p
	Mean	SD	Mean	SD		
Social subscale	8.80	1.85	9.98	1.452	3.950**	.01
Life subscale	9.880	1.349	9.319	1.745	1.776	0.079
Workplace subscale	22.24	3.14	24.659	3.122	3.803**	.01
The overall scale	40.92	4.402	43.957	4.732	3.275**	.01

** indicated significant level at (.01), * significant level at (.05)

Interestingly there were no significant differences between younger (N=87) and older (N=66) on each of the three factors and the total of the ADCIW questionnaire for the Egyptian employees' sample. Regarding gender, t-test analysis was performed to elicit differences between men (N=36) and women (N=61) (German Sample) on each of the three factors and the total of the scale. The only significant difference was for the second subscale, b = Disability in everyday life, M (9.14, 9.86), SD (1.62, 1.46, respectively), T (2.31) p= .02, with women revealing more positive attitudes than men; this result is conforming to (Tervo et al., 2002; Abdulwahab & Algain, 2003; Hergennrath & Rhodes, 2007). Regarding (Egyptian), there weren't significant differences between men (N=62) and women (N=91) on each of three factors and the total of the ADCIW scale.

One-way ANOVA was conducted with the ADCIW three factors as dependent variables and education level as independent variables. This time, however, no significant results were found for any educational level on the three factors of the questionnaire neither in the German nor in the Egyptian sample. Also, we used the service sector (administrative, industrial, peasant-work, handicraft, healthcare, and other services) as an independent variable with the three factors, for the Egyptian and German sample there were no significant differences according to the service sector. Pearson correlations were calculated to examine the association between the ADCIW scale and satisfaction of life, physical status in work in both samples, there was no significant correlation between the ADCIW scale (included the three subscales), and satisfaction on life and the physical status.

Discussion

The central purpose of our study was the development of a new validated and reliable scale for measuring attitudes towards disabled and chronic illness people concerning the entrance into the labor market and their acceptance in workplaces. One of our aims was to create an instrument with questions representing relevant dimensions of everyday working-place experiences thus identifying the connection between more general stances towards our target groups rooted in the social representations of disability and chronic illnesses on the one hand and work-place specific stances for stigmatization and discrimination as well as for concrete attitudes associated with social support as a potential resource for inclusion of disabled and chronically ill workmates on the other hand. A formal scale development procedure was applied. To build the scale, some well-known measurement scales were used (Yuker et al., 1966, Antoniak, 1982). A pilot test of the initial form was conducted with 125 employees, and the results from the psychometric analyses were used for further modification. All statistical data were at an acceptable level to support the validity and reliability of the scale. A second purpose of the exploratory study was to compare the attitudes of German and Egyptian employees to ensure intercultural understanding of the items and to test the discriminative power of the questionnaire across cultures.

Limitations and further research

Although the development and the testing of the Scale on Validity, Consistency and Reliability as well as the Process of Reducing items to a structure with three subscales met the formal exigencies sufficiently, there are some shortcomings – due to the limited time and resources of the funding during the stay of one of the authors at Humboldt-University - that should be tackled in further research: in preparation of the construction of the items a longer period of qualitative interviews in different workplaces (administrative, industrial, peasant-work, handicraft, health-care and other services) with disabled and non-disabled persons in different hierarchy-levels in the companies where they are working with respect to their concrete experiences (in the process of application as well in their everyday working-place agenda) with stigmatization, discrimination, conflicts in the workflow, performance, and so on should have been done to get more precise categories for identifying negative attitudes that are directly associated with the workplace and its dynamics. Although a group discussion with employers, employees, and representatives of the workers' council and labor unions would be helpful to explore the different views of all stakeholders.

Concerning the results of the comparison of the attitudes between German and Egyptian employees, we must concede that the sample was very small and not representative; thus, the results can only outline some trends that should be widened by further studies with representative samples. Nevertheless, the results show that the newly developed instrument may serve as a helpful and differentiating tool for

identifying specific (negative) attitudes in the workplace towards disabled and chronically ill workmates. This knowledge could help to discuss the topics in the firms to find adequate solutions for better participation and remain of disabled and chronically ill persons in the labor market.

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